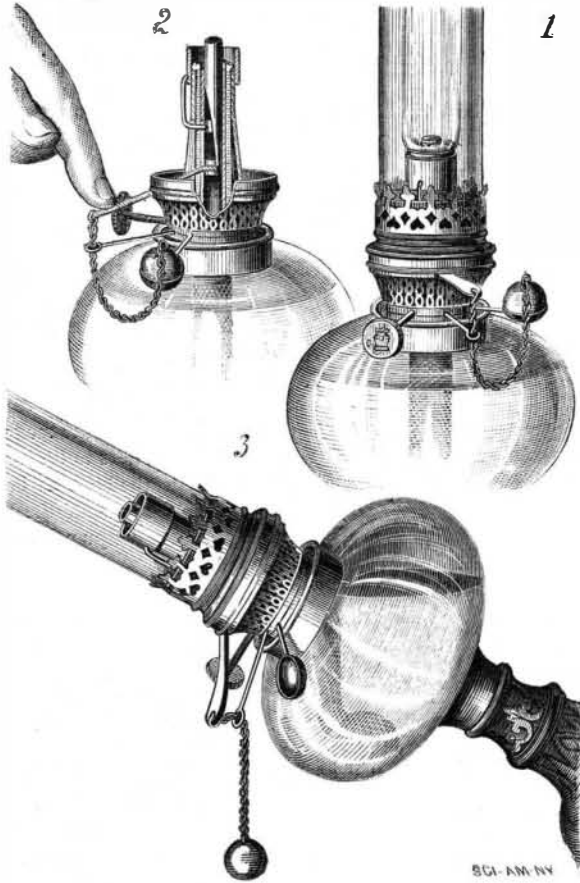


KOHLER'S EXTINGUISHER FOR ARGAND BURNERS.

The engraving shows a very simple and effective extinguisher for kerosene lamps, recently patented by Mr. C. H. Kohler, of 235 Superior Street, Cleveland, Ohio. The device answers the double purpose: First, of an extinguisher for use whenever it is desired to put out the light in the safest and most convenient manner without blowing into the chimney or turning down the wick—either of these methods being very dangerous; and, second, of an automatic extinguisher, which insures the instantaneous putting out of the light should the lamp be turned over, thus preventing the fires which are so frequently caused by kerosene lamps being upset.

Many of the accidents resulting in the destruction of life and property might have been avoided had this safety device been used.



KOHLER'S EXTINGUISHER FOR ARGAND BURNERS.

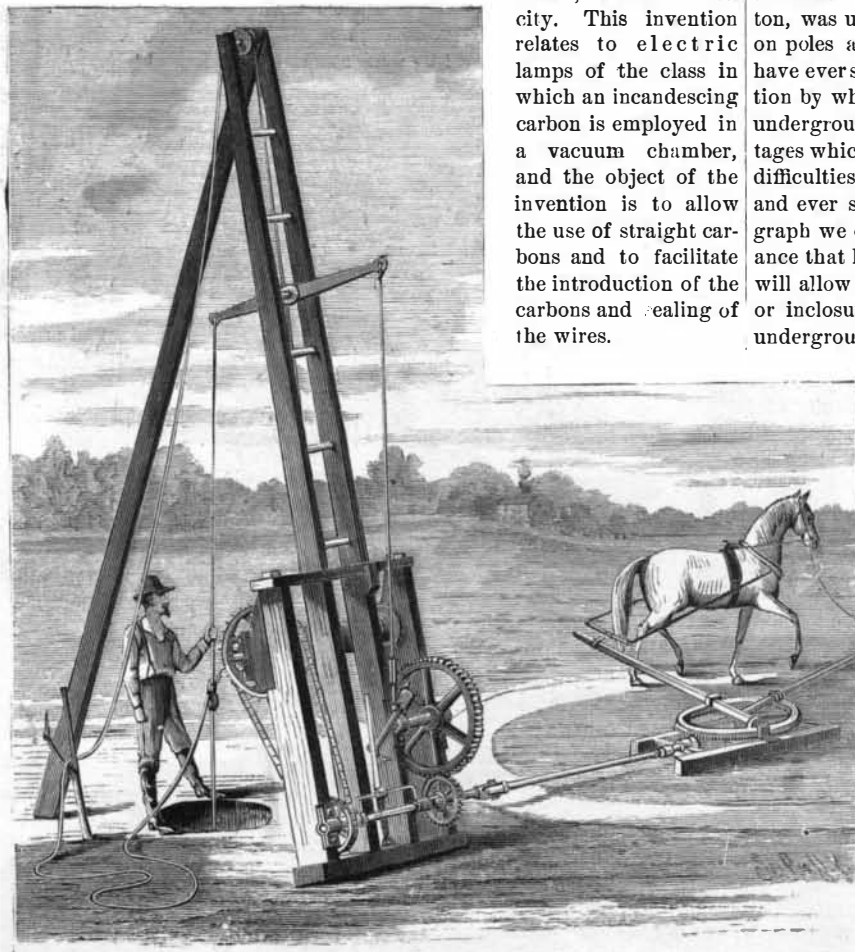
Fig. 1 shows a lamp with the improvement attached; Fig. 2 is a sectional view, showing the manner of operating the device by hand; and Fig. 3 shows a lamp partly overturned, with the extinguisher being operated automatically.

A sleeve is fitted over the outer side of the wick tube and connected by a wire arm with a smaller tube within the wick tube. The lower end of this tube rests upon a support inside the wick-tube. Air to supply the flame is admitted to this tube through an opening in its side. A lever pivoted in the side of the burner extends into a slot in the inner movable tube, and has at its outer end an eye, to which is attached a chain carrying at its opposite end a small metallic ball having sufficient weight to move the connected sleeve and tube, so that whenever the ball is displaced from its socket, in case the lamp should be overturned, it drops, and in its fall raises the extinguishing device and shuts off the supply of air to the flame, which then goes out instantly. To insure a direct pull on the lever, the chain passes through an eye formed on the end of a wire projecting from the side of the burner. To operate the device by hand, all that is required is to press on the lever.

IMPROVED DRILLING MACHINE.

We give an engraving of an improved machine for operating vertically reciprocating rock drills for sinking wells, prospecting for minerals, etc. A walking beam is fulcrumed in the upper portion of the derrick, and connected at one end to the drill rope, the other end being connected with a rope that is alternately drawn up and released to give a vertically reciprocating motion to the drill.

At the lower end of the derrick there is a frame formed of four upright parallel bars, two of them being integral with the derrick bars. These bars are connected together at the top and bottom, forming the frame. In the upper part of this frame the winding frame is journaled. Below this is the crank shaft, having a large spur wheel, which is driven by a small spur wheel on the lower shaft; the latter receives its motion from the tumbling rod of the horse power.



The crank on the middle shaft consists of a straight bar of iron connected at the middle with the shaft, and carrying a slide which moves freely on it, and is connected with the operating rope extending upward to the walking beam. When the crank completes, or nearly completes, a half revolution after the walking beam is moved so as to raise the drill, the slide slips to the upper of the crank bar and allows the drill to descend. This operation is repeated at each half revolution without lost motion, without any swinging or whipping of the drill rope, and without sudden strains or jerking on the horse traces or machine.

The winding drum receives its motion from the lower shaft through an endless chain, and the lower chain wheel and the small spur wheel are loose upon the driving shaft, and both are capable of being engaged by clutches operated by the hand lever.

This derrick can be used for boring as well as drilling.

The machine is very simple, and possesses all of the qualities necessary to make it effective and economical of power. It is compact and portable, and may be set up and operated with very little trouble.

This drilling apparatus is the invention of Mr. William W. Giles, of Washington, D. C. For further particulars address the United States Manufacturing Company, Washington, D. C.

MISCELLANEOUS INVENTIONS.

Mr. Martin W. Speulda, of Springfield, Ill., has patented an improvement in fare registers of that class which are to be carried by the conductor, and operated as each fare is received, to register the number of fares taken. The invention operates upon a common general principle, in that it has a pull bar which gives a step-by-step movement to a train of wheels bearing numbered dials, and simultaneously rings a bell at each movement.

An improved nose feed bag has been patented by Mr. Charles J. Gustavson, of Salt Lake City, Utah Ter. This invention relates to nose feed bags which have perforated bottoms; and the improvement consists in a perforated bottom, in combination with a supporter having protecting cross-stays.

Messrs. Ira Robbins, of Camden, N. J., and David Heston, of Philadelphia, Pa., have patented improvements in machines for grounding wall paper before printing. It consists of devices by means of which the pressure of the impression roll on the paper in contact with the grounding roll may be increased or diminished, as desired.

Mr. George W. Golay, of Middle Grove, Mo., has patented improvements in devices for increasing or lengthening the throw of the connecting rod of reciprocating engines, which consists in the peculiar arrangement of levers similar to that of the well-known lazy tongs.

An improvement in sleighs has been patented by Mr. Theodore F. Westervelt, of Mount Pleasant, Mich. The object of this invention is to construct a sleigh in such manner that greater strength shall be secured to the several parts than is possible where the timbers are mortised, and at the same time repairs can be easily and cheaply made. The invention consists in a sleigh having sockets of peculiar construction for holding the timbers together, and braces combined with the sockets for supporting the cross-beams.

An improvement in electric lamps has been patented by Mr. Ludwig K. Böhm, of New York city. This invention relates to electric lamps of the class in which an incandescing carbon is employed in a vacuum chamber, and the object of the invention is to allow the use of straight carbons and to facilitate the introduction of the carbons and sealing of the wires.

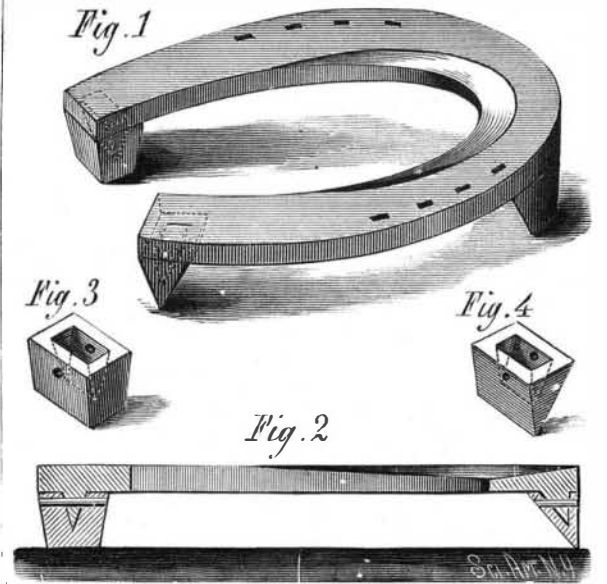
An improved fishing rod has been patented by Mr. Thomas H. Chubb, of Post Mills, Vt. The invention consists in combining braid, cords, and ferrules with the circumferentially grooved butt of a fishing rod.

An improved cuff or collar fastening has been patented by Mr. Mahlon Loomis, of Lynchburg, Va. This invention consists in a strip of metal bent at each end in opposite directions to form spring hooks, having the inner surfaces roughened or serrated and the curved portions corrugated.

Mr. Ludwig K. Böhm, of New York city, has patented an electric lamp of the arc type, in which the carbons are contained in a vacuum chamber of glass. The object of this invention is to provide for convenient renewal of the carbon and insure uniform feed of the positive carbon to compensate for waste. The invention consists in a carbon holder of novel construction, combined with a separable vacuum chamber.

IMPROVED HORSESHOE.

The engraving shows an improved horseshoe having calks that can be readily applied or removed as may be required. The shoe is provided at the heel and toe with permanent lugs of wedge form, which are adapted to recesses of similar form in the calks. Calks of any required form may be



used in connection with this shoe. They are held in place by pins passing through both lug and calk.

The form of calk may be either smooth or sharp. It has ample strength, and is not liable to be broken. Use tends to tighten the calks on the shoe, and, as there is no wear on the lugs, the shoe will last a long time, the calks being renewed from time to time.

This simple device permits of changing the calks at any time and place without special tools or appliances.

This useful invention was recently patented by Mr. Francis T. Robinson, of Lauraville, Md.

Underground Telegraph Wires.

This subject is one that may be called new to the great mass of people in the United States, but it is an old subject to practical telegraphers. The first telegraph line built in the United States, which was from Baltimore to Washington, was underground. It did not work until it was placed on poles above ground, as at present. Telegraph builders have ever since been trying to ascertain some means or invention by which it can be made practical, and work as well underground as it does above ground, without the disadvantages which are common to the present system. Electrical difficulties in this have been eagerly sought to be overcome, and ever since the practical working of the electrical telegraph we constantly hear of some new invention or contrivance that has been discovered in Europe or America that will allow underground wires in a cable, or tube, or coating, or inclosure of some kind, to work as easily and as well underground as if placed above ground on poles. We may emphatically say that, up to the present time, they have all fallen far short of what has been claimed and expected of them, and that in many instances and circumstances they are an absolute failure, when the most useful and practical instruments for transmission are to be used, and also in long lines. Germany has been laying underground "compound submarine cables" rather recklessly without knowing their durability, and it is thought by practical electricians that, when one wire of the compound series fails, which it may do in a few years, their experiment will be a costly one. It is already proved that there is much loss of speed, and difficulties of sensitiveness and induction and loss of powers of transmission, although the lines are comparatively short. It is eminently a war telegraph system—safety in war, slow in peace. These are the electrical difficulties which are unknown and unheard of by the popular ear. They effectually consist of the non-user or abolition of the automatic instruments by