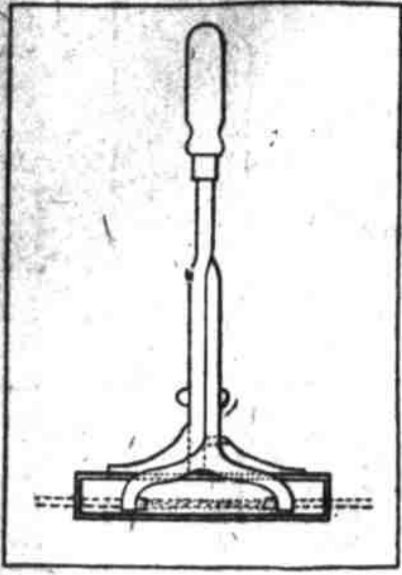


SCIENCE AND INVENTION

A BOON TO WIREMEN.

It required the collaboration of two men in Colorado to evolve the wireman's soldering tool, which is shown in the cut, but it will be well worth the thought spent and may save more than one man from death or injury.



NO DANGER OR SHOCK.

The tool consists of two arms, pivotally connected like a pair of shears. On the end of one arm is a trough, running at right angles to it, and on the other is a pair of curved fingers so made as to engage trolley or telegraph wires and hold them in the trough. Then the solder can be poured into the trough and the wires joined. The handle is made of rubber or some other non-conductor, and the soldering can be done without going to the trouble of turning off the electric current and without danger to the man who is doing the work. Many a wireman is killed or injured through handling a live wire unwittingly, but the invention just described not only eliminates this danger, but results in a better piece of work, as the wires joined are held firmly in position.

DEVICE FOR AUTOMOBILISTS.

The present tendency of automobilists to drive their cars at the highest possible speed, in an endeavor to exceed the speed regulations and incur a fine, has impelled a resident



STRAPPED TO SEAT.

of Germany to devise what he calls a "safety device for occupants of vehicles." In his mad desire to travel at a mile-a-minute gait, the man at the steering wheel is oblivious of the safety of the others in the car. He can readily retain his equilibrium because of constant holding of the steering wheel, while the others in the car are forced in all directions and frantically clutch at the sides to prevent being thrown out. As shown in the illustration, his object is to provide a detachable set of spring harness for each occupant, whereby they are prevented from being pitched out when rounding curves and hurdling ruts. This harness consists of a series of rubber straps, which are attached to the shoulders and connect with a spring. The rubber straps and the spring exercise an elastic pull on the body of the wearer when he is thrown upwards and forwards by the vehicle striking an obstacle in such a manner that he is pulled back to the seat.

NO CREVICES OR CORNERS.

An unclean refrigerator can never be a good refrigerator and the proper care of this very necessary article is always more or less a care to the housekeeper. Great advances have been made in the construction of refrigerators, mainly by the elimination of all cracks and crevices which might offer a lodging place for particles of food. The perfection of this scheme seems to be in the manufacture of the interior lining of the refrigerator in one piece, being pressed out of the sheet metal and



JOINTLESS REFRIGERATOR.

enamelled in the same manner as the porcelain bath tub. This leaves all the interior surfaces entirely smooth so that every part may be reached with the cleaning cloth or brush. Another advantage claimed is the positive immunity from bacteria.

UNIQUE PORTABLE MIRROR.

To the man who dislikes to shave himself with the old-style razor, the introduction of the safety razor solved the problem for him, and made it a task an easy one for him. A Call-

ifornia man desires to still add to the comforts of shaving by introducing the unique adjustable mirror, which is shown in the accompanying illustration. The reader, at a glance, will recognize the immense advantages of this mirror to the man who is shaving himself. It is held upright on a bracket which is supported by a wire frame encircling the neck. The mirror is attached to a handle, which can be quickly adjusted to suit the convenience of the user. Instead of endeavoring to shave by the aid of a mirror, which often is hung in a dark corner of a room, the user can stand in any position near a window or other light and obtain the exact light he desires. If this cannot be obtained in one part of the house, he is at liberty to step into



MIRROR IN ANY POSITION DESIRED.

another room, where he knows he can secure the correct light, the mirror at all times accompanying him. In addition, the entire device is collapsible, so that it can be easily folded up and carried in a suit case or other receptacle.

UNIQUE CLOTHES RACK.

Among the novel inventions recently patented is the detachable clothes rack shown in the illustration below. It consists of a frame work of rods, which is clamped to the end of the bedstead. Naturally, this clothes rack is intended to be employed mostly at night, when the occupants are using the bed, some of the discarded garments being suspended on the hooks on the upper bracket and others folded on the lower arm. In addition, this clothes rack would also prove useful to the housewife during the day, as it could be employed for airing the bed clothes! When not in use it can be quickly detached from the bedstead



CLOTHES RACK ON BEDSTEAD.

and placed in some out-of-the-way corner, to be again clamped in position when needed. It is desirable that the clothes rack be constructed of the same material as the bedstead in the same manner as the bedstead.

IMPROVED RUBBER STAMP.

One of the well-known faults of the rubber stamps employed for stamping "Received Payment" and similar phrases constantly in daily use in business houses is the absence of any identifying marks. Where ten or twenty of these stamps are in



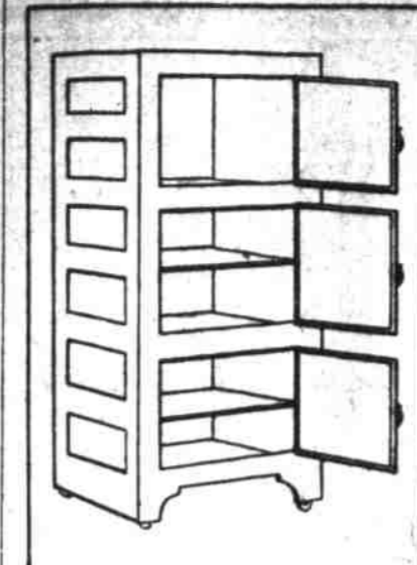
STAMPS PLAINLY MARKED.

constant use, each carrying a different phrase, and constantly of varying sizes, the only clue the user has to determine the particular stamp he desires to use is to be guided by the size and his familiarity with its particular construction. How easily this objectionable feature of the rubber stamp as now constructed can be overcome is shown by an improved rubber stamp designed and patented by a Louisiana man, as shown in the illustration. This stamp in general form is similar to the stamp commonly employed, with the exception of an opening in the body in which is placed a flat card. The particular phrase, carried by the rubber stamp is printed on the front and back of this identifying card and is displayed. In the opening, being visible from opposite sides, the stamp may fall on the desk in any position, yet the identifying means will always be plainly discernible, so that the user will readily be able to distinguish it from many others also lying on the desk in close proximity.

THE LID FLIES OPEN.

An improved garbage can has a lid which is operated by automatic means, a feature which will be readily recognized as one of great value. In the first place, the lid is always in place and not caving around the yard as a detached lid often is, and then, again, when it is desired to re-

open the can for the reception of some table refuse, it is not necessary



TOE'S PRESSURE OPENS THE GARBAGE CAN.

to touch it with the hands, a pressure of the toe answering all purposes. Extensions of the handle acting as levers engage pins in a steel strap riveted to the top of the can, so that by pressure of the foot the hinged lid is easily lifted. A loop at the back of the lid serves as a stop to keep it from swinging beyond a perpendicular position, and when the pressure is released permits it to close by gravity.

ELECTRIC LIGHT LIFE BELT.

It has always been contended that in order to make life saving apparatus more effective at night a light of some kind should be provided. The chances of rescue would be greatly enhanced. Among recent foreign inventions is an improved life belt designed by a resident of Antwerp, Belgium. It is claimed that this life belt is insubmersible. It is strapped over the neck and shoulders, the neck in this way

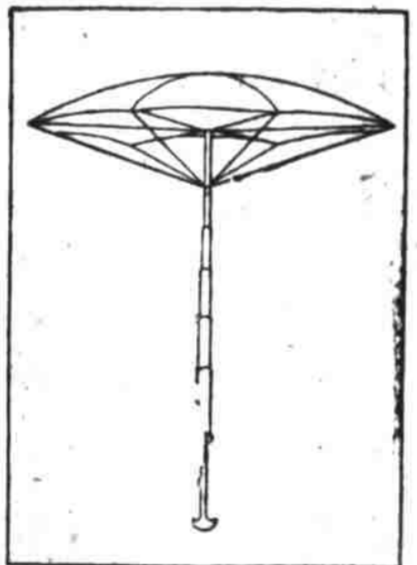


ELECTRIC LIGHT IN CAP.

being preserved from the stroke of the waves. The cushions are so arranged that the head cannot sink beneath the waves, even if the unfortunate one is unconscious. In conjunction with the belt there is a cap, enclosed in which is an electric lamp connected with a storage battery. It is claimed that this electric lamp can be seen at sea for a distance of about a quarter of a mile.

COLLAPSIBLE UMBRELLA.

One of the disagreeable features of the traveling salesman's vacation is the necessity of carrying along an umbrella in addition to his suit case. He invariably finds the umbrella more of a nuisance than the suit case. Often

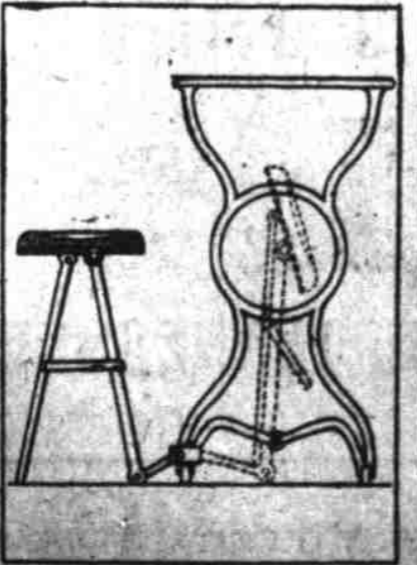


TOP INFLATED WITH AIR.

he would be glad to be rid of it. His desire could readily be realized by using the collapsible umbrella shown here, which can be quickly folded up and tucked away in a corner of the suitcase. Or, better still, it can be carried in a back pocket of the trousers. In construction the handle of the umbrella is in the form of a telescope, which, when collapsed, reduces to a section about five inches long. The numerous ribs are hinged at the joints, readily folding up. In addition, the ribs which is designed to be in top of the umbrella is in the form of a flat when the umbrella is opened. When thus filled with air the umbrella is naturally buoyant, but little effort being required to carry it.

FOLDING MACHINE STOOL.

Several patents have been granted lately for folding sewing machine

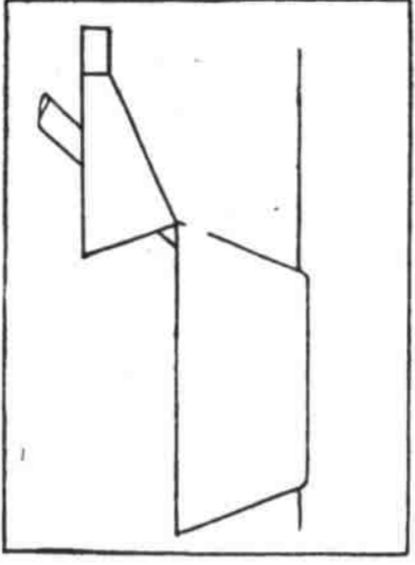


STOOL FOLDS UNDER MACHINE.

stools. Not long since we described one that was formed by the lid of the machine, but in the accompanying illustration, the invention of an Illinois man, the stool is pivotally connected to the iron frame of the sewing machine, so that when not in use it can be readily folded into a compact space and swung into the open space underneath the machine. In the latter position it is practically out of sight and out of the way. The stool also affords a more comfortable seat for the person using the sewing machine than does the ordinary chair which is generally employed for the purpose. The operator can freely move on either side, there being no chair back or arms to hinder her movements. Also, when necessary, she can get up or down from the stool without inconvenience.

IMPROVED KITCHEN UTENSIL.

A combined funnel and dipper is an improved household utensil designed by a Texas man, which is shown in the illustration below. The increased usefulness of this arrangement of the funnel will be at once apparent, saving time and preventing accidental burning of the hand, which often happens when hot liquids are poured through the common funnel. In using this device much time is saved when transferring boiling pre-

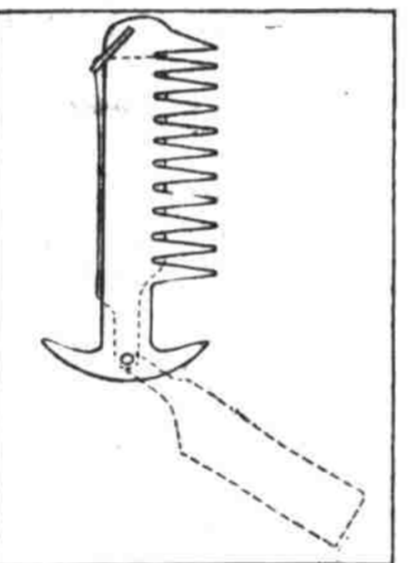


CONTENTS EASILY Poured.

pared, etc., to jars and bottles. The pan is easily held and tilted in one hand and the flow of the contents accurately controlled by the funnel, reducing the liability of spilling it on the table. Soups and similar liquid foods are also more easily handled in this improved device.

NEW TOOL FOR BARBERS.

Barbers will be interested in the new implement designed by a Canadian inventor to provide an easier method of trimming and dressing men's hair, which is shown in the accompanying illustration. In form it is a combined razor and comb. In the latter it is a longitudinal slot, in which the blade of the razor rests. Instead of first dressing the hair with a comb and then cutting it, as is now done, the dressing and cutting is accomplished in the one operation. By



DRESSES AND CUTS THE HAIR.

drawing the device through the hair the latter is parted by the teeth of the comb, the razor cutting it off at the proper length.

FOR HIGH-HEELED SHOES.

High heels on shoes and slippers lost their favor with the women simply because they found they could not wear them without spraining or injuring the ankle. Shoemakers know that the high-heeled shoe is much preferred to the low heel—in fact, the higher the heel the more it is liked. A Virginia woman claims that any high-heeled shoe or slipper, especially, can be made perfectly safe for the wearer by the introduction of a small supporting plate placed inside



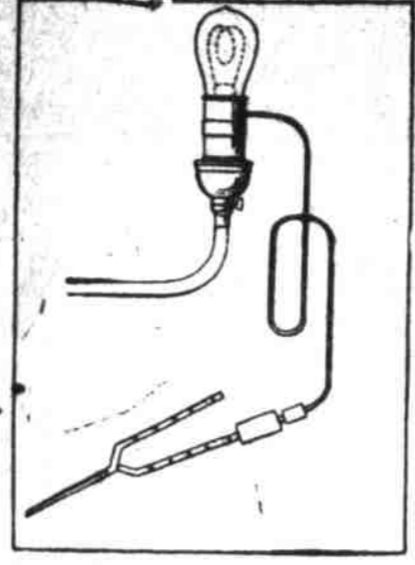
PREVENTS SPRAINING OF ANKLE.

the shoe, close to the heel. This plate is of metal and curved to conform to the heel of the foot of the wearer. It is placed in the shoe in combination with the sole, the plate lying under the heel and extending upward at each side, ending in a T, which engages the side of the foot immediately below the ankle.

ELECTRICAL CURLING IRON.

Every young lady should rejoice in the possession of the electrical curling iron recently invented and patented by a Missouri man, especially so as the present fashion of hair dressing calls for numerous curls. With the ordinary hair curler she must patiently hold the end of the iron over the gas flame after making each curl to reheat the iron. The time thus sometimes is eliminated with the use of the electrical curler, as heat is furnished continuously to the curling iron. The necessary heat is obtained

by connection with an adjacent incandescent lamp socket, provision naturally being made to avoid any electric shock. The tool is simple and



HAIR CURLED BY ELECTRICITY.

handy to operate, with no complicated mechanism to worry about. The inventor claims that only one-quarter the time is required to curl the hair with the electrical curler as compared with the ordinary implement.

A PORTABLE DESK.

If the Illinois man who invented the portable desk is not a traveling man, he is a good friend of the family. Also he has added to the comfort of flat dwellers. Closed, the desk is about the size and shape of a dress suit case, which it closely resembles. Open, it is a substantial desk, equipped with drawers and pigeon holes after the most approved fashion of a big roll top. Metal legs, of the lazy-long principle, unfold to form a support and a supporting rod holds the desk in position. The lid in the position of a writing table. To the top is attached a handle, by which the whole may be carried. For salesmen who have much writing to do, the portable desk is of inestimable value, as it

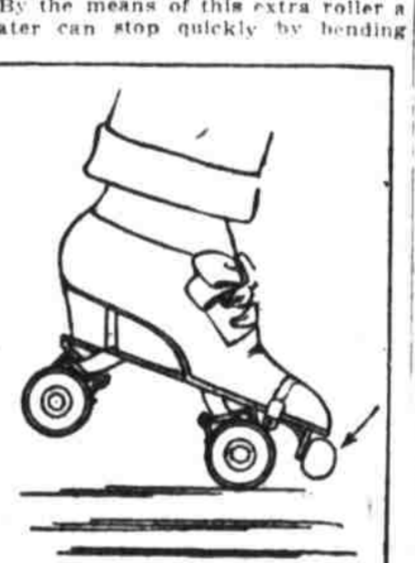


NO DANGER OF CUTTING HAND.

enables them to carry a supply of all sorts of stationery and to carry on correspondence at any place. Instead of writing their letters and filling out contracts in the public writing room of their hotels, they have simply to open up their own desk in their own room. If the whole space in the desk is not needed for paper it can be used for samples, or on short trips to carry the clean linen required.

NEW KINK FOR SKATERS.

The fifth wheel to a wagon has long been cited as typical of usefulness, but the fifth wheel to a roller skate, as arranged by a Pennsylvania man, has several uses. This fifth roller is fastened below the front portion of the skate body and is on an axis that is parallel to the latter. It revolves about this axis in a direction transverse to that taken by the supporting rollers and under normal conditions is held above the floor level. By the means of this extra roller a skater can stop quickly by bending



CAN'T BURN THE HANDS.

pleasure of the hours spent at the table, pleasant as they already are to most of us. A Colorado man has just introduced an egg-breaker which reduces to a science the breaking of an egg and makes what was sometimes a painful operation an interesting bit of work. This device consists of an apparatus much like a pair of pliers, with long wire handles and semi-circular jaws, each equipped with tiny teeth at the end. Above and below the jaws are conical springs forming a receptacle the shape of an egg. The egg is placed in these springs and by gripping the handles of the device the jaws press upon it, cutting through the shell as neatly as a man might cut a piece of fruit with a knife. The egg is thus opened not only without soiling the cloth, but without burning the hands, which was the invariable experience in the old way.

IMPROVED TENNIS MARKER.

Two Illinois men have invented a decided improvement on the old style tennis court marker, for with their



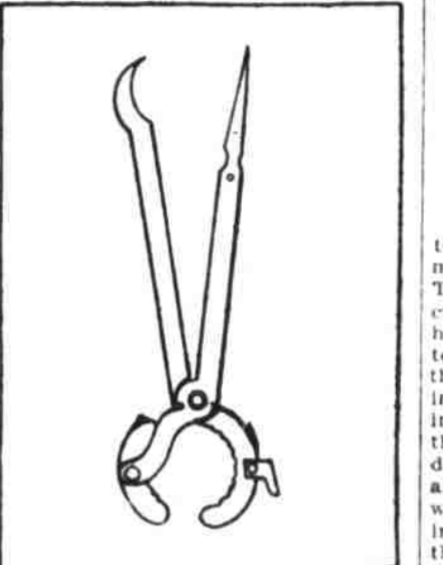
MARKS CLEANLY AND QUICKLY.

device, either liquid or powder, can be used and a clean, lasting job can be done in a very short time. The marker consists of a hollow wheel propelled by a handle bar. The edge of the wheel, which is about two inches wide, is perforated and it revolves upon a hollow axis. Extending up along the handle bar is a hopper, with extensions communicating with the hollow axis, and into this hopper the material to be used for marking is poured. A cord is held down along the line desired and by turning the wheel along the cord the white substance inside filters through the perforations and leaves

of evolution of the Ferris wheel, only the new amusement is much more complicated than the wheel and can be made to accommodate any number of persons, according to the space available for the erection of the framework on which the machinery runs. The principle is that of an endless chain, to which are attached cars at appropriate intervals. The chain or cable can be run in a vertical or horizontal position or can take dips, like those of a scenic railway, though this device does not run with such speed as the railways do. The cars always maintain an upright position and nervous people need not hesitate to take the trip, as there is nothing of an alarming nature in it. Passengers can see the occupants of other cars on the line as they pass them going up or down the towers or across the horizontal runways.

FOR OPENING FRUIT JARS.

Any person who has ever struggled with a fruit jar that had the lid stuck will be grateful to the Idaho man who has given us the fruit jar opener. This device is constructed on the principle of a pair of pliers, and the jaws, which are semi-circular and



WILL NOT DEFACE DOOR.

to the office door and will catch the mail as it is dropped through the slot. The device is not fastened to a circular rim of metal or wood. Two hooks, shaped something like the letter "S," hold the frame in place on the door, one end of the hooks holding the rim and the other end passing through the letter drop. With this receptacle in position the mail drops into it instead of on the floor, and is in no danger of being torn when the door is opened in the morning, as is sometimes the case where there is a large pile of letters lying in the way. Another advantage of the contrivance is that it can be put up or taken down in an instant, and does not scratch or deface the door in any way. It need not hang in position during the day, if considered unsightly or in the way, it can be hooked into place when the owner leaves the office at night.

SCIENCE NOTES.

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A RANGERS OF ITS MEMBERSHIP WAS RECENTLY MADE BY THE OFFICERS OF THE ROYAL GEOGRAPHICAL SOCIETY FOR THE PURPOSE OF ASCERTAINING THE ATTITUDE OF THE MEMBERS UPON THE QUESTION OF THE ADMISSION OF WOMEN.

The number of voting papers sent out was 870, and 477 replied, and 200 received. Two hundred and forty-eight fellows were in favor of the admission of women as fellows and 217 against their admission, but of this number 84 were in favor of their admission as associates.

THE TALLEST CHIMNEY IN THE WORLD IS NOW UNDER CONSTRUCTION AT THE GREAT FALLS, MONT., SMELTER OF THE AMALGAMATED COPPER COMPANY.

This stack has a foundation of 74 feet in diameter and will rise to a height of 500 feet, with a 54-foot diameter top. Its location is on a bluff overlooking the Missouri river, and connection with the furnaces will be made by a line, 20 feet high, 40 feet wide and 1,500 feet long. The tallest chimney hitherto built is that of the Halsbrucker Hütte near Freiberg, Germany, 460 feet in height.

THE COUNCIL OF THE ROYAL COLLEGE OF SURGEONS HAS GIVEN PERMISSION TO DR. ELLIOT SMITH AND DR. WOOD JONES, OF THE CALIFORNIA MEDICAL SCHOOL, TO CARRY OUT IN THE MUSEUM OF THE COLLEGE, AN EXAMINATION OF A COLLECTION OF MATERIAL FOUND DURING EXCAVATIONS IN THE NILE VALLEY.

The material is representative of people inhabiting Nubia in ancient times, and is expected to throw light on their pathology, and the results of their surgery. The Egyptian government has expressed its willingness to present the collection of specimens to the museum of the Royal College of Surgeons.

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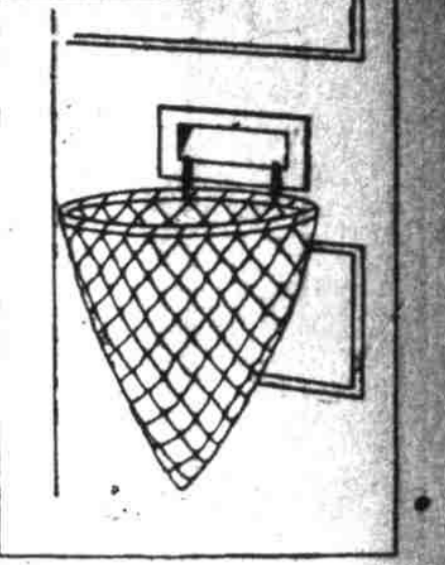
THREE WIRELESS STATIONS ARE MAINTAINED BY THE SWISS GOVERNMENT IN THE ALPINE REGIONS, LOCATED, RESPECTIVELY, ON THE SUMMIT OF RIGI AND ST. GOTTHARD AND AT DALLI, ABOVE ST. MORITZ.

The operation of these stations has been attended with great success and vindicates the statements that the Alps are a great "attraction" to messages dispatched from stations in other and distant parts of Europe. For instance, messages from stations in Cornwall and on the Baltic coast have reached the Rigi and St. Gotthard stations. These long distance messages arrive more frequently when the weather is unsettled or stormy, and chiefly in the early hours of the morning. On one or two occasions it has happened that two wireless stations were unable to establish wireless communication with each other, such messages were along up from abroad.

a broad, well defined line, the edges of which are not marred by spots, such as are left when a brush is used, and which often make it difficult to determine when a ball is "in" or "out." It takes a few minutes to mark an entire court with such a machine.

NO MORE MAIL ON FLOOR.

A simple and yet convenient device that will be found useful in offices has been patented by a Boston man. This is a letter-catcher that can be attached



WILL NOT DEFACE DOOR.

to the office door and will catch the mail as it is dropped through the slot. The device is not fastened to a circular rim of metal or wood. Two hooks, shaped something like the letter "S," hold the frame in place on the door, one end of the hooks holding the rim and the other end passing through the letter drop. With this receptacle in position the mail drops into it instead of on the floor, and is in no danger of being torn when the door is opened in the morning, as is sometimes the case where there is a large pile of letters lying in the way. Another advantage of the contrivance is that it can be put up or taken down in an instant, and does not scratch or deface the door in any way. It need not hang in position during the day, if considered unsightly or in the way, it can be hooked into place when the owner leaves the office at night.

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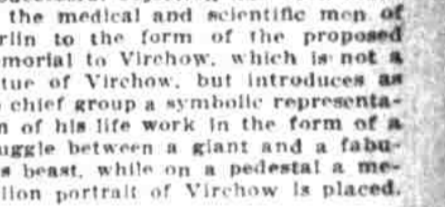
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CARS ARE ALWAYS UPRIGHT.

of the amusement parks, of which America has so many. This is a sort