

(Model.)

M. HAYDEN & W. C. DIXON.

LOCK FOR SLIDING DOORS.

No. 330,236.

Patented Nov. 10, 1885.

Fig. 1.

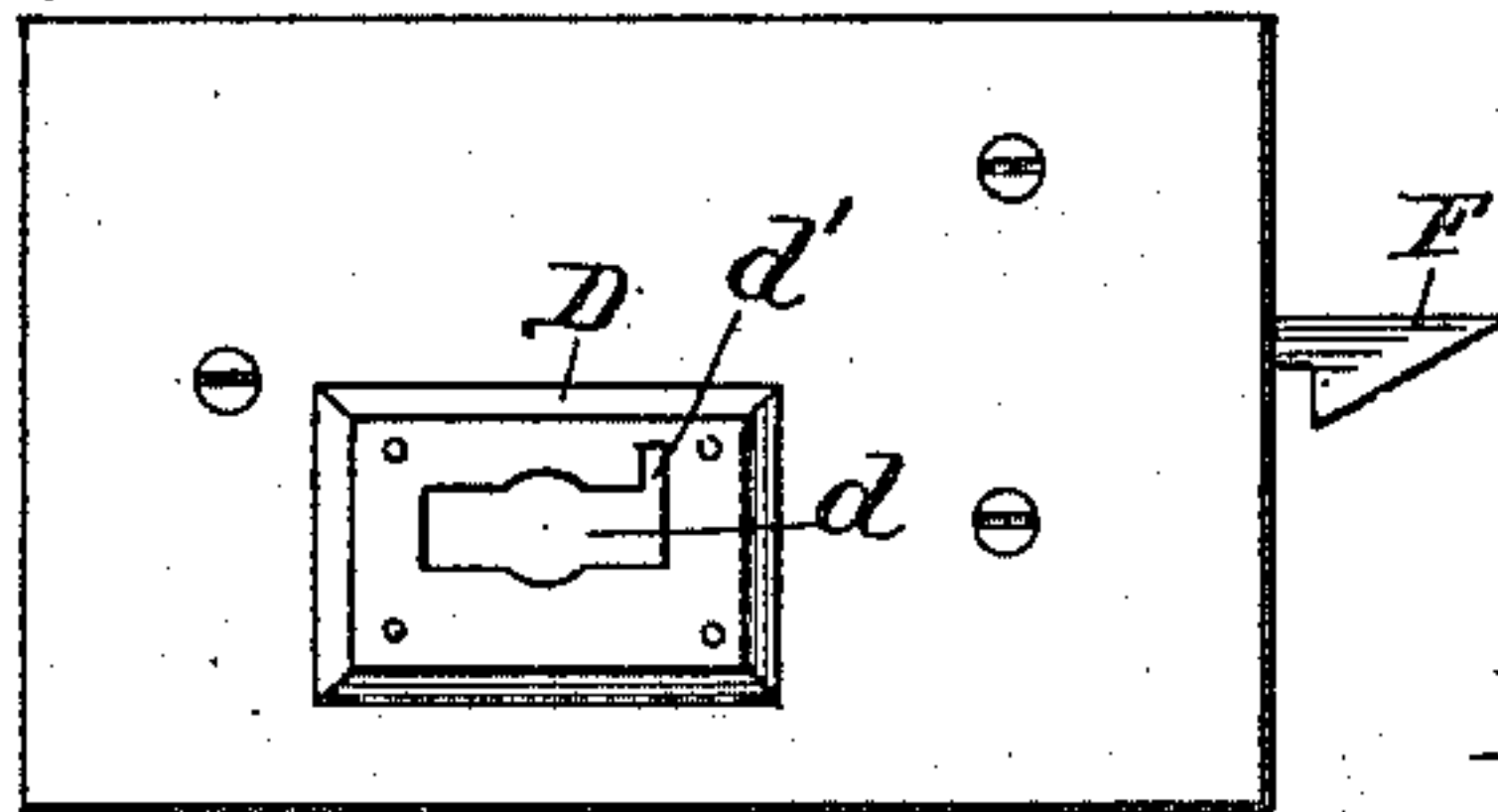


Fig. 2.

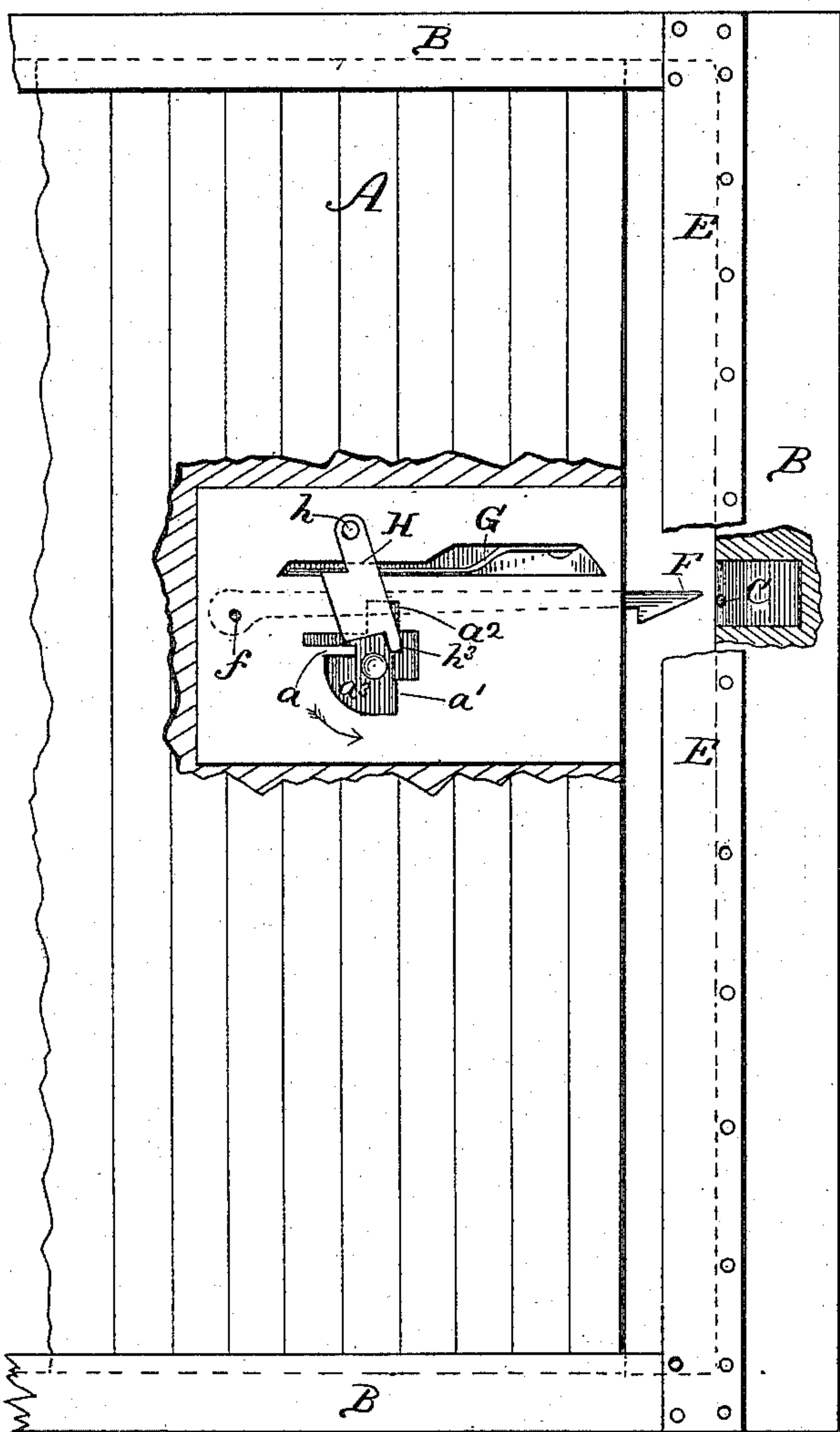


Fig. 3.

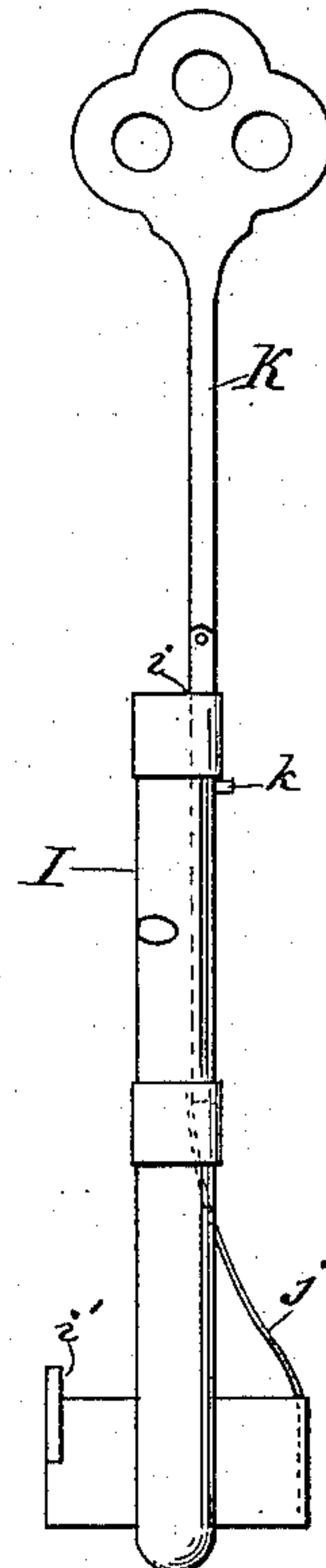


Fig. 4.

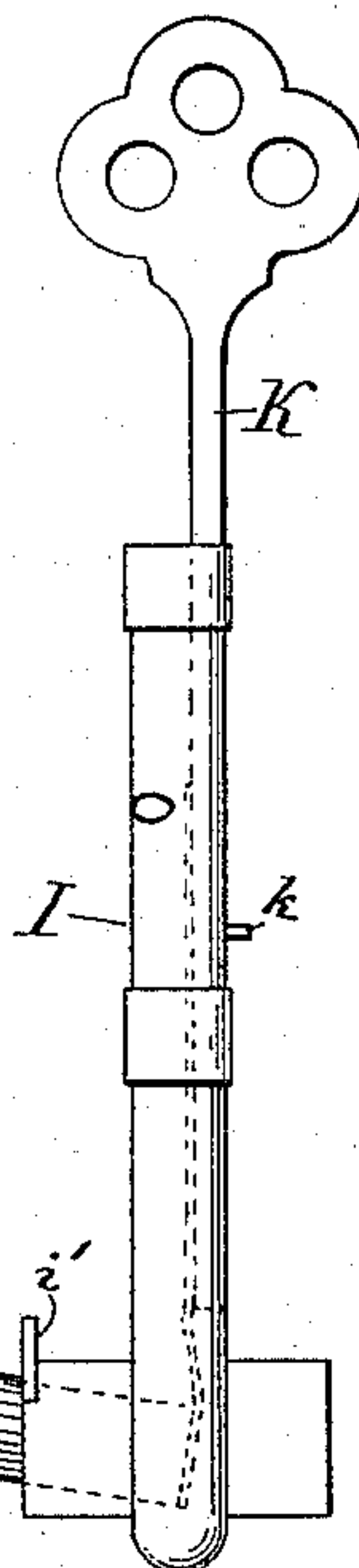


Fig. 6.

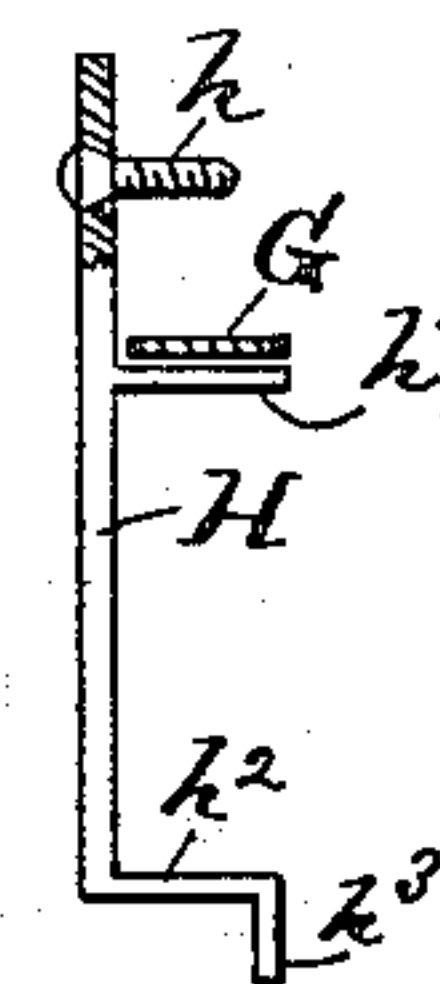


Fig. 5.



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# UNITED STATES PATENT OFFICE.

MILES HAYDEN AND WILLIAM CASON DIXON, OF GAY HILL, TEXAS.

## LOCK FOR SLIDING DOORS.

SPECIFICATION forming part of Letters Patent No. 330,236, dated November 10, 1885.

Application filed May 21, 1885. Serial No. 166,331. (Model.)

*To all whom it may concern:*

Be it known that we, MILES HAYDEN and WILLIAM CASON DIXON, citizens of the United States, residing at Gay Hill, in the county of Washington and State of Texas, have invented certain new and useful Improvements in Locks for Sliding Doors, of which the following is a description.

Figure 1 is a front view of the lock. Fig. 2 is a front view of the lock with the front portion of the door removed. Fig. 3 is a side view of the key. Fig. 4 is also a side view of the key, but showing the handle pushed in. Fig. 5 is an end view of the head of the key. Fig. 6 is a detail side view of the trip-lever.

This invention relates to locks for sliding doors, and is specially intended for use in freight-cars, where great durability and safety are required. It will be found to be free from liability to damage from collision, and may be quickly and readily operated.

This invention consists in the detailed construction of the lock and the key for operating it, as hereinafter described.

In the accompanying drawings similar letters of reference indicate corresponding parts in all the figures.

A is the sliding door. B is a portion of the framing in which it slides. C is a catch, secured in the framing B, with which the latch of the lock engages. D is a guard-plate fastened on the outside of the door A, and containing the key-hole  $d$ , oblong in form and provided with a small guide-slot,  $d'$ , in one corner. E is a plate attached to the outside of the framing and covering the junction of the frame and door when closed, so that the latch cannot be raised by inserting anything between them. F is the latch, which engages with the catch C when the door is closed. This latch is pivoted to the door on the pin  $f$ . G is a spring which presses upon the top of the latch, and also upon the top arm of the trip-lever. H is the trip-lever pivoted to the door by the pin  $h$  and provided with the top arm,  $h'$ , upon which the spring G presses.  $h^2$  is the lower arm of the trip-lever, having a projection,  $h^3$ , against which the key presses in the action of unlocking the door. A projection,  $a$ , prevents the key from being turned the wrong way in the lock.  $a'$  is a shoulder which stops the key when it has been turned

far enough.  $a^2$  is a slot into which the sliding bolt of the key projects to raise the latch.  $a^3$  is a small circular recess for guiding the head of the key.

I is the key for unlocking the door, provided with a sliding bolt, J, attached to it by means of the spring  $j$ . K is the handle for operating the sliding bolt.  $k$  is a stop on the said handle, which prevents it from moving too far in either direction.

A slot,  $i$ , is formed in the key for the stem of the handle to slide in. The head of the key is made hollow for the sliding bolt, and is provided with a projection,  $i'$ , on one side of it for engaging with the small slot,  $d'$ , in the guard-plate D.

The action of unlocking the door is as follows: The key is inserted into the lock through the key-hole until the head of the key is underneath the trip-lever, with the small projection on the head projecting into the circular recess  $a^3$ . The key is then turned in the direction of the arrow in Fig. 2. The head of the key presses upon the projection  $h^3$  of the trip-lever and presses it back, thereby raising the spring G and uncovering the slot  $a^2$ . The handle of the key is then pushed inward against the spring until the sliding bolt projects, as shown in Fig. 4, and raises the latch of the lock out of contact with the catch in the frame.

We do not confine ourselves to the exact form of lock as shown in the drawings, as our invention can be applied to sliding doors in various ways. If desired, the lock may be let into the frame instead of being let into the door, and the catch may be fastened to the door instead of to the frame.

We prefer to make the key with a joint in the middle, as shown in the drawings, so that it may be folded up when not in actual use.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a lock, the combination of the latch, the spring pressing upon it, and the trip-lever provided with upper and lower arms,  $h'$  and  $h^2$ , the former serving as a seat for the spring and the latter having a projection,  $h^3$ , for the key to act upon, substantially as shown and described, and for the purpose set forth.

2. In a lock, the combination of the trip-

lever provided with upper and lower arms,  $h'$  and  $h^2$ , the former serving as a seat for the spring and the latter having a projection,  $h^3$ , for the key to act upon, the slot  $a^2$ , covered by the said trip-lever, the latch F, pivoted in the door and passing through the said slot, and the spring for holding down the said latch and trip-lever, substantially as described and shown, and for the purpose set forth.

10 3. In a lock, the combination of the key I, the sliding bolt J, located therein and provided with a spring, the handle K, for working said sliding bolt, the trip-lever H, adapted to be operated by said key, and spring-latch F, sub-

stantially as shown and described, and for the purpose set forth. 15

4. The combination of the key I, the sliding bolt J, located therein and provided with spring  $j$ , the handle K, for working said sliding bolt, with the lock provided with projection  $a$ , shoulder  $a'$ , and the slot  $a^2$ , into which the sliding bolt projects to raise the latch, substantially as shown and described. 20

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Witnesses:

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