Nov. 3, 1936. J. LOMBARDO 2,059,376

APPARATUS FOR PICKING LOCKS

Filed May 24, 1935

Fig. 1.

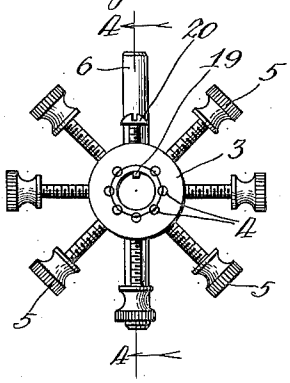


Fig. 2.

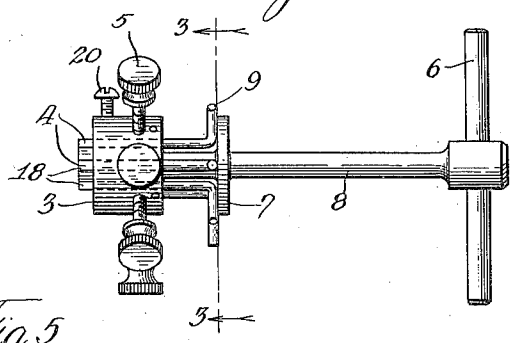


Fig. 5.

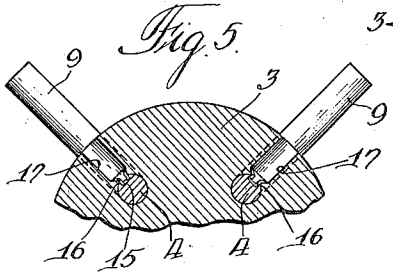
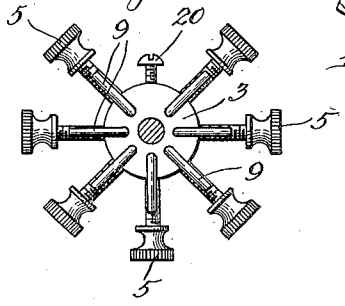


Fig. 3.



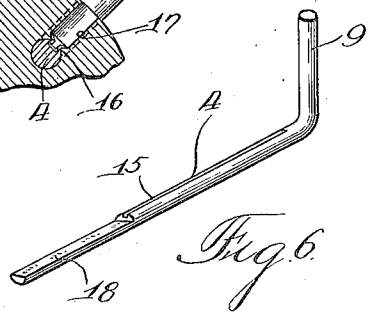
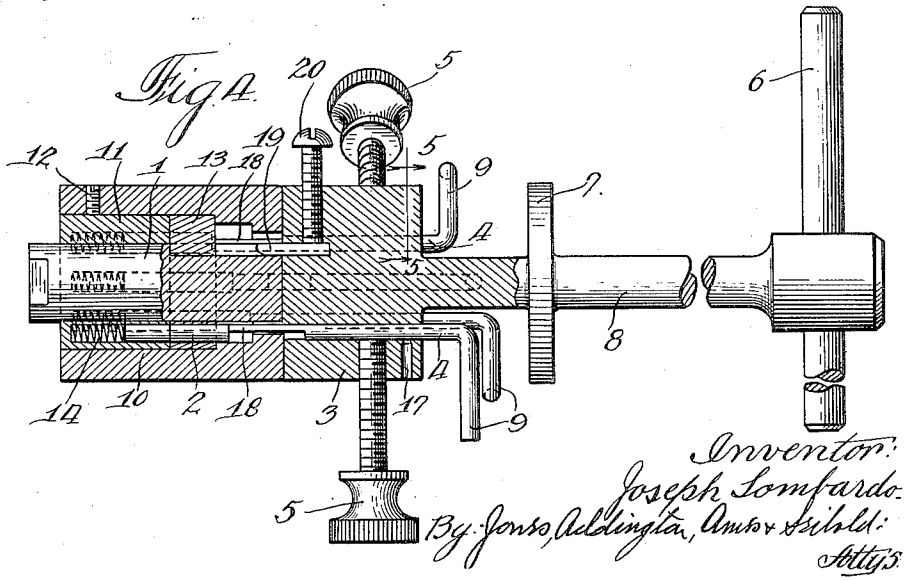


Fig. 6.

Fig. 4.



Inventor:
Joseph Lombardo
By: Jonas, Aldington, Amos & Shield:
Attys.

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2,059,376

APPARATUS FOR PICKING LOCKS

Joseph Lombardo, Chicago, Ill., assignor of one-half to Sydney Roth, Chicago, Ill.

Application May 24, 1935, Serial No. 23,165

1 Claim. (Cl. 70—9)

My invention relates to an apparatus for picking locks. It is occasionally desirable that locksmiths should have an apparatus for picking locks. For example, if the car owner should lock his car, lose the key and not know the identifying number of the key, it might require some time and some correspondence with the lock factory in order to provide a key which would unlock the lock.

One of the objects of my invention is to provide an apparatus for the use of locksmiths which will enable them to unlock a certain type of lock in which the lock is provided with a rotatable tumbler carrier and axially movable tumblers.

Further objects and advantages of the invention will be apparent from the description and claim.

In the drawing in which an embodiment of my invention is shown—

Figure 1 is an end view of the apparatus;

Fig. 2 is a side view;

Fig. 3 is a section on the line 3—3 of Fig. 2;

Fig. 4 is an axial section showing the lock and picking apparatus;

Fig. 5 is a section on the line 5—5 of Fig. 4; and

Fig. 6 is a prospective view of one of the picking slides.

Referring to the drawing in detail, the apparatus shown comprises a lock (Fig. 4) of the type having a rotatable tumbler carrier 1 and axially movable tumblers 2, an apparatus for picking the lock comprising a slide carrier 3, a plurality of tumbler-engaging slides 4 slidably mounted in the carrier in position to cause sliding movement of the tumbler when the apparatus is applied to the lock and the slides are moved, means for setting the individual slides in position in which the tumblers engaged thereby are in breaking position comprising screws 5 threaded in the slide carrier and engageable with the slides, and a handle 6 whereby torque may be exerted on the slide carrier 3 to determine the breaking position of the tumblers.

A stop collar 7 is provided on the shank 8 of the apparatus for limiting the sliding movement of the slides to prevent them from falling out of the slide carrier. Each slide is provided with a radially extending handle portion 9 to facilitate its manipulation, which handle portion is engageable with the stop collar 7 to prevent it from falling out of the slide carrier.

Referring more in detail to the lock construction, this comprises a cylindrical casing 10 which may be relatively fixed, a locking sleeve or barrel 11 fixedly secured to the casing 10 by means of a screw 12 and having a plurality of axially extending openings therein in which two part tumblers may slide, the tumbler carrying barrel 1 rotatably mounted in the sleeve 11 and having an enlargement 13 provided with a plurality of axially extending openings in which the two part tumblers 2 slide and which openings register with the openings in the locking sleeve when the tumbler barrel is in locking position, and springs 14 tending to force the tumblers outwardly. The above described lock is a well known form, there being no claim to any novelty in the particular lock shown.

Referring more in detail to the picking apparatus, in order to prevent the slides 4 from turning around in the openings in the slide carrier, the rounded portion of each slide is provided with a longitudinally extending groove 15 which co-operates with an inwardly pressed boss or lug 16 on the slide carrier 3, as shown in Fig. 5, to hold the slide against rotation in the cylindrical opening in which it slides. This boss or lug may be formed by drilling inwardly as indicated at 17 until only a thin wall is left between this radial opening and the axial opening in which the slide operates, and then forcing this thin wall inwardly to provide a guide boss. The ends of the slides are reduced at 18, as shown in Figs. 4 and 6, in order to enable the ends of the slides to enter the annular opening through which the key is inserted into the lock.

In order to insure the proper positioning of the picking apparatus with respect to the lock, a positioning pin 19 is provided secured to the slide carrier 3 by means of a set screw 20. This positioning pin 19 corresponds to the positioning ward on the key which co-operates with the lock in question. As shown in Figs. 1 and 4, this positioning pin 19 is located so that it will enter the positioning notch in the tumbler carrier 1, thus serving to position the picking apparatus.

In using the apparatus, it is applied to the lock as shown in Fig. 4, the picking apparatus being properly located with respect to the lock by means of the positioning pin 19, the set screws 5 holding the slides 4 being loosened up, and torque is applied to the handle 6 of the picking apparatus sufficiently to cause one of the tumblers 2 to bind at the breaking point between the locking sleeve 11 and the tumbler barrel portion 13. By attempting to move the picking slides back and forth, the operator can determine which one of the tumblers is binding, and by moving the slide engaging this tumbler inwardly the operator can

determine the breaking point of this particular tumbler, as there will be a slight releasing movement when the breaking point of the tumbler is reached which can be felt by the operator and which causes a click which can be heard by the operator. When this slide has been moved to cause this tumbler to move to its breaking position, the set screw 5 for this particular slide is tightened up to hold the slide in a position which will hold the tumbler 2 in breaking position. Torque is again exerted on the apparatus to cause another one of the tumblers to bind, and the slide controlling this particular tumbler is manipulated as described above to determine the breaking point of this tumbler. This slide is then set in a position in which the tumbler engaged thereby will be in breaking position. The tumblers are thus moved one after the other into breaking position until finally all of them are in breaking position. This leaves the tumbler barrel 1 free to turn in the sleeve 11 so that by rotation of the picking apparatus, the tumbler barrel can be turned and the lock unlocked.

Further modifications of this invention will be apparent to those skilled in the art and it is desired, therefore, that my invention be limited only by the showing of the prior art and the scope of the appended claim.

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

Apparatus for picking a lock, which lock is of the type having a rotatable tumbler carrier and a plurality of spring-pressed axially movable tumblers slidably mounted in circumferentially spaced relation about the axis of the carrier, said apparatus comprising a rotatable slide carrier, a plurality of tumbler-engaging picking slides slidably mounted in said slide carrier in circumferentially spaced relation about the axis of the slide carrier in position to cause sliding movement of the tumblers when the apparatus is applied to a lock, means whereby when the apparatus is applied to a lock the picking slides may be individually and infinitesimally adjusted longitudinally to move the locking tumblers one after the other to breaking position and may be individually held in their adjusted position against the pressure of the spring-pressed tumblers, and means whereby torque may be exerted on the slide carrier to determine when each individual tumbler has been moved to breaking position.

JOSEPH LOMBARDO.