J. GRANDITS.

LOCK.

APPLICATION FILED AUG. 6, 1913.

1,084,082.

Patented Jan. 13, 1914.

2 SHEETS—SHEET 1.

Fig. 1.

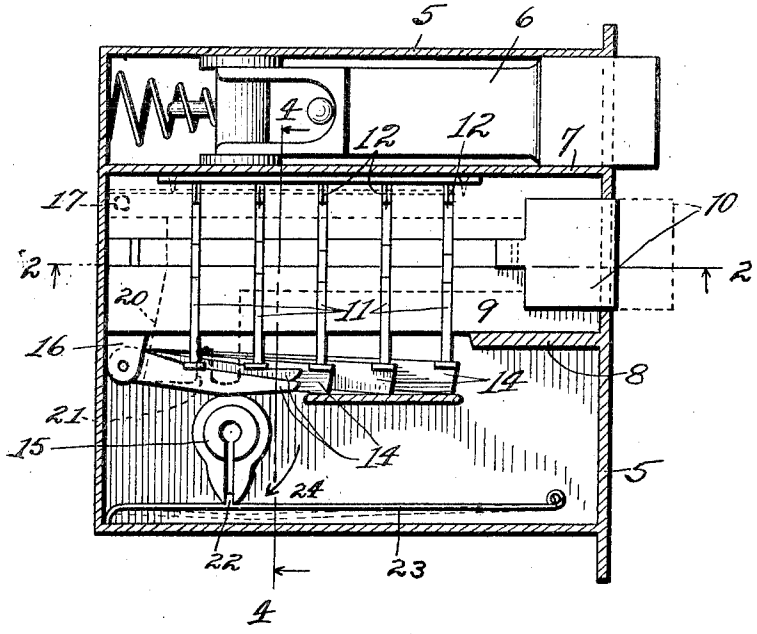
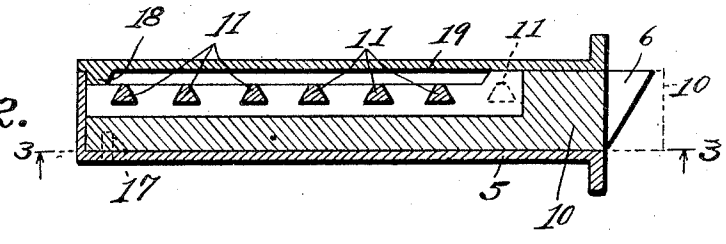


Fig. 2.



Witnesses:
F. G. Bull,
T. Colson.

Inventor
John Grandits
By Joshua R. H. Potts
His Attorney

J. GRANDITS.

LOCK.

APPLICATION FILED AUG. 6, 1913.

1,084,082.

Patented Jan. 13, 1914.

2 SHEETS—SHEET 2.

Fig. 3.

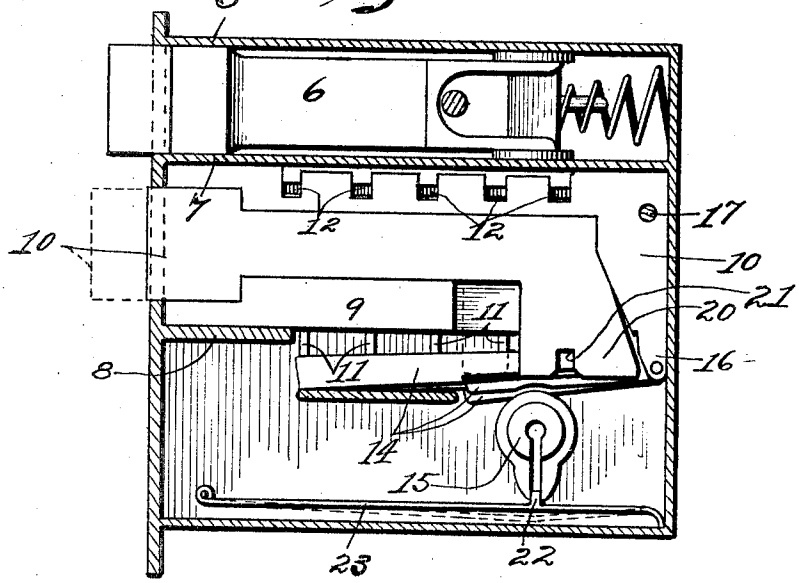
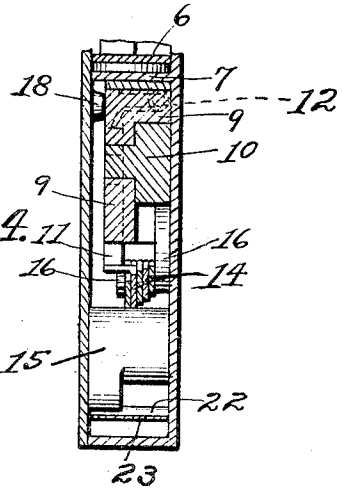


Fig. 4.



Witnesses:
H. J. Bull
T. Colson.

Inventor
John Grandits.
By Joshua R. H. Potts
His Attorney

UNITED STATES PATENT OFFICE.

JOHN GRANDITS, OF CHICAGO, ILLINOIS.

LOCK.

1,084,082. Specification of Letters Patent. Patented Jan. 13, 1914.

Original application filed January 24, 1913, Serial No. 743,925. Divided and this application filed August 6, 1913. Serial No. 783,260.

To all whom it may concern:

Be it known that I, JOHN GRANDITS, a citizen of the United States, and a resident of the city of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Locks, of which the following is a specification.

My invention relates to locks and more particularly to key operable locks.

The object of my invention is to provide a lock of the character mentioned which will be simple in construction and efficient in operation.

Other objects will appear hereinafter.

The invention consists in the combinations and arrangements of parts hereinafter described and claimed.

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

Figure 1 is a view of a lock embodying my invention and having its cover removed, Fig. 2 is a section of the same taken on line 2—2 in Fig. 1, Fig. 3 is a similar view taken on line 3—3 in Fig. 2, and Fig. 4 is a section taken on line 4—4 in Fig. 1.

The preferred form of construction as illustrated in the accompanying drawings comprises a casing 5 in which is slidably mounted a spring bolt 6 operated by ordinary door knobs in the usual manner. The mechanism operating this bolt is covered in a separate application filed by me and needs no further description here.

The casing 5 is provided with a partition 7 and a stop 8 between which is mounted a guide 9. The guide 9 is provided with a guide-way in which is mounted a key operable bolt 10. The guide 9 and bolt 10 are provided with laterally extending registering grooves in which are mounted tumblers 11. Each of the tumblers 11 is made up of three abutting sections, the middle sections of which are of lengths corresponding to the width of bolt 10 substantially as shown. An extra middle section of a tumbler 11 is slidably mounted in the bolt 10 in a position to register with one of the grooves in guide 9 when the bolt is moved to locked position. At the upper side of each of the tumblers 11 is provided a spring 12 adapted to maintain the tumblers 11 at their lower terminals. A rest 13 is provided in the casing 5 and adapted to support three tumbler operating levers 14. The remaining two tumbler operating levers 14 rest on a key socket 15 which is rotatably mounted in the casing 5. The levers 14 are pivoted to ears 16 on guide 9. A dowel pin 17 is provided in casing 5 and enters guide 9 to maintain the latter in correct position. The guide 9 is of a thickness less than the depth of casing 5 and a lug 18 is provided on the lid 19 of casing 5 to maintain the guide in proper position. The bolt 10 is provided with a key operating arm 20 which is provided with a notch 21 adapted to be engaged by a suitable key to move the bolt 10 to its locking and unlocking positions. The key socket 15 is rotatably mounted in casing 5 and provided with a locking catch 22 carried by a leaf spring 23 in a manner to maintain said key socket in its normal position. The key which operates the lug is of such a size as will force the catch 22 from the key socket 15 to permit the latter to rotate upon rotation of the key.

In operation the key is inserted in the key socket in the usual manner which insertion unlocks the key socket and upon rotation of the key in the direction indicated by arrow 24 in Fig. 1, said key will engage levers 14 and raise them to proper positions to permit the middle sections of tumblers 11 to register with the bolt 10 thereby permitting sliding movement of the bolt 10 as soon as the key engages notch 21 in the arm 20 of bolt 10. As soon as the key rotates sufficiently to permit the levers 14 to again resume their normal positions, tumblers 11 will be forced downwardly by springs 12 to lock the bolt 10 in its new position.

While I have illustrated and described the preferred form of construction for carrying 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 having a guide therein; a bolt slidably mounted in said guide; a plurality of tumblers slidably mounted in said guide and bolt; and a plurality of ac-

tuating levers pivoted to said guide and each operatively engaging one of said tumblers, substantially as described.

2. In a lock, a casing having a guide therein; a bolt slidably mounted in said guide; a plurality of tumblers slidably mounted in said guide and bolt; a plurality of actuating levers pivoted to said guide and each operatively engaging one of said tumblers; and springs normally maintaining said tumblers and levers at one terminal of their movements, substantially as described.

3. In a lock, a casing having a guide therein; a bolt slidably mounted in said guide; a plurality of tumblers slidably mounted in said guide and bolt; a plurality of key operable levers pivoted on said guide and each engaging a tumbler; and a key operable arm on said bolt, said pivotal levers and said bolt being adapted to be operated successively, substantially as described.

4. In a lock, a casing; a guide having transverse grooves therein; a bolt slidably mounted in said guide and having transverse grooves therein adapted to register with the grooves in said guide, there being one more groove in said bolt than in said guide; a tumbler consisting of three abutting sections slidably mounted in each groove in said guide and its corresponding groove in said bolt, the middle section of each tumbler being of a length equal to the length of a groove in said bolt, there being a section corresponding to the middle section in each groove in said bolt; and a plurality of key operable levers pivoted on said guide and each engaging a tumbler, substantially as described.

5. In a lock, a casing; a guide having transverse grooves therein; a bolt slidably mounted in said guide and having transverse grooves therein adapted to register with said grooves in said guide, there being one more groove in said bolt than in said guide; a tumbler consisting of three abutting sections slidably mounted in each groove in said guide and its corresponding groove in said bolt, the middle section of each tumbler being of a length equal to the length of a groove in said bolt to permit said bolt to move in said guide when said tumblers are in proper positions, there being a section corresponding to said middle sections in the extra groove in said bolt; levers pivoted on said guide and each engaging one of said tumblers to position the same to allow said bolt to be moved in said guide; and an ear on said bolt to move the latter in said guide, substantially as described.

6. In a lock, a casing; a guide having transverse grooves therein; a bolt slidably mounted in said guide and having transverse grooves therein adapted to register with said grooves in said guide, there being one more groove in said bolt than in said guide; a tumbler consisting of three abutting sections slidably mounted in each groove in said guide and its corresponding groove in said bolt, the middle section of each tumbler being of a length equal to the length of a groove in said bolt to permit said bolt to move in said guide when said tumblers are in proper positions, there being a section corresponding to said middle sections in the extra groove in said bolt; levers pivoted on said guide and each engaging one of said tumblers to position the same to allow said bolt to be moved in said guide; an ear on said bolt to move the latter in said guide; and a key-operable member in said casing adapted to move said levers and said bolt simultaneously, substantially as described.

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

JOHN GRANDITS.

Witnesses:
JOSHUA R. H. POTTS,
B. G. RICHARDS.

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