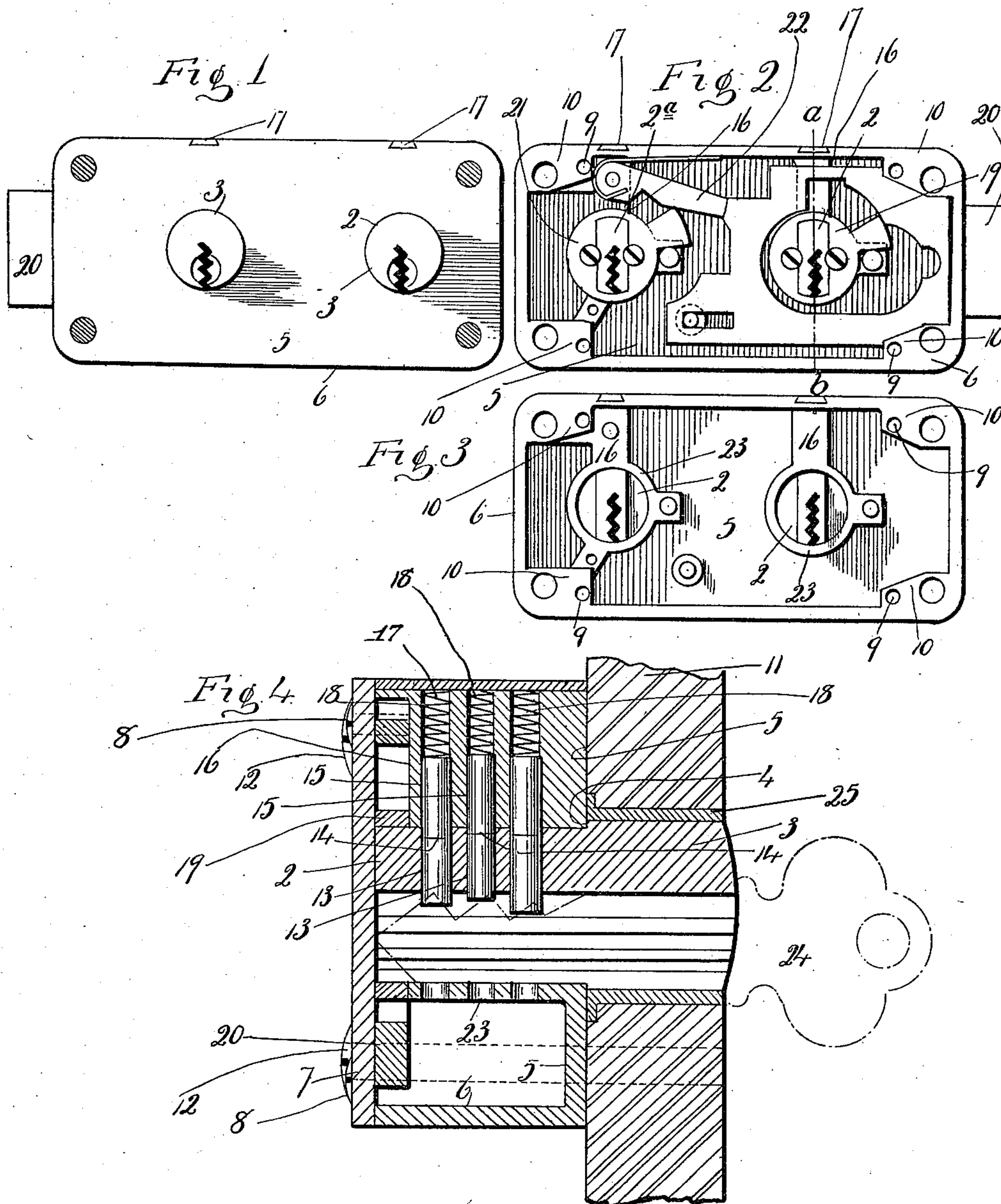


J. J. MURPHY.
SAFE DEPOSIT LOCK.
APPLICATION FILED MAY 2, 1910.

996,726.

Patented July 4, 1911.



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UNITED STATES PATENT OFFICE.

JAMES J. MURPHY, OF TERRYVILLE, CONNECTICUT, ASSIGNOR TO EAGLE LOCK CO.,
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SAFE-DEPOSIT LOCK.

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To all whom it may concern:

Be it known that I, JAMES J. MURPHY, a citizen of the United States, residing at Terryville, in the county of Litchfield and State of Connecticut, have invented a new and useful Improvement in Safe-Deposit Locks; and I do hereby declare the following, when taken in connection with the accompanying drawings and the characters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1 a view in front elevation of a double-nose pin-tumbler safe-deposit lock constructed in accordance with my invention. Fig. 2 a reverse view thereof with the cap of the lock-case removed. Fig. 3 a similar view of the case stripped of all its moving parts, except the rotary plugs of the tumbler-mechanisms. Fig. 4 a view of the lock in vertical section on the line *a—b* of Fig. 2 and drawn on an enlarged scale.

My invention relates to an improvement in double-nose pin-tumbler safe-deposit locks, the object being to produce a simple, compact and reliable lock of the character described, the said lock being constructed with particular reference to convenience of application and to reducing the amount of cutting of the door to which it is attached, to the minimum.

With these ends in view my invention consists in certain details of construction and combinations of parts as will be hereinafter described and pointed out in the claims.

In carrying out my invention, I employ two rotary pin-tumbler plugs 2 each extended at its outer end to form a cylindrical key-guide 3 which is separated from the plug proper by an annular shoulder 4 which bears upon the front or outer face of the bottom 5 of the lock-case 6 which is provided with a removable cap 7 secured in place by screws 8 passing through its corners and entering screw-holes 9 formed in lugs 10 in the corners of the case 6 which is secured to a safe-deposit box door 11 by screws 12 passing from front to rear through the cap 7 and lock-case 6 into the said door. I have spoken of the bottom 5 of the case 6, following the ordinary terminology, but in fact the bottom 5 in my improved lock becomes the front of the lock-case, the removable cap 7 of which is at the back of the

lock instead of between the lock-case and the door. The plugs 2 are formed in the usual manner with pin-holes 13 for the reception of the lower ends of pin-tumblers 14 located in pin-holes 15 drilled in webs 16 located entirely within the case 6 with which they are, as shown, formed integral. The outer ends of the pin-holes 15 are closed by removable slides 17 mounted transversely in the top of the lock-case 6 and confining the tumbler-springs 18 in place. At its inner end the plug 2 is provided with a cam 19 coacting with a bolt 20 which it throws back and forth, while the plug 2^a is provided with a similar cam 21 which coacts with a locking-dog 22 which in turn locks the bolt 20 in its locked position. The said webs 16 terminate at the lower ends in hubs 23 also cast integral with the lock-case 6 and taking the place of the cylinders, so called, of an ordinary self-contained pin-tumbler lock mechanism.

As shown in Fig. 4 the plug 2 is entered by the "box-renter's" key 24, the plug 2^a being adapted to be entered by a similar key held by an official of the safe deposit company using the locks, and commonly called the "guard key", it being understood that to open the lock the "guard key" must first be used to disengage the dog 22 from the bolt before the box-renter can use his key to unlock the lock.

What I wish in particular to point out is that the pin-tumbler mechanisms instead of being respectively located within separate cylinders adapted to be screwed into the lock-case from the outside thereof, are located within the lock-case in which they are virtually organized, provision being made for guiding the keys by extending the rotary plugs 2 of the respective pin-tumbler mechanisms forward through the bottom or front of the lock-case and from rear to front through the door to which the same is applied so as to be flush with outer surface of the said door and in position to receive the respective keys. Under the construction the boring of the doors for the application of the locks is reduced from holes the size of an ordinary pin-tumbler lock cylinder, to a hole the size of a pin-tumbler lock plug.

As shown in Fig. 4, the bottom 5 of the case 6 has a forwardly projecting sleeve 25 secured to it, and forming, as it were, a bushing for the key-guide 3 so as to prevent

the same from being pinched by the metal of the door and insuring the free rotation of the plug 2 under the action of its key 23. This sleeve 25 is not necessary, but I may
5 prefer to employ it.

I claim:—

1. In a safe deposit lock, the combination with the case thereof, of a pin-tumbler mechanism located entirely within the said
10 case with the exception of a portion of its rotary plug the forward end of which is extended forward beyond the said lock-case to form a key-guide.

2. In a safe deposit lock, the combination
15 with the case thereof, of a pin-tumbler mechanism located entirely within the said case with the exception of a portion of its rotary plug the forward end of which is extended through the said lock-case to form
20 a key-guide which is larger in diameter than the diameter of the plug proper, there being a bearing-shoulder between the key-guide and plug to bear upon the outer surface of the lock-case.

25 3. In a double-nose pin-tumbler safe-deposit lock, the combination with a lock-case, of two pin-tumbler lock mechanisms located entirely therein with the exception of portions of their rotary plugs which are extended
30 at their forward ends through the case to form key-guides which are adapted in length to project from rear to front through the door to which the lock is applied.

35 4. In a double-nose pin-tumbler safe-deposit lock, the combination with the case thereof, of two pin-tumbler lock mechanisms each including a web and a hub for the reception of pin-tumblers and springs
40 therefor, and a rotary plug extended forward through the lock-case in the form of a

cylindrical key-guide adapted in length to project from rear to front through the door to the inner face of which the lock is applied, the said pin-tumbler-mechanisms being
45 located wholly within the said case with the exception of the forward portions of their key-guides as described.

5. In a double-nose safe-deposit lock, the combination with a lock-case having an integral front, of two pin-tumbler mechanisms located entirely within the said case with the exception of portions of their rotary
50 plugs which are extended through the integral front of the case to form cylindrical key-guides, and the said case having a removable cap at its back.

6. In a safe deposit lock, the combination with the case thereof, of a pin-tumbler mechanism located within the said case, with
60 the exception of its rotary plug the forward end of which is extended through the said lock-case to form a key-guide, and a sleeve encircling the said key-guide to insure the free rotation thereof.
65

7. In a safe deposit lock, the combination with the case thereof, of a pin-tumbler mechanism located entirely within the said case with the exception of its rotary plug
70 the forward end of which is extended through the said lock-case to form a key-guide, and a sleeve fastened to the lock-case and extending forward therefrom and surrounding the said key-guide to insure the free rotation thereof.
75

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

JAMES J. MURPHY.

Witnesses:

OTIS B. HOUGH,
HARRY C. CLOW.