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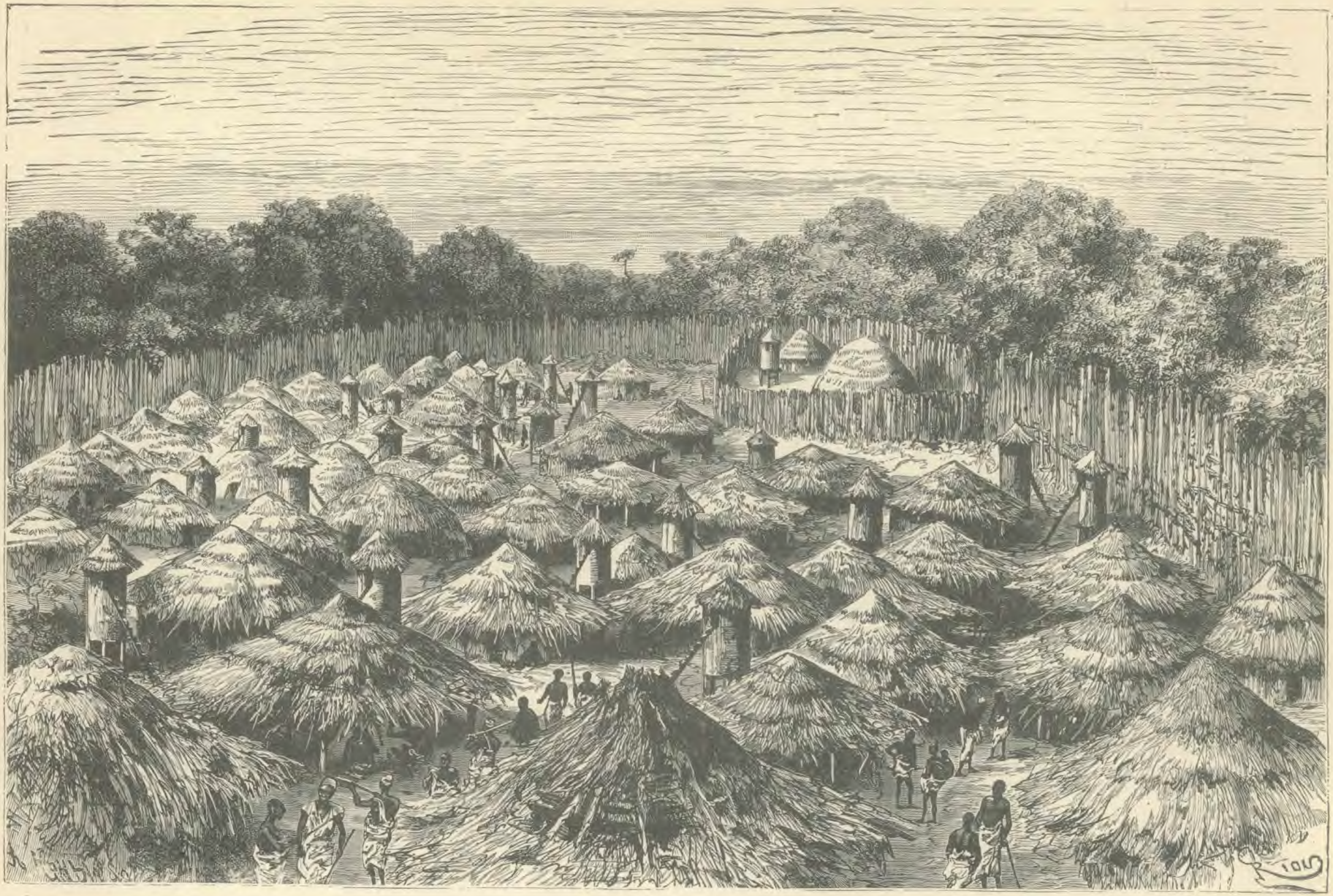

VILLAGE OF KIWANDA IN EQUATORIAL AFRICA.

GOOD HEALTH
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VOL. XXVIII. NUMBER 9.
BATTLE CREEK, MICHIGAN. SEPTEMBER, 1893.

INTERNATIONAL HEALTH STUDIES.

BY FELIX L. OSWALD, M. D.

Author of "Physical Education," "The Bible of Nature," Etc.

53.—Utah.

IN the highlands of the Cottian Alps there is a rocky plateau where Peter Waldus, the Luther of the thirteenth century, bade his followers exchange physical comforts for the hope of freedom from religious persecutions, and cultivate a soil that could not possibly attract the greed of a spoiler by an abundance of products.

The devotion of the Latter-Day Saints was put to a severer test. In the uplands of the far West, where Kimball and Elder Millard settled the disciples of Joseph Smith, the hope of subsistence by agriculture seemed to depend upon the trust in miracles. The colonists had to create not only the products of the soil, but the soil itself; rocks and alkali dust had to be mingled with the pulverized loam of the lower strata and moistened with the water of distant brooks, before it could be made to germinate the seed of the hardiest cereals; and even on the shores of Great Salt Lake, the preparatory work of husbandry required patience and prodigious toil.

Yet the energy of the colonists achieved that miracle; irrigation ditches, connecting thirsty plains with the gorges of the mountain streams, were dug at the rate of six miles a week per squad of six ditchers; vegetable mold was carried in sacks from the glens of the sparsely wooded uplands; hoeing, digging, and sifting went on day and night; and in less than five years the most churlish soil of our continent (excepting only the drift-sand hillocks of the Staked Plains) was made to yield crops rivaling the harvests of the Missouri bottom farms.

For miles along the banks of the ravines, which in Wasatch and Box Elder counties contain a little moisture at certain times of the year, there are orchards where every tree is a foster child of human hands, and would have no chance to survive the departure of its foster-parents a single summer. The stone-built hamlets, nestling here and there in the groves of these highly artificial gardenlands, are models of cleanliness, even from an East New England, if not East Holland, point of view. The streets are broad, the hedges trim and straight. There are no drunkards, for the Mormons object to strong drink. There are no idlers, for the Mormons enjoin industry as one of the cardinal virtues. They have created a hygienic Elysium where their predecessors, the roving trappers, had only rawhide tents and brandy-reeking dugouts. Their prosperity strikingly illustrates the stimulating influence of — shall we say persecution?—of the inspiring and opposition-fanned faith in a far-reaching mission.

As usual in such cases, after the battle was won and the chaos of the wilderness had been turned into a decidedly tolerable cosmos, the colonists discovered that they could have fought out the struggle for survival on more propitious battlefields; they found that Utah is not altogether a combination of rocky hills and alkali plains: the explorers of the

Beaver Valley and the Manti District came across well-timbered hills, meadows, and spontaneous strawberry patches.

Even in those favored regions, irrigation proved an indispensable preliminary of farming operations, but there was at least no lack of water, and as Horace Greeley observed, the old Moorish plan of agriculture tends to make a farmer independent of climatic vicissitudes. The atmosphere of the tablelands is intensely dry, and cool enough to be remarkably favorable to the cure of pulmonary disorders, yet sufficiently warm, after the middle of May, to ripen many crops of the temperate zone, with the assistance of a little moisture, which could always be drawn from the streams of the well-wooded Sierras.

The average elevation of the Great Salt Lake basin is about five thousand feet above the level of the Pacific, and frosts occur as early as the middle of September, and as late as the end of May. Still the records of the meteorological bureau leave no doubt of the curious fact that the winters are, on the whole, a good deal milder than those of the Atlantic coast plain under the same parallels of latitude. The apparent paradox can be partly explained by the height of the mountain ranges that break the force of the northwest winds, but partly perhaps also by the influence of subterranean fires that attest their proximity by geological evidence and the existence of countless hot springs. The great lake, with its intensely salt water, may in by-gone ages have formed a part of the

THE MORMON TEMPLE AND TABERNACLE, SALT LAKE CITY.

In that way the tiller of the soil can enjoy the advantages of a Thibetan atmosphere combined with those of a fairly productive river-side farm, and drain his subsoil in a way to obviate the development of miasma and mosquitoes — the spontaneous insect world being represented only by a few feeble tribes. Mountain tourists can camp in the thin fringe of pine woods without sharing their lunch with a detachment of predatory ants; the sand spider, seen now and then in the plains, minds its own business as strictly as a Chinese placer miner, and the name of the "New Zion" is justified by the absence of the hosts of Beelzebub, the fly god. In the San Rafael district east of Manti, I have repeatedly taken my meals near an open window in midsummer without seeing a single specimen of that supposed omnipresent nuisance, the common house fly, though a small allied species was buzzing about a tray of dried apples on the veranda.

sea, and owe its present isolation to the upheaval of the Sierra Nevada; at all events the neighboring highlands abound with extinct craters which in an active state cannot have been far from the coast of the ocean.

But neither sheltering mountains nor volcanic furnaces can prevent the rapid radiation of the heated air strata, as soon as the sun has set behind the ridge of the Sierras. The nights are nearly always cool enough for refreshing sleep. On the high tableland known as the "Aquarim Plateau," and in the upper valley of Fremont's River, the midsummer temperature generally sinks to 50° Fahrenheit within two hours after nightfall; and individuals who can contrive to make a living in such altitudes are pretty safe against such complaints as chronic catarrh and dyspepsia. And the progress of exploration continues to reveal new resources in sequestered nooks of the vast Sierras, coal and timber have been

discovered near the headwaters of the Rio Escalante, and lead mines in Beaver County, and excellent iron ore in the Wasatch Range. In the basins ("parks" as they would call them in Colorado) of several mountain chains, cattle can be fattened on nutritious grasses, which, owing to the dryness of the atmosphere, do not decay at the approach of winter, but turn into nature-cured hay that can be easily detached from its root, and in mid-winter is gathered by sackfuls for the milch goats of little mining hamlets. Utah can now boast some two thousand miles of railway in successful operation, and since the completion of the Union Pacific, the assessed value of property has risen from $17,000,000 to $58,500,000.

Shall we believe, with the leader of the "Reform Party," that the Mormon colonies have been an obstacle to the development of the territory, and "the foulest blot on the pages of our national chronicle"? and that the "introduction of idiots and hypocrites is an unavoidable consequence of the demand to believe in the doctrines of Joe Smith"? Of the "historical" chapters of the Book of Mormon it may indeed be said, as the historian Lecky said of certain dogmas of the mediæval church, that they can make one doubt the universality of common sense; their absurdity is so extravagant that they contain their own antidote in their effect on a mind gifted with a vestige of logic, taste, and reason. But such drawbacks are, in many essential respects, of less consequence than the practical tendency of a creed, and Jules Remy, though not a convert of the Vermont apostle, admits that in its moral effects, Mormonism is the extreme antithesis of the philosophy propagated by the French Encyclopedists and bearing its fruits is the bestialities of the Revolution: there a casket glittering with ornaments of transcendent artistic merit, but filled with dross; here a box covered with crazy daubs, but filled with jewels.

Bad taste, indeed, is incompatible with the highest standard of ethics, but so, assuredly, is prejudice. "Keep her face veiled, remember only her unbelief," said the Inquisitor Himenes, in his arraignment of a Moorish belle; "do not permit her to speak lest her words might witch away your sense of duty." Only on a similar plan can we stultify ourselves into an unqualified condemnation of Mormonism. An investigation of Mormonism and its practical workings, forces us to acknowledge the success of their efforts in behalf of industrial, sanitary, and educational reform. "Their streets are clean," says the author of "New America" (Vol. I, p. 243), "their houses bright, their gardens teem with fruit. Peace reigns in their communities. Strumpets and paupers are unknown among them."

In proportion to their means, the Mormons do more for free education than any other sect; in tireless industry they have no rival west of the Mississippi; in sanitary ethics their prestige cannot be disregarded by any impartial opponent of their propaganda, since it must be admitted that polygamy was after all only a transient aberration of their leaders. The pretended "revelation" sanctioning a plurality of wives, was produced only several years after the death of Joseph Smith, and met with strenuous opposition on the part of several distinguished elders. Smith's widow went so far as to pronounce Young's "revelation" a clumsy fraud. She positively denied that her husband ever had any wife but herself, and withdrew with her four sons to the temple city of Nauvoo, where she founded the sect of the monogamic Josephites.

On the question of temperance, all the subdivisions of the Mormon Church are united, and their antipathy to alcoholic drinks and tobacco entitles them to the name of the "Christian Wahabites," though it may be doubted if Abdel Wahab would have subscribed to the fourteenth article of the Mormon confession of faith with its famous anti-monastic codicil: "We believe in being honest, true, chaste, temperate, benevolent, and upright, and in doing good to all men; also that an idle or lazy person cannot be a true man, nor have salvation."

Does a community with such principles deserve to be called "a blot upon the fair face of earth" because some of its exoteric members profess a belief in the story of "Jack the Giant-killer"? There may be a substratum of truth in the assertion of the zealot Hengstenberger, that the ultimate secret of all tolerance is indifference; but in the interest of hygienic reform it is certainly to be hoped that the tragedy of the Albigenses will not repeat itself on our continent.

(To be continued.)

SEVERAL years ago a horse in Palmetto, Fla., was violently driven and otherwise ill-treated by his master, while the latter was intoxicated. Since then the horse becomes excited and alarmed whenever a person smelling of liquor comes near him.—*Truth.*

FROM ROSES AND ORANGE GROVES TO SNOW.

On the Pasadena (California) Mountain Railway.

BY GEORGE WHARTON JAMES, F. R. A. S., ETC.

ONE of the most potent factors in restoring the invalid to health is *climate*. Much has been written about the peculiar climate of Southern California, but none, except those who have made a careful and thorough study of it, can fully understand it. All who know anything about it by lengthened experience, acknowledge the truth of Helen Hunt Jackson's words; viz., that Southern California, climatically considered, is a land island, so completely insulated that the surrounding conditions do not affect it; and Charles Dudley Warner remarks, with equal truth, that it is "a region which manufactures its own weather and refuses to import any other."

It would be a pleasure, in this short article, to enter somewhat into detail upon the peculiar surroundings of mountain, desert, ocean, ocean currents, and valleys that make up this favored region, but space will not allow. I do, however, wish to describe, in brief, a journey I took on March 8 and 9 of this year, from roses and orange groves to snow, in the short space of about an hour's time.

The latest and most attractive *added* feature to Southern California's many inducements, is the Pasadena Mountain Railway, — the most wonderful mountain railway in the world, and it was on this road that I took my trip.

The day before (March 7), a heavy rain-storm passed over the San Gabriel Valley, and clouds, stormy winds, and falling snow were holding high carnival on the peaks of the Sierra Madre Range, up which the railway climbs. But oh! the dawning of the morning after that storm! Long before the banners of the king of day had heralded his approach, the storm was hushed; the glistening stars shone through a sea of tumbled clouds, broken here and there, and showing small seas of perfect blue beyond; then they paled, and sank into the sky lakes which now were spreading into oceans of rich, rare colors. The hazy curtains before the mountains silently lifted, torn into shreds by the craggy peaks, or woven into exquisite lace by the pine branches which clung to them as if beseeching them not to go. The woods awakened and began to whisper to the listening mountains; the squirrels joined the birds in singing their morning song; and a sweeter, purer, more delicious day was born because of the storm which had come and gone.

And then the snow-clad mountains! Never lace was woven by either Irish or Belgian peasant that rivaled the mountain lace woven by the snow during that night's storm. Never carving in ivory by patient Hindoo or steadfast Japanese equaled the rare patterns and the exquisite fineness of these San Gabriel snow displays.

Taking the cars at Mountain Junction, we began the ascent. The road curved and wound around, leading us sometimes to wonder where we could possibly be going. The car again and again seemed heading directly for the edge of the precipice, but at the danger point it easily slipped around the jutting crags, and climbed merrily on. The grade is easy, in no place exceeding seven and a half per cent, so that no restriction was placed upon our speed.

As the road curved, it gave us many beautiful views of the valley we were leaving behind, but none so rich and perfect as the one from Lookout Point. Here the peculiar conformation of the canon presented the scene below in a natural framework of gray rock, rich trees, and azure sky.

There were orchards, vineyards, grain fields, eucalyptus groves, "walnut walks, fig-tree lanes," parks, gardens, and grounds; mansions of princely creation, with architecture borrowed from the world's best models, surrounded or fronted by lawn and terrace, adorned with statuary, shrubs, and flowers from every quarter of the globe; streets made into gardens by red-fruited pepper, graceful umbrella and oriental palm, while here and there and everywhere were cottages fairly smothered in a profusion of roses, — all together forming one of God's choicest mosaics, made instinct with the life of his children.

At Pasadena we were 834 feet above sea level, but now, as we approached the junction of the road and the Echo Mountain incline at Rubio Pavilion, we were 1216 feet higher, or over 2000 feet above the level of the sea, and higher than the Alleghany Mountains where they are crossed by the Pennsylvania railroad near the "Horseshoe."

At this spot, with a graceful curve, the electric car glided upon an immense bridge or platform extending completely across the ravine and forty feet above its bed. Dismounting, we were in Rubio amphitheater, whose natural beauties and grandeurs

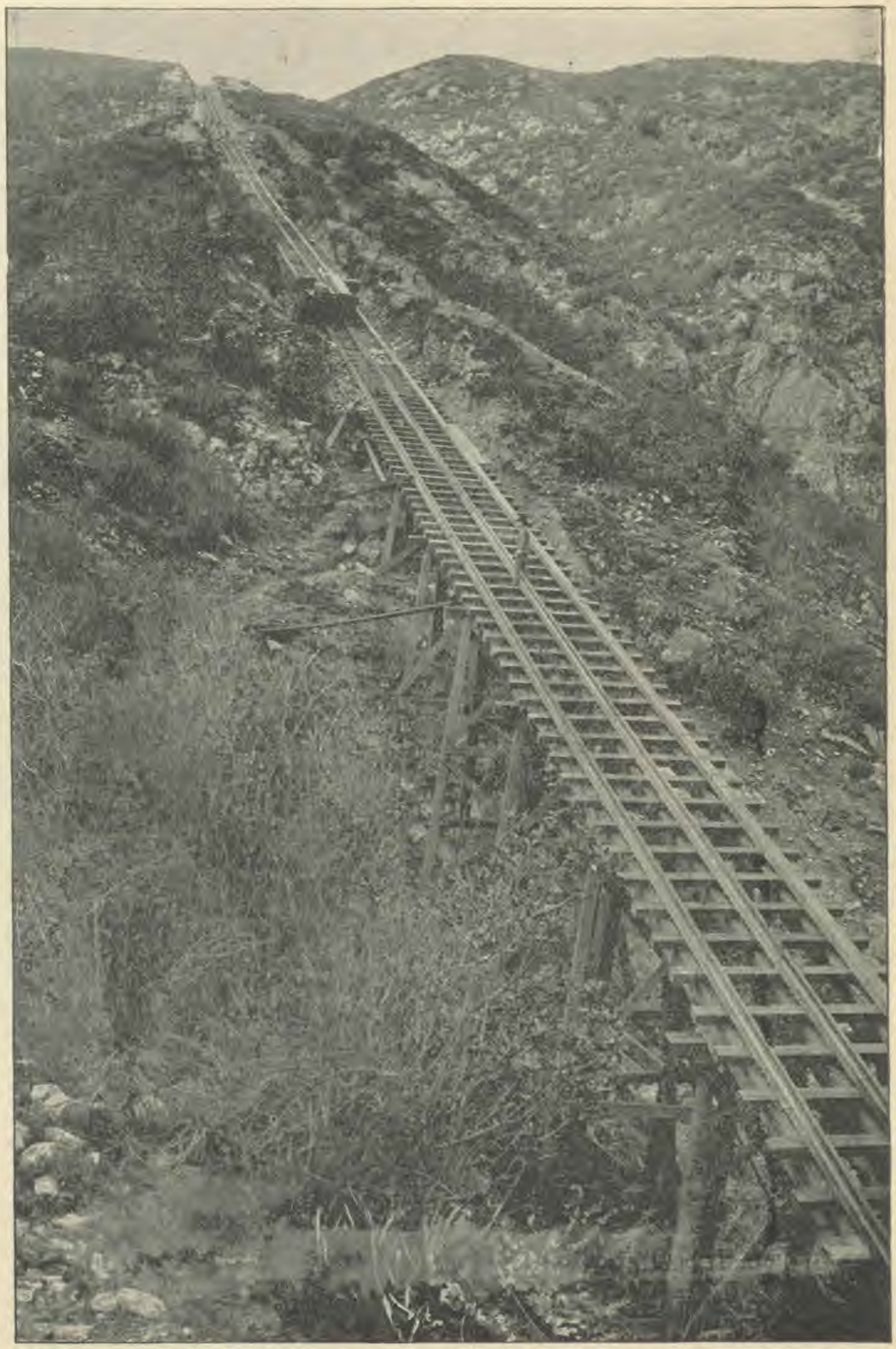
crowded themselves upon our notice, and near which a great waterfall pours and roars, and an immense electric fountain makes the water prismatic and doubly beautiful.

But the wonder of the whole railway is the great cable incline. From Rubio Pavilion to Echo Mountain House, a distance of 3000 feet; it ascends over 1400 feet. When it was first proposed by Prof. Lowe to ascend Echo Mountain, not only did the general public scout the idea as chimerical and impracticable, but even the professional engineers declared it was impossible. But with the achievements of the engineers of the Mt. Rigi and Mt. Pilatus railroads in Europe, he deemed the difficulties as only affording greater opportunities, and a stimulus to renewed exertions, and to-day the great cable incline, and the monster hoisting machinery, and the ascending and descending cars demonstrate that to the undaunted mind "to *will* is to *do*."

It is by far the steepest mountain railway in the world, and yet it is unquestionably the safest. A trip up the incline to Echo Mountain will be the boast of the tourist and one of the things he will desire most fully to describe. We ascended as smoothly and easily as if we were flying, passing through the dark granite gorge and over the Macpherson trestle. It takes only six minutes to ride up the incline. We started out from the roses and lilies, the buds and blossoms, to climb to the snow. Sudden and bewildering was this transition from season to season, as our car ascended and finally came to a standstill in the snow on the summit of Echo Mountain. And yet it was not cold, for even the snowy surroundings were tempered by the warm breezes that floated up from the California and Arizona deserts in the rear and the sun-land in the front of the range.

How singular it all seems! In the snow, and yet not cold; in the snow, and yet gazing upon such delicate blossoms that one wintry gust would kill them.

The workmen's tents were snow-surrounded; the trees, brush, and chaparral overladen with it, while the re-marshaling clouds had now descended and were far below us, receiving the dazzling rays of sunlight upon their upper surfaces, which thus converted



THE GREAT INCLINE, SHOWING CONSTRUCTION CAR AND MACPHERSON TRESTLE.

them into an ocean of fleecy softness and silvery radiance.

At the rear of Echo Mountain house, the rocky walls send back all sounds thrown upon their surfaces, and thus the mountain gained its name. There are few echoes in the world equal to this, for the firing of a rifle echoes and re-echoes so many times that one hears a perfect platoon of musketry, and in alarm looks out for an army of invaders.

I must not forget to state that not only are there the wonderful natural attractions we have described, but the railway has secured a permanent historic attraction (so long as he lives) in the presence of the venerable Jason Brown, son of the hero of Harper's Ferry. We prevailed upon him to accompany us through the snow to the higher regions, and, after a hearty meal, the mules were brought out and we began the ascent.

Entering Castle Canon, the rocky summits, split and rent, forming turret, dome, battlement, cupola, minaret, pagoda, and Irish round tower, all were softened down into smooth and white beauty by the snow, but when we reached the head of Castle Canon, a view incomparable and unique burst upon our vision. Seen at any time, it receives undisguised homage, but now when all rocky asperities were toned down into soft, snowy delicacy, forming a fitting frame for the picture composed of verdant valley, dimpling hills, floating islands, and placid ocean beyond, no wonder we all stood in breathless admiration.

At this spot begins a road where, during the snow season, sleigh-riding can be indulged in. A little further on we gained a full view of Mt. Lowe, its grand proportions looming up grandly before us, with its tri-crested summit line plumbing the sky and measuring stalwart against the clouds.

Rounding the curve of the mountain, we were on the south bank of the Grand Canon. Here —

> "Loose crags
> Lie tottering o'er the hollow pass
> As if an infant's touch could urge
> Their headlong passage down the verge."

How wild! how grand! how vast! how sublime! Gulf yawns upon gulf, and deep answers to deep as this canon rolls away to the west, growing ever deeper and more mysterious.

The thicket of chaparral, buck brush, mangonita, mountain holly, wild lilac, and mountain mahogany, is in many places quite dense to the very edge of the canon, and we were convinced, as we peeped through it, not that we were looking *down* into something, but that we were looking *up* into the clear sky, as if somehow the law of gravitation was for the time being suspended, and up appeared down.

Still further along we reached Crystal Springs, which is located on the lower part of the shoulder of Mt. Lowe. Here a log cabin is built, and at its rear a bubbling spring gives forth its never-failing supply of purest water, and we can hear in its birthday song, as it is born from the dark caverns underneath, of "the hidden power of springs," which will compel Disease to drink and sleep.

Here an Indian camp will be located, where the "original inhabitants" will weave blankets, make baskets, bake pottery, and engage in other of their industries for the entertainment of the visiting thousands who will revel in these mountain scenes.

When we reached the place, we had to force our way through four feet of snow, but we reveled in the semi-solid liquid, and pelted one another with it for an hour before we began to be satisfied. Then taking off the door from the log cabin, we tobogganed, with whoops and cheers, down a natural slide extending for several hundred yards to a row of massive pines which prevented further descent. This slide is to be devoted in winter weather, to this sole purpose, and regular tobogganing, such as Canadians enjoy, will be provided for the citizens of the city of the Queen of the Angels, within one hour from the time they leave their own garden of ever-blooming semi-tropical plants and flowers.

When at last we reached the top, the sublimest view that ever eye gazed upon was opened up before us. Practically speaking, all Southern California, from Santa Barbara to San Diego, and from the desert to the sea, is revealed from this one spot. It is a sight to dwell upon, to revel in, to return to. This view from Mt. Lowe makes the visitor love the country more and more. Like Moses, he views the landscape o'er, and sees the glories of the promised land; yet, unlike the old Israelite, he may go in and possess it.

Observatory Peak, Mt. Lowe, Mt. Markham, and several other peaks cluster here together, and one feels he is among Nature's pinnacles. It is in the power of any ordinary wealthy person to render his name more famed than that of prince or potentate, and to build for himself a monument more enduring than Solomon's throne in India or the Pyramids in Egypt.

The Pasadena Mountain Railway offer to endow with a certain portion of their current earnings an astronomical observatory, or any other scientific and educational institution, if some generous-hearted philanthropist will erect it. Lich and Zerbres and

Draper and Warner have all become world-famous for their munificent gifts to science. At a much less expenditure than any of these — for the railway is built, transportation is easy, the site already secured — a liberal man may make his name immortal and benefit his fellow-men for uncounted generations by such an act.

We hope the day is not far distant when the observatory and a grand museum and other beneficent institutions will crown the Sierra Madre's highest peaks—and we have all faith that it will be done.

A monster granite hotel is to be built on the summit of Mt. Lowe, as soon as tourist travel demands it, and that such travel will demand it, no one familiar with the conditions can doubt. For all through the summer this location will be cool, dry, stimulating, and healthful. If it is too high (6000 feet) for some people, they can be accommodated at Echo Mountain House, which is 3500 feet above sea level; and if this is too high, there are a number of first-class hotels in Pasadena (from 800 to 1000 feet) where, amid a perpetual growth of sweet-scented flowers one may "while the happy hours away."

I shall be personally glad to correspond with invalids or others who desire to know more of this God-blessed region, and to give them any information that is in my power. Correspondents will please address me at the Grand Opera House Block, Pasadena, California.

HEALTHY HOMES.

IX.

BY HELEN L. MANNING.

SLOPS AND GARBAGE.

THE office of the sanitarian is to point out defects in the management and arrangement of house and premises and to suggest wholesome improvements. Therefore, although not the most pleasant of subjects for discussion, this series would be incomplete without a chapter devoted to the best methods to employ, under varying conditions, for the proper disposition of refuse organic matter. It is stated that fully one half of the premature deaths are due to preventable causes, and the careless disposal of this refuse may be reckoned as a most potent factor in breeding disease in homes and communities. Any arrangement or system which allows the accumulation of foul matter in or around the home invites disease and death. Decomposition goes on rapidly and generates foul gases which contaminate the air, while the semi-solids are often left to contaminate the soil and eventually the water supply. Leaky soil-pipes, from either defective plumbing, rust, or other damage, not infrequently fill an entire house with noxious gases. Sometimes the defect will cause a tiny cesspool to form in basement or cellar, or sometimes the defect will be such as to cause a foul-smelling ooze along a partition wall. The ventilating shaft to water-closets is often too short, so that the gases and odors return into the living rooms, or they may be so imperfectly constructed as to contaminate all the rooms adjoining.

Again, closets and bath-rooms are sometimes constructed in houses where there are no regularly arranged water pipes and no system for flushing. The writer has visited houses where such imperfect fixtures made the air of bedrooms adjoining, fairly sickening, and where the families were constant patrons of the doctor.

The prevention and restriction of typhoid fever depends more largely upon the proper disposal of excreta than upon any other one thing. The disease is propagated by an infectious germ found chiefly in the discharges from the body, and which will multiply and grow rapidly, unless sterilized. If thrown out carelessly or put into an ordinary privy vault, or worse yet, into the horrible depths of a "privy well," the organic poison may contaminate the wells of a whole neighborhood or town, thus carrying disease and death to the inhabitants. Typhoid fever is a filth disease, just the same as cholera, and both can be prevented by rigid cleanliness and attention to sanitary laws. Diphtheria and scarlet fever are two more diseases often due to imperfectly constructed traps, foul closets, or defective drains. Can we, then, permit these things to be, and yet hold ourselves guiltless? With the flood of sanitary light in this generation, is there any adequate excuse for ignorance?

In buying, renting, or building houses in localities where there is a regular system of drainage and water supply, it is always advisable to see that the most modern and perfect appliances for closets and basins are included, in order to provide against

sewer gas and other deadly gases. There are defects and objections to nearly every form of closet pan and valve, and only constant vigilance and the free use of disinfectants in conjunction with adequate flushing, will suffice to keep them in a wholesome condition.

Drawn lead makes the best soil pipe. The pipe should be large enough to carry away all the refuse easily, and its joints perfect. Neither zinc nor tile should be chosen. Iron is used considerably, and answers fairly well, though it rusts easily and any roughening of the surface is apt to cause lodgments and prevent perfect flushing. If possible, all soil pipes should run on the outside of dwelling houses, thus being more readily open to inspection and safer for the inmates. Ventilation of the pipes should be provided, of course, and moreover the closet itself should be placed where it can be well ventilated — never in the center of the house.

For those who live in the country and smaller towns, the proper disposal of excreta is a more simple matter, although it may be questioned whether in the majority of cases the system used is not as pernicious as that prevailing in large cities. That this is true, is due both to carelessness and lack of knowledge of more perfect means. The outhouses adjoining many country and village homes are veritable pest houses, and are undoubtedly the cause of a great amount of ill health and premature death usually classed as "mysterious." No disinfectant or deodorizer is used, the stench of decay is sickening in the extreme, and the poison is communicated to the air, the soil, and often to the water supply.

The ordinary vault should be dispensed with, and some sanitary substitute provided. If you wish to avoid personal trouble in the matter, excellent ready-made earth closets of various sizes can be procured, both of American and English paterns. Sanitarians and members of public boards of health give these articles, when properly used, their unqualified approval. But as their merit lies in the use of sifted earth or coal ashes in sufficient quantity, a home-made substitute can be provided at small cost of labor or money. Sand and gravel are perfectly valueless as deodorizers and disinfectants, nor will wood ashes answer. But garden earth, road dust, and coal ashes possess peculiar properties as absorbents and disinfectants. Where any of these things are used in sufficient quantities, very little smell is ever noticeable.

If an earth closet is decided upon, it can be placed in the rear of the wood-house, properly screened, of course, or a privy may be constructed for it, or an old one completely renovated and fitted up. Either one of two ways may be selected for improvising an earth closet. The simpler and generally to be preferred plan is to make a water-tight box (wood lined with several coatings of coal tar) and place it in position to receive the excreta. Put handles on the back of the box to facilitate its withdrawal when necessary to empty it, which will be about once in two or four weeks, depending on the circumstances. If the ground in the rear of the outhouse is lower than at the front entrance, a box quite deep may be used. When emptied, the contents should be at once mixed with a considerable quantity of earth, and spread over the surface, so as to be quickly deprived of its noxious properties by the action of the air and the sun.

Another very good plan is to have a vault below the sliding drawer with sides lined with mason work laid in water lime, and into this the contents may be periodically dumped through a false bottom in the drawer. This vault may then be cleared out once in three or six months, a job said to be no more disagreeable than that of shoveling sand. The interior arrangements of the privy may be in ordinary style, with the addition of a box or barrel of nicely sifted earth or coal ashes, fitted with a large tin scoop by means of which each visitor is expected to throw down about a pint and a half as a deodorizer and disinfectant after each using. This will not consume more than a half minute of time, and will secure sanitary conditions of inestimable value. Under no circumstances should chamber or other house slops be poured into a regularly manufactured earth closet or into one improvised as described above.

A PHYSICIAN who has made the subject a study, declares that the taint of heredity is to be found in most cases of nervous disease. Persons who are broken down by dissipation, exhausting diseases, excessive brain work, or anxiety, he says, can no more transmit vitality to their children than a decaying vine can beget healthy fruit.

TAKE especial care that thou delight not in wine, for there was not any man that came to honor or preferment that loved it. For it transformeth a man into a beast, decayeth health, and maketh a man contemptible, soon old, and despised of all wise and worthy men; for it is a bewitching and infectious vice.— *Sir Walter Raleigh.*

THE THREATENED CHOLERA INVASION.

DR. FELIX L. OSWALD tells these facts in relation to the cholera, in the June *Chautauquan* :—

"The cholera statistics of the Old World prove that in the tropics (Egypt, India, Siam) the epidemic runs its course in a continuous twelve month ; farther north, in two warm seasons of six months each; and in the cities of the high latitudes, sometimes in three following summers. The facilities for observing these phenomena have been greatly improved by the discovery of the chief hot-bed of the contagion ; and surgeon Elliott of the British army voiced the sentiments of numerous English residents of Hindoostan in the remark that the employment of a million missionaries, at the expense of half a billion pounds sterling a year, would be an excellent investment, if the enterprise should only result in stopping the ruinous pilgrimages to the shrine of Hurdwar. At intervals, varying from six to twelve years, countless multitudes of Hindoo devotees congregate at a temple in the valley of the upper Ganges, and for about two weeks devote themselves to the development of disease-germs as systematically as if they had contrived to inoculate one another with smallpox virus. The time chosen for the journey is the middle of June, the rainiest and sultriest season of the year, and many pilgrims arrive in a state of far-gone exhaustion. The campus of Hurdwar is less than a mile, and within that narrow inclosure from two and one half million to three million devotees are huddled together in reeking tents, or without any tent at all, feeding on the vilest substances and quenching their thirst with the water of a river that has been used for purposes of ablution and as the common drain of the monster camp. Thrice a day the assembled multitude crowd the temple pond of the holy stream, diving a prescribed number of times and swallowing each time about a pint of the contaminated fluid. The result is a virulent epidemic, which often, in less than a month, has spread across the peninsula like a devouring conflagration, and carried terror to the borders of Persia and Afghanistan."

Speaking of the chances of escape from the dread scourge in America, he says this among other things : —

"Transylvania and Thuringia, the best wooded countries of modern Europe, have repeatedly escaped epidemics raging north and south of their borders, and the entire area of our central Alleghanies may hope to enjoy similar immunity.

"With the observance of a few simple precautions the natives of isolated highland districts can be equally safe. When the epidemic of southern Russia was at its height, hundreds of Circassian mountaineers made good wages in the coal-oil city of Baku, on the Caspian, where they would work all the morning on the wharves, peddle water or dig graves in the afternoon, and return to their hills before dark. Then, and never before, they broke their fast — experience having convinced them that they could even dispense with water, if they strictly abstained from food, till they had shaken the dust of the contaminated city from the soles of their feet. They could not help breathing the infected atmosphere, but their absolute immunity established the fact that the contagion of cholera cannot be communicated by means of the respiratory organs."

REMEDIAL USE OF APPLES.—Chemically the apple is composed of vegetable fiber, albumin, sugar, gum chlorophyl, malic acid, gallic acid, lime, and much water. Furthermore, the German analysts say that the apple contains a larger percentage of phosphorus than any other fruit or vegetable. The phosphorus is admirably adapted for renewing the essential nervous matter — lecithin — of the brain and spinal cord. It is, perhaps, for the same reason, rudely understood, that old Scandinavian traditions represent the apple as the food of the gods, who, when they felt themselves to be growing feeble and infirm, resorted to this fruit, renewing their powers of mind and body. Also, the acids of the apple are of singular use for men of sedentary habits, whose livers are sluggish in action, those acids serving to eliminate from the body noxious matters, which, if retained, would make the brain heavy and dull, or bring about jaundice or skin eruptions and other allied troubles. Some such experience must have led to the custom of taking apple sause with roast pork, rich goose, and like dishes. The malic acid of ripe apples, either raw or cooked, will neutralize any excess of chalky matter engendered by eating too much meat. It is also the fact that such ripe fruits as the apple, the pear, and the plum, when taken ripe and without sugar, diminish acidity in the stomach, rather than provoke it. Their vegetable sauces and juices are converted into alkaline carbonates, which tend to counteract acidity.—*North American Practitioner.*

POISONS.

Mineral Poisons.—The man who is determined to shuffle off this mortal coil need have no trouble with his druggist in securing the necessary means, for there are scores of mineral poisons which any druggist will sell to him without the slightest hesitation and without asking a single question as to the use he intends to make of his purchase.

Arsenic, in the form of white powder, or of paris green, or of any one of a dozen preparations manufactured for the purpose of killing vermin, is daily sold in considerable quantities.

So also are the several salts of copper, the acetates, or verdegris, the sulphate or blue vitriol, any one of which is deadly enough to serve the purpose of the most desperate suicide, and both of which sometimes occasion involuntary poisoning, the former by forming in carelessly kept copper vessels, the latter by the dangerous habit of placing bits of copper in pickles in order to heighten their color.

Any one of a dozen mercurial remedies, openly and freely sold in the form of blue mass, calomel, blue ointment, red ointment, and other preparations, may be taken in deadly doses, to say nothing of corrosive sublimate, a mercurial preparation which, even in minute doses, is one of the deadliest poisons known.

Lead, too, in almost every form, is deadly, as painters can testify, and not painters alone, but many hundreds who have been poisoned by drinking water which has stood in lead pipes, by eating canned fruit put up with cheap lead solder, or by working in factories where some of the manufactures of lead are prepared.

A great many eye waters are as poisonous as arsenic, since a favorite element in these preparations is acetate of lead, and an ounce bottle of some eye waters procured in any drug store may be as certainly fatal as the same quantity of prussic acid.

Almost any of the salts of zinc, frequently used in the arts and as disinfectants, are irritant poisons, and for a few cents one may purchase a quart bottle of disinfectant, a wine-glass full of which will kill him in an hour.

Antimony in the form of tartar emetic, is still used to some extent in medical practice, although a virulent poison, a comparatively small dose of which will prove fatal, while phosphorus, found in abundance on the heads of matches and in much larger quantities in various patent vermin destroyers, is both a slow and a quick poison. Taken in small quantities for a considerable period, it causes a frightful disease of the teeth and jawbone, causing the former to fall out and the latter to decay and break in pieces; taken in large doses, it brings death speedily, though under circumstances of frightful agony.

Vegetable Poisons.—Among the contents of every drug store will be found a large number of preparations used in medicine in one way or another which are rank poisons, and even in minute doses will prove speedily fatal. Strychnine is famous as a wolf-killer. In the Western States, where wolves formerly abounded, it was customary to place a carcass, liberally dosed with strychnine, where these animals could reach it, and on the following morning, wolves would be found lying on or near their fatal repast, having eaten and fallen down dead. Yet strychnine is a favorite medicine, and a very noted tonic is composed of this deadly substance in combination with iron and quinine. A couple of ounces of this tonic, swallowed at once, if it did not prove fatal, would at least cause symptoms so serious as to make the would-be suicide bitterly regret his haste. The number of vegetable poisons used in medicine is really enormous. They are often called narcotico-acrid, though their action is by no means always stupefying, some producing effects as burning and irritant as the most acute mineral poison. One of the most deadly plants is the digitalis, seen in almost every garden. The entire plant—root, branch, leaf, and flower—is extremely poisonous; and yet, as used in medicine, is a valuable remedy. When the dose is excessive, the result is a marked depression of the action of the heart, followed by fainting, coma, and loss of life. An uncertain and dangerous drug, digitalis is thoroughly reliable as a poison.

Belladonna, too, extracted from the deadly nightshade, a common plant, is as rank a poison as ever was gathered from the fields, and the active principle, atropia, is as easily obtained as the belladonna.

While strychnine, digitalis, and atropia may be had with little difficulty, opium is harder to obtain, many restrictions being thrown around its sale as well as that of morphine. Both, however, as well as chloroform, chloral, and others, may be had with no great difficulty, and the enormous quantities used of each almost justify the fear expressed some time ago by a prominent physician that the American people will become a nation of lunatics.

Morphine is more popular than opium, probably on account of its speedier and more certain effect. It is the favorite remedy among ladies for many ailments, and it is more than hinted that the num-

ber of morphine users among women is on the increase.

It is hard to differentiate, that is, so far as the respective moral qualities of the two vices are concerned, between morphine using and whisky drinking. We are ever prone to "condone the sins we are inclined to by damning those we have no mind to," and it is believed that in the large cities of this country there are strenuous advocates of temperance, bitter opponents of what they call the tyranny of King Alcohol, who do not hesitate to resort to the use of morphine, not only as a panacea for a trifling pain, but as an exhilarant to enable them to undergo social duties.

CLEANLINESS BRINGS HEALTH.— Recently we read a very entertaining and instructive article from the New York *Times*, in which was described the method of cleaning the city of Paris, France. In that beautiful city they do not rely upon the sweeping machine and dump cart for cleansing the city, but they flush the gutters two or three times a day, and do it so thoroughly that the refuse of the streets and avenues is carried into the sewers, and borne away beyond the limits of the city. It is this care of the city that has given Paris such a reputation for cleanliness, beauty, and health. It costs the people of that city, on an average, seventy-five cents a year for each inhabitant, to keep the city clean. This in the aggregate, amounts to a large sum, but it is not as much for each one as a bottle of patent medicine would cost. It is not one half the sum required to pay for one visit of a physician. Paris gains in the health of its citizens many times the cost of cleaning the city.

If the great cities of America would institute similar thorough methods in cleansing their streets and avenues, the average health of our country would be greatly improved. The life of our citizens would be prolonged, and the comforts of life multiplied and intensified. A wise policy for a city administration would be to cleanse the city at any cost. It is just as essential that we should have clean homes and streets, as it is that we should have clean food and clean water to drink. In fact, without clean homes and clean streets, it is impossible to have clean food, pure air, or pure water.

No better time was ever known for the inauguration of a policy of cleanliness than at the present. The recent ravages of cholera in Europe, and the danger of its entry into this country, have awakened people to the importance of providing against it. They would be willing to assist in carrying out an intelligent cleansing policy, by reason of their anxiety to ward off the disease and turn aside the messenger of death.

It is to be regretted that an appeal to people in behalf of the common decency of cleanliness is urgently necessary in the closing years of the nineteenth century. Cholera is but one of a great many diseases that dirt and filth and neglect engender. It comes but once or twice in a century, while no city in America is free for one day in the year, from many enteric diseases that carry off many thousands from among our people. Looked at from the sanitarian's point of view, cleanliness is not only next to godliness, but it *is* godliness; for whatever gives health to the body, gives vigor of intellect and soul, and he who is vigorous in his mind and heart, worships better, lives better, and acts nobler. Let us therefore be clean.— *Sel.*

A FRENCHMAN has written a volume of 200 pages to show that oysters rest the brain.

OUR unamiable moods and spasms of unfaith are often the outcome of a torpid liver or a fit of indigestion.

VIRGIN snow is proverbial for its purity, but among the foreign substances science has discovered in it are living infusoria, algæ bacilli, spores of fungi, skin of larvæ of insects, grains of quartz, and bits of iron and coal.— *Hygienic Review.*

FOLLOWING HIS ADVICE.— *Prisoner* — "Yes, your worship, I committed the theft with which I am charged, entirely through the instigation of my medical adviser."

Magistrate — "You mean to say that in carrying out an experiment in hypnotism he suggested the crime to you?"

Prisoner — "I don't know about that, but one thing is certain — he told me to take something before going to bed."

THE industrial empire will belong to the people who are best nourished, and who are made most capable of resisting the attacks of disease.— *Herbert Spencer.*

RESTAURANT coffee, according to a Paris journal, is a mixture made of horse liver roasted in the oven, black walnut sawdust, and caramel.

INFLUENCE OF GYMNASTIC TRAINING ON MENTAL DEVELOPMENT.

Dr. Luther Gulick relates, in a recent number of *Physical Education*, two interesting cases in which feeble-minded children have been subjected to gymnastic treatment. The first of these, a child eleven years of age, was suffering from arrest of mental development in certain directions, excessive growth in others, with physical inability and general lack of mental activity. The author thus describes this case and another similar one, and the treatment given to each : —

The child is eleven years old, has never had any severe accident, has always been backward in her development, and dependent upon her mother, who is her slave. The parents have felt that, owing to her affliction, they ought not to attempt to compel obedience, thus all attempts to teach her in any line have hitherto depended entirely on the ability of the mother to make the child want to learn, which has been but little. There have been, I believe, four other children, all of whom died during infancy. The parents are both well, strong, and of good habits. The child has learned to read a little, I believe, has read through the second reader. Some days and weeks she does not seem to be able to read at all. How much of this has to do with her will, I cannot say.

At the time that treatment was commenced, she could walk a little in an uncertain fashion, dragging one foot after the other. The steps consisted merely of a series of small tumbles forward. Any complicated movement whatever was beyond her ability. She could not form judgments of a moving object, and in attempting to catch a ball could not follow it with her eyes, and had no conception as to where it would go or where to place her hands in order to catch it.

Her hard palate is slightly deformed, being arched upward in a longitudinal direction. She cannot say L (ell) but can say (lay), cannot say *t* nor *toe*, but *two* is perfectly said. She can form none of the sounds which include the roughened sibilant thus, j, h, g, ch (soft).

The exercises that have been given have all demanded strict attention, and concentration of mind. No exercise has been repeated to such an extent as to be done without thought. No exercise has been so easy but that it took all the effort the child could easily make, and on the other hand, no exercise has been so difficult as to be at all beyond her range.

It will be sufficient, perhaps, to mention simply the lines of work that have been followed, and not attempt to describe the almost infinitesimal steps that were taken in arriving at the results.

Walking a seam in the carpet was for a long time a difficult feat. It involved careful balancing of the body and attention to the feet. Walking across the floor, stepping only on pieces of paper that had been previously laid down, gradually led to doing the same thing over blocks placed at irregular distances from each other and from the line of the course.

Her method of walking was carefully guarded so that she largely overcame the dragging of the rear foot, so noticeable at first. She was trained to judge of the motion of objects in the air. This was done by the throwing of balls for her to catch or bat. She learned to calculate distances by throwing at a mark. It would be out of place here to attempt to describe

the various devices by which I secured her interest, and made her desire to go on with the work day after day. This, however, taxed my ingenuity oftentimes more than the mere determination of the line of work that should be carried out. Many different kinds of work were done, but all demanding careful control of the body and generally a relation to some outside object. The work was always stopped or changed at once, whenever it became impossible to secure the full attention of the child. Periods of rest were given every two or three minutes, for it would be as undesirable as difficult to secure unremitting attention. The reason for such constant effort to train the attention is that in the weak-minded this is one of the weakest points, there being an apparent lack of ability to control the thoughts. Jumping of various kinds, over various obstacles, from one point to another, landing on toes, on one foot, jumping from right then left foot, and many other forms of exercise were taken. Exercises were also taken in moderation, to increase the general nutrition.

Some of the results of this treatment became evident in a month or so, and she improved steadily during the whole period, which extended over something more than a year. She learned to walk passably well; her expression became far more intelligent, she became more ro' ist, learned to speak more plainly, and did all he mental operations with more ease and certainty. An attack of *la grippe* resulted fatally. It is not to be expected that such unfortunates can ever become really normal people, but a great deal can be done.

Case No. 2 is a boy about fourteen years old, who, his mother tells me, never wanted to do anything. In some directions he is very bright. His deficiencies seem to be in the line of will and number. He has grown very fat, weighing at one time about 140 pounds. Being extremely timid, he has never played with other boys or attempted anything that he was not sure he could do. He could not get both feet to leave the floor at once, could not lie on his back and lift his feet, could not form a judgment of anything moving in air. He could not run more than a few steps. He could not go to school with other children on account of his inability to comprehend number. With him 2 plus 2 would as well make 6 as 4. He could perform long division, but entirely by rule. Six times 2 equal 12, but only because he had learned it so. Sixteen divided by 8 equal 2, because he had been told so.

The boy has been given twenty-three lessons of half an hour each. He now runs fairly well, making a mile and three quarters one day. He can jump about four feet, can see a ball in the air, can judge and catch it quite accurately, enjoys batting a tennis ball that is thrown to him, very much, and in many lines he can do operations that demand both skill and determination. The most important point in this case is the development of the will. He has become somewhat proud of what he can do and is endeavoring to excel. This is the first thing of the kind in his life. For him to face and accomplish a run of a mile and a half involves a degree of resolution that is far greater than it would be in a normal boy. The most interesting effect as yet in this case is that noted by his private teacher, who says that he has taken a decided step forward intellectually.

I will illustrate by a single instance how the work had to be carried on and by what small steps it had to proceed. It was positively believed both by his mother and himself that he could not see any object move in the air without becoming faint.

Catching a ball was consequently entirely out of the question. Taking a foot ball, he was asked to catch it when thrown about three feet. No amount of persuasion sufficed to get him to attempt it. At last he held out both hands and allowed the ball to be dropped *about one inch* onto them. This was the start which in the course of two months developed into his being able to run and catch it when thrown ten or twelve feet into the air. The one inch was stretched to two, the two to four, and the four to six. A little improvement most days, but an occasional loss, gradually secured the desired end. His efforts and trials on learning to run would have been ludicrous were they not pathetic. Commencing with a slouchy gait, by attention to one point at a time, and microscopical increases of distance, he learned to run a mile and a half in excellent style. To awaken both a desire to do and a consciousness that he can do something, has proven one of the most difficult of tasks.

I believe that this is a case who will become an honored and respected individual, and who will accomplish good work in the world, but who, without the waking up that is coming to his mind through his body, would never be able to accomplish this.

It takes eight times the strength to go up stairs that is required for the same distance on a level.

By all means I would advise any young man to cultivate physical energy.— *T. De Witt Talmage.*

ROUND SHOULDERS.— Even the best natural figures will often show a tendency toward round shoulders unless some care is taken to prevent it, especially if the work done is of such a nature as to keep them sitting at a desk all day, bending over a machine, or doing many kinds of housework ; while thin, narrow-chested women are very likely to stoop before middle age.

In those countries where it is the common habit of the women to carry burdens on their heads, straight forms and beautiful shoulders are seen among the youth of the poorest class. A very simple exercise is helpful toward straightening and strengthening the trunk ; viz., that of raising one's self upon the toes leisurely in a perpendicular position several times daily. To do this one must be in a perfectly upright position, with the heels together and the toes at an angle of about 45°, the arms hanging by the side. Inflating and raising the chest to its full capacity is a part of the exercise, a process which the lungs soon begin to show.

To exercise all the muscles of the legs and body, one must rise very slowly on the balls of both feet to the greatest possible height, and then come again into standing position without swaying the body out of its perpendicular line. This may be accomplished by patience and perseverance. After a while the same method may be tried, first on one foot and then on the other.

In order to prevent round shoulders in school-children, teachers should never ask them to fold their arms in front, but rather to place them behind the back, which occasionally is good practice, giving, as it does, the fullest expansion to the upper part of the body. Much more care is taken now than formerly to see that children sit properly, with the spine kept straight and the chest expanded.— *Sel.*

THE PERFECT FEMALE FORM.— Nothing is more truly artistic than the simply-outlined oval of the perfect female form, writes May Root Kern in the *Ladies' Home Journal.* It is but slightly depressed at the waist, the hips are as wide as the shoulders, there is not an angle from top to toe. It is as different from the outline of the fashionable "well-set-up" woman, with her squared shoulders and angular hips, as a horse is from a camel. We call the high-belted Empire dresses artistic, because they preserve this oval better than the longer-waisted shapes. The nude figure has no belt line. When the weight rests equally upon the feet, and the body is held upright, the smallest measurement of the waist is about where the modern belt is placed. But let the body bend to one side, and the point of intersection of the hip and side muscles will be over an inch above the former belt line. This is why field laborers, even to the slenderest young girl, are "short-waisted." For hygienic reasons the belt should never be placed below this point, and by thus shortening the straight under-arm seam by an inch, the beauty of the uncorseted waist is materially aided.

MEASUREMENTS OF A SWIMMING GIRL.— M. de Berselli is at work on a statue of "The Diving Girl," and as a model he has chosen Miss Clara Beckwith, the champion lady swimmer of the world.

"I do not think there is a more perfectly formed woman in America than Miss Beckwith," said he. "Miss Beckwith's measurements are perfect, and besides she has development of muscle, with no superfluous flesh. Her head in length measures 9½ inches, so does her foot; her chest measures 39 inches, and she can easily expand it three inches more ; her hip measures 40 inches, upper arm 12½ inches, and her lower arm 10⅛ inches. The measurement of the neck should equal that of the calf, but my model's neck is 13½ inches, whereas the measurement of the calf is 14½ inches. My work will not be original, because it will be a reproduction of the well-known picture of the diving girl, with hands raised above the head, and just about to make the leap. My model will, however, enable me to add new grace and beauty to the subject."

Bobby — "Papa, what's the reason people get dizzy when they drink whisky ?"

Papa — "Hm ! It's — it's because the brain sympathizes with the — with the stomach, my son. That is, whatever goes into the stomach affects the brain."

Bobby (with a wistful, yearning look on his face) — "Then I must have swallowed a nice new bicycle somehow."— *Sel.*

IBSEN does not eat much when he is writing one of his dramas. He thinks eating heartily prevents the keenest brain work. His desk is in a very small room, but there are doors opening into a whole suite of four or five, and as he composes, he often walks about, taking long tours.—*Hygienic Review.*

"YOU 'VE been riding a bicycle, I hear," said one Harlem youth to another.

"Yes, just for exercise, you know."

"It has reduced your weight some, I think."

"Yes, I have fallen off a great deal."— *Texas Siftings.*

COUNT DE LESSEPS ON PHYSICAL EXERCISE. — The following tribute to the value of physical exercise is from the pen of the veteran Count Ferdinand de Lesseps :—

"I shall always be grateful to Larine, my riding-school master, for I owe to him the passion I have for horses, and I fully believe, the boon of reaching my eighty-fourth year in the enjoyment of perfect health — which surpasses riches.

"I cannot too deeply impress upon the young the precept, *mens sana in corpore sano*, nor advise them too strongly to cultivate bodily training. They should choose early some physical exercise, suited to their means and aptitudes, and daily devote to it their leisure hours. They will be astonished to find not only in middle life but in old age, how valuable such discipline may be in an emergency.

"Remember that every creature is born to live five times as long as it takes to acquire full growth. A horse should live twenty years, a hale man one hundred years. If the man does not reach that age, it is because he has not lived as he should.

"Yes, my young friends, be strong ; you will then be charitable in prosperity, and have faith and hope in adversity. Thus only will you be able to surmount obstacles in life."

Upon being appointed Consul to Egypt, Count de Lesseps at once visited Alexandria, and relates the following incident of his stay :—

"I took a fancy to the viceroy's young son, Prince Said. He had been brought up to like the French, and joined impulsiveness of mind to great sincerity of character.

"Said was very unhappy, and not without cause. He had to attend to fourteen lessons a day regularly. His father, Mehemet Ali, who was wholly a man of action,— at forty years of age he had not yet learned to read, and never became able to read well, — took little account of the teacher's 'notes,' which were handed him at the end of each week. He turned at once to the last item on the list, where the young prince's weight was recorded, and compared it with the corresponding figures for the previous week. Said was punished if he had gained in weight, and rewarded if he had fallen off.

"As the poor young prince was inclined to be stout, and grew stouter every day, it was a sad matter for him for the end of the week to come around. I got him out of his difficulties by teaching him how to ride on horseback. We spent a part of each day in the saddle, and his weight diminished perceptibly.

"We were both pleased, and so was his father. Said's punishments were now at an end."

A FIFTEEN-MINUTE REST. — "Do you remember old Dr. L?" asked a woman of society the other day. "He believed in what is now called 'rest cure,' years and years ago. I remember very well a formula he gave me when I was first married, which was practically the same thing that every one advocates nowadays. 'Whenever a woman feels tired,' he used to say, 'or discouraged or depressed, or out of sorts generally, she should lie down and be absolutely quiet for fifteen minutes. The eyes should be closed and the mind should be made a blank, as far as possible. No pillow should be used, her head reclining on a level with her shoulders. She should not even think of the time, but have some one call her at the expiration of the time. 'This treatment,' he used to say, 'repeated twice a day, has a wonderful effect on nervous women.'"

THE HUMAN FIGURE. — The proportions of the human figure are strictly mathematical. The whole figure is six times the length of the foot. Whether the form be slender or plump, the rule holds good, any deviation from it is a departure from the highest beauty in proportion. The Greeks made all their statues according to this rule. The face, from the highest point of the forehead, where the hair begins, to the chin, is one tenth of the whole stature. The hand, from the wrist to the tip of the middle finger, is the same. From the top of the chest to the highest point in the forehead is a seventh. If the length of the face, from the roots of the hair to the chin, be divided into three equal parts, the first division determines the place where the eyebrows meet, and the second the place of the nostrils. The height from the feet to the top of the head is the same as the distance from the extremity of the fingers when the arms are extended.

BEFORE the Professional Women's League of New York, Miss Blanche Weaver delivered an address on physical culture, in which she said : "The blood is purified by air. If you wear corsets, you constrict the lungs and diaphragm, and you do n't get enough air. An elephant takes eight breaths a minute ; a mouse takes 120. A tight-laced woman takes pretty nearly as many as the mouse, and is of just as little account."

SPEAKING of physical exercise, Martin Luther said, "The greatest advantage is that with such bodily exercises one does not fall into carousing, debauchery, gambling, hard drinking, and other kinds of lawlessness, as are unfortunately seen now in the towns and at the courts."

Home-Culture

A WISE MOTHER.

"DON'T tell mother. She'll go off into a fit if you do. There's not the slightest danger, but she frets over nothing."

The speaker was a boy of about fourteen years of age, and his audience consisted of several companions. As he spoke a lady happened to be passing.

"Frets over nothing!" she repeated, as she went her way. "How many mothers there are of whom that has been said by their children, and with truth!"

It is undeniably true that the mothers who fret unnecessarily are not the ones who have the greatest influence over their children. The reason is, that by allowing themselves to fret over matters of very little consequence, they are apt to lose their power of influence when it is really needed.

There is a wise mother whom we know who is almost continually exercised in her mind on account of her extreme nervousness. One day a lady visitor, making a casual call, found her so restless as to be quite unable to attend to her regular duties about the house.

"What is the matter?" she asked. "Is any one sick?"

"No," replied the mother, half laughing, half crying; "and I suppose I am very foolish. The truth is, my boys have just erected a trapeze at the back of the house, and I am greatly depressed with the fear that one of them may be killed."

"Why don't you compel them to take it down, then?" said the visitor. "I should like to see myself worrying about a trouble that could be so easily removed. You are surprisingly weak and foolish about those boys of yours."

Her voice was so full of scorn that it aroused the mother's spirit, and taking her visitor to the window, she pointed to a group of boys whom she had just caught sight of.

"Isn't that boy in the brown cap yours?" she asked.

"Yes," was the reply.

"And who are the other boys?"

"I really don't know; how should I?"

"I do. They are Tom Burgess and Dick Styles, two of the worst lads in the place. It would hurt me," she continued, "to have my boys seen in their company. I prefer to run the risk of their falling from the trapeze; the danger is no greater."

The visitor turned, with a very red face. "You have taught me a lesson," she said. "Yet, I do not see why, in our endeavor to keep our boys at home, we should allow them to have amusements which are a source of worry to ourselves."

"Very nervous people cannot stand every sort of boyish play," returned the mother with a significant smile. "I know that I am naturally nervous, and disposed to find danger in everything. I also know that it is perfectly natural for healthy boys to enjoy play in which there is an element of danger, and that they will be sure to engage in it some time, with or without consent. If my boys must perform on a trapeze, I would rather it should be at home, where I can give them immediate attention in case of an accident; and as I have concluded to accept it as one of the lesser evils, I do not intend to spoil their enjoyment by letting them see how nervous it makes me."

"Well, I believe your boys are wonderful stay-at-homes," said the visitor thoughtfully.

"And I know that I have their confidence," replied the mother. "They call me a 'right good fellow,' and say that I am as good as a boy any day! They would be surprised if they knew how much trepidation I have endured in my efforts to enjoy with them what they call 'jolly good fun'!"

This simple incident needs no comment. There are surely some mothers who need the useful lesson it teaches.

SLOYD WITHIN A CIRCLE—No. 9.

BY MRS. M. F. STEARNS.

NONE of us like crooked lines in anything. Why not? They do not "look" well, of course, but *why* do they not look well?

An old definition says, "A crooked line is one that changes its direction and bends unevenly." Then it must "change" from something and "bend" from something, and that something must be the truth as visible in a line. There is only *one* true way of doing anything, and everything that deviates from that one true way is crooked.

We often hear, without appreciating the real significance of the expressions, "a true line," "a true edge," little thinking what lines our lives are making, and that by helping the children to make one true thing, if only a line, we add at least that line's weight in balancing their lives on the true side.

There is a divinely implanted love for the true in every heart, that causes us to dislike all that is out of harmony with it, whether it be a line or an act, in just that proportion as we have the truth of the thing in us. Then is it not a helpful thought that as we teach the children to see and make true things in

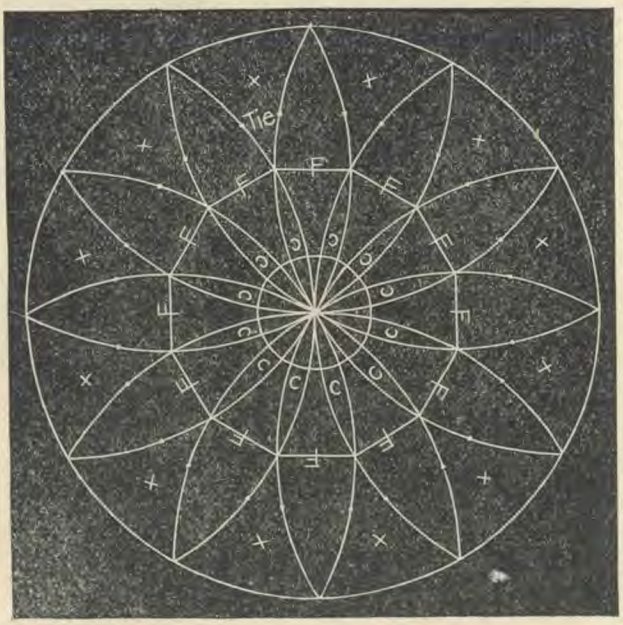


FIG. 25.--DRAWING FOR BASKET OR CARD RECEIVER.

their manual work, we are helping them to weave into their lives a divine thread that will draw them to the greater truths of life?

Disorder and lack of cleanliness in surroundings, cause a corresponding immorality and ill-temper in those so environed, because they are at discord with truth. Agreement with truth is what we want in everything. The more the eye is taught to observe true forms and outlines, the more it loves them. The more truth we look at, the more we shall have.

Let these principles be carried into their work, let it be truly their own, do not give a helping touch to any part of it. How many times the "proud mamma" displays "Jenny's paintings" or "Winnie's

FIG. 26.--BASKET OR CARD RECEIVER COMPLETED.

embroidery" with unmistakable satisfaction at their great ability, and when the admiring friend remarks to this same Jenny or Winnie, "Why, did you do this all yourself, my dear?" there is an apologetic tone in the voice and manner as the questioned one replies with a blush, that she did most of it; Miss Surfacework, the teacher, had only put on a "few touches" here and there. In other words, *most* of the dauby, poor part of the work *she* had done, while the few telling touches had been given by the teacher, and the finished picture was a lie; it belonged to neither teacher nor pupil. But the average mamma is not content with *child's* work, she wants something remarkable at once to show off, and so the poor children have their work spoiled; for it is spoiled when all the childishness is taken out of it, as it is whenever touched by the practiced hand of the teacher, and worst of all, a lesson in deceit is given — a crooked line worked into the character, that will work out a crooked picture in that child's life. If we are only careful to start the children straight, we shall avoid the development of all unsightly characters like that one so famous in nursery literature, the "crooked man, who walked a crooked mile, who found a crooked sixpence upon a crooked stile." The cause for all this crookedness is explained, when we remember that he *lived* in "a little crooked house," and if he died, his tomb-stone must have borne the simple epitaph of a crooked line.

Our study this month is a basket or card receiver.

Describe the usual twelve-inch circle, then lay it off in six equal parts; divide each of these in half, and draw with the compasses a series of arcs from each of these points to the center. Then with compasses spread one inch, describe a small circle in the center, cut out the spaces in this circle to the point where the arcs diverge, also cut out the crossed spaces between the arcs, fold on the lines F in the drawing, and tie loosely, as shown by the dots, or run a strand of silk rope through each leaf, and tie in a bow on one side, and a very dainty, flower-like receiver for cards is the result.

"STONE HER."

AMONG Philadelphia's philanthropic schemes is one lately perfected which is worthy of imitation in every large city. It is a woman's Directory, located at 238 South Tenth St. The Philadelphia *Ledger* says of it: "The Woman's Directory has been chartered for the purpose set forth, to give advice to young mothers, or those expecting to become mothers, and who have been abandoned by friends, or who are afraid or ashamed to make their condition known to their own family or nearest friends." The object is to save these unfortunates, who in many cases are more sinned against than sinning, from adding the crime of infanticide to their other sins, as so many of the medical profession are nothing loth to advise them to do. Again the *Ledger* says: "For whatever cause, then, a young woman so situated needs advice, let her ask it at the newly opened house of the Woman's Directory. There she will find sympathetic friends who will not question her too closely. She will be provided for. She will be told where to go and what to do. All will be entirely confidential between herself and the matron, or the lady of the committee whom she sees. She will be kept from crime, and her own life will be saved for better things."

If all the poor girls who are enticed into sinful ways, could have the help and encouragement thus afforded, how much the misery of the world would be lessened! While we cannot condone the offense in the least, it is hardly fair that the girl should bear all the disgrace of it, while the partner, if not the sole actor in the evil work, goes scot free. A poem which appeared in print some time ago gives expression to a sentiment that is altogether too prevalent. It is entitled, "Stone Her," and reads as follows: —

"Yes, stone the woman, let the man go free!
Draw back your skirts, lest they perchance
May touch her garments as she passes;
But to him put forth a willing hand
To clasp with his that led her to destruction
And disgrace. Shut up from her the sacred
Ways of toil, but ope to him all honorable
Paths, where he may win distinction;
Give to him fair, pressed down measures of
Life's sweetest joys. Pass her, O maiden,
With a pure, proud face, if she put forth
A poor, polluted palm; but lay thy hand in
His on bridal day, and swear to cling to him
With wifely love and tender reverence.
Trust him who led a sister woman
To a fearful fate.

"Yes, stone the woman, let the man go free!
Let one soul suffer for the guilt of two —
It is the doctrine of a hurried world —
Too out of breath for holding balances
Where nice distinctions and injustices
Are calmly weighed. But ah! how will it be
When all shall stand before the one true
Judge? Shall sex there make a difference in
Sin? Shall He, the Searcher of the hidden
Heart, in his eternal and divine decree,
Condemn the woman and forgive the man?"

M. A. S.

NOTHING of character is really permanent but virtue and personal worth. These remain. Whatever of excellence is wrought into the soul itself, belongs to both worlds. Real goodness does not attach itself merely to life; it points to another world. — *Daniel Webster.*

MRS. MARY A. LIVERMORE said, at the recent Social Purity Congress: —

"It is our first duty to live so that our children will be well born. You see some pictures that retain their bright colors after hundreds of years. Yet all pictures will ultimately turn to ashes, and all statuary will crumble to sand. But every reckless and dissipated father or mother is an artist who is sending out into the world caricatures of the Lord God Almighty that will live forever."

LET the board be spread, and let the bed be dressed for the traveler; but let not the emphasis of hospitality lie in these things. Honor to the house where they are simple to the verge of hardship, so that there the intellect is awake, and reads the laws of the universe. — *Emerson.*

THE wise prove and the foolish confess by their conduct, that a life of employment is the only life worth living. — *Paley.*

COURTESY TO CHILDREN.— Unconsciously, perhaps, we take a bit of honest pride unto ourselves in practicing with exact nicety all the little and big courtesies that go to make up refined living. It is natural and pleasant to me and not at all a duty. It may be we even deny ourselves the brusqueness and "comradie" admissible between ourselves and our intimate friends, because they are incompatible with our ideal of true refinement. Such a thing as rudeness to any living soul sends well-bred shudders up and down our proper spinal columns; and, though we are willing to confess ourselves mortal, we are far from willing to admit that we ever wittingly forgot our "manners"! If any bold individual, then, were to intimate that we were not always courteous to our little men and women in the home nursery, what then? Not polite to our own children — *our babies!* Well, may be it would take all our Christian strength to be polite to that "bold individual," after that! Suppose we do not call it lack of courtesy to the wee ones — we will give it a gentler name than that, and so "let ourselves down" more easily.

I believe it is true that we too often use up our courteous words and manners among our grown-up friends, those older than we, and altogether deserving of all civility and respect, and those with whom we mingle more intimately. We seem to have so much use for our polite stores abroad, and really so little *need* of them at home in the rush and business of hum-drum life. It takes so much more time to say, "Please, Johnny, bring the scissors to mamma," than it does to say, "Johnnie! bring me the scissors!" Besides they are ours — the babies, God bless them! They belong to us — we have a perfect right to say to Emily, "Go," and she goeth, and to Jane, "Come," and she cometh. And we get so used to sending the little trudgers hither and yon for us, all day long, with scarcely ever a word of thanks or a gentle, "If you please, dear."

If we were to begin this way, and when the scissors are needed, were to say, "Want to do an errand for mamma, little lady? Will you please run for mamma's scissors?" and when the scissors were brought, if we were to say, "Thank you, dear," or, "You are very kind to mamma,"— well, I think we should see our reward for the bit of unusual courtesy in the little lady's own blue eyes. How pleased and "grown-up" she would feel!

Let the wee errand-goers feel that they are conferring a little favor on mamma, not doing something because they've "got to." Let it be a delight to them to feel that they are helping, and you will see how willing the little feet are to run, and how glad the little faces look. I know about it, you see, for there is a little face that laughs up into my face a dozen times a day,—"helping mamma." When her bit of ladyship was very small, it was one of her great joys and privileges to "he'p kee up" after baby's bath, and the soap and the powder were carried safely and proudly to their places, and then would come the coveted "Thank you," or may be the "Mamma's little helper," that would fill the little cup of joy brimming full.

Why should we not say "Please" and "Thank you" to the children? Their tiny rights and prerogatives are just as important as our big ones. Indeed, there is more need of remembering them, for the little folks cannot stand up for their rights as we can, and there is the need of our doing it for them. We are constantly hearing fathers and mothers "ordering" their children about. Shameful! we think, and then why do we not fall to wondering if we may not be doing the same thing in our own peculiar fashion and in greater or less degree? We never dream we are ordering about the little men and women; but are we not, after all? Anyway, it can do us no harm to take heed unto our way,— put on our glasses awhile, and look closely into all the corners and crevices.— *Sel.*

SUMMER COSTUME FOR MEN.— The Minneapolis *Journal* advocates a summer costume for men. The writer thinks here is a real need; that they need it more than do women. The idea is suggested that an adaptation of the Turkish dress be made. That would dispense with suspenders, the greatest absurdity of the age. He says: "How much both men and women endure of suffering during very hot weather, through deference to prescribed attire, has never been told. It is time that emancipation should come to men as well as to women in the matter of dress."

MANNERS.— Did you ever think what beautiful manners Christ had? It is evident that in a few minutes he could make friends with a total stranger. What a charm his recorded conversations have! How courteous his greetings and his parting words! Surely, if we try to copy him at all, we should try to copy his manners, for they are not among the least of the beautiful examples which he set us.— *Sel.*

I HAVE four good reasons for being an abstainer; my head is clearer, my health is better, my heart is lighter, and my purse is heavier.— *Guthrie.*

Occupation for Children. — It is a wise mother who can find occupation for her children that will afford education for them as well as amusement; and yet these little home makers of the next generation are more eager to "help mother" at seven than they are at seventeen.

Any woman who has done her cooking with "a troublesome comfort" in a high chair at her elbow, will testify to the satisfaction with which the chubby hands will cut out cakes from a piece of dough, and the triumph with which they will point out their own when taken from the oven.

Patience, mothers! If you give those little hands to understand that their help is more bother than assistance, they will not be as ready to proffer their aid with the cakes by and by, when their help is needed.

If we impress upon our children from infancy the idea that each one of them, even the toddler at our knee, has some part to perform in the routine of work, that he is as necessary to the well being of the household as are father and mother, he will grow up with a sense of responsibility which will bind him closer to the home. It may be easier now to hang up little Robbie's coat for him, and hunt up his mittens, than it is to keep a cheerful, patient oversight of the child while teaching him to do it for himself; but will it be easier by and by when Robert is twenty?

We have seen a young girl's gown, the work of painstaking, loving mother hands, with the clinging folds and carefully laid plaits gray with the siftings of dust and lint, and as we noted its crumpled, untidy appearance, we felt that nothing can measure the responsibilities that wait upon those who are intrusted with the care of children. — *Good Housekeeping.*

Flour New and Old. — Flour, when new, has (assuming that the wheat was in good condition) a sweet, nutty flavor; but it is more difficult to make good yeast bread with it than when it has had time to lose nearly all its moisture. It is, therefore, better to get flour that has been ground a few months. Good flour will have a pleasant odor and a creamy tinge; poor flour, a grayish look and an unpleasant smell. Nearly all flour is now made by the roller process, which gives more of the gluten and phosphates than the old process. This flour is granular to the touch, and because it packs more closely, it has about one eighth more thickening power, measure for measure, than that made by the old process; but weight for weight, this is not the case. When using old rules that call for measures of flour, use one eighth less than the rule states.

Entire-wheat flour is, fortunately, gaining in popularity among people who give the right sort of thought to the food that they supply for their families. This flour should be used almost wholly for bread making in families where there are children. It contains more of the nitrogenous and mineral matters than the white flour does. Whole-wheat meal and Graham are, or ought to be, the same thing; that is to say, the wheat ground into a fine meal. It often happens that a poor quality of flour is mixed with wheat bran and is sold as good Graham. In making fine flour the germ is removed from the wheat, but in the meals this is usually not the case; therefore they will not keep so well as fine flour. Buy all meals in small quantities and keep them, if possible, in tin cans or stone jars and in a cool, dry, well-ventilated place. Flour should be kept under the same conditions. — *Maria Parloa in Good Housekeeping.*

The Doleful Neighbor. — Do you know the doleful person? asks the Omaha *World Herald.* She is always a good neighbor in health, and tries to be neighborly in sickness, but she makes a miserable failure at the latter. Don't you remember the last time the baby was sick? After you had watched by the little one's bed day after day and night after night, seen the roses fade from the loved one's cheek, and the little form waste away, just at the time when you had about given up hope, the doleful neighbor came in, and don't you remember how she tried to cheer you up with a one-sided conversation something like this:—

"Why, Mrs. B——, how much worse the baby looks this morning. She looks just like Sarah Jones's baby did the night before it died.

"Gracious! I never saw a child so wasted away as Sarah's was, except yours. We just done everything for the child, but it was n't no use.

"I never will forget how Sarah took on at the funeral!"

And the doleful neighbor suddenly remembers that she has to run back home to "set a sponge," and when she goes, you hope she will never return. You look again at the suffering babe, and listen to its rapid breathing feeling that your heart must surely break.

But suddenly there is a knock at the door, and in comes the — well, the sunbeam neighbor is as good a name as any. She was over the evening before, and quietly and unobtrusively helped to do so many

needful things, and when she left she dropped a word of cheer. And when she comes this time, she says something like this :—

"Why, how much better the baby looks this morning ! "

And do n't you remember what a bright gleam of hope crossed your mind ?

"I never saw a child improve so much in so short a time before. I am sure the baby will soon be well."

And then the sunbeam neighbor re-arranges the bed, adjusts the blinds, tells you she will call again in a few hours, and hurries home.

Honest, now, did n't she leave a confident feeling behind her ? You felt better and more hopeful. Baby, even, seemed to rally under the words ; and when at last the little one was playing around your knee again, did n't you think of the words of the sunbeam neighbor ?

The doleful neighbor has frightened more mothers to death, buried more babies, and caused more tears than all the plagues combined.

BREAD.

BEAUTIFUL loaves of bread,
Crusty and golden brown,
Whose wholesome fragrance maketh glad
The heart of king or clown ;

Outside, the hue of the wheat,
As it bent in the sun of June,
Or lay in heaps of yellow bronze,
In the light of the harvest moon ;

And inside, sweet as the scent
Of tasseling heads of corn,
And light as the sprays of the valley-mist
That float in the wake of the morn.

In homes of wealth and ease,
The board is richly spread,
But what would the choicest viands be
If there was lack for bread ?

And in the humble home —
The cottage small and gray,
The poor man's wife, in calico frock,
Cheerily works away ;

Her eyes are clear with health,
Her dimpled cheeks are red,
And she sings a tender, old-time song,
As she kneads her sweet brown bread.

Homely and wholesome bread —
This is our need each day,
From the millionaire in his mansion grand,
To the beggar beside the way.

The daily physical want
Of nations from pole to pole,
A humble type of the Heavenly Bread
That feedeth the hungry soul.

And do we comprehend,
When our daily prayer is said,
How great the gift we ask of God,
When we ask for our daily bread ?

— *Good Housekeeping.*

SEASONABLE RECIPES.

Summer Squash with Egg Sauce. — Prepare the squash and steam until tender, cut into rather small pieces and serve with an egg sauce prepared as follows : Heat one half cup of rich milk to boiling, add salt, and turn into it very slowly the well-beaten yolk of an egg, stirring constantly at the same time. Allow it to just thicken, and remove at once from the fire.

Baked Tomatoes. — Fill a baking-dish two thirds full of stewed tomatoes ; season with salt or with sugar if preferred, and sprinkle the grated crumbs of good whole wheat, or Graham bread over it until the top looks dry. Brown in the oven and serve with a cream dressing.

Tomato Pudding. — Fill an earthen pudding dish with alternate layers of stale bread and fresh tomatoes, peeled, sliced, and sprinkled lightly with sugar, cover the dish and bake.

Squash Pie without Eggs. — Bake the squash in the shell ; when done, remove with a spoon and press through a colander. For each pie, take eight tablespoonfuls of the squash, half a cup of sugar, and one and one third cups of boiling milk. Pour the milk slowly over the squash, beating rapidly meanwhile to make the mixture light. Bake with an undercrust only.

E. E. K.

JAPANESE children are taught to write with both hands. — *Hygienic Review.*

WHERE light and air do not enter, there the doctor goes.

GOOD HEALTH
J·H·KELLOGG·M·D·EDITOR·
BATTLE CREEK·MICHIGAN·

TYPHOID FEVER FROM ICE CREAM.

A RECENT outbreak of typhoid fever in London was traced to the distribution of infected ice cream by Italians living in Middle Lane. It is quite possible that this may be a frequent source of typhoid fever in New York, Chicago, and other large cities in this country, as well as in London. Ice cream is extensively hawked about in all our large cities by Italian and Syrian vendors, whose ignorance and irresponsibility might easily lead to the use of contaminated water or milk from infected sources. The readiness with which typhoid fever germs develop in milk and the ease with which milk may become infected from the containing vessels, or the use of infected water as a diluent, renders this one of the most common and prolific sources of typhoid fever infection.

At this season of the year the intimate relation between milk and typhoid fever is a question which ought to be generally agitated. The month of December annually brings with it a great crop of typhoid fever cases, and a mortality, under ordinary treatment, of little less than 20 per cent. That milk is the most ordinary source of infection, is a question too well settled to be longer disputed. The disease is not infrequently propagated through water, and in exceptional cases through the air, but the most common source of infection is undoubtedly through the water supply. Whether or not disease germs are capable of passing alive through the intestines of the cow, and thus gaining access to the milk through the carelessness and uncleanly habits of dairymen, is a question which has not been authoritatively settled, but this may be regarded as a possible source of infection.

The recent discovery made by French investigators of the close relation between the typhoid fever germ and the bacillus coli, a germ always found present in the colon and in human excreta, suggests that it is not always necessary to find a direct relation between a previous case of typhoid fever and a new outbreak, as the disease may possibly originate without a previous case of typhoid fever, through the infection of the milk or water supply with the bacillus coli from human excreta.

It is manifestly necessary that every possible precaution should be taken to avoid the use of contaminated milk or water. It is also important that when the water supply or milk supply is not known to be absolutely pure, both should be rendered incapable of mischief, even though they may contain disease germs by exposure to a boiling temperature. Either milk or water boiled ten or fifteen minutes will be rendered thereby entirely incapable of communicating typhoid fever or any other infectious disease. All germs will not be killed by exposure to the temperature named for so short a time as fifteen minutes, but all germs capable of producing acute disease will be killed even by this short exposure to a high temperature. In fact it is well known that the great majority of germs, including the typhoid fever germ, are killed at a temperature considerably below that of boiling water.

Our advice to the reader is, if you do not know that your milk and water supplies are absolutely pure, take neither without boiling. In visiting a large city like Chicago, or any other city in which the enormous quantities of milk furnished do not permit of a close inspection of all the sources of supply, it is unwise to make use of milk without first boiling it. The writer has in mind a case in which an outbreak of typhoid fever occurred in a small city hotel in consequence of a neglect of this precaution. Three of the inmates suffered very severely from the disease, and several others suffered from light attacks.

ORIGIN OF CHOLERA.

It is well known that India is the home of cholera, and that nearly all the epidemics which have spread over a greater or less portion of the civilized world have originated in that country. Referring to this fact, Dr. Ernest Hart, in his interesting address before the American Medical Association at Milwaukee a few weeks ago, described some of the conditions which give rise to cholera outbreaks, as follows: —

"Religious pilgrimages are a fruitful means of spreading cholera in the East. In 1866, 30,000 pilgrims died of cholera at Mecca. And here let me mention one of the customs of that pilgrimage, which goes far to explain the intensity and the fearful mortality which attended any outbreak of cholera among the Meccan pilgrims. At a given period the pilgrims stand naked in turn at the holy well; a bucket of water is poured over each man, he drinks what he can of it, and the rest falls back into the well. The water of this well has been analyzed by an English chemist, Dr. Frankland; it is fearfully polluted with abominable contaminations, In 1866, within a few days of the ceremony, the road for twelve miles, to the foot of Mount Ararat, was thickly strewn with dead bodies.

"In a report in June, 1891, Dr. W. J. Simpson, an able and energetic health officer of Calcutta, gave an interesting account of two large pilgrimages which he personally witnessed in that year, one in the endemic area of Bengak, and the other in the non-endemic area or north part of India. The first of these pilgrimages was the Ardhodoya Jog, which is held at Calcutta and other sacred places near Calcutta, at rare intervals of twenty-seven or twenty-eight years. The purity to be obtained by bathing in the Ganges during the festival is exceptionally great, and therefore the gathering of the pilgrims at the several bathing shrines, was, on its own merits, a very large one. Kalighat, where the gathering in question took place, is in the suburban area of Calcutta, on Tolly's Nulla, a small tidal creek which is held to be more sacred than the Hooghly. The Nulla can be waded across at low tide, but it is the receptacle of unspeakable filth of all kinds. After describing the unsanitary arrangements of the neighborhood, Dr. Simpson remarks that 'without a good water supply, or drainage, or proper means of disposal of the excreta and sulliage, with crowding together of huts and houses irregularly placed, and with the filthy tide Nulla, which is practically the sewer of the district, and with numerous polluted tanks, Kalighat, it may be surmised, is at no time a healthy spot, and at all times a danger to pilgrims.' On the occasion in question at least 150,000 came into Calcutta in the first and second weeks of February, and to describe the crowding which occurred in the Nulla on the festival day, is difficult. Dr. Simpson performed this task very graphically by appending to his report a photograph which he himself took on the morning of February 8. The crush is seen to be very great, and it is marvelous that no accidents happened; the tide is low, and the bathers, even in mid-stream, have not the water much above their knees. A collection of boats, extending as far as one can see, is so great and close together that only occasional glimpses of the water are obtained, and these boats are crowded with men, women, and children. Dr. Simpson gives details of an outbreak of cholera which occurred among these people, as many as fifty-one cases appearing on February 11. The pilgrims had soon to be dispersed, and though this dispersal checked a larger outbreak at Kalighat, which would only have widened its circle afterward, it could not prevent those already infected from suffering on their way home. Consequently, at some of the principal railway stations, sick people had to be taken out of the trains; passengers by boat died on their voyage, their bodies being thrown overboard; while travelers on foot were picked up dying and dead on the roads.

"Dr. Simpson's description of the great Kumb festival, which occurs once in twelve years at Hurdwar, is also very graphic, and photographs taken by Dr. Simpson at the festival of 1891,— copies of which I have before me,— show the sacred pools and the approaches to them to be hidden by a mass of semi-naked human beings. The pollutions to which the sacred pool is exposed on these occasions are indescribable. There are not only the washing of the naked fakirs who cover themselves with wood ashes as their only clothing, and the general bathing of the pilgrims, who are not all in the cleanest of clothes,— several, moreover, on the occasion in question being seen bathing with skin diseases upon them,— but the ashes of deceased relatives, enclosed in little red bags, are brought from the different homes of the pilgrims and thrown into the pool. Can it be wondered at that, when cholera cases have been among the pilgrims, disease and death should have spread broadcast?"

WORRY WORSE THAN WORK.

We rarely find one who has been really injured by overwork physically, but a vast number are injured by worry. Anxiety, care, restlessness, and irritation wear a person out very fast. Observe a machine with the oil all worn from its bearings, and how heavily it runs! The bearings grind together, and then become heated, and thus the machine is worn out rapidly. It is just so with the human body. A person trying to labor while burdened with care and anxiety, is like a machine running with dry and rusty bearings. The expenditure of force required to make it run under such circumstances, is ruinous. Any greatly depressing or exciting influence paralyzes all the vital processes of the body. What is needed is rest from worry, and any change that will bring this about will effect a cure.

Let a man who is suffering physical illness caused by business trouble, take a vacation in some secluded place where he will be entirely separated from the circumstances and surroundings to which he is accustomed, and the tendency of the change will be toward recovery at once. Many a mother is worn out, not so much from her physical duties, as from the anxiety and care attending them. Such might be entirely cured by a vacation away from home. The rest to be found in a change of circumstances is all that they need. A city lady not long ago cured herself by simply resting at the quiet home of a friend, two days out of a week for three months.

In like manner, rest of brain and body is gained by shifting from one occupation to another. Goethe says,—

> "Rest is not quitting a busy career,
> Rest is but fitting one's self to his sphere."

Take the business man, for instance, who bends over long columns of figures, making calculations as to profit and loss. He works until the blood rushes to his head, his face is flushed, and the veins of his forehead stand out like cords. Let him change his occupation for a time, and the blood recedes from his brain, the congestion is relieved, and the extremities, which before suffered from the cold, are warmed by their natural amount of blood.

Mr. Gladstone finds relief from the care and anxiety of his position by escaping from the hurry and bustle of London and going out to his place at Hawarden, and chopping down some of the big oak trees there. When he returns to London, he is a rejuvenated man. This is the secret of his wonderful vigor at the age of nearly eighty years. He is said to be still the most vigorous man of his day, intellectually. Moreover, he has so closely followed the laws of health that few young men can compete with him physically.

One rule, then, for the attainment of long life and a vigorous old age, is freedom from worry, and the rest which comes from a change of occupation rather than from idleness.

Absorption from the Stomach.— J. von Mering, an eminent German investigator, has recently shown by experiments upon a dog, that in cases of dilatation of the stomach or obstruction of the pyloric orifice, absorption from the stomach does not take place normally; and that when thick gruel is given at night, the quantity of fluid found in the stomach in the morning is actually increased. This observation was made on a patient suffering from dilatation of the stomach. He also observed that during the absorption of any substance from the stomach there is always more or less passage of water into the stomach from the blood. This experiment seems to show that absorption does not take place from the stomach when water is taken into an empty stomach, but that the water passes into the intestine, from which it is absorbed. In cases of dilatation of the stomach, the ability of the stomach for absorption is diminished, as also is the ability to discharge the contents into the intestines, which accounts for the slowness with which liquids are absorbed, and the great thirst of persons having dilatation of the stomach, notwithstanding the great quantity of fluid taken.

Infection Conveyed by Cats.— An English surgeon has recently traced an outbreak of scarlet fever to a visit from a cat belonging to an infected household. Cats have long been known to be the means of communicating diphtheria, and are even charged with conveying the contagion of small-pox. Dogs doubtless serve in the same capacity. Quarantine laws have thus far ignored domestic animals, but from recent observations, it would seem that cats and dogs, at least, should be included in the quarantine restrictions imposed by health officers during an outbreak of scarlet fever or diphtheria.

AN EPIDEMIC OF TRICHINOSIS IN BELGIUM.

A RECENT number of the *Journal d'Hygiene* reports an extensive epidemic of trichinosis at Herstal, resulting from the use of lard, which upon examination was found to contain the parasite, as stated in the report, "in colossal quantities." Thirty-nine persons showed symptoms of the affection, of whom thirteen died. The sufferers exhibited the various symptoms of the disease which are manifested in its three stages,—the diarrhœal or choleriform; the rheumatoid, or typhoid; and the chachectic. The hogs from which the lard was obtained, were native reared; so that it would appear that Belgian as well as American pork is becoming thoroughly infected with this horrible parasite.

Our contemporary recommends that those who eat pork should take care that it is thoroughly cooked. Would it not be better to discard the use of swine's flesh altogether? The hog is a most excellent scavenger, but a very poor article of diet. Nothing could be more horrible than death from trichinosis. The consciousness that one's flesh is the seat of swarming millions of wriggling worms, and that the disease is one for which there is no possible remedy, is one well calculated to give rise to a sentiment of the deepest horror. If a new malady presenting equally terrible and loathsome aspects were to be discovered, the apprehension and terror which would be thereby created, would lead to the immediate adoption of the most vigorous measures for its extermination. But trichinosis has come to be so common a malady, that the constantly recurring cases which are recorded scarcely give rise to comment.

This parasite is without doubt rapidly extending its ravages in our country. Probably thousands of persons are carrying about with them in their muscles, multitudes of trichinæ without being aware of their presence except though the frequent occurrence of rheumatic pains in the muscles, which an eminent German medical authority has recently attributed to this cause.

DESERVED HONOR.—We are glad to note that our esteemed friend, Dr. Pietra Santa, of Paris, has recently been honored by the king of Italy, who has presented him with the insignia of the Order of the Crown of Italy. Dr. Pietra Santa was physician to the last Napoleon, and has been for many years Secretary of the Society of Hygiene of France, and has been one of the most active and enthusiastic workers in behalf of sanitary reform and progress in Europe. We hoped to have the pleasure of seeing this distinguished scientist, physician, and sanitarian at the World's Columbian Exposition, but fear that although still active in his professional and literary labors, his advanced age will not permit him to undertake the hardships of an ocean voyage.

COFFEE FOR INEBRIATES.—The establishment of coffee houses in place of saloons, is by some regarded as one of the most important means of antagonizing inebriety. We have always been opposed to the plan of curing one evil by the substitution of another; for although the coffee drunkard may be somewhat less of a menace to the public peace, and less of a nuisance to his family, he is nevertheless a sinner against nature, and in a way to become an opium slave or a victim to some other form of narcotism.

Recent observations by Czarkowski, according to Wratch, show that drunkards, of all classes, are the least able to bear the use of coffee. As is well known, coffee contains the active principle of caffein, a vegetable alkaloid possessing very marked properties as a cerebral excitant. The authority referred to takes very strong ground upon the subject, declaring that in persons addicted to the use of alcohol, caffein is strictly contra-indicated. He observed that as a result of the use of caffein in medicinal doses, violent cerebral agitation appeared, giving place to the reverse condition, one of extreme sadness as soon as the caffein was withdrawn. In one case, there was not only extreme cerebral agitation, but also fright, followed by a loss of consciousness which lasted several hours. In still another case, a most violent delirium, in which the patient manifested decidedly destructive tendences, was induced by caffein.

ORIGIN OF HOT-WATER DRINKING.—The famous Dr. Sangrado, of whom the origi al was Dr. Philip Hecquet, who was born in the latter part of the 17th century, seems to have been the originator of hot-water drinking. Dr. Hecquet was a great advocate of bleeding and copious hot-water drinking. He was also rigidly abstinent. For the last thirty years of his life, he neither ate meat nor drank wine.

WAKEFULNESS.

THERE is only one cure for wakefulness, and that is to go to sleep. But the disposition to keep awake is one that is hard to overcome. There are a few simple suggestions, however, which may prove valuable. In the first place, if one wants to sleep, he must earn the right to sleep. The Bible says that if one will not work, neither shall he eat, and nature says with equal emphasis, "He that will not work, shall not sleep." There must be a certain amount of physical energy expended in order that one may have the right — the ability — to sleep.

In the second place, a person's nervous system must be in a state of quiet for him to sleep. An irritated condition of the nerves, which brings too much blood to the brain, will keep the brain machinery at work so that he cannot control his mind. His thoughts keep running hither and thither, and he cannot quiet them. Some people can sleep better in a noise than when all is quiet. It is not unusual to find a person who can sleep better on a train than in his own bed at home. The monotonous motion of the cars distracts his mind from the subjects that have occupied it, and in the confusion thus created, he drops off to sleep. Sleep has been called "a coy mistress," and there is difficulty in wooing her, but if the mind can be lifted out of the old rut in which it has been accustomed to run, the result will bring refreshing sleep.

Another cause of wakefulness is a general irritation of the nervous system, in which the whole nervous system is abnormally sensitive to noise. The person starts at the slightest sound. Should a whistle chance to be sounded in the room, she would start and perhaps scream. A telephone in my office sometimes gives me a good chance to test the nerves of my patients. When the bell rings, if the patient throws up her hands and screams, I conclude she is hysterical. If she only shrugs her shoulders, she is nervous; but if she simply looks around to see what it is, and to ascertain that all is right, I know her nerves are in a normal condition.

Persons who are easily disturbed by sounds are usually bad sleepers. Their nervous system is in such a condition that the slightest noise is a great disturbance. The rumbling of carts on the pavement, the croaking of frogs, the singing of birds, the ticking of a clock, or the chirp of a cricket, may keep a person awake for hours. A person on a voyage may be kept awake by simply listening to the regular thud of the machinery, his mind keeping time with the beats of the great steel heart. There are always noises everywhere, and one who is so nervous that he cannot sleep because of these slight noises, is in a bad condition indeed. The only cure for this condition is to relieve the patient of this excessive nervous irritability.

Another cause for sleeplessness is found in a diseased stomach. The tongue is a good index to the stomach. If it is clean, the stomach is probably in good order; but if there is a coating on it, there are microbes present which must be gotten rid of.

A person must also have an empty stomach in order to sleep well. If the stomach is busy digesting food after he has retired, the movements in the digestive apparatus will be found utterly incompatible with sound sleep. Again, a person must go to bed with a clear conscience. A guilty conscience is sometimes a very potent element in disturbed sleep. A clean stomach and a clean conscience are two of the best conditions for the cure of sleeplessness.

There are a great number of "hypnotics" offered to the public, but they are all deceptive. There is not a panacea for insomnia which it is safe to take for any length of time. The drugs which produce sleep, accomplish it by means of the poison which they contain. They benumb and poison the brain, and the sleep that follows is a poisoned sleep; it is not natural, healthy sleep.

A CHEMICAL SUBSTITUTE FOR SUGAR.— A Berlin chemist has discovered a chemical substance called valzin, which is 200 times sweeter than sugar, and is said to possess none of the unpleasant properties of saccharine. It is not likely, however, that this substance will ever take the place of sugar, as it is a purely chemical substance, possessed of no food value, and if taken in any considerable quantity, would doubtless prove to be exceedingly unwholesome.

THE PRESERVATION OF FOOD.—A bacteriologist has recently discovered that germs which produce phosphorescence in decaying substances are capable of growth at a temperature sufficiently low to freeze water. This explains the fact that meat and other substances, although kept in ice chambers, acquire after awhile a disagreeable taste and odor, giving evidence that a form of decomposition has been taking place, although different from the ordinary process of putrefaction. The preservation of food for any length of time requires dryness as well as coldness. In a damp atmosphere, decomposition will occur in a freezing temperature.

IVY POISONING. — A simple remedy for ivy poisoning, and one which affords instant relief, is water applied as hot as can be borne. Ivy poisoning is often a very serious matter. In cases of severe poisoning the eruption often recurs every summer, and causes great discomfort and pain. The hot water should be applied every hour or two, or as often as the itching returns. Poisoning by sumac yields to the same treatment.

COW'S MILK FOR INFANTS.— The query is sometimes raised, whether clear cream or part cream and part water is best for very young children. A mixture of good milk and lime-water is found to be very good, one part of lime-water to two parts of milk. The lime-water prevents the milk from forming large curds in the stomach. But be sure that the milk is pure and healthy.

FRUIT IN THE CHOLERA SEASON.— The popular idea that the use of fruits in cholera times is dangerous or unwholesome, is the greatest possible mistake. Dr. J. De Christmas, of the Pasteur Institute in Paris, France, has shown that citric acid destroys cholera germs, and that it also weakens the typhoid germ so as to prevent its development, although it does not entirely kill it. The dose of citric acid required, is one part to one thousand, or one tenth of one per cent. Lemon juice contains from six to nine per cent of citric acid, consequently lemonade consisting of one part of lemon juice to ten parts of water, would contain more than sufficient citric acid to destroy the germ of cholera. Oranges contain a considerable amount of citric acid, and hence orange juice would be a good beverage in cholera times. All fruits are wholesome, since they encourage intestinal asepsis, whereas meats are decidedly harmful. Cholera germs thrive in meat juices, and produce their poison in most deadly quantities.

MEDICAL WHIMS.—Thousands of people are making themselves sick by worrying about trifles to which they attach enormous importance in relation to their health. For example, one man imagines that he is a victim of meteorological conditions, and whenever the weather changes in the slightest degree, he must necessarily be sick. Another has made the discovery that he is profoundly influenced by the magnetic currents of the earth, or electrical changes in the atmosphere, and does not feel safe unless the bed in which he sleeps or the chair in which he sits is carefully insulated by means of glass castors. Another is equally thoroughly convinced that it is important that he should lie with his head to the north or his feet to the west, or that he should sleep on his right side or his left side, or flat on his back, as a serious injury may come to him if these rules are infringed. One of these whimsical patients called upon an eastern physician some time ago, when the following colloquy took place : —

"Which side should I sleep on, Doctor?" he inquired.

"In winter or in summer?" asked the doctor, rubbing his chin thoughtfully.

"What's that got to do with it?" exclaimed the patient, half angrily.

"A great deal," responded the doctor, mysteriously.

"I don't see it."

"Of course you don't," replied the imperturbable; "if you did you wouldn't be here asking questions about it."

"Go ahead then," said the patient, sitting back resignedly.

"Well," continued the doctor, "in winter, when it is cold, you should sleep on the inside, but in such weather as this, you should sleep on the outside, in a hammock with a draught all around it, and a piece of ice for a pillow. Two dollars, please."

ANSWERS TO CORRESPONDENTS.

CATARRH. — Mrs. B. K., of Iowa, asks the following questions: "1. Is catarrh a disease of the blood? If so, if it is cured in the head by local treatment, will it be apt to go to the lungs, or some other part of the body? 2. If catarrh can be cured by burning, will not the sense of smell be destroyed? 3. Why is this method any better than to be cured by some of the harmless patent medicines?"

Ans.— 1. Catarrh is not a disease of the blood, but is sometimes a constitutional as well as a local disease. It depends not infrequently upon disorders in the general system, especially an inactive liver and a defective circulation.

2. Catarrh cannot be cured by burning. Sometimes thickenings or hypertrophies develop in the nasal cavity, which retain the secretions, and hence perpetuate the catarrh. These may be removed by cutting or burning operations. Such operations ordinarily do not affect the sense of smell, as the parts affected do not usually involve that portion of the nasal cavity in which the smell is located. More frequently, by removal of the hypertrophies securing the full admittance of air to the nasal cavity, the sense of smell which has been lost, is regained.

3. Cases which require operations for removal of growths are never cured by "harmless" patent medicines, nor indeed by any other medicines. But surgical means, if necessary, may be employed in such cases.

COUGH — SCARS — CATARRH. — Mr. S., of Chicago, would be glad of answers to the following questions: "1. What is the cause of sudden and continued coughing, when the expectorations are black and thick, and what is the cure for it? 2. Is there anything that will remove scars; if so, what? 3. What is the best remedy for catarrh? 4. Why does a skin which is white in winter change in summer to a dark color? 5. What will remove black heads from around the nose?"

Ans.— 1. The difficulty is probably bronchial catarrh. A physician should be consulted.

2. No; nothing except to remove the scars with a knife, and another scar will of course remain; but, in some instances, the scar resulting from the operation may be made very much smaller and less conspicuous than the scar removed.

3. There is no specific for catarrh. A good specialist should be consulted. We would recommend perusal of "Ten Lectures on Catarrh," published by the Good Health Publishing Co.

4. The change or color is probably due to the influence of the heat of the sun, which increases the pigment matter of the skin.

5. Compression with the fingers or a proper instrument.

BOVININE — BUTTERMILK — ETC. — "A reader" asks the following questions: "1. Would you place Bovinine (a liquid) in the same category with beef and other flesh foods? 2. Is buttermilk good for a sluggish liver? and if so, which is better, fresh buttermilk, or that which is old and sour? 3. Is there any special dietetic value in figs or dates? 4. Would not your No. 3 Gluten Meal be objectionable in a case where unconverted starch disagrees with the stomach? 5. Would the white of two eggs (beaten to a froth) per day, be too much albumen for the average person, providing no meat is taken?"

Ans.— 1. Yes.

2. There is no food specific for a torpid liver. Buttermilk is a proper food, if perfectly fresh. Buttermilk made from sour or rancid cream is not wholesome.

3. Yes; figs and dates are very nutritious food, and are capable of sustaining life.

4. Probably not.

5. No.

CATARRH OF THE STOMACH. — A subscriber in Ontario wants to know the best remedy for catarrh of the stomach, and also for nasal catarrh.

Ans.— Catarrh of the stomach is treated best by avage. Washing out the stomach, together with lproper regulation of diet, will usually result in improvement of health. With reference to nasal catarrh, we would refer the querist to "Ten Lectures on Nasal Catarrh," published by the Modern Medicine Publishing Co., Battle Creek, Mich.

A SANITARY CHAIR. — R. S., Chicago, writes: "Some time ago, in GOOD HEALTH, you showed a cut of a straight-backed sanitary chair. It appeared to be 22 or 24 inches high in the seat. Why do you prefer a high seat? Please tell me where such chairs can be procured."

Ans.— The chair-seat should be just high enough so that the feet will rest squarely upon the floor, and the width be such that the hips will reach the back of the chair. We are not aware that chairs such as the one referred to are kept on sale. Such a chair would probably need be made to order.

"ROARING IN THE HEAD."— H. L., of New York, asks whether there is any treatment that will cure roaring in the head. The lady is sixty-four years of age, and is troubled in this way continually. She is very deaf. Please give advice.

Ans.— Cases of the sort referred to are often relieved by applications of galvanism to the ears. The current applied should be of sufficient strength to cause slight giddiness. Other means are also useful, but require the services of a specialist. The application of galvanism to the head should not be undertaken by any one not schooled in its use.

USE OF PEROXIDE OF HYDROGEN, ETC.— Mrs. J. H., Indiana, asks if there would be danger in treating herself with Marchand's Peroxide of Hydrogen and Glycozone, according to the directions given in Marchand's book, "The Therapeutical Application of Peroxide of Hydrogen and Glycozone." She has trouble with her throat and tonsils, also indigestion, and slight symptoms of catarrh.

Ans.— I do not think any one would be at all likely to be injured by the use of peroxide of hydrogen as directed.

SPINAL TROUBLE.— Mrs. N. R. W., a subscriber, asks, "Can you tell me the cause of a buzzing and seizing at the base of the brain, and also the remedy for the same?" She has been troubled with weak nerves for the past seventeen years, and also some trouble with the cords at the back of the neck. Her physician thinks it is caused by the practice on a piano in her house.

Ans.— This lady is doubtless suffering from neurasthenia. Quite likely there is some disturbance of the sympathetic nervous system.

NOXIOUS GASES.— A subscriber asks, "1. What is it that causes noxious gases to rise from the body?" The writer is so troubled, and is a vegetarian, too. "2. What amount of vegetable food should one take daily, who does not have much exercise?"

Ans.— 1. A morbid state of the secretions.

2. Eighteen to twenty ounces of water-free food is sufficient to sustain the average individual.

ENLARGED TONSILS.— Mrs. L. A. C., of Wisconsin, is very anxious to know how to cure a case of enlarged tonsils in a boy of eight years. A local practitioner has advised the use of iodine for several months.

Ans.— The best remedy is the removal of the tonsils.

PINK PILLS — PEROXIDE OF HYDROGEN — ETC.— Miss C. M. L. asks, "1. Are Dr. Williams's Pink Pills and Dr. Green's Nervura good medicines? 2. Would Charles Marchand's Peroxide of Hydrogen do any harm put on a tender or sore spot? 3. Is it perfectly safe to use without the glycerine? 4. Can you cure paralysis of motor centers?"

Ans.— 1. No.

2. It would cause some smarting, but would do no harm.

3. It is a safe remedy, used in any form.

4. Paralysis caused by disease of the nerve centers is not always curable.

"WALLACE SPECIFICS."— A letter from G. A. M., of New Jersey, says, "Hygienists here are putting great faith in the 'Wallace Specifics' made in England. Please let me know something of this medicine."

Ans.— This medicine, like other nostrums, is unreliable.

ANÆMIA.— M. C. P. writes, "Will you be so kind as to tell what is good to make more blood, and why one's head is so hot when the hands and feet are cold?"

Ans.— Blood is made of food. Nothing else will make good blood but good food, well digested. The head is hot when the feet and hands are cold, because it contains too much blood.

"HUNGER CURE."— W. L. L., of Oregon, having noticed an account of the "hunger cure" in GOOD HEALTH, writes to know the mode of treatment followed in it, and any other suggestions you may have to give him. He has been troubled with constipation for a number of years, and is anxious for relief.

Ans.— We cannot recommend our correspondent to try the "hunger cure" on his own responsibility. Such a vigorous measure of treatment should be undertaken only under the guidance of an experienced and skilled physician.

NEURALGIA.— A lady in Washington, who has suffered much from neuralgia, and has used many patent medicines, but without permanent help, wants to know if the malady can be cured. She has had the most relief from taking quinine, strychnia, and potassium; is now taking Dr. Miles's nerve restorative. She would also like to know your opinion of Hazeline.

Ans.— Neuralgia can be cured, but not by the use of the remedies named.

RELIEF DEPARTMENT.

[THIS department has been organized in the interest of two classes: —

1. Young orphan children.
2. The worthy sick poor.

The purposes of this department, as regards these two classes, are as follows: —

1. To obtain intelligence respecting young and friendless orphan children, and to find suitable homes for them.

2. To obtain information respecting persons in indigent or very limited circumstances who are suffering from serious, though curable, maladies, but are unable to obtain the skilled medical attention which their cases may require, and to secure for them an opportunity to obtain relief by visiting the Sanitarium Hospital. The generous policy of the managers of the Medical and Surgical Sanitarium has provided in the Hospital connected with this institution a number of beds, in which suitable cases are treated without charge for the medical services rendered. Hundreds have already enjoyed the advantages of this beneficent work, and it is hoped that many thousands more may participate in these advantages. Cases belonging to either class may be reported in writing to the editor of this journal.

The following list contains the names and addresses of persons who have kindly consented to act as agents for us in this work, and who have been duly authorized to do so. Facts communicated to any of our local agents in person will be duly forwarded to us.

It should be plainly stated and clearly understood that neither orphan children nor sick persons should be sent to the Sanitarium or to Battle Creek with the expectation of being received by us, unless previous arrangement has been made by correspondence or otherwise; as it is not infrequently the case that our accommodations are filled to their utmost capacity, and hence additional cases cannot be received until special provision has been made.

Persons desiring further information concerning cases mentioned in this department, or wishing to present cases for notice in these columns, should address their communications to the editor, Dr. J. H. Kellogg, Battle Creek, Mich.]

THE names of our local agents are omitted this month so as to give more space for the presentation of cases needing immediate attention. We find that this part of the work is developing much more rapidly than we had anticipated. Homes have been offered for nearly all the little ones whose names have been mentioned in these columns, and the interest which has been aroused in the work that we have undertaken has been far beyond our expectation. For this reason we shall not be able to publish the list of agents regularly, but will do so now and then, as space will allow.

TEMPORARY HOMES.— It is often necessary to find temporary homes for children, while waiting for permanent homes. We are glad to announce that the following persons have volunteered to take such needy ones in case of emergency. We shall be glad to add to the list. All correspondence should be conducted through this office.

Mrs. E. L. Mc Cormick,	Michigan.	Anthony Snyder,	Michigan.
Mrs. A. M. Osborn,	,,	Henry Snyder,	,,
Mrs. Anna Haysmer,	,,	F. D. Snyder,	,,
J. Staines,	,,	Wm. Kirk,	,,
John Wallace,	,,	E. Van Essen,	,,
N. A. Slife,	,,	Dr. J. D. Dennis,	,,
D. D. Montgomery,	,,	Mrs. Prudie Worth,	Wyoming.
Chester Hastings,	,,	James Dobbin,	New York.
Mrs. E. L. Merry,	Massachusetts.		

TWO MOTHERLESS BOYS (NOS. 115 AND 116).— A bereaved father in Pennsylvania asks that a home be found for his two motherless boys, aged five and six years. They are both nice-looking boys, and said to be very intelligent and good. The father expects to give his life to missionary work, and cannot maintain a home for them.

A SAD CASE (NO. 118). — A boy aged nine years, living in Michigan, has been bereft of a father's care, and his mother is blind, so he has been "neglected," the letter states, during the past two years. He needs to be under control, and will be a good boy under favorable circumstances. Will not some good missionary take him, and train him up for a good and useful life?

TWO MOTHERLESS BAIRNS (NOS. 119 AND 120).— Two of Christ's little ones are in sad need of a home where loving hands will help them and loving hearts defend them. They are four and five years of age, and live in Massachusetts. Both have blue eyes and light brown hair, and are very attractive. For three years they have been given only boarding-house care, and their guardian wants to find a home for them. He would like to have them together if possible.

"INASMUCH."— Here comes a group of four little ones (NOS. 125, 126, 127, AND 128). Their father is dead, and their mother's health is failing, so she sees it cannot be long that she can care for them. Who will open the door to them? Their ages are respectively eleven, nine, five, and four. They have dark eyes and brown hair. They have always lived in Kansas with their parents.

A SEVEN-YEAR-OLD (NO. 129).— A little boy seven years old, in California, has lost his mother, and the father has given him to some aged people who do not feel able to bring him up right. He is of German parentage, with light hair and good health. Will not some one make a home for him?

TWO BROTHERS (NOS. 131 AND 132), from Michigan, are in need of a home. One is five and the other ten years of age. Their mother died some two years ago, and the father is not able to care for them.

TWO MORE BOYS (NOS. 133 AND 134) are in need of a home. These also live in Michigan. They are three and five years of age, have good health, with brown hair and eyes. Here is a good opportunity for doing missionary work in bringing up these children to be a blessing to the world. Who will undertake th etask?

SAD FACES look out at us from the photograph that has been sent of two little girls (Nos. 139 and 140) about eight and nine years old, living in Michigan, who are just about to be turned away from home. How full the world is of trouble and sorrow! Cannot some one help to lift the sadness from these little faces?

TWO BELGIAN CHILDREN (NOS. 141 AND 142), a boy and a girl, aged respectively ten and twelve, are reported from Pennsylvania. Their mother is dead, and the father is unable to support them. They are nice, smart-looking children.

MOTHERLESS. — Another little boy and girl (NOS. 143 AND 144), in Kansas, have been left motherless, and the father's health is so poor that he is anxious to find homes for his children before he is called away from them. They are good children, well-appearing, and have good health. The little boy is nine and his sister six years old.

DE FOREST (No. 145) is a dear little Michigan baby, six months old, with black eyes, dark hair, and a bright face. He has perfect health, and will doubtless bring sunshine to the home that is opened for him. Who will give him a home soon?

A LITTLE BROTHER AND HIS SISTER. — Here are two little ones from Florida (Nos. 158 and 161) who are in need of a home or homes. The girl is two years and the boy six years old. They both have brown hair and eyes, and are blessed with good health.

No. 160 is a little girl from Ohio, ten years old, whose father is unable to support her since he suffered from the grippe. She has clear complexion, and that rare combination, light hair and black eyes. With wise, loving care, she will be a happy addition to some family circle.

No. 162 is a little lady only two and one half years old, with fair complexion and a sweet, gentle disposition. Her home is in Michigan at present.

SINCE last month we have been able to find homes for several of our little ones who have been noticed in these columns, and also for some that had not yet found room for notice. The numbers for whom homes have been found are as follows: 137, 146, 150–152. The last three are children of one family, and all girls. They have gone to good homes, and we hope will prove a blessing to their new-found friends.

WHO WILL HELP? — Here are two boys (Nos. 163 and 164) from North Carolina, who want homes. The father is dead, and the mother cannot support them. They are bright, intelligent boys, and, as the application says, would make somebody's home brighter. They are eight and eleven years old respectively.

A WELL-TO-DO couple, whose large family of children have left their babyhood far behind, propose to keep up their practice and their hearts warm by adopting a baby, and giving temporary homes to two or three other children. The willingness on the part of friends to make homes for the homeless is one of the bright spots in our work, contrasting happily with the sorrow and sadness which the other side presents.

PERSONS making application for children advertised in this department, are requested to send with their applications the names and addresses of two or more persons as referees. If possible these referees should be known, either personally or by reputation, to some member of the Board of Trustees.

CLOTHING FOR THE POOR.

THE call for clothing of all kinds and the numerous offers to supply assistance of this sort, have led us to organize a Clothes Department to receive and properly distribute new or partly worn garments which can be utilized for the relief of the very poor. In connection with this work it is very important that a few points should be kept in mind and carefully observed: —

1. Clothes that are so badly worn that repairs will cost more in money or labor than the garment is worth, will of course be of no service. Garments that are old, though faded, or which may be easily repaired by sewing up seams, or made presentable by a few stitches judiciously taken in some point in which the fabric is nearly worn through, may be utilized to most excellent advantage. But garments so badly worn that they need extensive patching, or clothes which have become much soiled and grimmy by long use in some dirty occupation, should find their way to the rag bag instead of the missionary box.

2. Freight must always be prepaid. It costs as much to send 25 pounds or any amount less than 100 pounds as to send the full 100 pounds; consequently it would be well for those who think of sending clothes to be used in this department, to put their contributions together in one shipment, so as to get the benefit of the 100-pound rates. *We are obliged to ask that freight should be prepaid as a means of preventing loss to the work in the payment of freight upon useless packages.*

3. Clothes that have been worn by patients suffering from any contagious disease — such as typhoid fever, erysipelas, consumption, and skin disorders of all sorts, as well as scarlet fever, measles, mumps, diphtheria, and smallpox — should not be sent. Infected clothes may be rendered safe by disinfection, but we cannot trust to the proper disinfection of such garments by those sending them, who, in the majority of cases, are quite inexperienced in such work; neither should those who unpack the clothes be exposed to the risk of contamination while preparing them for disinfection at this end of the line. Such clothes should, as a rule, be destroyed. If they are not destroyed, almost infinite pains are required to render their use perfectly safe.

4. All articles received here are carefully assorted and classified, and are then placed as called for where they will do the most good.

LITERARY NOTICES.

THE "Handbook of Invalid Cooking" is a new work of 323 pages just from the press of The Century Co. It is compiled by Mary A. Boland, instructor in cooking in the Johns Hopkins Training-school for Nurses, and is designed for use in hospitals, and for nurses and those who care for their sick at home. Address The Century Co., New York City.

THE *Chautauquan* for September is full, as usual, of good things, among which are the following interesting and practical topics: "From Buffalo to Bremen," by Bishop John H. Vincent; "Reminiscences of United States Senators," by W. K. Benedict; "The Church Bells," by Hjalmar Hjorth Boyesen; "The End of the Furrow" (concluded), by Theodore L. Flood and Charles Barnard; "Aerial Navigation," by J. Fleury; "Ralph Waldo Emerson," by J. V. Cheney; "What Makes a Presbyterian," by Rev. B. L. Agnew, D. D.; "The American Standard of Living," by Dr. J. R. Dodge. This is only a partial list of contents of the current number.

The new volume begins with the October number. Subscription price, $2 per year. Address, Dr. T. L. Flood, Meadville, Pa.

THE CENTURY MAGAZINE'S "FIND."—The *Century* has just come in possession of one of the most unique and important historical documents of the age. It is a record of the daily life of Napoleon Bonaparte on board the English ship which bore him into captivity at St. Helena, as contained in the hitherto unpublished journal of the secretary of the admiral in charge. The Memoirs of Las Cases contain the story of the Emperor's deportation as told by a Frenchman and a follower; this diary is an English gentleman's view of the same memorable journey, and of the impressions made by daily contact with the man who had had all Europe at his feet.

The diary will be published in early numbers of the *Century*.

CONTENTS of *Lippincott's Magazine* for September: "A Bachelor's Bridal," by Mrs. H. Lovett Cameron; "In the Plaza de Toros" (illustrated), by Marion Wilcox; "Whom the Gods Love" (poem), by Edgar Fawcett; "A Girl's Recollections of Dickens," by Elizabeth Wormeley Latimer; "The Cross-Roads Ghost" (Lippincott's Notable Stories. —No. VII.) (illustrated), by Matt Crim; "Uncle Sam in the Fair," by Charles King, U. S. A.; "For Love's Sake" (poem), by Zitella Cocke; "Forest-Fires" (portrait), by Felix L. Oswald; "The White Amaryllis" (poem), by Margaret B. Harvey; "Ishmael" (illustrated), by Richard Malcolm Johnston; "Hypnotism: Its Use and Abuse," by Judson Daland, M. D.; "The Sleep of Death" (poem), by James Kay Philips; "The Carthusian" (illustrated), from the French; "A Sea-Episode," by C. H. Rockwell, U. S. N.; "Don't. To Young Contributors," by F. M. B.; "Men of the Day," by M. Crofton.

J. B. Lippincott Co., 715 and 717 Market St., Philadelphia, Pa. $3 per year.

A "MANUAL for Boards of Health and Health Officers," by Lewis Balch, M. D., Ph. D., Secretary State Board of Health of New York; Health Officer of Albany; Emeritus Professor of Anatomy and Professor of Medical Jurisprudence, Albany Medical College. Bound with the "Manual" is a copy of the Public Health Law to which it is designed to serve as a commentary.

Price $1.50, delivered upon receipt of price. Banks & Brothers, Albany, N. Y.

"PICTURE AND TEXT."—By Henry James. With portrait and illustrations. 16mo, cloth, ornamental, $1.00. In the series of "Harper's American Essayist."

Mr. James presents under this title a number of sketchy essays, chiefly on artists and art subjects. The leading illustrators of our time, with critical estimates of their work, and of recent progress in book illustration, are followed by a drama of unusual charm entitled "After the Play," which will be relished by lovers of art.

The others of this Series are: "Americanisms and Briticisms," by Brander Matthews; "From the Easy Chair," by George William Curtis; "Criticism and Fiction," by William Dean Howells; "Concerning All of Us," by Thomas Wentworth Higginson; "From the Books of Laurence Hutton," "As We Were Saying," by Charles Dudley Warner. The set in white and gold, 7 vols., $8.75.

THE September issuse of *Good Housekeeping* presents a very delectable bill of fare. "The Household Market Basket," "A Noble Girlhood," "Housekeeping in Foreign Lands," "The Old Fireplace," "Treatment of Kitchen Wounds," "The Fairest Flower," are only a tithe of the good things set forth. Price $2 per year. Clark W. Bryan Co., Springfield, Mass.

PUBLISHERS' DEPARTMENT.

REV. LEWIS BROWN, the talented rector of St. Luke's church, Cincinnati, preached an eloquent and comforting sermon to the Sanitarium guests Sunday evening, Aug. 13. He is again spending a few vacation weeks at the Sanitarium, in company with his mother.

***

"AMERICAN heathen, or the Dark Places of Chicago," was the subject of a very interesting lecture by Dr. J. H. Kellogg in the Sanitarium, August 17. The subject was made very vivid by a series of stereopticon views showing the slums of Chicago, with their filth, wretchedness, and vice. The entire lecture was calculated to stir the hearts of all to broader sympathy, and to more practical ways of helping to make life worth living to the mooted "other half."

***

THE August picnic for the Sanitarium guests, was very much like those which had preceded it in point of felicity. The air was cool enough to be invigorating, and the clear sunshine fell like a benediction upon the lake and the natural groves along its bluffs, where the happy company was assembled. The Battle Creek Mandolin Club, entranced the guests with their soft, sweet music. Altogether, the season at Goguac, now soon to close, has been eminently enjoyable.

***

DR. MARY WOOD ALLEN, who has been spending two months at the Sanitarium, left August 19, to the regret of her many friends and acquaintances. She is not only gifted and brilliant as a writer and lecturer, but a truly lovely woman, of sweet and unassuming manner.

***

HOUSEHOLD CONCERT.— The Sanitarium always embraces a good many talented and cultured people among its guests, and occasionally some of these are induced to contribute toward the general entertainment. The evening of August 1, witnessed a fine musical and elocutionary entertainment entirely from the ranks of the guests. Among those who took part, were Miss Georgie Yeager, of St. Louis, Mrs. Sanger and Miss Beamer, teachers of elocution, and the Hon. Geo. H. Earle, a prominent lawyer from Philadelphia.

***

THE Sanitarium lawns are a pretty sight these pleasant summer days. Notwithstanding the dry season, the grass is as green as if plenty of rain had fallen, and flowers bloom on every hand. Groups of patients dot the grounds, and those who are too feeble to walk are taken out in wheel-chairs or on cots, and placed under the shade of the trees to enjoy the pure air, hear the birds sing, and watch the busy world go by.

***

UPWARDS of 400 patients are now under treatment at the Sanitarium, yet the capacity of the institution is sufficient to accommodate this great number of patients comfortably, and there is no appearance of an uncomfortable crowding. The number of patients this year is greater than ever before, and the evidences of increase of patronage are so marked that the managers have decided to make very considerable extensions of the apartments devoted to treatments. These are already in progress. These additions will nearly double the capacity of the treatment rooms, and will make provision for the comfortable treatment of seven or eight hundred patients.

SEVERAL additions have recently been made to the Sanitarium medical corps. Dr. O. G. Place has returned to his old position, after an absence of two years. Drs. William Hubbard and Lue Cleveland, who for several years have been students at the Sanitarium, recently graduated in the medical department of the University of Michigan, and have entered upon duties in connection with the Sanitarium. Dr. Hubbard is resident physician of the Sanitarium Medical Mission in Chicago.

***

THE Battle Creek Sanitarium Medical Mission in Chicago, formally opened on June 25, 1893, has been a success from the outset. More than 2,000 persons have enjoyed the benefit of the beneficent work conducted at the Mission in the short period since it was opened. The attendance has steadily increased until it is now from 100 to 150 daily. A physician and five nurses, with two or three other assistants, are occupied daily in the care of the sick and suffering who visit the Mission. Dr. Kellogg makes a visit as consulting physician once each week. The present corps of workers at the Mission are Dr. William Hubbard, Miss Louise Burkhardt, Howard Rand, D. H. Kress, J. C. Rogers, Miss Ida Crawford, C. L. Burlingame, and Mrs. Burlingame. Edgar Caro, who, with H. F. Rand and D. H. Kress, is a member of the Sanitarium class of Missionary Medical students, has also been engaged in the work during the summer, but has now returned to Ann Arbor to continue his studies. The work is growing so rapidly that it will doubtless be necessary to add several more workers soon.

In addition to the work ordinarily carried on by medical missions, this Mission maintains free bath room, free laundry, and several nurses who visit the sick poor and administer treatment to them in their homes. A large amount of good has already been accomplished by this new enterprise, and it is hoped that similar work may be undertaken in other large cities in the near future.

***

THE Sanitarium exhibit at the World's Fair is one of the most popular exhibits in the building, and probably receives more attention than any other one exhibit. Many times during the day one of the exhibits is completely surrounded by a crowd, which entirely blockades the passage, so that the visitors sometimes have to be asked to "move on." The Sanitarium exhibit occupied two rods for the first space assigned to it, and several additional spaces were subsequently granted. The Publishers' department is represented in the gallery at the northwest corner of the Liberal Arts building. The principal exhibits, however, are found in the Anthropological building, near the south entrance.

The first exhibit met by the visitor in passing down the main aisle will be found just at the left near the south end, and consists of a number of Swedish Movement machines, similar to those in use at the Sanitarium. One of these, a vibrating chair, which moves a person seated in it at the rate of two or three thousand oscillations per minute, excites very great interest. The vibrating bars, kneading machine, apparatus for artificial respiration, and other mechanisms are also exhibited. The Health Foods, which occupy a part of the same space, also receive much attention. Many beg for small samples, and descriptive circulars are eagerly seized upon and carried away. The dress exhibit in this department is also of great interest to those interested in dress reform.

A short distance to the right, a large wall space is occupied by Dr. Kellogg's new outline charts, showing the influence of dress, wrong postures, and the neglect of physical development in producing bodily deformities.

But the principal exhibit of the Sanitarium, and that which shows best its characteristic features, is to be found in the last cross aisle at the south end of the building, in connection with the Hospital exhibit. It is situated close to the exhibit of the Johns Hopkins Hospital, Boston City Hospital, and other hospitals, and is intended to present, so far as can be done objectively, the characteristic differences of the ordinary hospitals and a sanitarium hospital conducted on rational and scientific principles.

The most characteristic feature of the exhibit is seen in the models of the principal buildings; in the center, the main building; at the left, the Sanitarium Hospital building; at the right, the new dormitory which is now being constructed. Just behind are placed side by side our models of the Haskell Home for orphans, which is now almost completed, and the James White Memorial Home, preparations for the erection of which are being made. The exhibit thus represents the medical, surgical, and charitable work of the institution. The walls are almost completely covered with pictures of the institution, nurses, training classes, and the principal modes of treatment employed. More than one hundred 8 x 10 photographs and a considerable number of still larger photographs, constitute this portion of the exhibit.

Just behind the group of buildings in the center of the space occupied by the exhibit, are to be found two models of the Sanitarium Gymnasium, one showing the patients taking Swedish gymnastics, the other showing the patients exercising in classes with the apparatus. The other model shows the mechanical Swedish room with models of all the different machines in operation, dolls of the proper size taking the place of patients. The table at the back part of the space, presents an exhibit of the Sanitarium Laboratory of Hygiene. Among the features of the work done in the laboratory which is shown, is the new method of examining stomach fluids, which has been perfected in the laboratory, and by means of which a more graphic study of the state of the stomach in disorders of digestion can be made than by any other means heretofore discovered. This method, more than any other discovery of modern times, has thrown light upon the subject of stomach disorders, so that in the treatment of this class of diseases, physicians need no longer grope in darkness, but may obtain accurate and reliable information as a basis for efforts in behalf of their patients in the treatment of the various forms of dyspepsia.

The side tables present models of the surgical wards, the treatment rooms, etc. Dolls suitably dressed represent nurses or patients in the various attitudes and conditions in which they may be found while giving or receiving some of the principal forms of treatment administered at the Sanitarium. A series of dolls shows the different styles of uniform worn in the institution. This exhibit, as well as the one first referred to, attracts an unusual amount of attention.

* * *

THE Sanitarium has recently enjoyed the honor of a visit from the distinguished professor of physical culture at Yale University, Dr. Jay W. Seaver. Dr. Seaver has charge of the largest and finest gymnasium in the world, recently erected by the Yale authorities at an expense of several hundred thousand dollars. In a lecture delivered in the Sanitarium parlor for the benefit of the guests, Dr. Seaver gave a brief description of his gymnasium and of the methods of training employed. He spoke particularly of the great advantages derived from muscle training in increasing the resistance of the body against the causes of disease, and in prolonging life as well as promoting mental activity. Dr. Seaver spoke approvingly of the physical training carried on at the Sanitarium, and of the value of the physical charts prepared here by means of a dynamometer especially designed for the purpose, and remarked that it was the "first attempt of this sort which had ever been made, and much superior in the training of adults and invalids to the older methods of measurement of size." Dr. Seaver, and Mrs. Seaver, who accompanied him, were both very much interested in the various lines of charitable work conducted by the institution. Dr. Seaver is doing a great work at Yale, not only in demonstrating the advantages of physical training as an aid to mental activity, but also in demonstrating by statistics the injury, both physically and mentally, which results from intemperance and the use of tobacco.

* * *

THE Sanitarium patients were greatly interested and instructed recently by an evening lecture delivered by Prof. Huber, of the State University, on the subject of the study of the blood. Prof. Huber has made a specialty of the study of the blood for a number of years, and gives instruction in this subject in the Medical Department of the University. He came to the Sanitarium by invitation of the Managers, to establish in the Laboratory of Hygiene connected with the institution, a special department of research relating to the blood. His lecture was illustrated by blackboard drawings and interesting microscopic objects, exhibiting many remarkable facts which the recent studies of German investigators have developed in relation to blood in health and disease.

* * *

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THIS is the title of a 150-page pamphlet recently published by the Passenger Department of the Illinois Central Railroad, and should be read by every mechanic, capitalist, and manufacturer. It describes in detail the manufacturing advantages of the principal cities and towns on the line of the Southern Division of the Illinois Central, and the Louisville, New Orleans, and Texas Railroads, and indicates the character and amount of substantial aid each city or town is willing to contribute. It furnishes conclusive proof that the South possesses advantages for the establishment of every kind of factory, working wool, cotton, wood, or clay. For a free copy of this illustrated pamphlet, address C. C. Power, Foreign Representative, 58 Michigan Ave., Chicago, Ill.

* * *

HOMES FOR WORLD'S FAIR VISITORS. — In view of the crowded condition of Chicago and its hotels during the World's Fair period, Poole Bros. have done a public service in issuing a very carefully prepared list of the Homes in Chicago that are thrown open to the public upon this occasion. The list is complete, and gives the name, location, number of rooms, etc., so that correspondence may be had and arrangements made before the visitor comes to Chicago. This list is accompanied by splendid sectional maps of the city on a large scale, by which the location of every house can be accurately found. Copies can be obtained at the Michigan Central Ticket Office at the publisher's price, 50 cents — less really than the value of the maps themselves.

* * *

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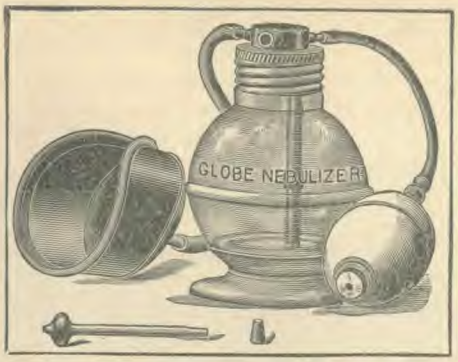

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10 Mail Ex.	4 L'v'd Ex.	6 Atl. Ex.	8 Erie Lim.	2 R'd Ex.		1 Day Ex.	9 P'ific Ex.	7 Erie L'v'd	21 M. & B.Ex.	11 Mail Ex.	3 R'd L'v'd	5 Nig't Ex.
a m	p m	p m	a m	p m		p m	a m	p m	a m	p m	p m	a m
8.40	3.00	8.15	11.25	11.30	D. Chicago .A	4.50	7.32	9.30	8.30	7.00	9.00	7.25
11.10	5.00	10.30	1.20	1.36	Valparaiso..	2.45	5.30	7.35	6.25	4.30	6.35	5.10
p m												
12.45	6.20	12.00	2.35	3.15	.South Bend.	1.20	4.00	6.20	5.00	2.50	5.10	3.35
1.29	6.58	12.45	3.07	4.05	..Cassopolis .	12.40	3.18	5.45	4.23	2.06	4.37	2.44
2.21	.....	†1.33	.....	4.57	.Schoolcraft.	a m	.....	.....	.....	1.19	.....	1.58
2.33	7.40	1.48		5.10	..Vicksburg .	11.53	2.20	.....	3.28	1.08	3.52	1.48
					D	11.15	1.35	4.25	2.45	12.25	3.20	1.00
3 40	8.20	2.40	4.30	6.40	Battle Creek	11.10	1.30	4.15	2.40	12.10	3.10	.....
4.34	9.01	3.25	5.11	7.31	..Charlotte..	10.29	12.46	3.34	2.01	11.15	2.27	12.05
5.10	9.30	4.00	5.40	8.10	...Lansing...	10.02	12.15	3.07	1.35	10.40	2.00	11.39
6.50	10.20	5.03	6.35	9.30	...Durand...	9.05	11.20	2.22	12.44	9.35	1.15	10.30
7.30	10.47	5.40	7.05	10.05	.... Flint	8.35	10.47	1.55	12.15	8.35	12.45	9.35
8.15	11.20	6.15	7.35	10.43	... Lapeer ...	8.02	10.07	1.27	11.45	7.49	12.17	8.51
8.42	a m	¶6.35		11.06	.Imlay City .	.....	.....	.....	.....	7.28	.....	8.24
9.56	12.30	7.30	8.46	12.05	Pt. H'r'n Tun	6.50	8.46	12 22	10.30	6.25	11.10	7.20
			p m			a m	p m	p m	p m	a m	a m	p m
9.25	.....	7.40	9.25	11.50	...Detroit....	.....	.....	.....	.....	.....	.....	.....
p m	a m	p m		a m								
.....	8.30	7.40		8.10	...Toronto...	.....	.....	.....	.....	.....	.....	.....
	p m	a m		a m								
.....	7.50	7.00	.....	7.00	.. Montreal..	.....	.....	.....	.....	.....	.....	.....
	a m	a m		p m								
.....	8.15	9.30	.....	7.15	... Boston ...	.....	.....	.....	.....	.....	.....	.....
	a m	p m	a m	p m								
.....	7.25	4.13	3.00	7.30	Niag'ra Falls	.....	.....	.....	.....	.....	.....	.....
	a m	p m		p m								
.....	8.30	5.35	4.15	9.00	... Buffalo ...	.....	.....	.....	.....	.....	.....	.....
	p m	a m	p m	a m								
.....	9.40	7.52	4.52	10.10	.. New York..	.....	.....	.....	.....	.....	.....	.....
	a m	a m	p m	m								
.....	7.00	10.00	9.25	12.00	... Boston ...	.....	.....	.....	.....	.....	.....	.....

Trains No. 1, 2, 3, 4, 5, 6, 7, 8, 9, 21 run daily; Nos. 10, 11, 23 daily except Sunday.

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STATIONS.							
Chicago.....	am 9.00	am 11.30	pm 3.10	am 7.05	pm 9.10	pm 4.20	pm 10.00
Michigan City.	11.00	pm 1.13	4.56	9.15	11.15	6.05	12.00
Niles.....	pm 12.25	2.08	6.55	10.35	am 12.30	7.05	am 1.20
Kalamazoo....	2.00	3.18	7.08	pm 12.35	1.53	8.25	2.56
Battle Creek...	2.40	4.00	7.38	1.20	2.45	9.00	3.38
Jackson.....	4.30	5.08	8.52	3.10	4.25	10.18	5.05
Ann Arbor.....	5.30	6.08	9.45	4.27	5.33	11.12	6.15
Detroit.....	6.45	7.15	10.45	6.00	6.50	am 12.10	7.45
Buffalo.....		am 2.05	am 6.25		pm 2.45	8.30	pm 5.00
Rochester.....		4.45	9.55		5.50	pm 2.40	8.20
Syracuse.....		6.45	pm 12.15		8.30	4.10	10.20
New York.....		pm 2.40	8.50		am 6.30	10.30	am 7.00
Boston.....		4.45	11.45		10.50	am 6.15	10.50

WEST.	† Day Express.	*N. Shore Limited.	*Chicago Express.	* Night Express.	*Pacific Express.	*Chicago Special.	†Mail.
STATIONS.							
Boston.....	am 8.30	pm 2.00	pm 4.20		pm 7.15	am 5.00	
New York.....	10.30	4.30	6.00		9.15	9.10	
Syracuse.....	pm 7.30	11.35	am 2.10		am 7.20	pm 4.20	
Rochester.....	9.35	am 1.25	4.10		9.55	6.25	
Buffalo.....	10.45	2.20	5.30		pm 11.50	7.35	
Detroit.....	am 7.15	8.45	pm 1.00	pm 7.45	9.00	am 3.20	am 8.15
Ann Arbor.....	8.19	9.45	1.55	9.03	10.20		9.34
Jackson.....	9.30	10.48	2.55	10.35	11.45	5.15	11.40
Battle Creek...	10.45	12.00	4.00	am 12.10	am 1.12	6.27	pm 1.20
Kalamazoo....	11.26	pm 12.39	4.35	1.02	1.53	7.15	2.08
Niles.....	pm 1.10	1.48	6.00	3.00	3.52	8.28	4.00
Michigan City.	2.18	2.45	7.05	4.35	5.22	9.30	5.25
Chicago.....	4.10	4.30	9.00	7.05	7.15	11.15	7.35

*Daily. †Daily except Sunday.

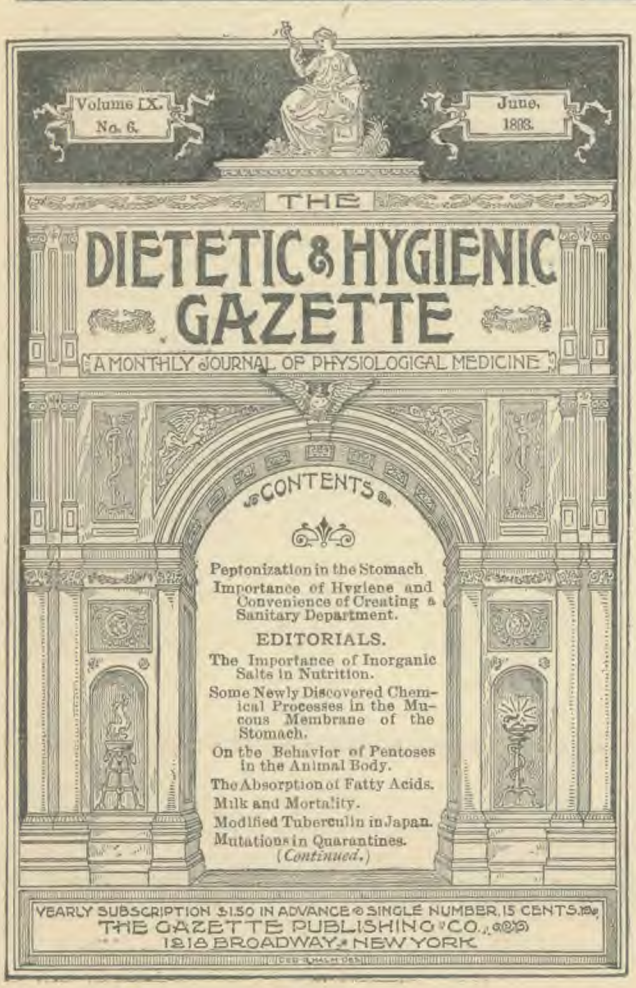
Accommodation train goes east at 7.52 a. m. except Sunday.
" " west at 9.00 p. m. "

Trains on Battle Creek Division depart at 7.55 a. m. and 4.35 p. m., and arrive at 12.40 p. m. and 6.45 p. m. daily except Sunday.

North Shore Limited trains east and west require special tickets.

O. W. RUGGLES,
General Pass. & Ticket Agent, Chicago.

GEO. J. SADLER,
Ticket Agent, Battle Creek.



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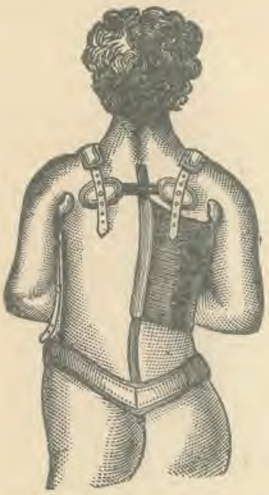

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Deformity Apparatus,
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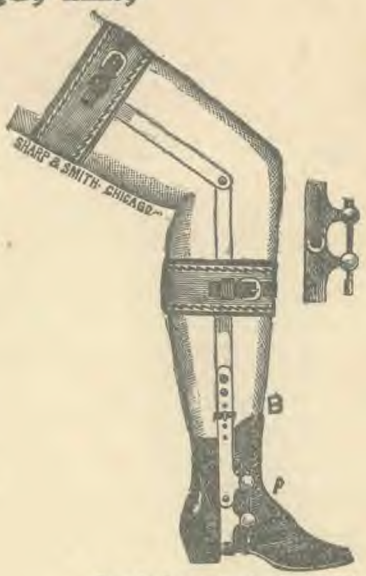
Elastic Stockings,

Abdominal Supporters,

Trusses,

Shoulder Braces, Etc., Etc.

Family Syringes,



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IN the effort to meet the necessities of a large Sanitarium, with its great variety of patients, we have produced a number of food preparations adapted to different diseased conditions, the merits of which are such as to secure for them a very large and increasing sale, not only to persons belonging to the invalid class, but to those who wish by "good living" to avoid disease. Unsuccessful attempts have been made to imitate some of these foods under various names. None are genuine unless bearing our stamp or made under our authority. The following are our leading preparations:—

	Cts. per lb.
Oatmeal Biscuit	12
Medium Oatmeal Crackers	10
Plain Oatmeal Crackers	10
No. 1 Graham Crackers	10
No. 2 Graham Crackers	10
Plain Graham Crackers, Dyspeptic	10
White Crackers	10
Whole-Wheat Wafers	10
Gluten Wafers	30
Rye Wafers	12
Fruit Crackers	20
Carbon Crackers	15
Wheat Granola (bulk 10)	12
Avenola (bulk 10)	12
Granola (bulk 10)	12
Gluten Food No. 1	50
Gluten Food No. 2	20
Infant's Food	56

SAMPLE PACKAGES CONTAINING SPECIMENS OF EACH OF OUR FOODS SENT POSTPAID FOR 50 CENTS. SELECTED SAMPLES, 25 CENTS.

All grain preparations can be supplied in large or small lots, as we keep a fresh supply constantly on hand of goods which are largely made expressly for us, of a superior quality of grain. Address—

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Unequaled Ventilation, perfect Sewerage.
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