A. P. COCHRANE.

LOCK FOR CLOSURES.

APPLICATION FILED JULY 7, 1913. RENEWED NOV. 26, 1915.

1,195,909. Patented Aug. 22, 1916.

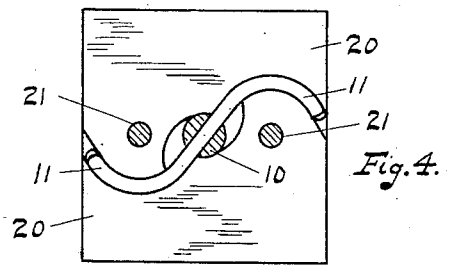


Fig. 4.

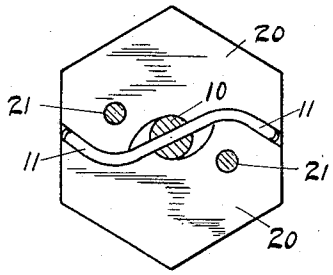


Fig. 5.

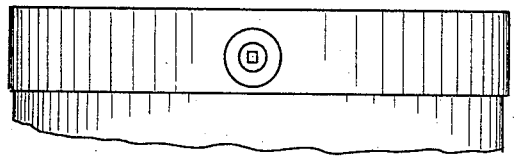


Fig. 1.

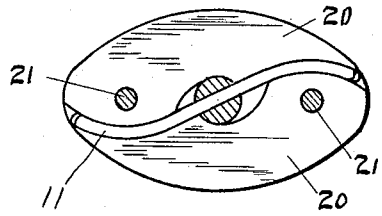


Fig. 6.

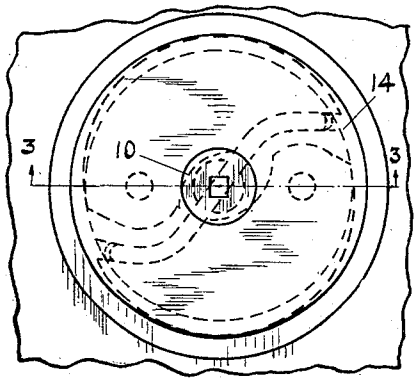


Fig. 2.

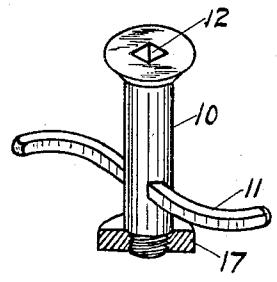


Fig. 7.

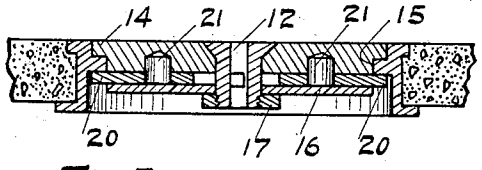


Fig. 3.

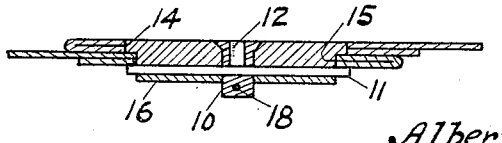


Fig. 8.

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UNITED STATES PATENT OFFICE.

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LOCK FOR CLOSURES.

1,195,909. Specification of Letters Patent. Patented Aug. 22, 1916.

Application filed July 7, 1913, Serial No. 777,709. Renewed November 26, 1915. Serial No. 63,675.

To all whom it may concern:

Be it known that I, ALBERT P. COCHRANE, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Locks for Closures, of which the following is a specification.

This invention relates to improvements in locking closures and has for its objects the provision of means adapted to close hand-holes, receiving and dispensing openings and the like, in various plate structures where it is desirable to wholly remove the covering.

Another object is to provide key operated locking means combined with such covers, the mentioned means substantially reinforcing the structures at its point of application.

These objects are attained by the novel construction and combination of parts hereinafter described and shown in the accompanying drawings, forming part of this specification, and in which:—

Figure 1 is a partial side elevation of a cylindrical container having the device applied. Fig. 2 is a plan view of a plate fragment, showing the application of the invention to flat surfaces. Fig. 3 is a cross section of the same taken on line 3—3 of Fig. 2. Figs. 4, 5 and 6 are sectional views showing modified shapes of securing elements, the views being taken on a plane immediately above the said elements. Fig. 7 is a perspective view of the actuating means, and Fig. 8 is a sectional view of the closure showing its application as a lock.

The invention comprises a round stem 10 having rigidly attached or integrally formed curved arms 11 disposed on opposite sides midway of its length; the upper end of the stem is provided with an inwardly extending opening 12 suited to receive any form of key desired, the same being of sufficient proportion to turn the stem when force is exerted upon it. Above the arms 11 is a cover having its upper portion 14 fitted to overlie the surrounding edges of the opening to be closed. Its lower part 15 is cut away to allow the cover to rest on, and filling same; this plate is connected with the stem 10 in such manner as to sustain and guide the same. Another plate member 16 is mounted on the stem below the arms 11 and held in position by any suitable means, as the nut 17 or the pin 18; this plate is of such size and contour as to readily pass through the opening to be closed. A pair of locking elements 20 are pivoted at 21 between these plates, on opposite sides of the stem, in such manner as to freely move, their upper sides being arranged to swing out and engage with the lower surface surrounding the edges of the plate structure to be closed. The interior edges of these locking elements are formed with a profile agreeing with that of the curved arms 11 and in such manner that by turning the stem in one direction they are caused to separate, pivoting on the pins 21, until they are engaged with the surfaces below the opening to be interlocked therewith. It will be seen that when so expanded or spread that the locking elements are supported by the plate 16 and are capable of resisting any stress upward short of actual rupture and also that the opening is effectually closed and locked against passage therethrough. In order to cover the key opening a thin plate may be used, secured to the upper portion 14 in any preferred manner, or the key opening may be temporarily filled with any removable material as paraffin, plaster of Paris, etc., that will show if it has been tampered with. This arrangement provides means for securing such openings as coal holes, hand and man holes in conduits for electric wires and other underground conveyances of power, light and heat, and metal or other boxes and containers of a wide range.

The operation of locking is manifest and it is equally obvious that a reverse action of the key will cause the locking elements to retract to their original position so as to allow the whole device to be removed bodily at will. It is also to be noted that no springs are used in the construction and no extraneous parts are required except a key suited to the opening in the stem.

Having thus described my invention, what I claim and desire to secure by Letters Patent, is:

1. In a device of the class described, the combination of a rotatable stem, a cover connected therewith, arcuately curved arms combined with said stem, a plate mounted on said stem below the cover and a pair of

oppositely disposed wing members pivoted to said plate in such manner as to be actuated by said curved arms.

2. In a device of the class described, the combination of a rotatable stem, a cover connected with said stem adapted to be secured within an opening, a plate secured on said stem, oppositely disposed curved arms united with said stem and between the mentioned plates and a pair of movable members pivotally attached to said plates on opposite sides of said stem and having their interior surfaces adapted to contact with said curved arms.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALBERT P. COCHRANE.

Witnesses:
BENJ. BROOKS,
WARREN E. WILLIS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."