

Inventions and Appliances

NEW HOTEL APPLIANCE

IN the center of the lobby of a hotel newly constructed at Worcester, Mass., a large electrically illuminated clock is embedded in the floor. The clock is covered with a plate-glass face one inch thick and two feet in diameter. The numerals and minute marks are etched in by sand-blasting on the under side of the glass, which is held in place by strong bronze rings. The face of the clock is lighted by electric lamps, and in the evenings its luminous countenance forms the most striking feature in the hotel.

The clock is a self-winder. Its hands are driven by a spring-operated and balance-wheel-controlled train set in a recess in the floor. This recess is formed by a metal box 10½ inches deep, which is painted white inside. Eight inches below each numeral on the glass face is a ten-watt tungsten lamp placed horizontally. The white finish of the containing box reflects the light from the twelve lamps evenly through the dial.

A small motor operated by three dry cells at intervals of five minutes winds the spring of the clock. These cells, it is estimated, will suffice for the working of the clock for one year before a new battery must be installed. Thus, costs of maintenance are little, while the satisfaction which the timepiece brings to the idle lobby lounge who may watch the minutes flying at his feet is large.

DIAMOND CARGOES CARRIED BY AEROPLANES.

THE use of aeroplanes for bringing diamonds from the mines to the coast is one of the features in the big developments in aviation now being planned for German Southwest Africa. This country is a difficult and dangerous one to traverse by land, not only on account of the jungles and other natural obstacles, but because of the robber bands with which it is infested. It is now necessary to send troops to guard each shipment of diamonds, and the aeroplanes, which will carry mail as well as diamonds, will be a saving both in time and money. In addition to this service the German government is arranging to establish an aeroplane service for scout work and other military duty in the interior, and with this in view, aeroplanes are being shipped to Africa and soldiers are being trained in the art of flying. An important part of the airmen's work will be the carrying of doctors about the colony, and with this means of transportation it will be possible for doctors to reach, within a few hours, remote villages that it now takes several days to reach.

INVENTIONS DEMONSTRATED BY MOTION PICTURES.

MOVIING PICTURE films have recently been applied to the demonstration before the patent courts of the operation of complicated machinery. From the fact that few jurors are mechanically trained men, the intricate relation of moving parts in an invention is exceedingly difficult for them to grasp, especially when only blueprints or drawings are submitted. But when the machine is seen in operation, or a film depicting such operation is shown, many obscure points are cleared up. Not long since, a motion-picture film of an automatic shoe machine was exhibited before a court, the process of manufacture from first to last being fully covered, and an especially valuable point made that, where in a factory the rapidity of operation was a bar to a clear understanding of the process, in the film the camera could be slowed down at such places, and the process studied at leisure. Then again the film, while clearly showing the method, was free from the distraction of the factory noise.

PECULIAR ACCIDENT FROM COMMON CHEMICAL.

RECENTLY a serious fire was started in a coat pocket of a man who carelessly placed two chlorate-of-potash tablets in the pocket with a box of safety matches. Brushing against the side of the door, he pressed the tablets against the coating on the outside of the match box, with the result that an intense fire was started in his coat pocket, and he was severely

burned. Red phosphorus is used in the manufacture of safety matches and is placed on the box, instead of on the head of the match. The head of a safety match contains chlorate of potash, which, containing much oxygen, flares up strongly when rubbed against the phosphorus on the side of the box. Thus the careless practice of carrying chlorate-of-potash tablets, commonly supposed to be entirely harmless, in the same pocket with a "safety" box, may result in serious injury.

A LIVE MINNOW IN A GLASS TUBE FOR BAIT.

OF INTEREST to fishermen is a novel contrivance recently patented for using a single live minnow for an entire day's fishing for muskellunge or bass. A strong, clear glass tube is equipped with metallic rings, to which are attached clusters of hooks, and a loop wire. A live minnow is placed within the tube, which is filled with water, and the fishline is attached



to the wire loop. Upon casting the minnow into the water, the tube magnifies the minnow and attracts the large fish. Fresh water is constantly admitted into the tube, and the minnow is not injured, mutilated nor hurt in any way, no matter how many times it is cast. The glass tube, filled with water, is invisible the moment it is submerged.

HOT-WEATHER ICE AFFORDS SKATING IN SUMMER.

A GERMAN patent has been issued to a scientist of Berlin for a special salt composition which behaves like ice under skates, sleighs and skis. Demonstrated on a rink in Berlin, scarcely anyone of the numerous visitors who ventured upon the smooth surface was aware of the fact that it was salt and not ice upon which he was enjoying himself. The composition of the salt is at present a trade secret, but the preparation is not affected by ordinary temperatures, and is melted and poured into blocks, which are combined so that any size smooth surface may be obtained. Under the action of skate blades, the composition acts like ice, and the feathery powder worn from the surface is swept off like snow, and can be used over and over again by melting it.

BRIDGE IN HALVES.

BUILDING a bridge in halves, instead of in one operation, was the method employed in constructing the four-track railway viaduct across Gwynn's Falls, Baltimore. This scheme was employed in order that there might be no interruption to traffic across the street.

The first half of the new bridge was built alongside of an old structure, the latter carrying the trains while the new work was going on. When the first half had been completed the old bridge was demolished, and, while the second half of the new structure was being erected trains were running over the other half. The viaduct is 580 feet long and 68 feet wide. It is built entirely of concrete and has main arch spans of 115 feet.

TRAPPING MOSQUITOES.

MOSQUITOES that light on the ceiling may be easily destroyed with an instrument consisting of a cover, such as used on jelly glasses, nailed to the end of an old broom handle. A little kerosene oil is placed in the cover and the device is passed closely beneath the location of the mosquitoes. They will be overcome by the fumes and drop into the fluid as soon as it comes under them.

MIRRORS ON CARS.

In Berlin, Germany, mirrors have been attached to the sides of cars at the height of a passenger's head when standing on the lower step. It is hoped by this means to reduce the number of accidents to passengers through being run down by on-coming traffic.

Health and Sanitation

THE DAILY BATH.

THERE is a no more efficient agency for health than a daily bath. It may be hot or cold as circumstances seem to warrant. The Japanese are sticklers for the hot bath, so hot that a person will almost seem to be boiled, and they are a healthy people. Such a bath is usually taken at night. The English people and others are more addicted to the cold bath taken in the morning and they are a healthy people. The methods of taking a cold bath would naturally differ according to the sensitiveness of the person. While one may jump into a river or a bathing tank and take a long swim and feel refreshed by it, another cannot stand it, but would require that the water be warmed sufficiently to prevent any chill.

During the warm weather of summer if a person can take a cold bath in the morning he will undoubtedly find it a tonic. If to get into the bathtub seems too severe, a sponge bath can be substituted, or it can be taken with a wet towel, the body being thoroughly sponged and immediately wiped dry and vigorously so as to promote the circulation of blood in the skin. Such a bath excites the internal organs to a reaction against the cold, therefore increasing their activity and causing them to throw off any effete matter within their jurisdiction. Thus the lungs will give off an increased amount of carbonic acid gas and the kidneys an increased amount of urea.

The warm bath is particularly serviceable at night time after a hard day's work, for it promotes the removal from the tissues of the waste products that have accumulated during the period of activity whose presence in the muscles is the cause of the feeling of weariness. Fifteen or twenty minutes in a hot bath will remove the ache from the muscles and substitute a feeling of quietness conducive to sleep. If very hot it excites the heart and causes a more copious flow of blood through it, and it should, therefore, be followed by a spray or douche of tepid water to reduce that condition, nor should it exceed twenty minutes because of the weakening effect it would have by overstimulating the heart and the blood vessels and brain.

JUSTIFIABLE SLAUGHTER.

IF THERE are any rats around your house, kill them. If your fields are overrun with squirrels, kill them. No one need hesitate over such cold-blooded treatment. These animals are not necessary for health, although the rat is a scavenger. It is better to keep the dirt and filth cleaned up about the place than to permit rats to do it. Both rats and squirrels, under proper conditions, are disease breeders. The appearance of the plague in New Orleans has been traced to the fleas that infest the rats. The same result followed the investigations of the appearance of the plague in San Francisco some years ago. The great plague in London in 1665 was produced in the same way, and when the great London fire occurred in 1666 plague disappeared and no cases occurred in the city until 1900, as the fire burned up all the rats in the infected part of the city. After the appearance of plague in San Francisco quite extensive investigation of the squirrels in the surrounding country revealed that they were infested with the same kind of plague fleas that were found on the rats, and a campaign was inaugurated for their extermination. As it is no use to try to exterminate the fleas, those nimble carriers of disease, it is better and easier to make a campaign against the rats and squirrels. They have no friends to mourn their departure, nor is there any argument for their retention. Put these two animals on your list with the mosquitoes and flies for extermination.

It is undoubtedly true that in the interior of the country there is little danger from plague. It is generally found in coast cities, which probably obtain it by the importation of rats from other countries where the disease prevails, such as Egypt, Africa and Asia, where it has been known from as early as the second century before Christ. The fatal character of the disease is proved by the fact that about one out of three of those afflicted by it die. It makes its appearance about

five days after infection, and strong men go down before it as rapidly as do those of delicate health. Death or recovery also occurs in from four to five days. This virulence prevents people infected with the disease from carrying it any distance.

SLEEP AND HEALTH.

YOU cannot burn the candle at both ends and have it. You cannot go without sleep and exhaust the body every day with work and remain healthy. The phenomenon of sleep is a vital necessity, as it has been demonstrated that animals die more quickly if deprived of sleep than they do if deprived of food. People, however, vary much in the amount of sleep they require for an apparent recuperation from previous exhaustive exertion. Edison gets along with about four hours of sleep, and works practically all the rest of his day with no apparent diminution of energy. Other people, using far less energy in their daily work, require eight hours sleep in order to feel recuperated. Every person must, therefore, become a rule unto himself and secure the sleep necessary for his daily toil.

The cause of sleeplessness is evidently a nervous one, and hygienic measures are believed to furnish the best cure, although there are instances where hypnotic treatment has been necessary. The use of drugs is simply the establishment of a habit. They may put you to sleep tonight, but you need them tomorrow night, and the system soon demands them. Every means outside of the use of drugs should, therefore, be taken to woo sleep, and drugs taken only when it seems necessary for the actual preservation of the health in order to compel the nerves to let down. Besides the formation of habit the use of drugs has an injurious effect upon the system. Some are difficult to digest, while others produce kidney trouble and others have a bad effect on the heart and breathing, and may be dangerous to consumptives and people with weak hearts.

FOOD VALUE OF NUTS.

NUTS are a most important food for those who discard meat from the dietary. Vegetarians may manage, but fruitarians cannot get along without nuts. They are a highly concentrated food, rich in oil, and should therefore be taken with great moderation, especially in hot weather. In fact, they are essentially a cold-weather food, being stored up by the nut-eating animals for use in the winter months. Where, as is often the case among civilized people, the teeth are defective, the nuts should be ground in a hand-mill, or made into a cream, or butter. Ground nuts with fruit, or salad plants, as lettuce or watercress, or "cold slaw," make a complete and thoroughly nourishing dietary, when properly masticated. On an average, one pound of nuts is equal in nourishment to two and a half pounds of beefsteak.

INDIGESTION.

ONLY when hunger is present are there juices in the stomach ready to dispose of food that is eaten. Otherwise, the food lies there mixed with mucus, then slowly rots and ferments, causing the formation of gas, that presses with great force in all directions, and sometimes makes a man think he is going to die of heart disease. Meantime, however, the ingestion of this food into the stomach, giving that overworked organ increased labor, has for a short time caused a feeling of false nervous energy that is mistaken for renewed strength.

THE ROAD TO HEALTH.

WHEN under perfect conditions of right living, the road to health is not level. It has its up and downs, depending largely on atmospheric and temperamental conditions. Like a mountain path, the ascent is not uniformly steady, although there is always a gradual gain or loss. Again, the vitality is always higher in the morning, declining as the sun sinks, and the blood becomes surcharged with fatigue stuffs.

"All odors and here" is the inflexible rule of charcoal. If the charcoal is made red-hot and then cooled before using its virtues are increased.