

Herald of Health

Vol. 5

Lucknow, U. P., August, 1914

No. 8



The Great Cut in the Panama Canal after Water Had Been Admitted

HERALD OF HEALTH

The Indian Health Magazine.

Published Monthly by the International Tract Society,
17, Abbott Road, Lucknow.

V. L. MANN, M. D.

Editor

S. A. WELLMAN,

Associate



TERMS

One year, postpaid, Rs. 2-8.
Single copies, of this calendar
year, four annas.

CHANGE OF ADDRESS

Notice should be given of both
the old and the new address. If
for any reason you fail to receive
the paper, inform the publishers
at once; do not wait several
months, then ask for back num-
bers.

CONTRIBUTIONS

Contributions to the columns
of the paper will be accepted
subject to the approval of the
editor. *Anonymous Contribu-
tions* are not accepted

ADVERTISEMENTS



We guarantee the reliability
of every advertisement inserted
in the *Herald of Health*. We
advertise only those things that
are in perfect keeping with the
principles advocated by the
magazine. If after our most
thorough investigation an un-
reliable advertisement gains ac-
cess to the columns of the jour-
nal, we will be glad for any
information that will enlighten
us regarding the matter. Ad-
vertising rates will be sent on
request.

VOL. V

NO. 8

Contents, August, 1914

POETRY: A CREED.	..	..	218
GENERAL ARTICLES			
Oceans of Olive-Oil	..	..	219
The Conservation of Public Health	..	..	222
The Prevention of Infection	..	..	225
The Function of Play	..	..	226
A Very Young Doctor	..	..	228
MOTHER AND CHILD			
The Companionable Mother	..	..	229
The Lessons of Hospitality and Charity	..	..	229
A Society for Good Manners	..	..	230
Household Hints	..	..	231
EDITORIAL			
The Prevention of Rabies	..	..
DISEASES AND THEIR PECULIARITIES			
Rat Destruction and Plague	..	..	235
HEALTHFUL COOKERY			
What to Cook	..	..	237
SANITATION AND HYGIENE			
The Ideal Bathroom in the Little House	..	..	238
PHYSICAL CULTURE			
Exercise for Women	..	..	240
NEWS NOTES	..	..	224, 248





A Creed


Let me be a little kinder,
Let me be a little blinder
To the faults of those about me,
Let me praise a little more;
Let me be, when I am weary,
Just a little bit more cheery,
Let me serve a little better
Those that I am striving for.

Let me be a little braver
When temptation bids me waver,
Let me strive a little harder
To be all that I should be;
Let me be a little meeker,
With the brother that is weaker.
Let me think more of my neighbour
And a little less of me.

Let me be a little sweeter,
Make my life a bit completer,
By doing what I should do
Every minute of the day;
Let me toil, without complaining,
Not a humble task disdaining;
Let me face the summons calmly
When Death beckons me away.

—Detroit Free Press.





General Articles

Oceans of Olive-Oil

BY JOHN L. COWAN

PROBABLY few persons have any adequate conception of the magnitude of the industries of olive growing and olive-oil production in the countries bordering upon the Mediterranean. Exact statistics are unobtainable; but from consular reports it may be learned that the commercial olive orchards of the Old World cover an area of approximately 11,000,000 acres, and yield about 240,000,000 gallons of oil annually.

Spain leads in both acreage and production, the thirty-two olive producing districts of that country having orchards with a total area of 3,290,000 acres, producing a crop that yields about 70,600,000 gallons of oil annually. Italy is second in rank, with eleven producing districts, in which olive orchards covering 2,690,000 acres yield 67,400,000 gallons; and Asia Minor, with 2,400,000 acres of olive-trees, has an oil production in excess of 51,500,000 gallons annually. These account for the major part of the world's supply; but Greece, with an olive acreage of 645,000 acres, produces 20,000,000 gallons; Portugal, with 545,000 acres, produces 11,300,000 gallons; Tunis, with 575,000 acres, produces 8,000,000 gallons; Algeria, with 472,000 acres, produces 6,400,000 gallons; and France, with 330,000 acres, produces 5,000,000 gallons.

So one would expect the world's largest olive orchard to be located somewhere in western Asia or southern Europe, where this fruit has been cultivated ever since history began, and where the olive has always been held in equal esteem with the vine and the fig-tree, among man's most useful possessions. But, as a rule, the olive groves of the

Old World are of small extent, the vast production of fruit and oil being made possible by the industry of a great number of small orchardists. So the distinction of possessing the largest unbroken area of land, under the same ownership, planted exclusively in olives, is claimed by California, U. S. A., where are also found the largest walnut and almond groves, prune, apricot, peach, and pear orchards, orange and lemon groves, seed farms and flower farms.

The world's largest olive orchard contains 2,000 acres of land, on which 170,000 trees are growing, 130,000 of which are now bearing fruit. Three hundred acres remain unplanted, but these are being set in olive-trees at the rate of 100 acres each year, so that it will not be long until the 2,000 acres comprised in the ranch will contain 200,000 olive-trees. The property is located two miles from the old mission of San Fernando, and twenty-four miles from Los Angeles, the ranch and railroad station being appropriately named Sylmar, which means "sea of trees."

In Europe and Asia the olive tree is nearly always neglected, the gnarled and twisted trees rarely being pruned, and cultivation being considered unnecessary. In California the modern commercial groves are set out as symmetrically as orchards of any other fruits, are headed not more than eighteen inches from the ground, and are kept carefully pruned in order to produce symmetrically developed trees with the largest possible bearing surface. The good effects of the American system may be judged from the fact that the average crop in the Old World hardly

exceeds one third of a ton of fruit to the acre while in California one ton to the acre is considered no more than a fair yield, and from a ton and a half to two tons to the acre is sometimes gathered. It is further claimed that the olives of southern Europe contain less than ten per cent of oil, but that those of southern California contain from twenty-four to thirty-two per cent.

The olive has always been held in high esteem in the lands in which it is familiarly known, the fruit, both dried and pickled, being used as a valuable food adjunct, and the oil employed for numberless medicinal purposes, as well as in place of butter, and for all culinary purposes to which American housewives apply lard and butter. Among the Greeks the olive was held sacred to Pallas Athene; and the highest distinction coveted by an Athenian at the hands of his countrymen was the award of the civic crown made of olive-twigs. A crown of olive-leaves, also, was the supreme prize of the victor in the Olympic games; and an olive-branch was equally symbolic of peace and chastity.

Among modern peoples, as shown by the figures already given, the Spaniards are the greatest olive growers. Statistics of the amount of fruit pickled or dried in each country are lacking; but the Queen olive of Spain is considered as representing the highest type of excellence. Very little imported olive-oil reaches the consumer in its purity, the adulteration with cottonseed-oil and peanut-oil sometimes amounting to ninety per cent. However, the California product, if purchased in the original packages, is absolutely pure, with the added recommendation that it is prepared with a scrupulous regard for cleanliness that would amaze most manufacturers in the Mediterranean countries, where cleanliness is a virtue held in little esteem.

The olive-tree is an evergreen, blossoming in May; the small, white blossoms, with prominent yellow anthers, being borne in short,

dense racemes. In the warmer valleys of California, the fruit begins to mature about the middle of September; and, where several varieties are grown, the harvest may continue through January, or even February, as ripe olives are not injured for oil extraction by being left on the trees for several weeks. In the first picking, green fruit is gathered, the largest olives being selected for pickling, and the most heavily laden trees being thinned, as this thinning process improves the size and quality, and hastens the ripening of the fruit that is left. At the Sylmar ranch, hundreds of Chinese and Japanese pickers are employed for the harvest, the removal of the small fruit from the trees being a slow and tedious process. Trees begin to bear four years after being set out in the orchards, yielding about twenty pounds of fruit each, and increasing the amount annually for ten years or more, when full bearing is reached. Two hundred pounds of fruit is considered a fair yield for a tree fifteen years old. Olives gathered for pickling must be handled with great care, as, if bruised, they will become soft and fall to pieces; but those intended for oil production may be handled in any manner without injury.

Green olives for pickling are first sorted with respect to size, and then soaked in a solution of lime-water, to which three ounces of lye per gallon has been added. When this has penetrated the fruit to a depth of about one sixteenth of an inch, they are washed for several days with clear water until every trace of the lye has been eliminated. They are next immersed in brine, which is gradually increased in strength in the pickling-vats, about three weeks being required for the pickling process. They are then sterilized in a steam-heater, barreled up, and placed in storage, the bungs of the barrels being removed occasionally to permit the escape of gases, and to add new brine if necessary to replace what has been lost by evaporation. Not for six months are the olives ready for market. There are few things in nature more bitter

than the natural olive (a fact not without its advantages, as neither birds nor small boys ever molest the fruit on the trees); but by the end of six months in the brine most of this bitter principle has been absorbed. The old brine is then poured off, and a brine made by the use of distilled or filtered water is used to replace it. The pickled fruit is then ready for bottling and placing on the market. Some concerns do not market their product for one to two years after it has been processed, the advantage in this being that the natural bitterness of the fruit has, by that time, entirely disappeared.

When people come to an understanding of the great superiority in flavour and food qualities of the ripe fruit, green olives will take a secondary place in the market. The green olive is hard and woody, and of value only as a relish. Ripe olives are firm without hardness, easily digested, and of great food value, while infinitely more agreeable as a relish than the green fruit. A taste for either has to be acquired, as most persons know by experience; but a liking for the ripe fruit is acquired much more readily than for the green. The only difference in the manner of preparing the ripe fruit is that the use of lime-water is not necessary, and that a second lye bath is given, mainly for the sake of obtaining uniformity in the color.

Small, inferior, and frosted fruit may be used for oil making—anything, in fact, that is not wanted for pickling. Leaves, twigs, and other foreign substances are removed in a fanning-machine; and the fruit is then crushed by heavy iron or stone rollers revolving in a shallow, saucer-shaped iron pan. It is a popular superstition that if the pits are crushed, the oil will be of inferior quality. As a matter of fact, it is impracticable to crush the fruit sufficiently to permit of the extraction of the oil without also crushing the pits; and there is no olive-oil produced in any other manner.

The first pressing is light, and the product is largely water. Another popular fallacy is

that this constitutes the "virgin-oil," and is of superior quality. This is good "trade talk" (like the statement that oil of the best quality can not be obtained if the pits are crushed), and is freely indulged in by salesmen in expatiating upon the merits of particular brands; but it should not be taken seriously. Before making the second pressing, the pomace is again crushed, and then subjected to a pressure of two hundred tons to the square inch. This second pressing extracts the major part of the oil, in which there is but little water. In some establishments the pomace is crushed once more, and subjected to a third pressing, water being added to facilitate the extraction of the last ounce of oil that can be recovered. This final product is usually employed for soapmaking and other industrial purposes.

The oil and water as they come from the presses are run into settling tanks, where the water, being the heavier, settles to the bottom. when it is drawn off, or the oil skimmed from the top, a day or two later. The oil is then placed in huge storage tanks, which are lined with glass, four of those in use at the Sylmar establishment having a capacity of twenty-five thousand gallons each. In these tanks it goes through a sort of process of fermentation, and all impurities settle to the bottom. Before being bottled for market, the oil is filtered through several thicknesses of filtering-paper, completing the clarifying process. A ton of olives will produce from thirty-five to forty gallons of oil. Not the least striking feature of an establishment where this product is manufactured is the extraordinary care taken to insure perfect cleanliness. This is necessary as a matter of business, for the reason that olive-oil is a great absorbent of bad odours, and if manufactured or stored in bulk in uncleanly or badly ventilated quarters it will soon become rancid and unsalable.

Both the olive and the oil extracted from it are worthy of a much more extended dietetic use than is now accorded them. Ripe

olives are rich in fat and albumin, and in nutritive value are well fitted to take the place of meat. They are easily digested, contain twenty-five per cent of fat, and practically no starch, so that they may be eaten freely even if the digestion is weak. The

value of pure olive oil can hardly be overestimated. Its medicinal virtues are well known; and for all culinary purposes it is much more desirable than butter or lard, or any of the substitutes for these usually employed.

The Conservation of Public Health

BY A. C. ABBOTT, M.D., ScD., DR. P. H.

AMONG the movements for the conservation of natural resources none is of more importance and in none is activity more manifest than in that having to do with the public health. The health of the people as a national asset has ever been recognized, and in all available accounts of early civilizations evidence is encountered of efforts toward its conservation in one way or another. Among the laws of Moses for the guidance of his people is a sanitary code that in most respects could well be followed to-day.

In so far as modern conditions are concerned, the real movement for reform and conservation began in England at about the middle of the last century, at a period commonly denominated "the era of sanitary reform."

To realize that such reform was needed one has but to consult the writings of the times—particularly those bearing upon the manifold social, economic and political conditions then in existence. Abuses of all kinds were everywhere in evidence. Extraordinary malpractices in schools, tenements, prisons and asylums were exposed by contemporary novelists, especially by Dickens and by Reade. The Poor Commission had revealed conditions among the lower classes that they denounced as "disgraceful to a Christian land."

It was not until between 1836 and '40 that any exact idea of the enormous waste from preventable deaths could be formed. Prior to that time the only available records were those usually kept by the churches. In 1833 systematic, vital statistical records were

begun, and they were not long in exposing so alarming a death rate that parliament was forced to act in an effort to correct the underlying evils.

As a matter of self-protection, many of the better classes began to protest loudly against the squalor, filth, overcrowding and disease in the quarters occupied by the poor. While a few were equally insistent that parliament should not legislate for the sanitary control of sewerage, cesspools, graveyards, bad water, general filth and overcrowding, as through the operations of these factors those less fit to survive would be eliminated.

The public highways were used as late as 1864 not only for the deposition of garbage, sewage and all manner of waste, but were likewise regarded as the appropriate places for all purposes of personal easement.

In the ninth report it is stated that "until comparatively lately (1854) houses under ten-pound rental were not provided with privies or cesspools, the inhabitants using the open streets instead."

In 1844 about 20,000 of the population of Liverpool lived in cellars and were "absolutely without any places of deposit for refuse matter."

Among the mass of people, pestilences were still fatalistically regarded as visitations of the Almighty, to resist which would be of no avail. Under such circumstances is it astounding that little or nothing was or could be accomplished in the way of checking epidemics?

Nothing was known of disinfection or disinfectants. Where efforts were made to

destroy contagion, it was usually through the burning of a little sulphur as a fumigant or through the pollution of the air by evil-smelling aromatics supposed to be destructive to the morbid agents having to do with the infection. It is needless to say that not any of these practices were effective, and there were no trustworthy scientific means of deciding this point.

There was no exact knowledge whatever of the causative factors of infective disease until about 1880, and prior to that time opinions expressed upon this fundamentally important subject were scarcely more than guess work. For instance, the then ubiquitous malarial fever was due to a miasm; that is, an atmospheric something arising from marshy land.

Typhoid fever, up to a short time before the period under consideration, was hopelessly confused with typhus fever, and it was not until the conclusive studies of Dr. Gerhard, of Philadelphia, had demonstrated (about 1836) the two diseases to be distinct that we began to get some real information concerning both of them. But the cause of typhus fever is still unknown, and that of typhoid fever was not discovered until between 1880-1884. Prior to that time one or both were thought to result from seasonal influences, overcrowding, the decomposition of vegetable matter and sewer gas. And it is probable that the single expression "the fever" so often encountered in the writings of that time referred to one of these maladies or, possibly, to malarial fever.

Tuberculosis—consumption or pulmonary phthisis, as it was more generally called—was regarded as a family malady surely transmitted by heredity.

Pneumonia was the result of catching cold, and because of occasional house outbreaks and prison outbreaks, was thought by a few to be contagious.

Diphtheria was known to be highly contagious, but through what agencies it was not known.

Tetanus or lock-jaw was generally attributed to seasonal, climatic and geologic influences.

Yellow fever, until a few years ago, was believed by many, though not by all, to be highly contagious and, like malarial fever, to be miasmatic in origin.

Diphtheria had been known as a definite disease entity for about a century before its existing cause was discovered. This discovery was quickly followed by the discovery of its specific curative agent. When the fact became known throughout the lay-world that a harmless agent, acting almost like magic in curing this dread disease had been discovered, is it at all surprising that the world at large was interested? At that psychological moment certain wise men proposed an expenditure of public funds for the establishment of laboratories designed for the prompt diagnosis of diphtheria and for the manufacture of its specific curative agent. Public opinion was so strongly in favour that almost at once fully equipped laboratories, presided over by trained experts were placed at the disposal of the majority of our Health Boards in large cities.

In the early nineties it was realized that, as the common contagious diseases are peculiar to early life, the time and place to detect the danger arising from them in its incipiency is when the children of our larger communities are gathered together for study. This led to the development of medical school inspection, at first tentative, voluntary, experimental and in the main directed only to the transmissible diseases. Immediately, however, many children were discovered with defective vision, hearing, mentality and structure. These conditions were made known to a sympathetic audience now accustomed, through information presented to them by newspapers and magazines, to being informed. The result is that, through public approval, almost insistence, the child in school that is in any way defective may receive such relief as its condition demands.

Of course, the cry of "paternalism" was heard from time to time, but this is easily met. If it be logical for public opinion to insist that every child be compelled to take an education, it is equally logical for the public, at the public expense, to place that child in a position to receive the education, if the necessary aid cannot be secured through other channels.

Picture to yourselves, in addition to the foregoing citations of general unsanitary conditions, this state of affairs: Ignorance of the causes of communicable diseases and the way in which they are spread, and no means of securing exact information; utterly inadequate records of diseases and deaths; insufficient information upon the parts played by water, air, food etc., in the causation of sickness; total inertia upon the question of accidents and diseases peculiar to occupation; equal indifference to the appalling mortality among infants; a wide-spread contentment with the opinion that certain diseases are peculiar to families and must be borne as an inevitable heritage; such reticence in the discussion of venereal diseases as to make progress toward their diminution impossible; no public opinion based upon widely distributed information on any of the phases of public health work and, above all, that the only qualifications requisite for those responsible for the public health were some knowledge of medicine and much political influence.

The ancient, well-known and puzzling fact that many of both animals and human beings after recovery from infective diseases are immune from subsequent attacks, offered a tempting problem for the application of our new knowledge and methods of inquiry. It engaged the attention of the ablest investigators, and the results of their labours have fully justified the effort. We are to day in possession of such information upon the mechanism of infection, immunity and epidemiology as will, in the not far distant future, make it a comparatively simple matter to eliminate epidemic and prevent the spread of

epidemic diseases. That this is no idle dream we have but to review some of that which has already been accomplished, notably, the marvelous results of the correct use of diphtheria antitoxin in both the prevention and cure of diphtheria; the practical elimination of typhoid fever from among all who submit to protective inoculation against it; the striking lessening of cholera in its endemic home through the analogous prophylactic procedure; the saving of life through the treatment of cerebro spinal meningitis with its specific antiserum, and the prevention of fatalities, even the development of the disease, among those bitten by rabid animals through the use of a specific agent. The principles that are involved in the success of these methods are probably susceptible of wider application, and with the growth of public confidence in the sincerity of the efforts to lessen suffering and prevent death, I have no doubt that this field of activity will be greatly extended.

The campaign for the hygiene of infancy and childhood is essentially one of education. An ignorant mother, be her circumstances what they may, is as incapable of properly caring for an infant as is an incompetent mechanic to run a delicately constructed piece of machinery. If we add to ignorance, destitution and all that it entails, we begin to realize the principal factors in the appalling death rate common to the age of infancy. The lessening of this waste of life is a new function of our conservation activities. It should be an attractive field to those who will permit themselves to become actively interested, for results are certain.

THE effects of drink on posterity are these: First generation, moral depravity, alcoholic excess. Second generation: drink mania, attacks of insanity, general insanity, paralysis. Third generation: hypochondria, melancholia, apathy, and tendency to murder. Fourth generation: imbecility, idiocy, and extinction of the race.—*Kraft Ebbing (German physician)*.

Prevention of Infection

(The following excellent rules for the care of Enteric patients and the avoidance of infection, are laid down by Dr. Clubwalla in the Nursing Journal of India, and we pass them on to our readers in the hope that they may prove helpful.

EDITOR.)

(1) Patient should be at once isolated from the other members of the family in a separate room as soon as the diagnosis of Enteric Fever is made.

(2) The room should be well ventilated; windows should be kept partly open, taking care at the same time to prevent draughts coming on to the patient's body; a good amount of sunlight must be allowed to penetrate into the room during the greater part of the day where practicable.

(3) The door of the room should be kept closed or completely screened by a sheet sprinkled with Carbolic Acid to prevent the conveyance of infection through the medium of flies.

(4) The floor of the room should be sprinkled daily with some disinfectant fluid like Carbolic Acid 1 in 20 or H. P. (bichloride of mercury) lotion 1 in 500.

(5) There should be no articles of furniture in the room except one iron cot for the patient, one small cupboard, one marble table, one iron chair and one stand for hanging napkins and towels; there should not be any bed curtains or hangings in the room.

(6) There should be one bucket containing disinfectant fluid like H. P. 1 in 1000 or Carbolic lotion 1 in 20 placed in one corner of the room for dipping all the soiled linen, drawsheets, etc., before they are removed from the room for washing.

(7) There must be a basin placed on an iron stand containing Carbolic Lotion 1 in 40 for washing the hands, etc.

(8) There should not be more than one or two attendants, they should remain with the patient and under no circumstances must they mix with the others, but if compelled to

do so in case of emergency, they can, after taking proper precautions by washing their hands first with soap and water and then with Carbolic Lotion 1 in 40.

(9) All the utensils used by the patient such as cups, glasses, spoons, bowls, saucers, etc., must be kept there for the exclusive use of the patient himself or herself and must on no account be used for anyone else. They should be of some coloured material or otherwise identified so as to distinguish them from the utensils used by others. They must be cleaned first with disinfectant fluids like Potassium permanganate 1 in 2000 or Carbolic 1 in 20 and then with hot water every time after use.

(10) Bed Pans for the fæces, bottles for the urine and spittoons for the various discharges like vomit, sputum, etc., must be quite separate and under no circumstances be used for others in the family.

(11) Everything that passes from the patient, fæces, urine, vomit, sputum, etc., should be received into vessels containing Carbolic Lotion 1 in 20, and an additional quantity of it may be added to the discharge passed by the patient and the vessel covered up and left for at least fifteen minutes to half an hour to allow the disinfectant fluid to act before it is emptied into the water closet.

(12) The disposal of this excreta must be done by the mehtars under the supervision of the attendant, and the attention of the attendant especially directed to see that the seats of the water-closets are not being splashed by the discharges which are thrown into them.

(13) The water closets must afterwards be well flushed with water, or the excreta and other discharge may be mixed with ash or sawdust and burnt in an incinerator.

(14) The patient's person and bed should be kept scrupulously clean and all the bed and body linen, drawsheets, etc., after use should be first put into the bucket of disin-

fectant solution placed in one corner of the room and allowed to remain in it at least 6 hours before they are removed from the room for washing.

(15) Small pieces of gauze should be used for wiping the discharges from the nose and mouth and no towels or napkins are to be used for these purposes. They, after being thrown into a spittoon containing H. P. 1 in 1000 should be sent out to be burnt in an incinerator placed outside the premises.

(16) The attendant should avoid as far as possible inhaling the patient's breath or other emanations from his person or discharges, as the air of the sick room occupied by an Enteric Fever patient may possibly be the means of transmitting infection to persons long present in the room if the cleanliness and ventilation of the room are not attended to.

(17) Visitors, must under no circumstances be allowed to step into the patient's room; one near relative of the patient only may be allowed if that patient's relative is very particular about contact with the patient.

(18) The attendant must always make it a rule to wash the hands thoroughly twice or thrice with soap and water and then with disinfectant solution before taking meals, and must give the same instruction to the relative of the patient in attendance, as several of those attending Enteric patients are reported to have become infected by taking their meals with infected hands.

(19) After the removal of the patient from the room, it together with the contained furniture must be thoroughly cleaned and disinfected.—*Dr. N. H. Clubwalla in Nursing Journal of India.*

The Function of Play

HENRY G. HALE

How often does the grown-up, forgetting his own early years, bewail the degeneracy of the children of the present generations, because, forsooth, they tire so easily when they have a task assigned, but are frisky as kittens the moment they get out to play. Of course "things were different when we were boys"—according to our treacherous memories. The fact is, the normal child is more interested in play than in work. This desire for play is instinctive. Play is one of the most potent of educative factors, and we are just beginning to appreciate it, to that extent that we are now learning that a well conducted playground is a far better means of education—physical, mental, and moral—than an indifferently conducted school. In fact, I am not sure but it ranks right alongside of the best-conducted schools now extant.

What the child is intensely interested in, what he concentrates his attention on, that is what is affecting the gradual change in his brain cells, nerves, and muscles, that we call

education. Johnny goes through the arithmetic lesson as a task, as something foreign, in which his main interest is, perhaps, to avoid punishment; but on the playground he finds something to enlist his interest and energies, something into which he can throw his whole life. If that something can be so directed as to develop his manhood, his sense of fairness, his generosity, his sense of perception, his capacity to overcome difficulties, his ability to give and take and be a normal fellow among his fellows, he is learning what that arithmetic lesson and that spelling lesson can never give him.

When I was a boy, it was drilled into me that education makes the difference between the successful man and the unsuccessful man. Only get education, and your success is assured. I learned later that success is a matter of education, not in the sense of book learning, but of character building, the forming of what we call personality. Many a man with far less than a grammar-grade schooling has made a splendid success, and

many a college graduate has made a dismal failure. Book learning of itself is *not* education. But what one gets on the playground may be education of the highest sort.

As is known, the young of nearly all animals play instinctively. It is this play—the kitten with the ball of twine, the puppy with the old shoe—that develops muscles and nerves, strength and skill, and prepares the young animal for the more serious work of its after life.

In the same way, with youth of the human species, the desire for play is instinctive, and it is as important that this instinct be met as with the young of other species.

I cannot better finish this article than by quoting the language of Jessie H. Bancroft, assistant director of physical training in the public schools of New York City, in "Games for the Playground, Home, School, and Gymnasium:"¹—

"Games have a positive educational influence that no one can appreciate who has not observed their effects. Children who are slow, dull, and lethargic; who observe but little of what goes on around them; who react slowly to external stimuli; who are, in short, slow to see, to hear, to observe, to think, and to do, may be completely transformed in these ways by the playing of games. The sense perceptions are quickened: a player comes to see more quickly that the ball is coming toward him; that he is in danger of being tagged; that it is his turn; he hears the footsteps behind him, or his name or number called; he feels the touch on the shoulder; or in innumerable other ways is aroused to quick and direct recognition of, and response to, things that go on around him. The clumsy, awkward body becomes agile and expert: the child who tumbles down to-day will not tumble down next week; he runs more fleetly, dodges with more agility, plays more expertly in every way, showing thereby a neuromuscular development.

"The social development through games is fully as important and as pronounced. Many children, whether because of lonely conditions at home, or through some personal peculiarity, do not possess the power readily and pleasantly to cooperate with others. Many of their elders lack this facility also, and there is scarcely anything that can place one at a

greater disadvantage in business or society, or in any of the relations of life. The author has known case after case of peculiar, unsocial even disliked children, who have come into a new power of cooperation and have become popular with their playmates through the influence of games. The timid, shrinking child learns to take his turn with others; the bold, selfish child learns that he may not monopolize opportunities; the unappreciated child gains self-respect and the respect of others through some particular skill that makes him a desired partner or a respected opponent. He learns to take defeat without discouragement, and to win without undue elation. In these and in many other ways are the dormant powers for social cooperation developed, reaching the highest point at last in the team games where self is subordinated to the interests of the team, and cooperation is the very life of the game.

"Most important of all, however, in the training that comes through games, is the development of will. The volitional aspect of the will and its power of endurance are plainly seen to grow in power of initiative; in courage to give 'dares' and to take risks; in determination to capture an opponent, to make a goal or to win the game. But probably the most valuable training of all is that of inhibition—that power for restraint and self-control which is the highest aspect of the will and the latest to develop. The little child entering the primary school has very little of this power of inhibition. To see a thing he would like is to try to get it; to want to do a thing is to do it; he acts impulsively; he does not possess the power to restrain movement and to deliberate. A large part of the difficulty of the training of children at home and at school lies in the fact that this power of the will for restraint and self-control is undeveloped. So-called 'willfulness' is a will in which the volitional power has not yet been balanced with this inhibitive power. One realizes in this way the force of Matthew Arnold's definition of character as 'a completely fashioned will.'

"There is no agency that can so effectively and naturally develop power of inhibition as games. In those of very little children there are very few, if any, restrictions; but as players grow older, more and more rules and regulations appear, requiring greater and greater self-control—such as not playing out of one's turn; not starting over the line in a race until the proper signal; aiming deliberately with the ball instead of throwing wildly or at

¹ The Macmillian Company, New York.

haphazard; until, again, at the adolescent age, the highly organized team games and contests are reached, with their prescribed modes of play and elaborate restrictions and fouls. There could not be in the experience of either boy or girl a more live opportunity than in these advanced games for acquiring the power of inhibitory control, or a more real experience in which to exercise it. To be able, in the

emotional excitement of an intense game or a close contest, to observe rules and regulations, to choose under such circumstances between fair and unfair means, and to act on the choice, is to have more than a mere knowledge of right and wrong. It is to have the trained power and habit of acting on such knowledge,—a power and habit that mean immeasurably for character."

A Very Young Doctor

A PHYSICIAN owning a country-seat where his family were accustomed to spend the summer months, taught his boys to swim as soon as they were out of the nursery. His farm bordered upon a lake, where the greater part of the boys' time was taken up with boating, fishing, and swimming. One was nine and the other six years old, and they were expected to take care of themselves.

One day the younger child was seized by a cramp while he was in the water, and after screaming for help, sank out of sight. The brother swam out boldly and got an arm under him before the third downward plunge.

The youngster was unconscious and helpless, but the older one contrived to keep him afloat with one arm while striking out with the other for the shore. He drew the little fellow out of the water, white, motionless, and apparently dead.

The rescuer had heard his father describe the treatment for resuscitating persons taken from the water when nearly drowned. He could not remember it in detail, but he was impressed with the necessity of prompt action.

He did not attempt to summon help from the house, which was a long way off. Placing the boy on his face with his wrist under

the forehead, he paused a moment, and then turned the body on the side.

This crude attempt to restore respiration was repeated several times, until he was delighted to find the lips moving and the eyes opening. The young physician had not made a strictly scientific application of the rules for artificial respiration, but the little fellow's breath was restored.

Then two additional rules mentioned by the father were remembered. The body was briskly rubbed, and then bundled up with the jackets and day clothes which were on the bank.

With these measures for restoring circulation, recovery was well-nigh complete. Then taking the child on his back, the rescuer started for the house, where the mother received them with open arms and anxious face.

The patient was put to bed, and the father summoned from town, but precautionary measures were hardly necessary. The nine-year old physician had done his work so successfully that nothing more was required.

The father was proud of the boy, as he had a right to be.

"I could not have done better myself," he said to the lad. "You must be a doctor when you grow up; indeed you are one already."—*Selected.*



: Mother and Child :

The Companionable Mother

BY ANNE GUILBERT MAHON

ARE you a companionable mother? Do your children feel that you are their comrade, their confidante? Even though you may be busy over the mending basket or at the bread board, do you take time and pains to give attention to them, to answer their questions, to take an interest in their occupations and their plans? Do they feel that no matter how much mother has to do she is always ready to listen and to sympathize—in joy or in sorrow?

When you and the children go for a walk together, and on little outings, do you try to see things from their standpoint? Do you seek to cultivate their powers of observation and enjoyment? Do you enjoy with them the outing and the scenes around you, or are you so engrossed in your own thoughts, your own perplexities, that you walk along unseeing, unhearing, so that the children at last tire of such an abstracted, indifferent companion and are not especially eager to go when you propose a walk?

Or have you always displayed such an interest in your children's questions and

plans, hopes and fears, that they know that when the world turns a deaf ear to them, they may still go to mother and find help and sympathy?

It is not always easy, when a mother is very busy, to give time and attention to the queries, the interest of the little ones. In some occupations, of course, it is impossible; but there are others, such as baking and sewing, and the more mechanical forms of housework, which may be done well and yet mother may be able to converse with the children at the same time. The mother who does not make a companion and a confidante of her child in the early days will be apt to have a hard time in later years when she realizes the necessity and desirability of being its best friend. The child who does not receive confidence and attention at home will surely seek it elsewhere.

So, watch the early days, mother, and the busy days, and make your children feel from the very first that of all dear comrades, companions and confidantes, mother is the dearest and the truest.—*Mother's Magazine.*

The Lessons of Hospitality and Charity

BY ANNA BURNHAM BRYANT

"A LESSON means something to be learned." We learn by seeing, as well as by telling, but best of all by doing. One of my earliest memories is of being sent "cross lots," as we used to say, with a bowl of broth and a plate of little cakes, for a sick girl who was not dependent upon neighbourly kindness, but who was gladdened by it. As we grew older, these errands multiplied. Mother seldom let a chance slip to enlist our

interest in her loving ministries. There were old people at the "poorhouse;" there was a lonely old woman living in a lonely little house; there were always sick people—and there was always mother.

Somehow the memory of those childish errands has stayed with me far better than any charity sermon anybody ever preached to us. Every step of the way was a sermon, and illustrated at that. Sometimes it meant

a little self-denial; for instance, when we had to leave our play because the cookies were just hot out of the oven and would taste better that way; or because a cold snap was coming on and the warm nightgowns and things that mother had prepared with loving fingers for some shivering child would come just in the nick of time. So much the better for her scheme of child-training in the little neighbourly duties of good will and kindness.

It was part of her plan, no doubt, that so many of the lame and halt and blind were always welcomed to our fireside. They came from the aforesaid "poor farm;" they came from the little house; they came along the dusty path in summer and the frozen road in winter, and we must always treat them kindly. Indeed, we were taught a princely generosity. No matter if, like Oken, we had only baked potatoes for our dinner, if one hungry, like ourselves came by, he must have his fill and welcome. It was before the days of Associated Charities and

wise laws concerning tramps, and our liberality could be unrestrained by conscience. A half-comical memory floats back across the years, one who asked humbly enough for "a drink of water." A child's feet sped into the house and back again, and the draught was as sweet and cool, no doubt, as that fetched by King David's three warriors, for the pail was dripping from the well. "My child!" said a soft voice rebuking, "why should you take that gold-leaf goblet? You know that's grandma's very old one, and the only one that's left!"

"Yes, but—mother!" came the childish stammer; "this was a *very* poor man, so I gave him the best one!"

The precious goblet was put out of reach, but no one was ever again chidden for giving the best to the poorest. Let us take care not so much to teach hospitality as to live it. Letters of gold could not so indelibly impress upon children's hearts the lesson of hospitality as a mother's daily acts of lovingkindness. —*Selected.*

A Society for Good Manners

BY LEANDER TURNEY

"YOUR Johnnie is so well behaved, and so quiet," said Mrs. Gerald, when that little fellow had gone out. "I wonder if he is naturally less noisy than my Fred, or if you have trained him better.

Mrs. Gerald was calling on Mrs. Baker when Johnnie Baker returned from school. The low voice in which he had spoken, the gentleness with which he had opened and closed the door, and the polite way in which he had asked if he might go out and play had caused Mrs. Gerald to ask the question.

"I am sure he is not naturally quiet, and I claim no superior skill in training him," said Mrs. Baker, "If you want to be convinced that he can make a noise, just come to the window."

Mrs. Gerald went across to the window. A number of shouting urchins were playing

ball in the street, and Johnnie was just joining them. He seemed, if possible, noisier and more active than the others.

"My wonder increases," said the caller, as she returned to her seat.

"There is neither knack nor mystery about it," said the mother. "I attribute it to accident."

"Accident!"

"Yes. Johnnie's boisterous ways were a great anxiety to me. He would come into the house shouting out some story about his school affairs, throwing his things wherever they happened to light, and leaving a track of disorder behind him. I had reasoned with him about it, and had punished him; but nothing seemed to be of any avail.

"One morning, early last winter, I found myself so hoarse from a cold that I could not

speaking except in a whisper. It was very trying, but it lasted for several days. Well, Mr. Baker replied to my whispers in his gentlest tones, and sometimes left out the tone altogether, and whispered, too. And Johnnie whispered all the time, when he spoke to me. I tried to get him to speak natural, but it was not to be done while I whispered. That set me to questioning myself. I remembered how deaf people shout their answers, because you shout your questions to them. Had I set Johnnie the example of disorder and noise?"

"Impossible!" said Mrs. Gerald.

"I became convinced that a good many of Johnnie's faults were encouraged by my example. When I came in from shopping, I found myself putting my wraps and bundles down anywhere. When a conversation was

in progress, and I thought of something to say, I did not wait for the speaker to finish. And when I was excited, amused or angry, my voice acted much the same as his under the same circumstances."

"What did you do?"

"I took my husband and my son into my confidence, and told them that I would try to improve my manners if they would help me. We agreed upon a code of behaviour in regard to noise, loud talking, interrupting conversations, putting our things away on entering the house, and several such matters. Whoever broke the rules was to have his attention called to it by a sign—like this, the left hand lifted to the right cheek. Both Mr. Baker and Johnnie entered into the competition in good manners with enthusiasm. And all three of us have greatly improved under the discipline."—*Mother's Magazine*.

Household Hints

To Protect Electric Bulb.

BEFORE cleaning your electric light bulbs, turn on the light and they will not break, no matter how fragile. A man who has been an electrician for many years told me that several months ago, and I have found it true.

A Portable High Chair.

When travelling with baby one of the greatest conveniences is a folding high chair. This chair is light, compact and safe, and there is no possibility of the baby upsetting it or falling out.

It can be attached to the back of any ordinary chair or car seat and is easily adjusted to any height.

Every mother who takes her baby away from home should have one.

Care of an Umbrella.

If you would keep your umbrella in good condition, never roll it or put it away while it is wet. Open it and allow it to dry thoroughly, then there will be no danger of the silk cracking or the ribs rusting.

For the Silver Drawer.

It is said that a lump of gum camphoria

placed in the silver drawer will prevent the pieces from tarnishing. This is a method that is used by almost all jewellers.

To Clean Laces.

Delicate laces which have become soiled may be cleaned beautifully by squeezing them through skim milk to which a little blueing has been added. They come out of their bath looking like new and are just the right stiffness when stretched and dried, or dried and ironed between cloths over a Turkish towel pad.

For Fine Collars and Cuffs.

Before washing fine lace or muslin collars and cuffs, baste them to a piece of heavier muslin and they will not be apt to stretch or tear in the process of laundering.

Care of Enamelled Pans.

Be sure that you never fill enamelled pans with cold water immediately after emptying boiling water from them, or the enamel will crack and split off.—*Selected*.

"Many plays are indecent, and should be suppressed. Much of our literature suggests evil thoughts, and thus paves the way for evil deeds."



Editorial



The Prevention of Rabies (Hydrophobia)

THIS is an infectious disease affecting both man and animals. The dog is the most common agent of transmission. However, other animals have been known to transmit the disease. The bite of any animal which has the disease is capable of giving it to man. A horse bitten by a mad dog has been known to infect its driver. In India the jackal is not an uncommon agent. Cats, dogs, rats, rabbits, guinea pigs, jackals and horses must be regarded with suspicion.

The infecting material from the biting animal is conveyed to the wound in the saliva. By experiment it has been found difficult to infect rabbits and guinea pigs with the saliva of dogs before the latter has reached the sympathetic stage of rabies. Even when the symptoms of rabies have manifested themselves, it is still difficult to demonstrate the infectivity of saliva experimentally. This proves or suggests, that even under the most favourable conditions the bite of a mad dog does not necessarily infect the individual because the saliva may be non virulent, or does not contain the infective agent. Further experiment has shown that an emulsion of the salivary glands, especially the sub-maxillary, are much more infective than the saliva that they elaborate. This accounts for the fact that the bite of every mad dog does not produce rabies. Allowing this, we should look upon every bite of a dog in India as suspicious. The same is true of poisonous snakes, as the bite of every poisonous snake does not produce poisoning.

India furnishes a favourable soil for the spread of rabies. The two greatest contributing factors are the climate which is favourable to the growth of the virus, and the freedom with which dogs are allowed to run at

large. There are a great many deceptive circumstances surrounding the sickness of a dog. In the biography of Dr. Pennel, the well-known missionary physician of the Northwest frontier, there is related an incident in which a dog was brought to the hospital for the removal of what was supposed to be a bone in the throat. After the animal was under chloroform, and upon further questioning rabies was suspected, the chloroform was allowed to finish the dog. The brain and spinal cord were sent to Kasauli and the report returned that the animal was rabid. It was fortunate for the doctor and the dog's master that neither were bitten.

In India rabies is on the increase. During a recent month thirty-seven cases occurred in Calcutta. One illustration is given of a pet dog going mad and infecting thirteen persons, a half dozen or more of whom were Europeans. The danger even from the best cared dogs in the hot season is very great.

In the countries North of the Equator in the Temperate Zone, the hot, muggy portions of August and September, parents used to call "dog days," and would warn their children about the suspicious looks of stray dogs. In India conditions favourable to the malady exist almost the whole year round.

It is most difficult to describe the actions of an animal when it is rabid. The behaviour of the animal may be manifested in a mere indisposition, while on the other hand the actions may be of the most violent character, accompanied with convulsions and frothing at the mouth. The difficulty in arriving at an immediately correct diagnosis, and the severity of the results make it necessary that all dogs whether very sick or show-

ing only moderate symptoms should be regarded with suspicion.

A person who has been bitten by a mad dog may suffer no inconvenience whatever from the wound for from thirty to forty-five days after the bite, when like a bolt from the blue, he is struck down with the most violent symptoms of hydrophobia. More often there is irritation, pain and tenderness at the place of injury. Also between the time of the bite and the pronounced symptoms (technically called the incubation period) the patient suffers with increased restlessness and excitability. These latter symptoms cannot always be relied upon and the most sanguine will await developments with fear and trembling. The extremes of the incubation period are from fifteen to ninety days. It is the shortest in children.

The attack of rabies is quite often ushered in by spasms in the throat, causing difficult breathing. Later the spasms become general. The saliva becomes frothy. There is maniacal delirium. The nervous system becomes so irritable that a touch, an odour, or the sight of some object will throw the sufferer into convulsions. The mind remains clear. These symptoms vary in different individuals.

Without preventive treatment the outlook for one infected with rabies is very gloomy, as death is quite sure to occur. But specific treatment, taken in time, as surely turns the tide in the opposite direction.

As much or more can be accomplished in the prevention of rabies as any other disease, it is well for us to give consideration to things which will lend an influence to the suppression of this malady. We are all lovers of pets, yet if our pet dog is to cost several human lives it is an expensive pet. In India where infectious and contagious diseases are so prevalent, it does not seem just in place to keep pets about. This is especially true where there are children in the family. The pet dog or cat gets into all kinds of dirt and infectious material in

the bazaars and about, and on its return to the house the hands and face of the baby and perhaps as well of the older children are washed by its tongue with a vivacity which seldom accompanies the job when attempted by the ayah or mother. We have often wondered how some masters can allow their pet fox terrier to go through with this same procedure on their own faces when but a few moments before it was knawing at some decayed bone or cleaning up some filth by the roadside. Not only from the standpoint of prevention of disease but from the standpoint of common cleanliness and the welfare of humanity, the removal of such pets from the family circles is a necessity.

Another sight which is common to us all is to see a household pet sitting beside the baby so busy and active with all his paws and his feet in combatting the disturbers of his peace that he can scarce find legs to stand on. Is it any wonder that the baby is marked and bitten from its head to its feet. And this in a country which claims its plague victims by the tens of thousands yearly, and we well know that the flea is the transmitter of this disease.

Household pets are lovable, it is true, and it seems hard and callous to advise the killing off of the Tousers. But it would be well to care so much for him that we would not care to replace him when he is separated for some cause from the family circle. The danger is too great for one to let pets endanger the lives of those of far greater value to the family and to the world.

If in spite of these disadvantages we must still have a pet dog, we should at the first indication of sickness either tie him up securely till he dies or until it is very clear that he is not becoming rabid. This one precaution alone would prevent the loss of many lives by hydrophobia.

In our large cities the laws concerning stray dogs should not be a byword, but each city should place such restrictions upon dogs and so enforce them that it would be impos-

sible for a dog to be roaming about for which some person is not directly responsible.

In our smaller towns there is generally a class of dogs wandering about that are a discredit to the community as well as constituting a danger to the public. They are mangy, hairless, lean, sorry looking beasts, of absolutely no use to themselves and an eyesore to the landscape. The condition in which these dogs are found furnishes a ready field for the spread of rabies. One dog of this class, itself not worth the ammunition to get it out of the way, may be the means of costing the lives of a dozen persons should it become rabid.

Another item in the prevention of hydrophobia is the immediate treatment of every victim of dog bite, however slight. Every dog bite in India must be regarded as dangerous. Tie the part bitten between the wound and the heart to prevent the absorption of any possible poison into the system. It is best to apply two bandages, one a short distance from the wound, and the other above the knee if it is on the foot and above the elbow if it is on the hand. Encourage the bleeding of the wound by immersing in warm water, squeezing and freshly cutting the part. Then cauterize with pure carbolic acid, nitric acid, or a very hot iron. This routine, if very promptly followed out will be the means of preventing many cases of rabies.

We now come to the specific prevention of rabies, the Pasteur Treatment. This is a method of treatment discovered by Louis Pasteur, an untiring searcher after the secrets of scientific medicine. He devised the plan of taking a part of the nervous system of an animal suffering from rabies and putting it through certain procedures by which it was able to attain an attenuated dosage of anti-rabic vaccine, which when injected into the patient having an infection of rabies, acted specifically against the virus of the disease. This has practically reduced the mortality from rabies to nil when the treatment has

been resorted to and effectively carried out as early as possible after the bite.

For this method of treatment Pasteur institutes have sprung up all over the world. Kasauli and Connor are the centres in India for the treatment. The great difficulty with the Pasteur treatment is that it has compelled people to go far for treatments, as they could be administered only where the institutes were located. Plans are under consideration by which the patient will be able to have the treatments administered nearer home. This will cut out a heavy item of expense as well as make it possible for many who could not otherwise avail themselves of the treatment to take it.

The treatment of the active or convulsive stages of the disease consists of the use of nerve sedatives and anesthetics. But at this stage little can be done.

In conclusion, rabies can be prevented by the following precautions.

- (1) The avoidance of pet dogs.
- (2) Tying up dogs that show any signs of sickness till death results, or till it is proved beyond any doubt that rabies does not exist.
- (3) Greater restrictions upon the kennel in our large cities.
- (4) That all stray dogs in our cities, villages and towns be killed.
- (5) Every dog bite in India should be considered dangerous and immediate attention given to the wound, by encouraging bleeding, double ligatures, and cauterization.
- (6) The dog guilty of the biting should be tied up, kept under close observation and if he dies the brain should at once be sent to the Pasteur Institute for examination.
- (7) The diagnosis being established the patient should at once take advantage of the Pasteur treatment.
- (8) Pasteur treatments should be made more easily of access.

“WHERE is there a brighter, warmer spot than in the sunshine we create for others? It is the ingle-nook of happiness.”

Diseases and Their Peculiarities

Rat Destruction and Plague

By 1905 it had become fairly clear that plague in man was secondary to, and dependent on, plague in the rat, and to us workers in the field, it appeared reasonable to suppose that, if the rat population could be reduced, a locality might be rendered more or less immune to plague, that importation of infection would be less likely to take root and develop into an epidemic, and that when an epidemic had begun it might be possible to stop its spread by clearing off most of the surrounding rat population in a small locality, or to cut off the infected rats from the healthy ones in a large town by establishing a rat free area between the infected and the healthy. Rat poisoning seemed the simplest method of achieving this object and it was on these not unreasonable surmises that rat poisoning operations were commenced in the Punjab.

Rat destruction therefore, is the measure to be applied generally for the prevention of plague and for cutting short epidemics which have just begun, and it is the only measure that is generally accepted when plague is apparently absent or only slight for it is simple and gives practically no trouble to the people: it is therefore a method of combating plague of extreme importance and should be resorted to much more than it is. When epidemics have passed beyond control, inoculation and evacuation come into their own and are of the greatest value for saving a considerable number of lives.

Of methods of rat destruction, poisoning is by far the most simple and rapid, for in a single night, the rat population can be very severely dealt with, and properly carried out, a reduction of 80 per cent. should be effected. Trapping is slower and is most appropriately

used in conjunction with poisoning, to still further reduce the number of rats and keep it from increasing again. Traps are particularly useful in towns where continued supervision can be employed, and if a supply is kept ready, traps can often be placed in every room of the houses surrounding the infected spot with excellent result; poisoning in addition is to be recommended. The method of smoking out rats that has been recently introduced is, I believe, very effectual, but has the disadvantage of being troublesome to the people as their goods and chattels have to be cleared out of rooms, a big business in the case of bunniah's shops and such like places; it requires therefore the close supervision of a tactful and energetic officer.

After a good deal of experimental work we evolved a formula for a rat poison which has proved very successful and established a poison factory to turn it out in large quantity.

One tin of this paste containing some twelve ounces costs ten annas or so, and is sufficient for 1,500 baits each capable of killing a full grown rat. The danger of ignition is referred to by the Director of the Parel Laboratory, this was one of our difficulties and was got over by ensuring very fine division of the phosphorus and by reducing the phosphorus content to below 3%. The method of mixing the poison with *atta* and *gur* and rolling the mixture into balls is infinitely better than spreading it on *chapaties* or bread.

The phosphorus is first dissolved in carbon bisulphide and this is then added to warm *ghi*: this oily solution is then added to and incorporated with a stiff paste of *atta*, sugar

and water in a special machine. Flavouring substances are also added to make the baits attractive; the comparative attractiveness of these was determined experimentally by baiting traps with dough scented with different essences, plain and mixed, and placing these traps on heaps of grain in godowns so that the rat travelled over food stuff to get to the traps.

In the report on operations of 1906-07 it was calculated by Captain Davys that, after making every allowance for error, at least 40,000 lives must have been saved by the rat poisoning campaign. Rat poisoning is simplicity itself and quite without danger; the baits are prepared in the day and are laid in the afternoon and evening in such places, behind boxes against the wall, on the top of the wall supporting the roof, where other animals or children cannot get at them; the baits not taken during the night are collected next morning. The mere fact that so much poisoning was done and that no accident happened save the death of a few fowls and crows shows that the danger is *nil*. Three coolies and a compounder to supervise, can easily prepare and lay ten or twelve thousand baits in a day, 20 to 40 bait for each of 400 houses representing a population of 2,000 to 2,500, and a sub-assistant surgeon can supervise and control 3 or 4 such gangs so that large areas can be treated in a single day. It was evident however that operations on this scale, frequently repeated, could not be carried on indefinitely and traps were gradually introduced in the attempt to pro-

duce a more permanent effect or to maintain the sudden reduction in the rat population brought about by rat poisoning. Rat trapping was extensively employed and still continues on modified lines (*see Punjab Plague Manual*). Rat traps were supplied to villages and towns with the object of keeping up a permanent reduction of rats throughout the plague season in uninfected places exposed to infection and of concentrating them on infected spots as soon as plague appeared; these operations also were attended with a fair measure of success.

The question is when can rat destruction be most profitably used? When plague is just beginning and a case or two of plague has occurred and few dead rats been found, what is to be done to stop infection spreading? Evacuation is usually impossible and inoculation only accepted by a few, there is indeed only one possible way of attempting it and that is by rat destruction in the surrounding area. Knowing that plague infection is carried over from one season to another, especially in places suffering an incomplete epidemic towards the end of the spring, our only chance of preventing or materially mitigating the second epidemic is by rat destruction. An uninfected locality in dangerous proximity to, or surrounded by, infected places can often be successfully protected by rat destruction.

Our great hope lies in a campaign during the free season and in the earliest stages of the epidemic before it has passed beyond control.

-- *Indian Medical Record*.





HEALTHFUL COOKERY

What to Cook for an Invalid

BY EVELYN HILDRETH

MANY a woman, equal to any ordinary emergency, has felt despair settle on her soul when, after the crisis of an illness is safely passed, the doctor begins to prescribe the food the patient may have—so little will it take to bring back the brooding terror of haunted days and nights. When the “crossness” which old nurses welcomed as a sign of returning health, causes dissatisfaction with every dish of the invalid’s very limited diet, many a woman has been at her wit’s end to tempt the captious appetite. Even more serious is the problem of catering for those whom long illness has made fastidious. Something new, fresh, dainty and digestible is worth its weight in gold at such a time.

Cream of lettuce soup has a delicate flavour which tempts a fastidious appetite. Wash and drain three heads of lettuce, chop and fry them in a quarter of a pound of butter. Add salt, a bunch of parsley, five ounces of rice and two quarts of white stock. Cook for forty-five minutes. Press through a sieve, add a pint of boiling milk and serve with croutons. For the invalid, hot cream may be used in place of the milk. This is not distinctly an invalid’s dish, but can be served while the patient is still restricted to liquid nourishment, but needs strengthening food. This will serve eight persons generously.

Rice jelly has the merit of being both digestible and nourishing, and has the additional advantage of looking like a dessert. Half a cup of rice, soaked for two hours in a cupful of water, is the foundation. Add a

pint of boiling water, boil for three-quarters of an hour and strain through a muslin bag. With the addition of a little gelatin it can be molded, but it will form a jelly even without this. It can be served with sugar and cream and sprinkled with a very little grated nutmeg, or flavoured with bitter almond. If the latter is used, put half of a thoroughly cooked pear in the middle of the dish of jelly, for rice, almond and pear are natural friends.



Apple sauce may be prepared in the most healthful as well as the easiest way, by baking it slowly in a small, covered baking dish. Another way is to peel and core four large apples and bake in a casserole with the juice of a lemon, a little cinnamon or nutmeg, and half a cup of sugar. Apple sauce so made may be strained through a cloth and served cold as a drink. It will make a delicious dessert, mashed to a paste and beaten up

with the white of an egg and a little more flavouring. If the apples are quartered and cooked in this way and the sugar put in first they will keep their shape and make a tempting garnish for other dishes.

A tiny puff omelet made from one egg is an inviting breakfast dish. Beat the white and the yolk separately, the former till it is stiff. Add to the beaten yolk one spoonful of water (very cold). Have ready one of the tiny four *anna* frying pans sold at all tinshops, or a granite ware pan of the same size, and be sure that the inside is absolutely clean and perfectly smooth. Have ready also a hot plate, and if possible one of the metal or glass covers, made for individual dishes of this kind; if not, any closed cover or a turned down bowl will do, but all dishes connected with an omelet must be hot, and it must be made the very last thing before taking the tray to the sick room. Put half a teaspoonful of butter in the pan; turn in first the yolk, then the white, and cook until the white is puffed up to twice its former size and cooked through, being careful not to brown the yolk. When it is done the yolk will appear as a thin golden shell from which the white is breaking forth like a cottonball. If the oven is fairly hot, set the omelet, pan and all, in it for an instant, and the white

will "set" like a meringue. Slide it carefully on the plate, cover it, and have a little dish or small glass of currant or apple jelly to be eaten with it.

A resourceful housewife will have on the top shelf of her china-closet some especially dainty china bouillon cups, teacups, small platters, quaint glasses, the remnants of wedding china, perhaps, reserved for times like these. There is an odd set of Oriental china which is well suited to serving an invalid's dinner if there are several dishes to be kept hot, and if the tray must be carried through cold halls to the invalid's room. It may be described as a Chinese *bain-marie*. It consists of four exactly similar shallow round dishes with straight sides, of different but harmonizing colours, one standing on another, with a cover over the dish at the top. In Chinese cooking, this column of porcelain is set on a small pail of boiling water, after each dish has been filled with the stew, soup, or vegetable to be served, and the quaint little course dinner for one is thus carried to the master, or the honoured guest, when each dish is in turn removed and placed upon a serving plate. The dishes make charming bonbon, or fruit, dishes for an informal supper and are especially interesting to an invalid child.

Sanitation and Hygiene

The Ideal Bathroom in the Little House

BY CHARLES E. WHITE, JR.

THE ideal bathroom is neither too large nor too small. An excessively large bathroom is much more difficult to keep clean than a smaller one if the latter is well arranged. In designing your bathroom each fixture should be carefully drawn out to scale on the bathroom floor plan and the space around it carefully noted. Allow just space

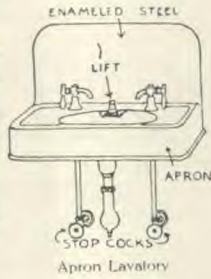
enough about each for the accommodation of the user.

The bathroom window should be higher than an ordinary window, and for good ventilation it should be larger than usual if possible.

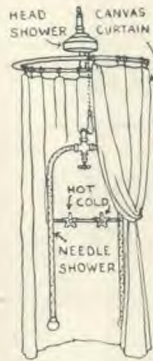
For the floor the best material is tile, either of glass or the ordinary unglazed white tile.

On the walls a dado of white tile, glazed, can be used, or a new enamelled steel wall covering may be procured. Some of this is stamped in a tile pattern and looks like ordinary tile after its application to the wall, but the most desirable patterns are those which are not imitative of tile. Above the tile dado the walls should be of hard plaster finished smooth. This may be painted with three coats of good oil paint in white or cream, or, better, seven coats of enamel paint. A very desirable wall covering is of glazed cloth which comes in attractive designs. Some heavy enameled papers are also very efficient, too, and burlap, when filled with

An inexpensive and fairly good job can be obtained with one coat of white oil paint, followed by two more coats of enamel paint. This will leave the wood with a moderate



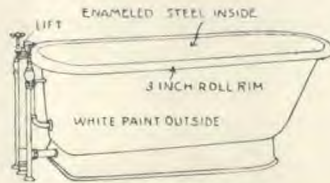
Apron Lavatory



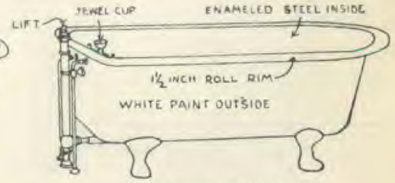
Bathtub Shower



A Corner Lavatory



Bathtub With Floor Base



A Compact Bathtub

at least three coats of oil paint, is also a good material. There are a few brands of special paint in the market, not unlike calcimine in appearance. In the best of these there is mixed with the colour a binder of glue or sizing, which chemically holds the particles of colour to the wall and makes the paint waterproof. Ordinary calcimine should never be

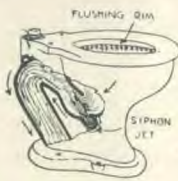
luster. The best enamel job requires two coats of white oil paint, finished with five more coats of enamel, making a total of seven coats. This produces an enamel almost as hard as tile and quite as durable.

Give careful attention to the plumbing in your bathroom. Select a closet that is simple in design and positive in operation. A "siphon jet" closet is the best. In this closet a jet of water is released into the discharge opening at the same time the rim is flushed, and the force drives the contents of the closet through the trap into the soil pipe, making it more cleanly than the ordinary "wash-down" closet. You can always detect a siphon-jet closet, upon examination, by the hole in the bottom of the bowl through which the jet discharges.

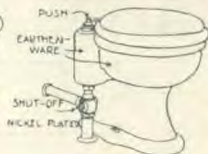
The "valve" closet is one of the latest types. In this no tank is required, as water enters directly from the supply pipe by means of a valve operated by a push button. The water can be shut off by the valve below in



Low-Tank Closet



Siphon-Jet Closet



Valve Closet

used. Use only waterproof material that may be cleaned easily.

Reduce bathroom woodwork to the minimum and paint it with white enamel paint

case repairs are needed. In this closet the valve is inclosed in earthenware, like the closet bowl, which reduces metal work to the minimum. In the "low-down" tank closet shown the tank and closet are of enamelled steel with the only metal showing in the water pipes. It is an excellent idea

to have a shut-off in the supply pipe as indicated, so the water can be turned off during repairs. A new "wall closet" can now be obtained, supported entirely from the wall, leaving the floor free. This fixture has a valve action instead of a tank.



Exercise for Women

BY LAURETTA KRESS, M. D.

EXERCISE is as important for women as for men. Every muscle, in order to maintain its best condition, must have exercise, by which the free exchange of blood is hastened. This movement of muscle, or elongation and contraction, acts upon the tissue the same as filling a sponge with water and squeezing it out again. Each contraction squeezes upon the blood-vessels, causing them to empty, each elongation or relaxation causing an inflow of blood. This carries out of the muscle all debris, and keeps up a healthy tone. All muscles need the same treatment. Certain groups we use sufficiently, others have no exercise, and consequently are handicapped.

Many women have for so long accustomed themselves to few exercises that the larger group of muscles do not become developed as they should. It is unusual to find a woman with well-developed arm muscles. A piano player develops the muscles of the forearm; but the biceps and triceps, the large muscles of the arm, do not become developed as they should. Trunk muscles in civilized women are not used to advantage on account of the bands around the waist. Cor-

sets and tight clothing hinder the proper use of the trunk muscles.

We find for this reason many women with very flabby abdominal muscles, so that the internal organs, because of lack of support, are likely to fall down, or prolapse.

There are many forms of exercise in which women can engage with great benefit. Gymnastic exercises, under most circumstances, are very valuable; but the out-of-door exercises are much better because of the fresh air taken into the lungs, and because they are useful exercises. One feels when the exercise is over that one has accomplished something. I think of gardening, especially hoeing, as a delightful exercise. It is not a heavy one, and is very healthful. Any woman can engage in this useful exercise in her own garden. One hour a day, or even one-half hour, will keep the garden in good condition, and will afford an excellent chance for the development of the muscles of the arms and trunk.

I remember with great interest a patient who though she was developing tuberculosis, who was determined to live. She put on a pair of strong shoes and a short skirt, and hoed

Sanitary School Furniture

Trade



Mark



Write to

THE STEEL EQUIPMENT COMPANY,

for

Every Description of School Furniture.

THE STEEL EQUIPMENT COMPANY,

CALCUTTA,

BOMBAY,

MADRAS,

HYDERABAD,

DELHI, AND KARACHI.

in her large garden each morning until the sun was too hot. This exercise morning by morning had the effect of restoring the appetite and increasing elimination through the skin and lungs. The cough ceased, she gained in flesh, and to day, after seventeen years, she is strong and healthy. There is something particularly interesting in hoeing, for one is working over plants which so readily respond to care. If one's own merry heart produces a song to go with work, the exercise is improved.

Another useful and healthful exercise for women is mowing the lawn with a lawnmower; a fourteen or sixteen-inch size is easily managed, and is not too heavy for the ordinary woman to push. This, too, is an exercise she can take early in the morning. An hour occupied in this way is well spent. It obviates the expense of hiring the work done, and it adds much to our lady's health.

Rowing is a very pleasurable exercise, and when the technique of rowing is properly acquired, it is one of the most beneficial of exercises. The general movement of the arm and back muscles, together with the muscles of the thighs, makes it an excellent exercise. I have seen women become experts with oars, and develop splendid muscles by the exercise.

Swimming must be mentioned here also. Every woman should learn to swim, not only for the exercise she may gain from it, but because sometime the ability to swim may save a life.

I have not mentioned walking as a means of health getting. Among certain classes of women walking clubs are being organized. A walk of from three to five miles is taken regularly, and very often much longer ones. When taking my medical course, I averaged six miles every day, and frequently took a longer walk than that. English women have practised this exercise to great advantage for years.

Our present easy and rapid modes of travel spoil our men and women, so that walking

*If you are afraid of
Infectious diseases
Use*



**ARBOS
CAMPHOR
SOAP**

BEST SOAP FOR INDIA

A BATH with Arbos Soap will relieve the fatigue of a day's worry. Marvellous effect on Heat rashes, Itches and Ring-worms. DESTROYS Plague and Malaria Germs, and saves from Contagious Diseases.

Can be had at all Druggists,
Sole Agent:-
T. HARA,
5, Taj Building, BOMBAY

USE KATOL

AND
NO MOSQUITOES
WILL WORRY
YOU



Katol Powder destroys and keeps away bugs, fleas, cockroaches, moths and other vermin and germs. 5 annas per tin

Katol Sticks kill and drive away mosquitoes and save you from malaria. 12 annas per Box (240 sticks)

Can be had at all Druggists.
Sole Agent:-
T. HARA,
5, Taj Building, BOMBAY



THE PATHEPHONE

has added another triumph by the award of
A GOLD MEDAL & FIRST PRIZE
AT THE
AUCKLAND (NEW ZEALAND) EXHIBITION 1914

**No Needles to Change---No Bother.
No Destruction of records---No Expense.**

We have Horn and Hornless models from Rs. 35 to Rs 400 and shall be glad to send you our 1914 Machine List.

With every machine we give you 3 Records (12 in.) of your own Selection, Free.

THE PATHEPHONE INDIA CO.,

11, Church Gate St., BOMBAY.

7 A, Lindsay St., CALCUTTA.

POONA: MARCKS & CO., LTD. KARACHI: WHITEAWAY, LAIDLAW CO., LTD.

and all accredited dealers in Talking Machines.

In replying to advertisements please mention "Herald of Health."

exercises are not so popular as they once were. An energetic walk exercises nearly every muscle of the body. When the head is erect, and the body in good poise so that the weight does not come down too hard on the heels, thus jarring the spine, walking becomes an exercise that can not be excelled in its benefits for all.

Walking is a healthful exercise under nearly all circumstances. Of course it would not be healthful to walk in the evening along a marsh infested with malarial mosquitoes, nor would it be an advantage to take a walk in an atmosphere polluted with various impurities, nor to walk in the sunshine unprotected on one of our hot summer days; but given a moderate temperature and a fairly pure atmosphere, if one walks energetically with erect head and springy step, on balls of feet rather than heels, and with a mind full of courage and good cheer, the walk can not but have a wonderfully invigorating effect.

NEWS NOTES

INTERNATIONAL HEALTH COMMISSION.

The International Health Commission of the United States, founded with a fund of approximately Rs. 300,000,000 guaranteed by Mr. John D. Rockefeller and his friends, is studying the problems presented by tropical medicine, and a beginning is being made with ankylostomiasis. Mr. Wycliffe Rose, the director of the commission has visited several of the West Indian islands to make arrangements with the local authorities, and he has recently conferred in London with a committee of the colonial office, which it is intended shall in future work in conjunction with the American commission. Mr. Rose, who has been joined by Dr. Sandwith of the London School of Tropical Medicine, is visiting Egypt, Ceylon, the Federated Malay states and the Philippine Islands. At the present time Dr. Leiper of the London School of Tropical Medicine is in China studying bilharziosis under the auspices of the Admiralty and Colonial office. It is understood that he will extend his investigation to the occurrence of ankylostomiasis among coolies on tea estates.

Food for Thought

There is food thought in the fact that physicians tell us that the vast majority of people in moderate or affluent circumstances eat too much; that white flour products are at least in part to blame for the prevalence of cancer, owing to their lack of mineral salts; that tea and coffee are stimulants only, not foods.

And there is food both for the mind and for the mistreated or overtaxed body in the foods offered by the **Sanitarium Health Food Co., 75 Park Street, Calcutta;** "Granola" and "Granose" fully cooked, whole wheat products, and "Caramel Cereal" a cereal food coffee, non stimulant and yet strength giving. Try them for a time and note the increasing strength and happiness.

Food for the Body

MODEL 10 (with Column Finder)
for Correspondence and all ordinary
purposes.

MODEL 11 (with Decimal Tabu-
lator) for Billing, Invoicing, Statements
and Accounts.

REMINGTON TYPEWRITERS



BRANCHES
EVERYWHERE.

BRANCHES
EVERYWHERE.

MODEL 11 (with Wahl Adding and
Subtracting Mechanism) for Writing,
Adding, Subtracting and Auditing.

For particulars apply to: —
Remington Typewriter, Co., Ltd.,
75, Hornby Road, Bombay.

THE AUTOMOBILE Co., Ltd.

TELEPHONE No. 2180.
TELEGRAM AEROPLANE.

New Queen's Road,
BOMBAY.

Dear Sir,

We have a great proposition to offer in
the way of Motor Cars. The OVERLAND complete in
every detail for Rs. 4250. We cannot fully de-
scribe it here as space does not permit. Write

us for a



catalogue.

We have Cycles, and Cars of all sorts to suit
all pockets.

Write soon.

Yours faithfully,
THE AUTOMOBILE CO., LTD.

OUR BIG BARGAIN LIST

Is out owing to the fact that our stock of Pianos taken as part payment has grown so fast, we find it imperative to reduce prices in order to move them quickly, and in our list we are showing a large number of excellent bargains. Send for this list before buying.

T. E. BEVAN & CO., LTD.

Grosvenor House,
CALCUTTA.

Dwarkin & Son
8, Dalhousie Square, Calcutta

High Class Musical Instruments

At a Moderate Price

ALL THE LATEST IN MUSIC

Mail Orders a Speciality.

Whether Chronic or Acute

It would pay you to make inquiries through your physician or to the management direct, concerning the treatments offered for your trouble by the Sanitarium Treatment Rooms. The most efficient methods of treating disease by **electricity**, **hydrotherapy** and **massage** are offered, practically every known method being available. Recent additions to equipment include **vibrasage** and **the high frequency** machine as employed by the leading medical authorities. An enquiry at least would do no harm, and may be the means of putting you on the "road to health."

The Sanitarium Treatment Rooms,

Kirkville, Mussoorie.

75, Park St., Calcutta.

INDIAN MEDICAL RECORD

Monthly Journal of Public Health & Tropical Medicine

Annual Subscription:

Indian Empire—Rs. 5 post free.

Foreign—7s. 6d. post free.

Sample Copy free.

Vol. XXXII

Begins

January 1914.

Entirely reorganised and remodelled. Caters to the Medical profession. No Sectarian principles. Eminent European and Indian contributors. A real help for Promotion Examination.

TABLE OF CONTENTS:

Original articles; A Mirror of Practice; Editorial articles; Editorial paras; Annotations; New Remedies; Correspondence; Review and Notices of Books; Annual reports of Societies, Municipalities and of the Sanitary Departments; Newest and well-tried prescriptions; Useful and Practical Hints; Reports of the Boards of Health of principal cities in India; Medical notes and news.

Our Special numbers are highly successful.

Special Tuberculosis number: Contains the most recent literature on Tuberculosis, its diagnosis, prevention and treatment. Price Re. 1.

The next Special will be devoted to the consideration of venereal diseases (July, 1914), their prevention and treatment. Price, Re. 1.

Address:— INDIAN MEDICAL RECORD,

HAROKUMER TAGORE SQUARE,

Corporation Street, Calcutta.

London Offices:—8, Henrietta Street, London.

Club Foot or Talipes.

The term: Club-Foot signifies any Deformity of the foot caused by an unnatural contraction of muscle, tendon, fascia or ligament which makes the foot to bend either outward or inward. It may be congenital or first appear after birth.

These cases are generally found among children of 4 to 5 years of age, and many have been carelessly neglected by their parents and guardians or in some cases treated unsuccessfully. Consequences are that the unfortunate children's careers become quite useless in after life.

So if you are interested please drop us a line for our Illustrated Deformity Manual in which you will find all the detailed particulars regarding this.

N. POWELL & CO.,

Orthopaedic Instrument Makers,

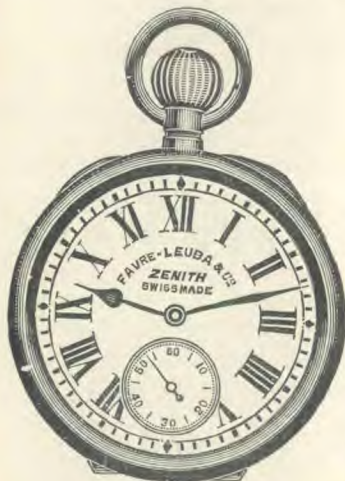
Lamington Road, Bombay 4.

“PRECISION”

Can only be obtained by acquiring a

ZENITH

-PRECISION WATCH-



Nickel Silver from Rs. 25

Sterling Silver from " 35

18 Carat Gold from " 150

Guaranteed 5 YEARS

FAVRE-LEUBA & Co., LTD.,

21, NORTONS BLDGS,
CALCUTTA.

217, 219, HORNBY ROAD,
BOMBAY.

Herald of Health,

The Indian Health Magazine

Published by the
International Tract Society,
17, Abbott Road, Lucknow

REGISTERED, - - - No. A. 457

POISONING BY QUININ TABLETS

Quinin poisoning is relatively rare because of the bitterness of the drug in the form in which it is usually taken. In Algiers, however, it is sold at a low price under government regulation in the form of tablets for the prophylaxis of malaria. These tablets are coated with sugar coloured with carmin. The coloured coating is so attractive to children that the tablets are readily taken in spite of the slight bitterness. H. Pecker in *Journal de pharmacie et de chimie* (Feb. 16, 1914, p. 162) reports a case in which a boy of 7 swallowed forty-five such tablets, containing in all 9 gm. of quinin hydrochlorid, or 6.6 gm. (102 grains) of the alkaloid. Death rapidly ensued; the child made some efforts to vomit, had convulsions, became comatose and died two hours after the ingestion of the poison. The attractive form and quick absorption of the drug were important factors in this accident.

MORTALITY IN LAHORE

Ravages of Phthisis.

THE fourth annual report prepared by Dr. Newell, late Health Officer, Lahore, which has just been issued, says that more than half the deaths that take place in Lahore are those of children under 15 years of age. Phthisis caused 630 deaths last year in Lahore. The disease is much more prevalent among Mahomedans than among Hindus, and no less than 47.46 per cent. of deaths were among Mussulman women. A tuberculin preventorium was opened in June last year, and Dr. Newell describes the preventive and educational work already being done, and urges the need of the appointment of a lady health visitor to go among the women.

The new irrigation channels are probably the most troublesome breeding ground of mosquitoes and Dr. Newell makes some practical suggestions for diminishing malaria.

JUVENILE SMOKING

THE increasing use of cigarettes and "bidies" by students has been the subject of interpellations at the last meeting of the Madras Legislative Council, and public bodies in Madras have represented to the Local Government the necessity of legislating against juvenile smoking. Government has already asked the Director of Public Instruction to instruct school authorities to forbid smoking in school premises and play grounds. But this will, it is believed, have little effect in checking the evil. It is now proposed to bring in a non-official bill on this subject on the model of their enactment existing in Baroda. Leave will be asked to introduce the bill at the next session of the Council.

ANOTHER OCEAN LINER ACCIDENT.

The sinking of the *Empress of Ireland*, an ocean liner travelling between Quebec, Canada and Liverpool adds another sad tragedy to the annals of steamboat traffic and sends to a rest in a watery grave over one thousand souls. Who is responsible for these sad tragedies it is often hard to tell. Each lays the blame upon the other. With the conservation of health, resources and other material things it seems that there ought to be some means of saving this slaughter of thousands through the carelessness or negligence of men.

CAUSATION OF GOITER AT LAWRENCE MILITARY ASYLUM, SANAWAR.

The results of McCarrison's enquiry show that goiter in Sanawar is due to the presence of living microorganisms in the water supplied to the children for drinking purposes, and that the disease can be eradicated by the provision of a chemically and bacteriologically pure water, perhaps a valuable point in the etiology of the disease. The possibility that most of the contamination in this water is derived from human fecal matter is brought out.

Sanitary Ware

White Glazed Closet Basins,
Lavatories, Tiles for Wall Dados,
Galvanized Iron Water Pipes
and Fittings, Pumps, Cisterns.

F. A. Vaz and Co.,

Sanitary Engineers,

285, Bow Bazaar St., Calcutta.

L. C. SMITH & BROS. TYPEWRITER

BALL BEARINGS

MEAN INCREASED EFFICIENCY, ACCURACY, DURABILITY.



VISIBLE
WRITING

UNLIMITED
SPEED

Equipped with ball bearings at all frictional points.

Apply to-day for Illustrated Pamphlets to the Sole Agents in India.

P. O. Box 125

BOMBAY

10 FORBES STREET.

“COMPETITION” WATCHES



The “Competition” is the result of 30 years’ constant endeavours to provide a **SOUND** and **RELIABLE**, timekeeper at a moderate price. For **ACCURACY—STRENGTH—DURABILITY** and general all-round excellence, they are only equalled in the most expensive makes.

NICKLE SILVER.

OPEN FACE only, 16” or 18” size Rs. 16
 “ “ “ 22” size “ 19

STERLING SILVER, Engine-turned or engraved.

OPEN FACE { 16” or 18” size } .. Rs. 25
 HUNTING { .. “ 29
 HALF-HUNTING { .. “ 32

WEST END WATCH CO.,

375, Hornby Road, BOMBAY.

4, Dalhousie Sq., CALCUTTA.

COX and CO.

Bankers and Agents.

Established 1758.

**BOMBAY, CALCUTTA, KARACHI, RAWAL PINDI, and
SRINAGAR (KASHMIR).**

HEAD OFFICE: 16 Charing Cross, London, S. W.

BANKING BUSINESS of every description transacted.

CURRENT ACCOUNTS opened, & **FIXED DEPOSITS**
received; rates of Interest to be obtained on application.

SAVINGS BANK ACCOUNTS opened with special facilities in
connection with Cost of Passages. Terms on application.

INSURANCE of every description effected.

A copy of the Half-Yearly Balance Sheet will be forwarded on
application.

TRAVELLERS

to all parts of the world can

BOOK PASSAGES by all Steamship Lines free of commission.

SHIP BAGGAGE, MOTOR CARS, LIVE STOCK AND

MERCHANDISE at low inclusive rates.

IMPORTERS

Can have their goods cleared and forwarded promptly by

Cox's Shipping Agency, Ltd.,

Hornby Road, Bankshall Street, Bunder Road,
Bombay. Calcutta. Karachi.
Rawalpindi, Srinagar, (Kashmir.) Port Said, Southampton, Marseilles.

Head Office: 16 Charing Cross, London S. W.

In Answering this Advertisement please mention "Herald of Health."

Printed by W. E. Morris at the International Tract Society, 17, Abbot Road, Ludlow.