

BURGLARS' TOOLS.

There is progress everywhere! The art of the burglar no longer knows any limit. The modern crackman has not yet found any method of delicately and noiselessly carrying off the huge safes with ironclad doors that are now employed in offices and banks, but he succeeds in opening them with art and skill, without having recourse to the vulgar jimmy, and in utilizing simple and appropriate tools. He cannot easily displace the safe, and the door resists him; so he applies a drill to the latter, and in a few revolutions cuts out a disk from 4 to 6 inches in diameter that is wide enough to allow him to insert his arm and help himself to the

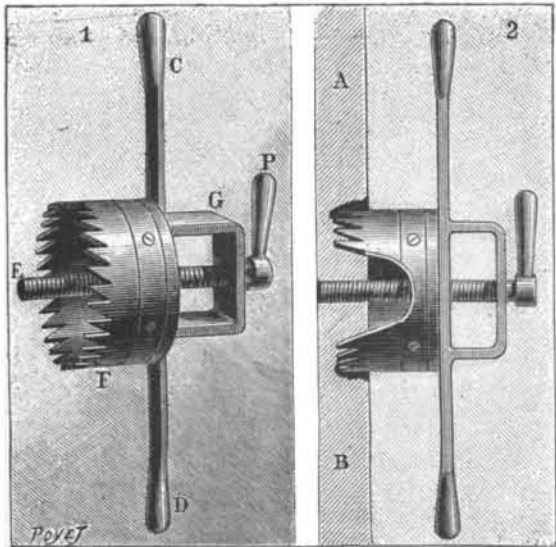


Fig. 2.—IMPROVED BURGLAR'S DRILL.

contents of the safe at his leisure. We cite upon this subject an example that has recently been communicated to us by Mr. G. Gaubert, of Marseilles, one of our subscribers.

One night in the month of November, 1896, between 11 and 1 o'clock, some of the professionals of which we have just spoken made an attack upon the safe of the Picon establishment at Marseilles. Fig. 1 represents the details of the scene that must have taken place.

Two burglars are drilling the safe, while another stands at the door to keep watch. Fig. 2 shows us on the one hand the improved drill that was employed and, on the other, the same apparatus inserted in the door of the safe. The rascals first drilled a hole one or two inches in diameter and of a certain depth, by means of a

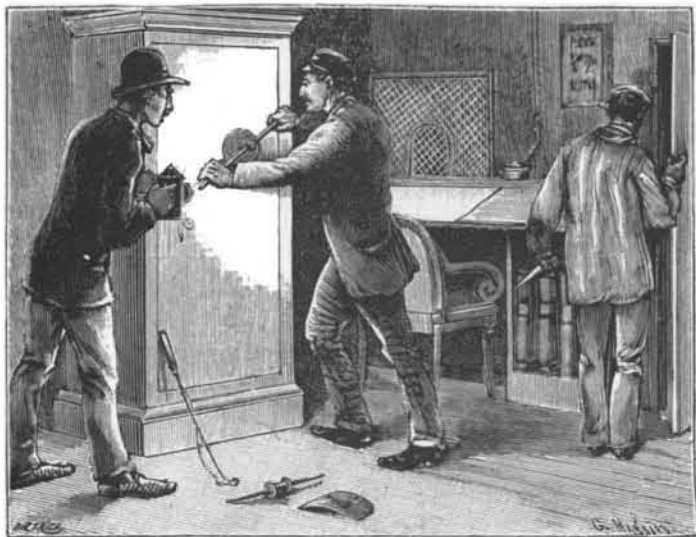


Fig. 1.—BURGLARS DRILLING A SAFE.

hand brace, at the level of the lock, and afterward tapped the hole so that there might be screwed into it a threaded rod, E, provided with a handle, P, at its extremity. The drill, properly so called, consisted of a steel plate ring, F, provided with saw teeth at one of its edges. This ring was held by a transverse rod to which was fixed a vertical lever, D C, and a bridge, G. The threaded rod, E, which was first screwed into the door, served as an axis of rotation. Upon this axis was fixed the drill, F, and it only sufficed to maneuver the lever, D C, in order to cause the saw teeth to bite the plate of the safe.

After a short period of silent work, a disk was detached and came out with the tool. The safe then no longer offered any resistance to the burglars.

It is well to make known this new process of attacking safes. A man forewarned is forearmed. An operation of this kind is not always applicable, since it necessitates a certain amount of time and various preparations. And one might, at all events, reveal it at the proper moment by electricity, in having recourse to a sentinel who rarely sleeps. It does not suffice to drill a hole to reach the lock, for the door of the safe must be opened; and by this fact alone an alarm may be rung. And if burglars were content to remove what is in reach of their hands and quite near the aperture,

it would still be possible to obtain warning of their work by an electric signal.—La Nature.

Science Utilizes All the Ox.

In an article on the "Wonders of the World's Waste," William George Jordan, in the October Ladies' Home Journal, details how science at the present day utilizes the ox. "Not many years ago," he says, "when an ox was slaughtered forty percent of the animal was wasted; at the present time 'nothing is lost but its dying breath.' As but one-third of the weight of the animal consists of products that can be eaten, the question of utilizing the waste is a serious one. The blood is used in refining sugar and in sizing paper, or manufactured into door knobs and buttons. The hide goes to the tanner; horns and hoofs are transformed into combs and buttons; thigh bones, worth eighty dollars per ton, are cut into handles for clothes brushes; fore leg bones sell for thirty dollars per ton for collar buttons, parasol handles and jewelry; the water in which bones are boiled is reduced to glue; the dust from sawing the bones is food for cattle and poultry; the smallest bones are made into boneblack. Each foot yields a quarter of a pint of neat's foot oil; the tail goes to the soup; while the brush of hair at the end of the tail is sold to the mattress maker. The choicer parts of the fat make the basis of butterine; the intestines are used for sausage casings or bought by gold beaters. The undigested food in the stomach, which formerly cost the packers of Chicago thirty thousand dollars a year to remove and destroy, is now made into paper. These are but a few of the products of abattoirs. All scraps unfit for any other use find welcome in the glue pot or they do missionary work for farmers by acting as fertilizers."

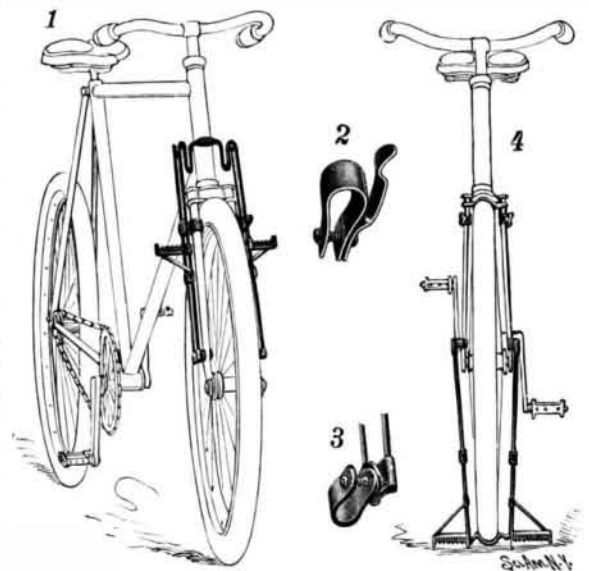
Lightship Instead of Lighthouse at Hatteras.

The Lighthouse Board has sent out a notice that the dangerous Diamond Shoal off Cape Hatteras will soon be marked by a first class vessel, bearing two powerful electric masthead lights and a fog siren that will blow a blast audible twelve miles in the heaviest weather. Certain members of the board, however, think the placing a vessel there is hazardous in the extreme, and will place in jeopardy the lives of every man on board of her. Captain Evans believes that a big lighthouse should be constructed on the shoal, and says: "There is no chain that can be forged that will hold No. 69 on Diamond Shoal for any length of time. There is a current at Diamond Shoal which sends the sands shifting around at a terrific rate and in a short time will cut any chain, or weaken it so that the first heavy gale will cause it to part. When that happens the Diamond Shoal lightship will almost certainly drift ashore and the sixteen men on her will be lost. I have seen a buoy chain on that shoal worn as bright as nickel, and so thin that you could part it with a slight blow. In my opinion, this experiment of the government will prove costly." Congress failed to provide the amount of money required for the lighthouse, and a majority of the board, therefore, decided to try a lightship. The new vessel will be the most powerful ever built for the service. She will be anchored in thirty fathoms of water, about fifteen miles from the present Hatteras light, and inside of the ledge over which the water deepens to 100 fathoms. She will display simultaneously, from three lens lanterns encircling each masthead, a fixed white light for twelve seconds' duration, followed by an eclipse of twelve seconds. In each lantern there will be a hundred candle power incandescent light. These lights will be fifty-seven feet above the water, and on a clear night should be visible thirteen miles. Provision has been made in case the electric apparatus breaks so that white fixed lights without eclipse will burn. No. 69 has a flush deck, two masts, a smoke pipe, and fog signal between masts. Her hull will be painted red with the words "Diamond Shoal" in large white letters on each side. During thick or foggy weather a 12 inch steam chime whistle will sound blasts of five seconds' duration, separated by silent intervals of forty-five seconds. If 69 weathers the gale this winter, the Lighthouse Board will be satisfied that the experiment is a success.

A BICYCLE SUPPORT AND FOOT REST.

The illustration represents a device which can be readily applied on the ordinary styles of bicycles to serve as a foot rest for the feet of the rider while coasting, and which may be turned down to support the bicycle in a vertical position when not in use, the wheel and support being securely locked together to prevent the machine from being stolen. The improvement has been patented by August Zintgraff, of No. 48 West Eighty-third Street, New York City. Fig. 1 shows the attachment in position to form a foot rest for the rider and Fig. 4 shows it in use for supporting the machine, Fig. 2 illustrating a spring catch to hold it in place

when forming a foot rest. Near the lower end of each of the members of the front fork is a clip, shown in Fig. 3, secured by a set screw, and connected by a pivot with a clip adapted to clamp two rods forming the frame of the device, adapted to be locked in the upper position by a cam catch and the spring catch, the frame swinging on the pivot to the upper or lower position. On the two rods of each frame slides a bracket with teeth, as on the usual foot rests, eyes on the inner ends of the bracket braces being adapted to engage a clamp adjustable at any desired height to bring the brackets in proper position to suit the convenience of the rider. The eyes are also adapted to engage notches in the rods near their free ends when the frame is down, to prevent the brackets then slipping upward. At the outer ends of the frame are transverse rods with right and left hand screw threads, engaged by a turnbuckle, to permit of moving the frames toward or from each other, according to the thickness of the tire extending between them, and these transverse rods have upward extensions adapted to be connected with each other by a bar passing between adjacent spokes of the wheel, the bar being connected at its free ends with a padlock, to fasten the frames and the wheel together, thus preventing unauthorized persons from riding off with the wheel. According to a modified form of the device

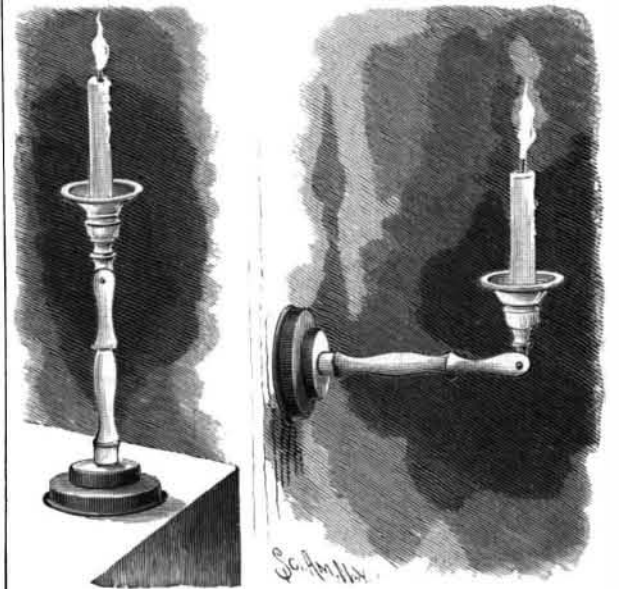


ZINTGRAFF'S BICYCLE ATTACHMENT.

the foot pieces are curved, so that when the frame is in an uppermost position they may be used as a bundle carrier.

PNEUMATIC CANDLESTICK.

The candlestick herewith represented is very ingeniously conceived. It may be placed upon a table or applied to a wall. An ingenious system of jointing renders it practical for the two uses shown in the figure. The part that carries the candle is therefore movable and is capable of making a right angle with the stand. Fixed upon a table, bracket, etc., it serves as an ordinary candlestick, but with the advantage that, being adherent, it cannot be overturned; hence no danger of fire, and no spots from melted wax. In order to fix it to a mirror, piano, wall, window pane, etc., it suffices to place even with the rubber the movable metallic disk situated in the center of the vent, so as not to cause a vacuum in advance. The rubber disk is then moistened with the finger, and the candlestick, having been applied to the object, is screwed up. The air becomes rarefied and the candlestick adheres perfectly. In order to remove it, it is only necessary to unscrew it, when it will at once become detached without necessitating any pulling that might injure the object to which it is attached. Let us add that the mechanism is so simple that there is not the least danger of its getting out of order.—La Vie Scientifique.



PNEUMATIC CANDLESTICK.