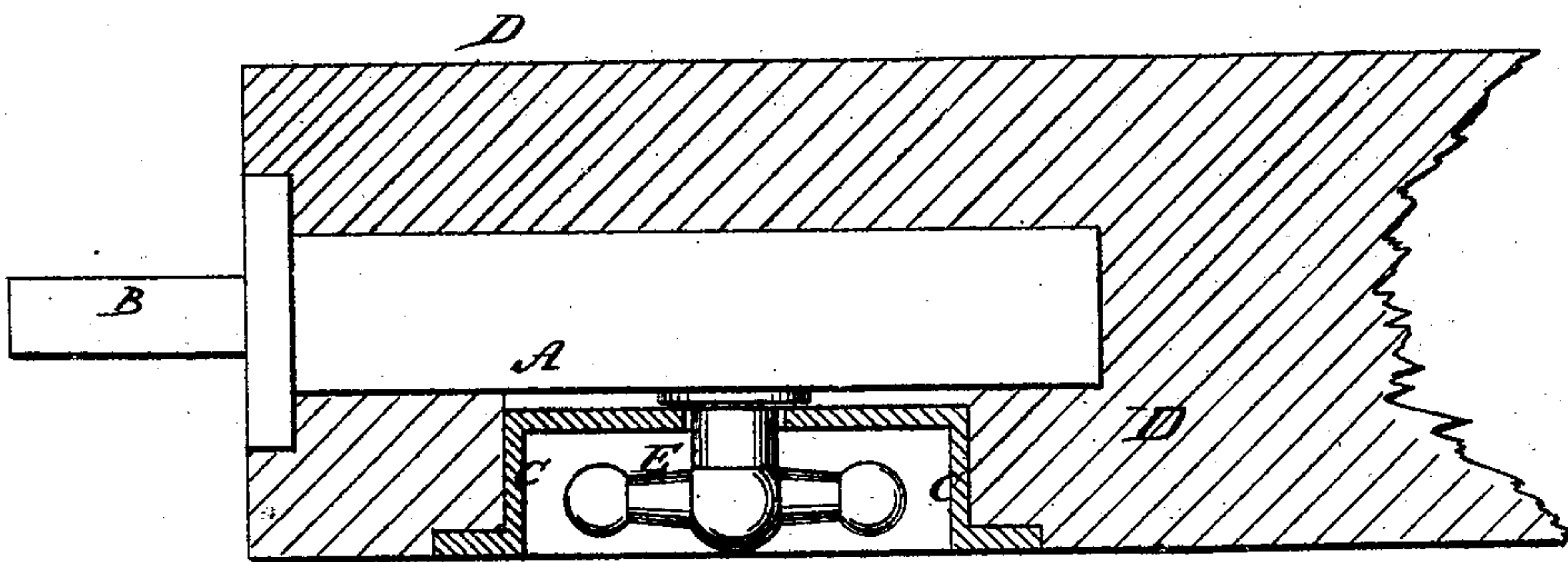


J. COLLINS.  
Door-Keys.

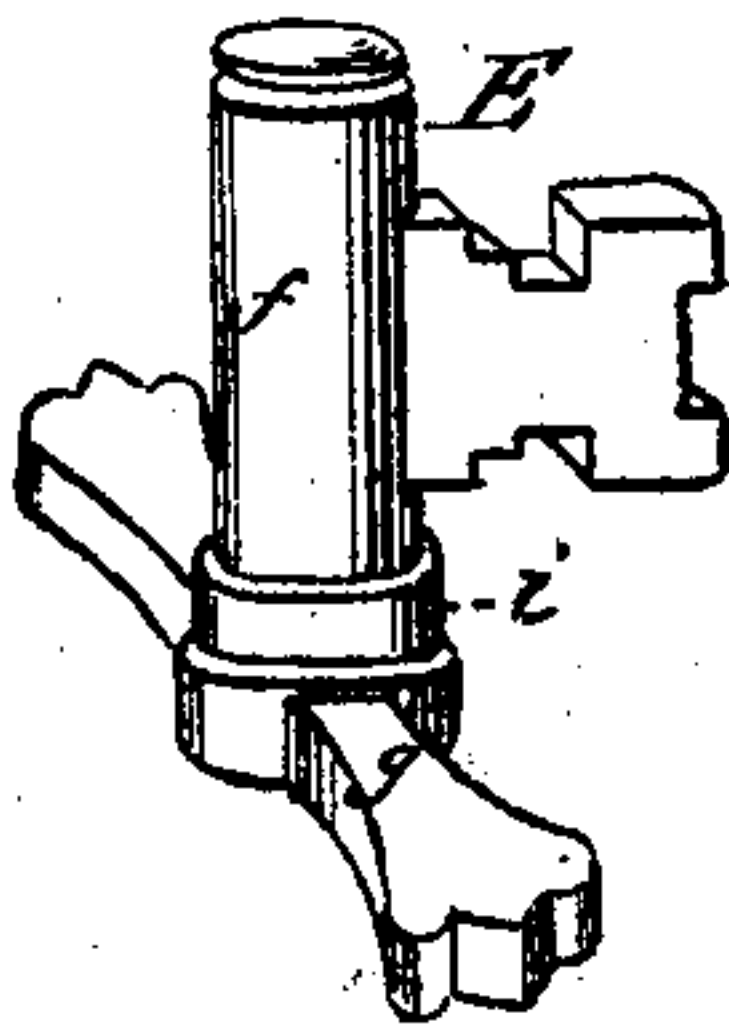
No. 145,401.

Patented Dec. 9, 1873.

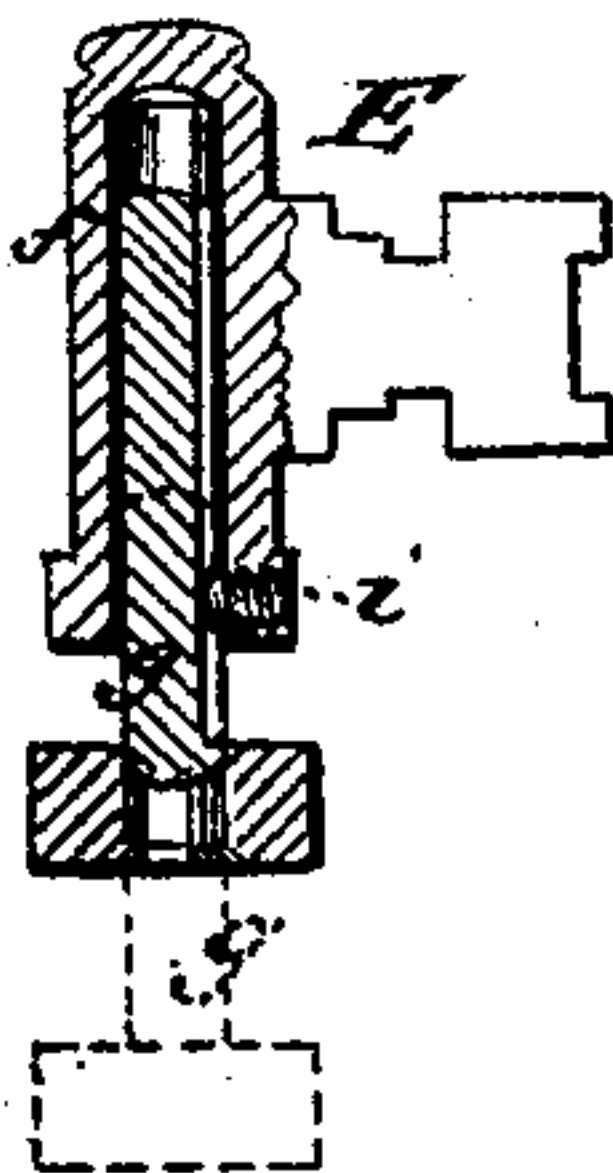
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



Witnesses:

E. Wolff

Jacob Felbel

Inventor:

John Collins  
By his atty.  
J. M. Sutter



# UNITED STATES PATENT OFFICE.

JOHN COLLINS, OF HOHOKUS TOWNSHIP, BERGEN COUNTY, NEW JERSEY,  
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## IMPROVEMENT IN DOOR-KEYS.

Specification forming part of Letters Patent No. **145,401**, dated December 9, 1873; application filed  
November 6, 1873.

*To all whom it may concern:*

Be it known that I, JOHN COLLINS, of Hohokus township, Bergen county, in the State of New Jersey, have invented an Improved Key for Locks of Sliding Doors; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

My invention relates to an improvement in that kind of key which is used in locks on doors arranged to slide into a casing, and which lock is, therefore, made without any knobs projecting from the sides of the door, and with a key having a stem so short that the protruding handle does not project beyond the plane of the side of the door.

Previous to my invention it has been customary, in the manufacture and use of this kind of locks, to have them provided with keys of a length adapted to the thickness of the door to which the lock was to be applied—that is to say, where the same-sized locks were to be used on doors of different thicknesses, they would have to be provided with keys of different lengths. This necessity has been most inconvenient to the manufacturer and dealer, as well as to the builder, because the former has been obliged to either keep an unnecessarily large stock on hand to meet the demands for all the different sizes of doors, and consequent different sizes of keys, or make up a special order for given-sized doors, when he may have had on hand an ample stock of locks for all other sizes, or else make up a new lot of keys for the locks on hand; and the builder has frequently been put to considerable inconvenience and expense by a mistake or misunderstanding as to the thickness of some of the doors in a contract to put on the locks, from which it would follow that he could not complete his job until he should get longer keys manufactured for the same locks.

My invention has for its object to remedy all these difficulties and provide this kind of locks with keys of such a nature that the keys, as well as the locks, may be perfectly adapted to doors of different thicknesses; and to these ends and objects my invention consists in an

extensible key, or key which may have its stem adjusted and securely set to any given length, to perfectly adapt it to the thickness of the doors on which it is proposed to place the locks.

To enable those skilled in the art to fully understand and practice my invention, I will proceed to more fully describe it, referring by letters to the accompanying drawings, in which I have shown at Figure 1, in horizontal section, a lock such as now used applied to a sliding door and supplied with my improved extensible or variable key. At Fig. 2 is a perspective view of the key; and at Fig. 3 is shown the key in section, with the stem set at a different adjustment from that seen at Fig. 2, and with a still further extension of the stem illustrated in dotted lines.

In the several figures, A is a lock such as now used for sliding doors, (with handles B, which at pleasure are shot out of or closed flush into the face of the lock,) and as applied to the door D, in the usual manner, with the cup-plate C let in to come flush with the side of the door, so that the door can slide clear into its casing in the partition. E is the key, which presents about the usual appearance, and the handle of which turns within the cup-plate C in the usual manner. But, instead of being made in one solid piece, as usual, the key E is made in two parts, *f g*, (see Figs. 2 and 3,) the shank *f* being cast hollow, and having fitted to slide longitudinally in it a stem, *g*, which is cast solid with the handle proper of the key, and which may be fastened or secured at the proper adjustment within the stem *f* by means of a set-screw, (or securing-screw,) *i*.

It will be understood that when, from the thickness of the door, it shall have been determined just what location the cup-plate C is to occupy relatively to the lock, or when the lock and cup-plate shall have been put onto the door, the carpenter can adjust the parts of the key so that the handle will occupy just the proper position, and, having determined (according to thickness of the door and the consequent relation of the cup-plate C to the lock A) the proper length for the stem or shank of the key, can then secure the parts *f g* firmly in the proper location by turning home the set-screw *i*; and



it will be seen that, by means of a key thus capable of being rigidly set to have its shank or stem of any required length, not only can the same lock be supplied for and applied with perfect facility to doors of various thicknesses, but can at any future time, as necessity may occur, be shifted from one door to another of a different thickness by simply readjusting the parts *f g* of the key.

In carrying out my invention I have selected the particular detail construction of parts and combination shown, viz., the hollow shank *f*, the stem *g*, with a longitudinal groove for the end of the set-screw to take into, and a securing-screw, *i*, with its head countersunk in the shank *f*; and I have found this construction and arrangement to work well and be economic of manufacture; but modifications may, of course, be made in the form and arrangement together of the parts of the key, and in the device or means for holding the parts rigidly together when set to the proper adjustment, without departing from the spirit of my invention,

the gist of which rests in the idea of a key made in parts which can be rigidly set or adjusted so as to permit the different relations (or distances apart) of the lock and cup-plate necessary to the application of the same lock to doors of different thicknesses.

Having so fully explained the nature and operation of my invention that those skilled in the art can make and use my improved extensible key for locks of sliding doors, what I claim as new, and desire to secure by Letters Patent, is—

A key made in parts which can be adjusted to and rigidly secured in any desired relation, for the purpose of regulating the extent of protrusion of the handle to suit the thickness of the door, substantially as described.

In witness whereof I have hereunto set my hand and seal this 21st day of October, 1873.

JOHN COLLINS. [L. S.]

In presence of—

HENRY R. WANNAMAKER,  
E. C. CARPENTER.