

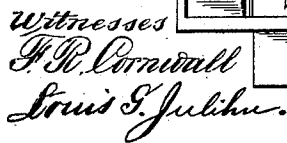
(No Model.)

5 Sheets—Sheet 1.

C. A. BERRY.
LOCK.

No. 474,790.

Patented May 10, 1892.



By Napkin & Spoon, Altos.

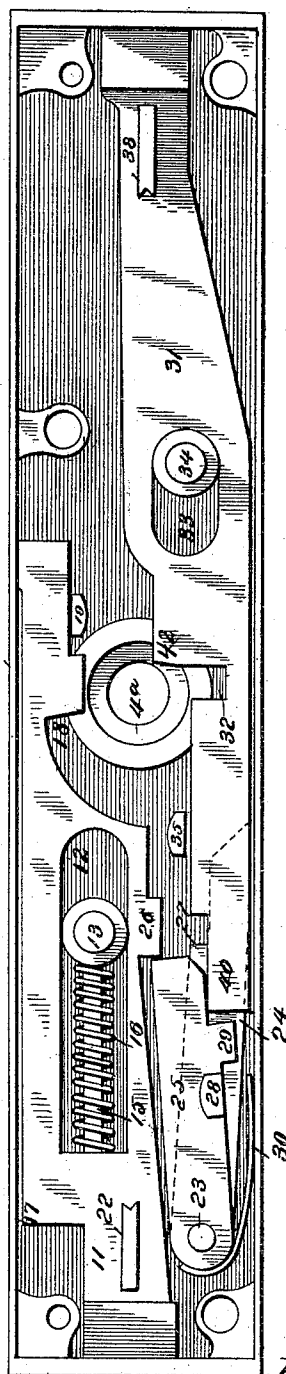
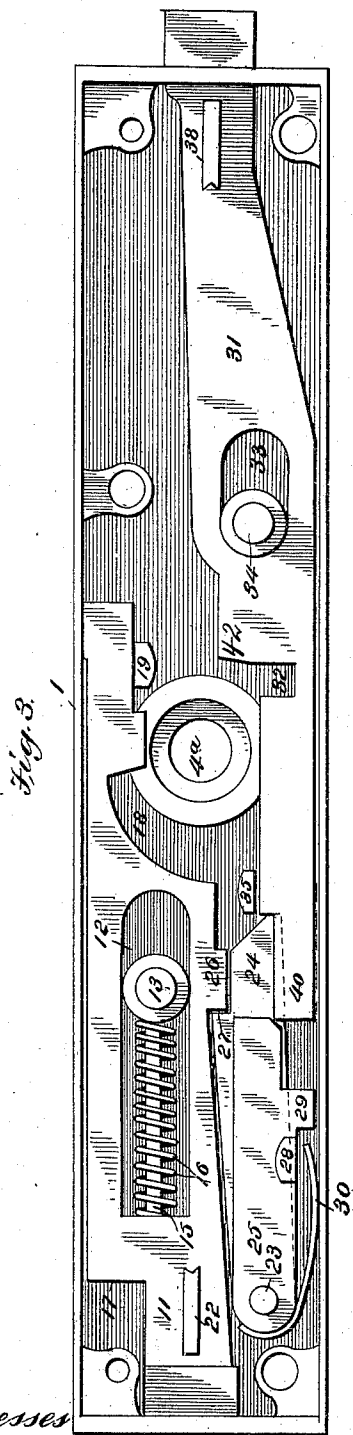
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5 Sheets—Sheet 2.

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Witnesses

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Louis G. Julienne.

Inventor

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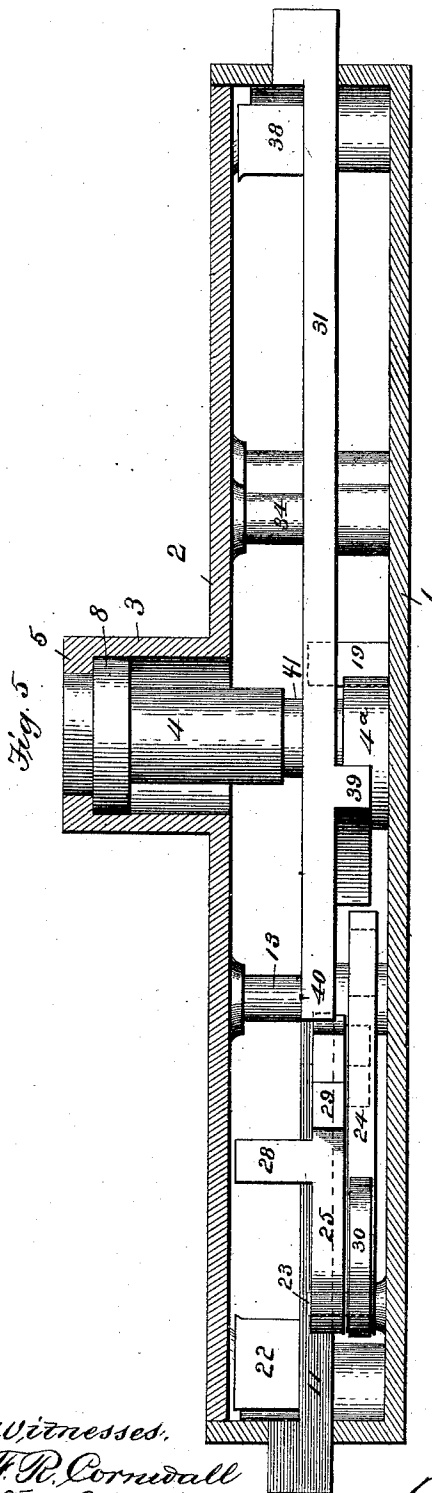
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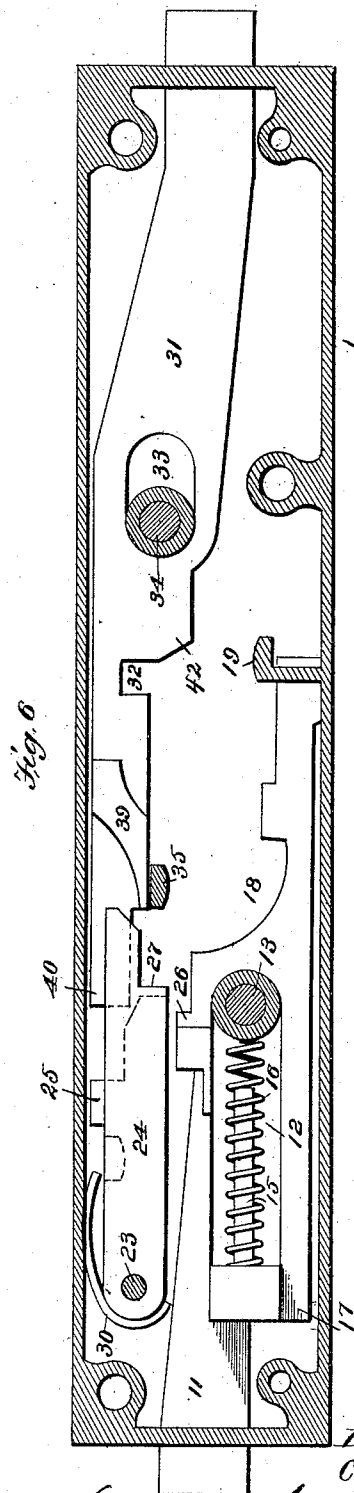
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(No Model.)

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Fig. 7.

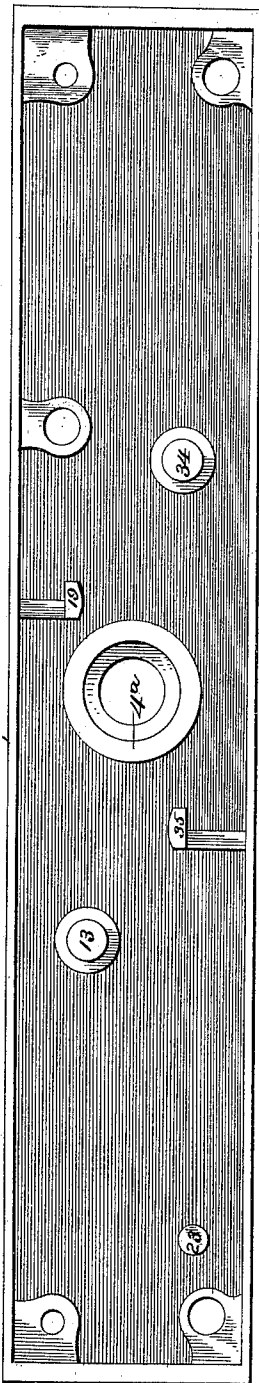
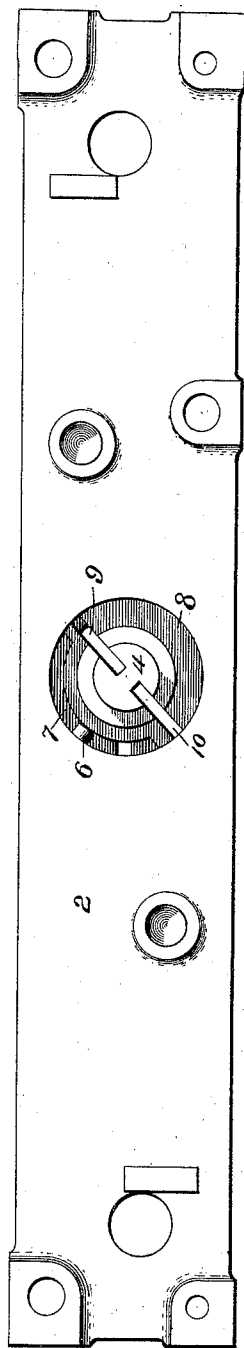


Fig. 8.



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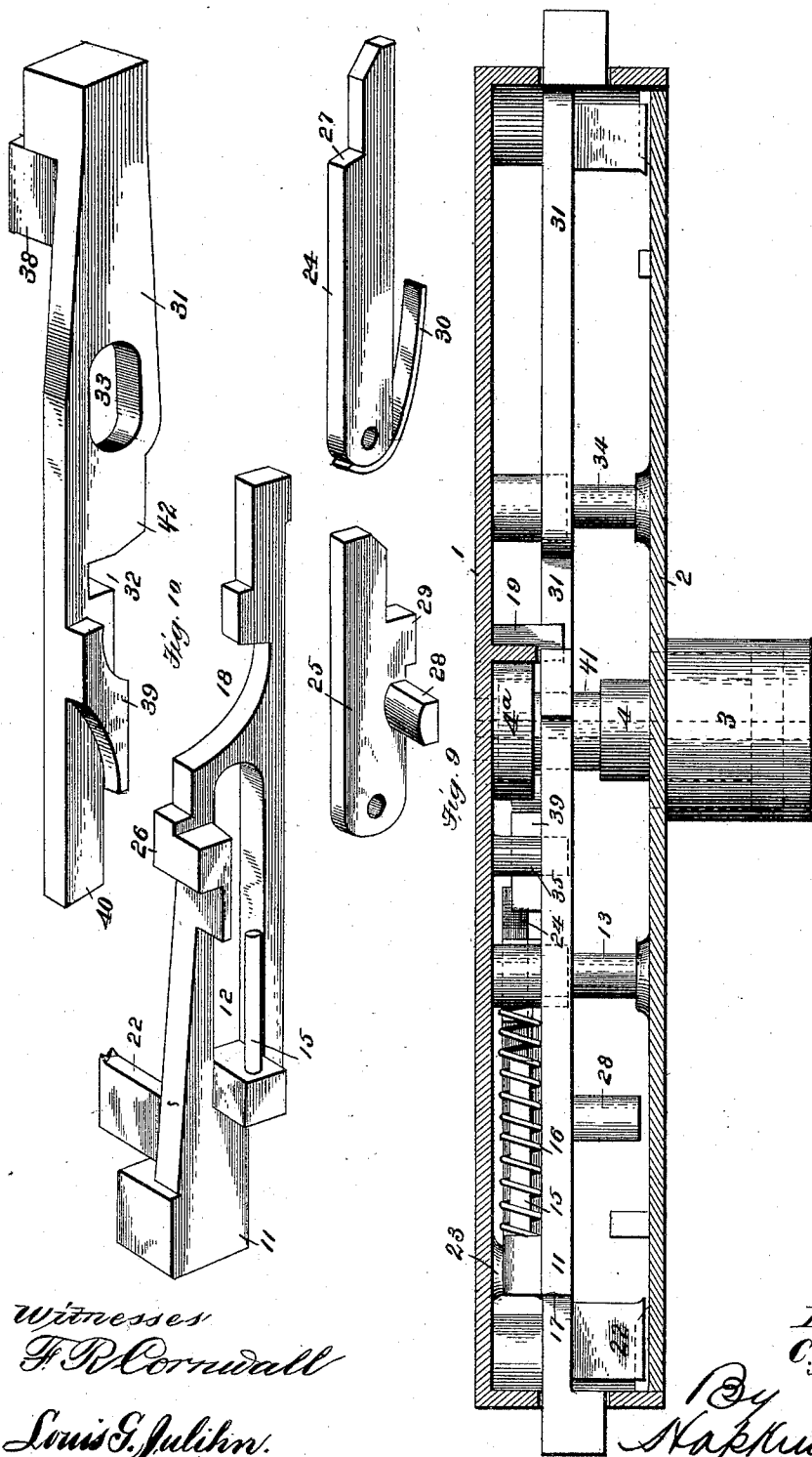
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UNITED STATES PATENT OFFICE.

CHARLES A. BERRY, OF STAMFORD, CONNECTICUT, ASSIGNOR TO THE
YALE & TOWNE MANUFACTURING COMPANY, OF SAME PLACE.

LOCK.

SPECIFICATION forming part of Letters Patent No. 474,790, dated May 10, 1892.

Application filed February 29, 1892. Serial No. 423,219. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. BERRY, of Stamford, county of Fairfield, and State of Connecticut, have invented certain new and useful Improvements in Locks, of which the following is a specification, reference being had to the accompanying drawings.

The object of my invention is to produce an improved guard-key lock, which is especially adapted for use in removable pigeon-hole boxes, and which is therefore provided with bolts shooting in opposite directions and adapted to lock such a box into a pigeon-hole of a safety-deposit vault, for instance.

In the accompanying drawings, Figure 1 is a front elevation of my lock with the cap-plate removed and showing the bolts in the cast position. Fig. 2 is a similar view without the tumblers and key-plug. Fig. 3 is a view similar to Fig. 2, showing one of the bolts that is operated by the guard-key retracted. Fig. 4 is a similar view showing both the bolts retracted. Fig. 5 is a sectional view of my lock with one of the sides removed. Fig. 6 is a rear elevation of my lock, as shown in Fig. 2, with the bottom removed. Fig. 7 is a view of the interior of the case with the cap removed, and Fig. 8 a view of the rear of the cap detached. Fig. 9 is a view corresponding to that shown in Fig. 5, taken from the opposite side. Fig. 10 shows views of different parts of the locking mechanism detached.

Referring to the figures on the drawings, 1 indicates a case, 2 its cap, 3 a key-plug cylinder, and 4 a key-plug, which is provided with a bearing 4^a in the bottom of the case. A flange 5 in the top of the cylinder retains the key-plug in place, and a pin 6, projecting radially from the side of the cylinder into a recess 7 in the boss 8 of the key-plug, limits its rotary movement. The key-plug is provided with two key-slots 9 and 10, adapted, respectively, to receive a guard-key and box-renter's key. The keys being of ordinary construction, are not illustrated in the drawings.

11 indicates one of the bolts adapted to be operated by the guard-key and which is provided with a longitudinal slot 12, through which projects from the bottom of the case a stud 13, that pivotally carries tumblers 14.

15 indicates a pin which retains the coiled spring 16, that, pressing at one end against the bolt and at the other against the stud, tends to cast the bolt, whose forward movement, however, is limited by the stud and slot, and by the shoulder 17, that impinges against one corner of the case. The bolt is, as usual, provided with a recess 18 to receive the bit of the key by which it is actuated. It is guided by the sides of the stud working within the longitudinal slot 12 and by a guide projection 19 in the bottom of the case. The tumblers are provided with springs 20 and with gatings 21, as usual, to receive when in alignment the dog 22 when it is to be retracted. The dog and tumblers at other times prevent retraction of the bolt in the usual manner.

23 indicates a pivot-pin projecting from the bottom of the case and adapted to carry a primary dog 24 and a secondary dog 25.

26 indicates a projection on the side of the bolt 11, against which a shoulder 27 on the primary dog and the end of the secondary dog are in turn adapted to impinge. The free end of both the primary and the secondary dogs are beveled, as illustrated. The secondary dog carries a bearing-piece 28, against which the springs 20 exert their force to rotate the dog upon its pivot.

29 indicates a stop for limiting the movement of the secondary dog. The primary dog is provided with a spring 30, which tends to keep it in contact with the bolt 11, while the secondary dog is free.

The tumblers are provided, opposite their gated ends, with curved recesses 30^a, which, under the impulse of springs 20, are held snugly in engagement with the key-plug in order to be operated by the bit of a key.

31 indicates a second bolt extending in the opposite direction from the first. It is provided with a key-bit recess 32 and with a slot 33, through which projects from the bottom of the case a tumbler pivot-pin 34, which, in connection with the guide-stud 35, guides the bolt in its reciprocal movement in the case.

36 indicates tumblers, corresponding to tumblers 14, pivoted to pin 34, and actuated by springs 37, which press against the side of the case. The bolt 31 carries a dog 38. The inside of the bolt 31 is provided with a

projection 39, having a tapered end that is adapted to engage, when the bolt is retracted, with the beveled end of the primary dog and move it against the force of its springs. The bolt is prolonged back of this to form a tail-piece 40, that is adapted to engage with the beveled end of the secondary dog to rotate it against the force of the springs 20 and hold it in such position as long as the bolt is retracted.

41 indicates a recess in the side of the inner end of the key-plug to receive a shoulder 42 of the bolt 31 and permit its complete retraction.

The operation of my lock is as follows: Suppose the parts to be in the relative position shown in Fig. 1 of the drawings. The operator inserts the guard-key and partially rotates the key-plug. The bit of the key sets the tumblers in alignment, so as to free the bolt 11, and the rotation of the key retracts the bolt against the force of the spring 16 until the primary dog, under the impulse of its spring, engages with the projection 26 of the bolt and holds it in position, as shown in Fig. 3. The key-plug is then turned backward and the key withdrawn. Then the box-renter's key is inserted and the bolt 31 retracted in like manner, when the box or the like to which the lock is attached may be withdrawn. When the bolt 31 is retracted, the tapered projection 39 strikes against the beveled end of the primary dog and moves it out of the way of the projection 26, while at the same time the tail-piece of the bolt forces the secondary dog into its place and holds it there against the pressure of the springs 20. If now it is desired to cast the bolts, the box-renter's key is properly inserted and rotated to cast the bolt 31. The secondary dog being released by the movement of the bolt, is pushed aside by the springs 20 liberating the bolt 11, which is thereupon cast by the operation of the spring 16. It will be observed that the guard-key cannot cast the bolts because it

cannot operate the secondary dog. The key cannot retract the bolt 31 until the mechanism has been set by the guard-key, because the projection 26 on the bolt 11, when that bolt is cast, confines the secondary dog so as to prevent the retraction of the bolt 31. Therefore in effect the bolt 11 dogs the bolt 31.

The operation of the lock, when locked, is under the control of the person holding the guard-key and after it is unlocked is under the control of the person holding the box-renter's key until again locked by the latter.

What I claim is—

1. A lock provided with bolts shooting in different directions, each actuated by a separate key, the locking mechanism of one bolt acting also to dog the other, substantially as set forth.

2. In a lock, the combination, with two different keys, of two bolts each adapted to be retracted by its proper key and both adapted to be cast by only one of said keys, substantially as described.

3. In a lock, the combination of two bolts, and a primary and a secondary dog, whereby when one bolt has been retracted and caught by the primary dog the retraction of the other bolt disengages the primary dog from the bolt and forces the secondary dog in its place, substantially as described.

4. In a lock, the combination of two bolts with a primary and secondary dog, one of the bolts being adapted to engage with the dogs and the other being provided with a tail-piece adapted to shift the position of the primary and secondary dogs and lock the secondary dog in place, so as to prevent the casting of the dogged bolt before the other, substantially as set forth.

In testimony of all which I have hereunto subscribed my name.

CHAS. A. BERRY.

Witnesses:

SCHUYLER MERRITT,
GEO. E. WHITE.