March 17, 1925. 1,530,435

F. SOLEY

CHAIN LOCK

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Fig. 1

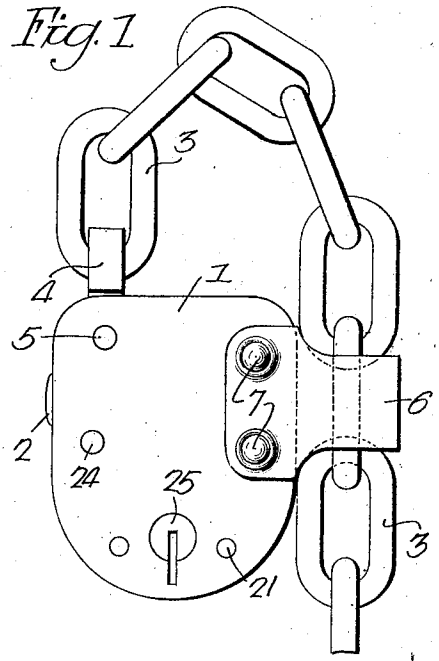


Fig. 2

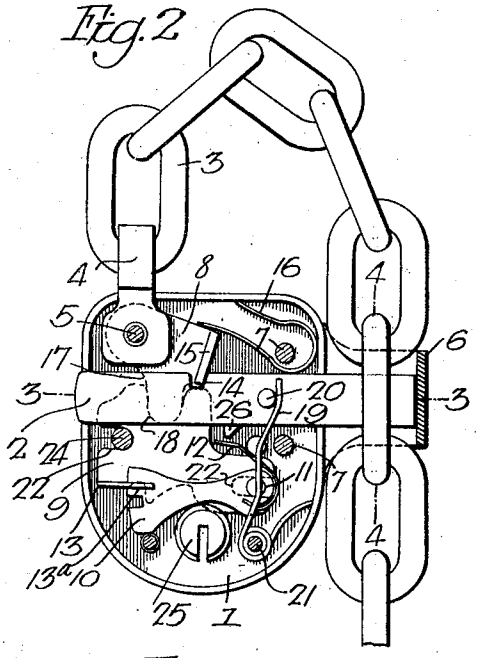


Fig. 5.

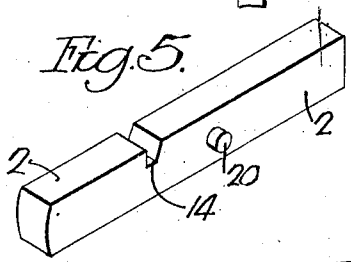


Fig. 3.

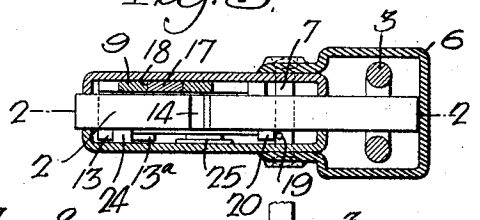


Fig. 6

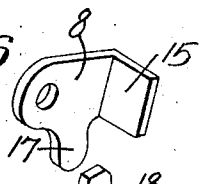


Fig. 8.

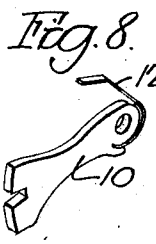


Fig. 7.

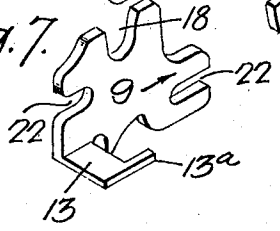
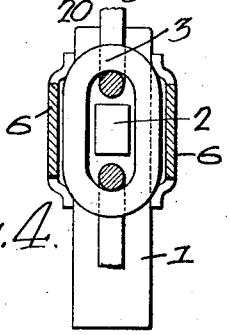


Fig. 4.



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Fig. 10.

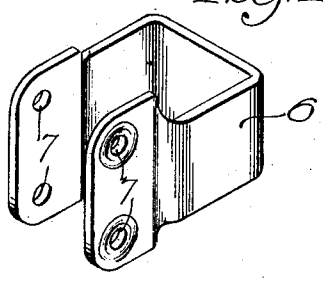


Fig. 9.

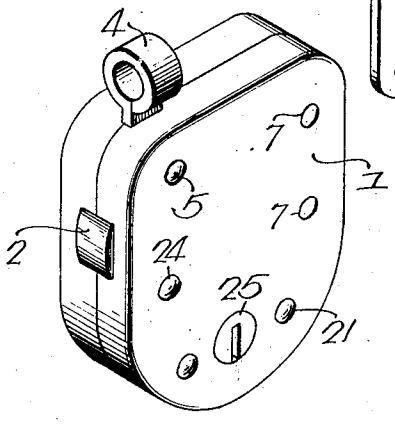


Fig. 12.

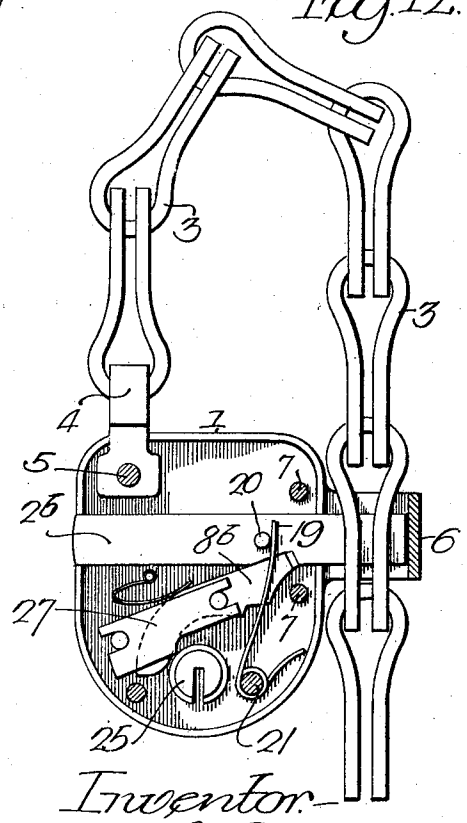
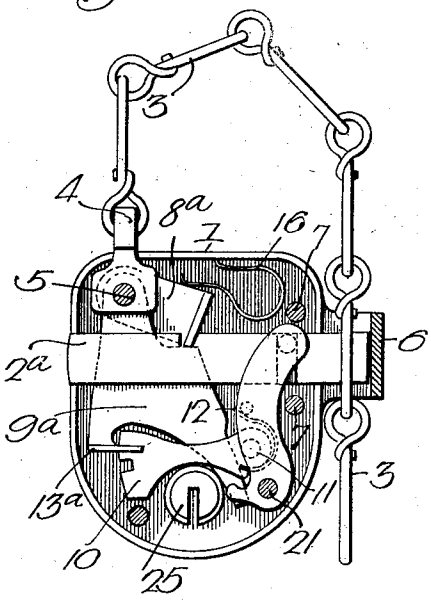


Fig. 11



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Howson & Howson

Patented Mar. 17, 1925. 1,530,435

UNITED STATES PATENT OFFICE.

FRANK SOLEY, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE MILLER LOCK COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

CHAIN LOCK.

Application filed February 23, 1922. Serial No. 538,673.

To all whom it may concern:

Be it known that I, FRANK SOLEY, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Chain Locks, of which the following is a specification.

One object of my invention is to provide a padlock with a shackle in the form of a chain and to provide means for securing the loose end of the chain to the lock casing at any point desired.

A further object of the invention is to provide a bolt which can be pushed into engagement with a chain by hand, but which must be retracted by the mechanism within the lock.

A still further object of the invention is to construct a chain lock in such a manner that the lock casing and the mechanism may be made standard, and the keeper having a channel for the passage of the free end of the chain can be made of different sizes to fit different types of chain and can be attached to a standard casing.

In the accompanying drawings:

Fig. 1 is a face view of my improved chain lock;

Fig. 2 is a sectional view on the line 2—2, Fig. 3;

Fig. 3 is a sectional view on the line 3—3, Fig. 2;

Fig. 4 is a sectional view on the line 4—4, Fig. 2;

Fig. 5 is a detached perspective view of the bolt;

Fig. 6 is a detached perspective view of the keeper which engages the bolt;

Fig. 7 is a view of the actuating plate for controlling the keeper and carrying the stump;

Fig. 8 is a view of one of the tumblers;

Fig. 9 is a perspective view of the lock casing;

Fig. 10 is a perspective view of the keeper; and

Figs. 11 and 12 are sectional views illustrating modifications of the locking mechanism and also illustrating different types of chains.

Referring to Figs. 1 to 8 of the drawings, 1 is the casing of the lock made in two parts in the usual manner. Located within the casing is a bolt 2 actuated by mechanism which will be described hereinafter. 3 is a chain, which may be of any of the usual types. The chain is secured to the casing, in the present instance, by a clip 4, which has a body portion located within the casing. This body portion is perforated for the passage of the pin 5. The lock casing may be cut away to receive the clip so that the clip will be held rigidly in position. Secured to one side of the casing in line with the bolt 2 is a U-shaped keeper 6 forming a channel for the passage of the free end of the chain 3. This U-shaped keeper 6, in the present instance, is secured to the casing of the lock by rivets 7, which are preferably countersunk, as shown, but other means of fastening may be used if found more desirable.

When the bolt 2 is projected, it extends into the channel and passes through one of the links of the chain, as clearly shown in Figs. 2 and 3, locking the chain firmly to the casing. The locking mechanism consists of a latch 8, Fig. 6, pivotally mounted on the pin 5, an actuating plate 9, and one or more tumblers 10, pivotally mounted on the pin 11. Each tumbler has the usual spring 12 and is notched to receive the stump 13 carried by the actuating plate 9. There may be as many of the tumblers as desired and the notches in the tumblers will be in different positions, according to the combination desired.

The bolt is notched at 14 to receive the projection 15 of the latch. When the projection is in the notch 14, it prevents the withdrawal of the bolt. It is held in the notch by a spring 16. On the latch is a projection 17, which extends into a recess 18 in the plate 9 so that, when the plate is shifted in the direction of the arrow (Fig. 7) by the key, it turns the latch on its pivot and forces the projections 15 out of the notch 14, freeing the bolt, which is forced back by a spring 19 that bears against the pin 20 on the bolt, the spring being pivotally mounted on the pin 21 of the casing. The plate 9 is slotted at 22, 22, so that it will slide upon the pins 24 and 11. In the present instance, the stump 13 has an extension 13^a, which projects over the free ends of the tumblers, keeping them in position on the pivot pin 11.

It will be seen by the above construction that the bolt is free to be manually pressed

into engagement with the chain and, when in engagement, the latch will enter the notch in the bolt, holding it in its locked position against the pressure of the spring 19. When it is desired to release the bolt, a key is inserted in the key post 25 and turned so as to cause the tumbler to align with the stump of the actuating plate. On the continued movement of the key, the plate will be shifted and will move the latch out of engagement with the bolt, allowing the bolt to be withdrawn by the spring 19, thus freeing the chain. A lug 26 on the bolt comes in contact with the pin 24 so as to limit the withdrawal movement of the bolt. The chain can be of any length desired, according to the use for which the lock is intended.

In Figs. 9 and 10, the keeper 6 is shown separated from the lock casing 1. By making the keeper separate from the casing a standard lock casing can be assembled with any size or type of keeper desired, depending, somewhat, on the character and size of the chain.

In Fig. 11, a light, narrow chain is illustrated and in Fig. 12 another type of chain is shown. The keeper must be of such size as to hold the chain properly when the bolt is projected.

In Fig. 11, a pivoted plate 9^a is shown, instead of a sliding plate. This pivoted plate 9^a has a key stump 13^a and is so shaped as to be actuated by the key. As it turns on the pivot, it will raise the latch 8^a out of engagement with the bolt 2^a, and, on the continued movement of the key, it will come in contact with the short arm of the lever, which actuates the bolt so as to retract the bolt by the key instead of by a spring, as in Fig. 2.

The construction may be modified, as in Fig. 2, in which the pivoted latch 8^b engages the bolt 2^b and is actuated by the key. Wards 27 may be located on the pins, as shown.

I claim:

1. The combination of a casing; a chain attached at one end to the casing; a keeper at the side of the casing forming a channel for the passage of the free end of the chain; a bolt located in the casing and arranged to be projected into the channel and into engagement with the chain; a spring for retracting the bolt, said bolt being notched; a pivoted latch having a projection adapted to the notch; an actuating plate engaging the latch, said actuating plate carrying a stump; and a tumbler, the tumbler and the plate being arranged to be actuated by a key so as to withdraw the latch and allow the bolt to be retracted by its spring.

2. The combination in a chain lock, of a two-part casing; a chain; a clip at one end of the chain, said clip being perforated; a pin in the lock casing extending through the perforations in the clip; a keeper on the casing forming a channel for the passage of the free end of the chain; a sliding bolt in the casing arranged to be projected into the channel; a latch pivotally mounted on the pin that passes through the clip, said latch having a projection; a notch in the bolt into which the projection extends; a spring for retracting the bolt; a sliding actuating plate carrying a stump, said plate being recessed; a second projection on the latch extending into the recess; and a pivoted tumbler notched to receive the stump of the plate.

3. The combination of a casing; a keeper attached thereto at one side thereof; a chain, one end of the chain being attached to the casing and the other end being free to pass through the keeper; a bolt in the casing arranged to engage a portion of the chain in the keeper; a latch engaging the bolt; a sliding stump-carrying plate arranged to actuate the latch; a tumbler; and means for retracting the bolt when released.

4. The combination in a chain lock, of a casing; locking mechanism therein including a bolt; a keeper made separate from the casing and adapted to be attached thereto; means for securing the keeper to the casing, whereby keepers of different size or shape may be attached to the casing; and a chain, one end of which is secured to the casing and the other end of which is adapted to pass through the keeper for engagament by the said bolt.

FRANK SOLEY.