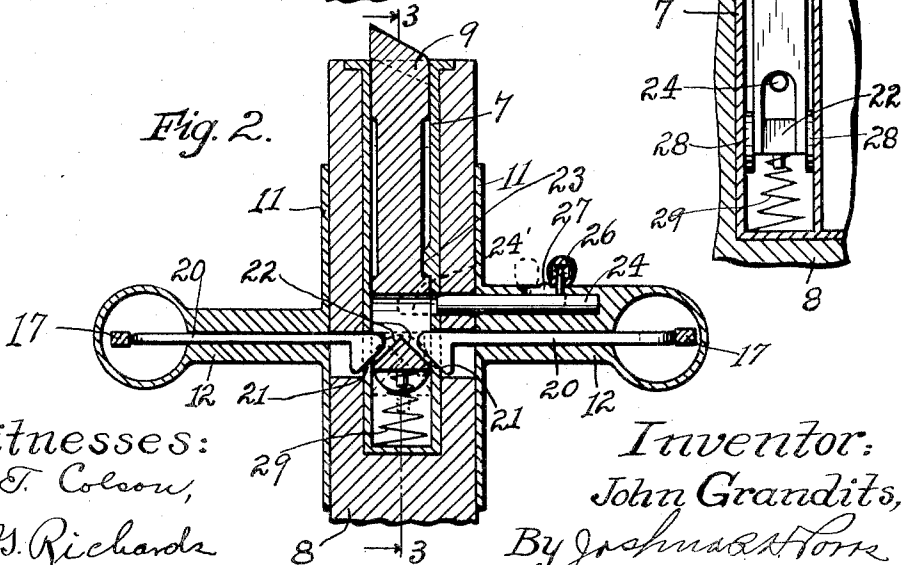


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Fig. 1.



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DOOR LOCK.

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1,081,036.

Fig. 4.

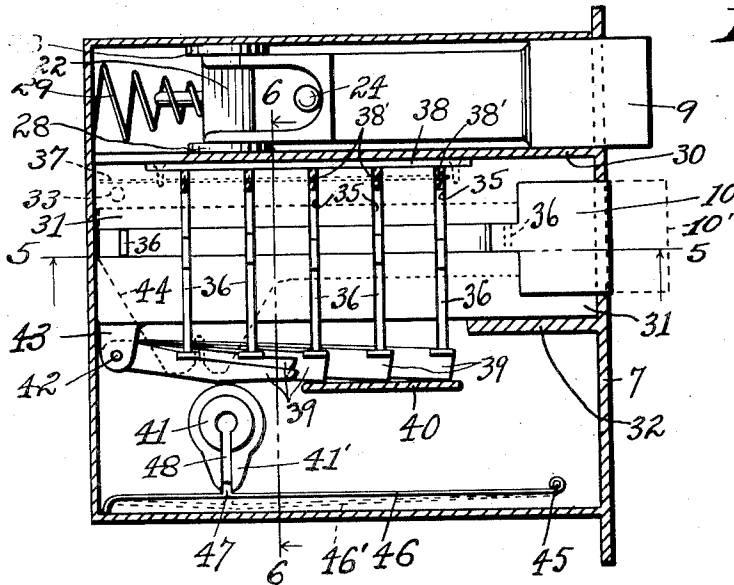


Fig. 5.

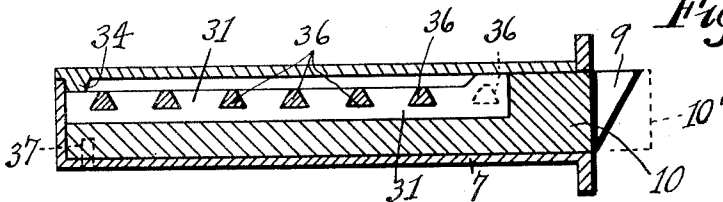
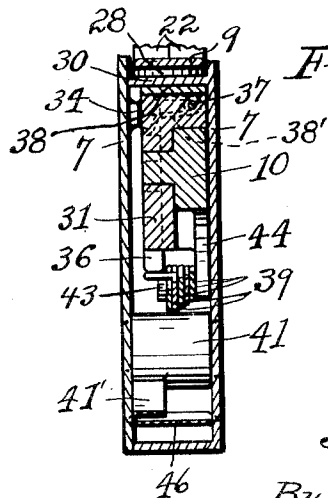


Fig. 6.



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DOOR-LOCK.

1,081,036.

Specification of Letters Patent.

Patented Dec. 9, 1913.

Application filed January 24, 1913. Serial No. 743,925.

To all whom it may concern:

Be it known that I, JOHN GRANDITS, a subject of the Emperor of Austria-Hungary, and a resident of the city of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Door-Locks, of which the following is a specification.

My invention relates to locks and the object of this improvement is to provide a simple and effective lock in which the handle operated bolt will be operated by simply gripping the handle.

A further object is to provide a device of the character mentioned which will be simple in construction and efficient in operation.

Other objects will appear hereinafter.

With these objects in view my invention consists in the combinations and arrangements of parts hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawing forming a part of this specification, and in which,

Figure 1 is a view, part sectional and part in elevation of the edge of a door equipped with a lock embodying my invention, Fig. 2 is a section of the same taken on line 2—2 in Fig. 1, Fig. 3 is a fragmental section of the same taken on line 3—3 in Fig. 2, Fig. 4 is a view of the lock with a portion of the casing cut away to expose the mechanism, Fig. 5 is a section of the same taken on line 5—5 in Fig. 4, and Fig. 6 is a section of the same taken on line 6—6 in Fig. 4.

The preferred form of construction as illustrated in the drawing comprises a casing 7 mounted in a door 8 and provided with a handle operated bolt 9 and a key operated bolt 10. Secured on both sides of the door 8 are escutcheon plates 11 similar in size and form. Mounted on each escutcheon plate 11 is a handle 12 which are alike in form and construction. Each handle is formed hollow and provided with an opening 13 at its top and said opening is covered by a swinging cap 14 pivoted to the handle 12 on a pintle 15 in a manner to allow ways cover said opening and move as indicated by the dotted lines 14' in Fig. 1. Each of the cap members 14 are provided with a spring 16, one of which is shown, to maintain them in normal positions, as shown in full lines in Fig. 1. An L-shaped lever 17 is pivoted as at 18 in each of the handles

and connected with its corresponding cap by means of a connecting link 19 in a manner to swing simultaneously therewith. The lower end of each of the levers 17 are adapted to slide a push rod 20 to cause the bolt 9 to be withdrawn into the lock upon compressing the cap member 14 over the opening 13 of the handle 12. The push rods 20 are each provided with bevel ends 21 adapted to engage corresponding surfaces 22 on the bolt 9, as clearly indicated in Fig. 2. The casing 7 is provided with a lug 23 to limit the outward movement of bolt 9 in said casing, as clearly indicated in Fig. 2. Slidably mounted in the lower portion of one of the handles 12 is a bolt 24 adapted to engage an opening 25 in the bolt 9 to lock it in extended position as indicated by the dotted lines 24' in Fig. 2. A spring actuated handle 26 extends outside of the handle 12 which is provided with a bump 27 to maintain the bolt in either locked or unlocked position, as will be clearly understood upon reference to Fig. 2. Bolt 9 is mounted on rollers 28 at its inner end to lessen friction which would be caused by the operation of the push rods 20 on the surfaces 22 of said bolt. Said bolt is also provided with a coil spring 29 to maintain it in its extended position.

The casing 7 is provided with a partition 30 dividing its interior into a compartment for the handle operated bolt 9 and one for the key actuated bolt 10 and its operating mechanism. A guide member 31 is mounted in said casing 7 between a partition 30 and shoulder 32 at one end and at the other on a dowel pin 33. The guide 31 is thinner than the opening in the casing 7 and said casing 7 is provided with a lug 34 to maintain said guide on said dowel pin 33, as clearly indicated in Figs. 5 and 6. The bolt 10 with the lug 34 maintains the guide 31 in its proper position, as clearly indicated. Said guide member 31 is provided with dovetail laterally extending slots 35 and the bolt 10 is provided with corresponding slots adapted to register with said slots 35. The bolt 10 is also provided with one more slot than the slots in guide 31. A tumbler 36 is slidably mounted in each of the slots 35 and each of said tumblers comprises three abutting sections, the middle section of which is of a length equal to the length of one of the transverse slots in bolt 10. The extra slot in said bolt is provided with a section of tumbler corresponding in

size and shape with the middle sections of said tumblers so that when said bolt is moved to its extended position, as illustrated by the dotted lines 10' in Fig. 4 the middle section of the tumbler next the extended end of said bolt will take the position indicated at 36' in Figs. 4 and 5. A pin 37 is embedded in the guide 31 and provided with a spring 38' for each of said tumblers to maintain it against a support. The tumblers 36 normally rest on levers 39 and the free ends of three of said levers rest on a lug 40 formed in the casing 7 and the two remaining levers rest on key socket 41. All of said levers are pivoted on a pin 42 in ears 43 which are formed on the guide 31. Said levers are positioned near one side of the casing 7 so that the toe portion 41' will pass over them upon rotation of the key socket 41. The bolt 10 is provided with a key 44 by means of which a key, upon moving the levers 39 to bring the tumblers 36 into position so that their middle sections will register with the bolt 10, will move said bolt in the guide 31.

Pivotaly mounted in the lower portion of casing 7 on a pin 45 is a flat spring 46 carrying a locking catch 47 which is adapted to engage the key slot 48 in the key socket 41 to hold the key socket in its position in which the key may be entered therein. The key is designed so that upon the insertion of it into the opening 48 the spring 46 will be pressed downwardly, as indicated by the dotted lines 46' in Fig. 4 to permit the key socket 41 to rotate. Said key socket must again be brought to position for the catch 47 to again engage slot 48 before the key can be withdrawn since the opening in the casing 7 registers with this position.

While I have illustrated and described the preferred form of construction for car-

rying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

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

1. In a lock, a casing; a bolt slidably mounted therein and having a bevel actuating surface; a handle consisting of a stationary portion and a movable portion pivoted to said stationary portion; a lever pivoted in said handle; a connecting link connecting said movable portion with said lever; and a push rod operated by said lever and having a bevel end adapted to engage the bevel actuating surface of said bolt, substantially as described.

2. In a lock, a casing; a bolt slidably mounted in said casing; a hollow handle having an opening in one side; a cap portion hinged to said handle over said opening; an L-shaped lever in said hollow handle and having one end pivoted thereto; a connecting link connecting the angular portion of said L-shaped lever with said cap portion; and a push rod engaging the other end of said L-shaped lever and provided with a bevel face in engagement with said bolt to operate the latter, substantially as described.

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

JOHN GRANDITS.

Witnesses:

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