No. 723,549. PATENTED MAR. 24, 1903.

J. ROCHE.

PADLOCK.

APPLICATION FILED APR. 11, 1902.

NO MODEL.

Fig. 1

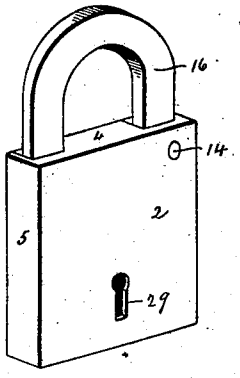


Fig. 2

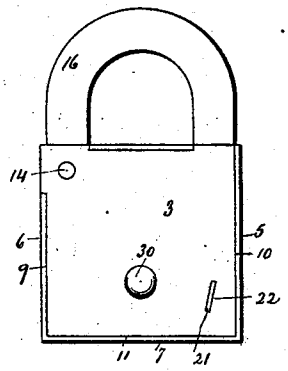


Fig. 6a

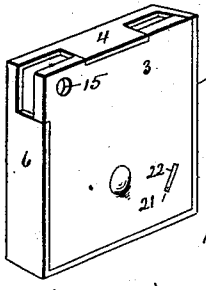


Fig. 3

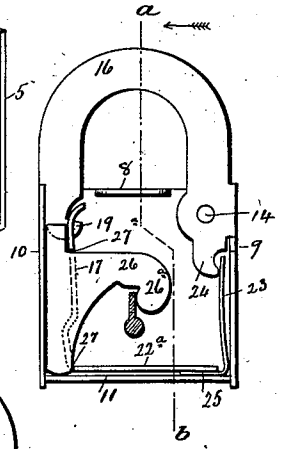


Fig. 4

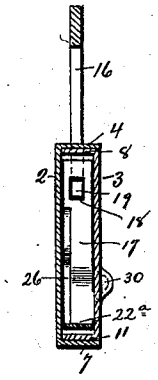


Fig. 5

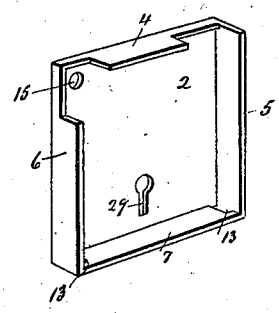


Fig. 7

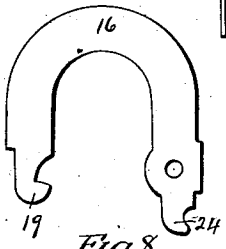


Fig. 9

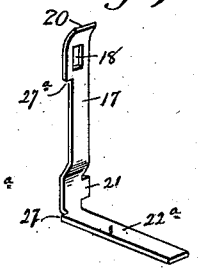


Fig. 10

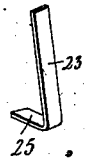


Fig. 6

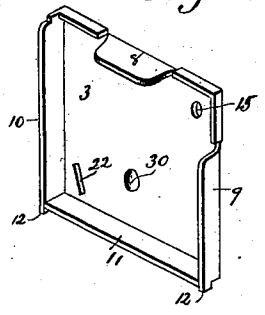


Fig. 8

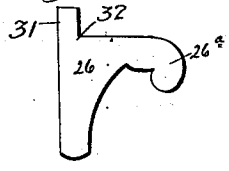
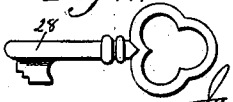


Fig. 11



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Clara L. Reed.

James Roche
Inventor.
By Atty. Seymour & Earle

UNITED STATES PATENT OFFICE.

JAMES ROCHE, OF TERRYVILLE, CONNECTICUT, ASSIGNOR TO EAGLE LOCK CO., OF TERRYVILLE, CONNECTICUT, A CORPORATION.

PADLOCK.

SPECIFICATION forming part of Letters Patent No. 723,549, dated March 24, 1903.

Application filed April 11, 1902. Serial No. 102,353. (No model.)

To all whom it may concern:

Be it known that I, JAMES ROCHE, of Terryville, in the county of Litchfield and State of Connecticut, have invented a new and useful Improvement in Padlocks; and I do hereby declare the following, when taken in connection with the accompanying drawings and the numerals of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a perspective view of a padlock embodying my invention; Fig. 2, a view thereof in rear elevation; Fig. 3, a view of the lock in front elevation with the outer or front member of the telescopic case or shell removed; Fig. 4, a view in vertical section on the line *a b* of Fig. 3 looking in the direction of the arrow; Fig. 5, a perspective view of the outer or front member of the telescopic case or shell; Fig. 6, a corresponding view of the inner or rear member of the telescopic case or shell; Fig. 6ª, a rear perspective view of the case or shell, showing how the two members thereof telescope together; Fig. 7, a detached view of the shackle; Fig. 8, a corresponding view of the lever-like tumbler; Fig. 9, a perspective view of the shackle-locking spring; Fig. 10, a perspective view of the shackle-operating spring; Fig. 11, a view in side elevation of such a key as may be used with the padlock.

My invention relates to an improvement in padlocks, the object being to produce a simple, compact, convenient, durable, and effective padlock composed of few parts and constructed with particular reference to cheapness of manufacture.

With these ends in view my invention consists in a padlock having certain details of construction, as will be hereinafter described, and pointed out in the claims.

In carrying out my invention as herein shown I employ a telescopic case or shell composed of a box-like struck-up sheet-metal outer or front member 2 and and a box-like struck-up sheet-metal inner or rear member 3. The said outer member 2 has a top flange 4, side flanges 5 and 6, and a bottom flange 7, while the said inner member 3 has a top flange 8, side flanges 9 and 10, and a bottom flange 11. The inner member 3 is made just enough smaller in external dimensions than the internal dimensions of the front member 2 to permit it to be entered thereinto in its virtual entirety. Of course the front member 2 might be made to fit into the rear member 3. As shown, the side flanges 9 and 10 of the inner member 3 are formed with downwardly-projecting locking-lugs 12 12, adapted to be entered into narrow slots 13 13, formed at the ends of the bottom flange 7 of the outer member 2 of the case, whereby the lower ends of the two members of the case are firmly secured together. The upper ends of the two members of the case are secured together by means of a pivot-pin 14, which passes through perforations 15, formed in their upper rear corners, and constitutes the pivot upon which the shackle 16 swings. As shown in Figs. 5, 6, and 6ª, the upper flanges 4 and 8 and the end flanges 6 and 9 are cut away for the clearance of the ends of the shackle and to adapt the upper ends of the two parts of the case to interlock.

For holding the shackle in its locked or closed position I use in place of a bolt and bolt-spring a shackle-locking spring 17, the upper end of which is formed with a slot 18, adapted to receive the nose 19 of the shackle. Above the said slot 18 the spring is curved inwardly to form an operating-finger 20 for coaction with the nose 19, which strikes the curved face of the said finger and pushes the spring 17 inward to permit the said nose to be crowded downward into registration with the slot 18. When such registration takes place, the spring recovers itself and hooks on, so to speak, to the nose 19, and so locks the shackle. As shown, the spring 17 is secured in the inner member 3 of the case by its provision with a leaf-like lug 21, which is entered into a suitable slot 22, formed for its reception therein. The said spring is also formed with a long foot 22ª, which rests upon the bottom flange 11 of the said inner member 3 of the case. This foot helps to support the spring and increases its power. The said shackle 16 is thrown into its open position by means of a shackle-operating spring 23, which engages with a lug 24, forming an extension

of the pivoted end of the shackle, the spring 23 being held in place by its provision with a short foot 25, which is entered under the foot 22^a aforesaid of the shackle-locking spring 17.

In order to disengage the shackle-locking spring 17 from the nose 19 of the shackle, I use a flat sheet-metal lever-like tumbler 26, which turns upon its lower end as upon a pivot, its lower end being inserted for this purpose between the side flange 10 of the inner member 2 of the case and a retaining-shoulder 27, formed upon the foot 22^a of the shackle-locking spring, the said foot 22^a being raised a trifle above the said bottom flange 11, as shown in Fig. 3. The tumbler 26 rests upon the outer edge of the spring 17, as shown in Fig. 4. For this purpose the edge of the spring is cut away, so as to produce the shoulder 27 before mentioned and the shoulder 27^a. The tumbler 26 is formed with an inwardly-extending curved arm 26^a, which is engaged by a key 28, which is passed through a keyhole 29, formed in the outer member 2 of the case, and seated in a shallow recess 30, formed in the inner member of the case. At its upper end the tumbler is formed with a finger 31, the inner edge of which coacts with the outer edge of the upper end of the spring 17 when the tumbler is pulled inward by the key, whereby the spring is drawn inward, so as to release the nose 19 of the shackle 16, which is then thrown open by the spring 23.

The shoulder 27^a aforesaid operates as a stop for limiting the inward movement of the tumbler under the action of the key and constitutes a safety-stop for the spring 17, whereby the same is prevented from being bent too far and set by the continuation of the turning of the key. In explanation of this it is to be said that after the tumbler 26 has been swung far enough to disengage the spring 17 from the nose of the shackle the shoulder 27^a bears down upon the upper edge of the arm 26^a of the tumbler at the point 32 and so positively stops the swinging of the tumbler and the movement of the spring, and hence prevents the setting of the spring, this engagement of the shoulder 27^a of the spring with the tumbler being due to the changing relations of the spring and the tumbler as they are moved inward by turning of the key brought about by their swinging movement on different centers.

It is apparent that in carrying out my invention some changes from the construction herein shown and described may be made, and I would therefore have it understood that I hold myself at liberty to make such departures therefrom as fairly fall within the spirit and scope of my invention. Thus the springs 17 and 23 might be made in one piece.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a padlock, the combination with the case thereof, of a shackle, a shackle-operating spring for throwing the shackle into its open position, a flat sheet-metal spring coacting with the free end of the shackle and provided with a foot which assists in holding it in place, and a tumbler turning upon its lower end as upon a pivot, provided with an inwardly-projecting arm for engagement by a key and having its upper end adapted to coact with the spring last mentioned.

2. In a padlock, the combination with the case thereof, of a shackle, a shackle-operating spring for throwing the shackle into its open position, a spring coacting with the free end of the shackle, and a tumbler coacting with the spring last mentioned, having an inwardly-projecting arm for engagement by the key of the lock and having its upper end adapted to coact with the upper end of the said spring to form a safety-stop therefor.

3. In a padlock, the combination with the case thereof, of a shackle, a shackle-operating spring for throwing the shackle into its open position, a flat sheet-metal shackle-locking spring coacting at its upper end with the free end of the shackle for locking the same, and having a foot which assists in retaining it in place, and a tumbler coacting with the upper end of the said shackle-locking spring for disengaging the same from the free end of its shackle and having an inwardly-projecting arm for engagement by the key of the lock.

4. In a padlock, the combination with the case thereof, of a shackle the free end of which is formed with a nose, a shackle-operating spring, a flat sheet-metal shackle-locking spring formed at its upper end with a slot for receiving the said nose of the shackle, and having a foot which assists in holding it in place, and a tumbler coacting at its upper end with the said shackle-locking spring to disengage the same from the shackle, turning upon its lower end as upon a pivot, and formed with an inwardly-projecting arm for engagement by the key of the lock.

5. In a padlock, the combination with the case thereof, of a shackle the free end of which is formed with a nose, a shackle-operating spring, a flat sheet-metal shackle-locking spring formed at its upper end with a slot for receiving the said nose of the shackle, and at its lower end with a foot which assists in securing it in place, and a flat sheet-metal lever-like tumbler bearing upon the outer edge of the said shackle-locking spring and having its lower end located in one corner of the case upon which it turns as upon a pivot, and the said tumbler being formed with an inwardly-projecting arm for engagement by the key of the lock.

6. In a padlock, the combination with the case thereof, of a shackle, a spring for holding the shackle in its closed and locked position, a tumbler for operating the spring last mentioned, and a shackle-operating spring for throwing the shackle into its open position, one spring being secured to the lock-case

and coacting with the other spring to assist in holding the same in place.

7. In a padlock, the combination with the case thereof, of a shackle, a shackle-operating spring for throwing the same into its open position, a spring for holding the shackle in its closed and locked position and provided with a foot, and a tumbler for operating the spring last mentioned the foot of which coacts with the shackle-operating spring to assist in holding the same in place.

8. In a padlock, the combination with a shackle, of a shackle-locking spring engaging directly with the shackle which it holds in its locked position, and a tumbler fulcrumed upon its lower end, having an inwardly-projecting arm for engagement by the key, and adapted at its upper end to coact with the spring for disengaging the same from the shackle.

9. In a padlock, the combination with the shackle, of a shackle-locking spring engaging directly with the nose end of the shackle to hold the same in its locked position, and a flat lever-like tumbler bearing upon the upper edge of the said spring, turning upon its lower end as upon a fulcrum, having its upper end adapted to engage with the said spring for the operation thereof, and formed with an inwardly-projecting arm for engagement by the lock-key, the said spring having one edge cut away for the reception of the said tumbler.

10. In a padlock, the combination with a shackle, of a shackle-locking spring engaging directly with the shackle for locking the same, and a tumbler disengaging the said spring from the shackle and coacting with the said spring to form a safety-stop therefor.

11. In a padlock, the combination with a shackle, of a shackle-locking spring, a flat lever-like tumbler resting upon the outer edge of the said spring, formed with a finger engaging with the spring for disengaging the same from the shackle, and a shackle-operating spring for throwing the shackle into its unlocked position.

12. In a padlock, the combination with the case thereof, of a shackle, a shackle-locking spring engaging directly with the shackle for locking it, a shackle-operating spring for throwing the shackle into its open position, and a flat lever-like tumbler coacting with the shackle-locking spring to disengage the same from the shackle, turning upon its lower end as upon a pivot and having an arm for engagement by the key of the lock.

13. In a padlock, the combination with the case thereof, of a shackle, a spring for holding the shackle in its closed and locked position, and a sheet-metal lever-like tumbler fulcrumed upon its lower end, having an inwardly-projecting arm adapted to be engaged by a key, and adapted at its upper end to coact with the spring first mentioned, which maintains the shackle in its closed and locked position.

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

JAMES ROCHE.

Witnesses:
R. J. PLUMB,
OTIS B. HOUGH.