B. T. WHITSON & S. C. HUSH, Jr.

DOOR-LOCK.

No. 184,680. Patented Nov. 21, 1876.

FIG. I

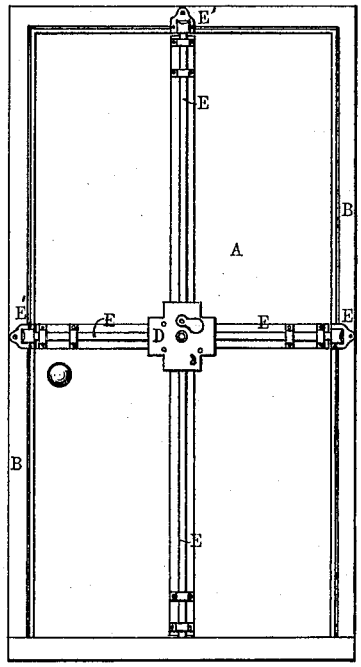


FIG. III

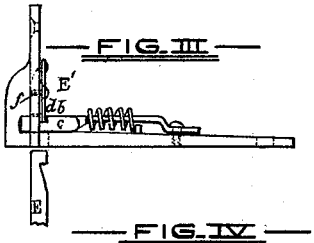


FIG. V

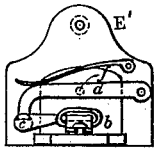


FIG. IV

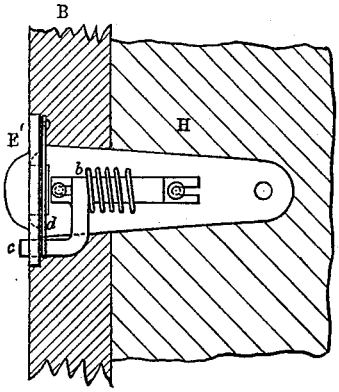


FIG. II

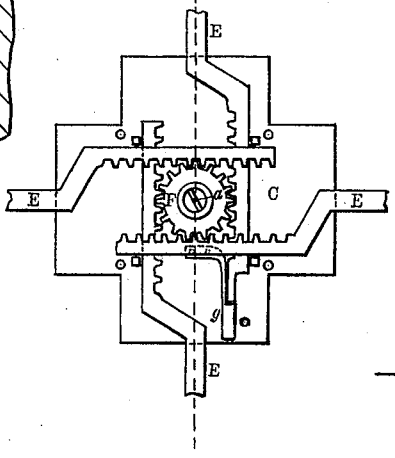


FIG. VI

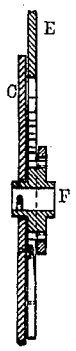


FIG. VII

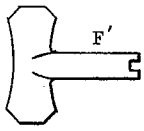
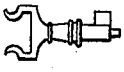


FIG. VIII



WITNESSES.

Wm. H. Dowson

M. E. Chaffee

INVENTORS.

Benjamin T. Whitson
Samuel C. Hush, Jr.
by Whitson & Hush
Attys.

UNITED STATES PATENT OFFICE.

BENJAMIN T. WHITSON AND SAMUEL C. HUSH, JR., OF BALTIMORE, MD.

IMPROVEMENT IN DOOR-LOCKS.

Specification forming part of Letters Patent No. **184,680**, dated November 21, 1876; application filed July 17, 1876.

To all whom it may concern:

Be it known that we, BENJAMIN T. WHITSON and SAMUEL C. HUSH, Jr., both of the city of Baltimore and State of Maryland, have invented certain new and useful Improvements in Door-Locks, of which the following is a specification; and we do hereby declare that in the same is contained a full, clear, and exact description of our said invention, reference being had to the accompanying drawing, and to the letters of reference marked thereon.

This invention relates to certain improvements in that class of door-locks in which a series of bolts are employed and adapted to be projected in the locking operation radially from the locking mechanism by means of keys, and made to enter suitable keepers secured to the door-frame, as hereinafter fully described.

In the description of a lock embodying our invention which follows, due reference must be had to the accompanying drawing, forming a part of this specification, and in which—

Figure 1 is a view of a door and frame having our improved lock attached thereto. Fig. 2 is an enlarged view of parts of the lock, with the outer case removed. Figs. 3, 4, and 5 are views of one of the keepers. Fig. 6 is a sectional view of Fig. 2 on line *x y*. Figs. 7 and 8 are, respectively, views of the main and auxiliary keys.

Similar letters of reference indicate similar parts in all the figures.

A is the door, and B the door-frame. C is the bottom plate of the lock, and D the case of the same. E E are bolts, four of which are shown in the drawing, adapted, when forced out by the locking mechanism, to enter the keepers E′. One of the keepers E′ is fitted with devices, hereinafter described, whereby the bolt, when forced therein, is secured against withdrawal by means of the keys alone. The parts of the bolts E within the lock-case are offset and provided with teeth, which engage with similar teeth on the central hub F, or that part of the lock into which the main key is inserted. This main key, which is represented by F′, is slotted and adapted to pass over a pin, *a*, extending across the central opening in the hub F, whereby the movement of the key in turning is transmitted to the lock mechanism.

The formation of the keeper before alluded to, as adapted to retain the bolt inserted therein, is illustrated in Figs. 3, 4, and 5. This keeper is provided with a spring-bolt, *b*, the outer end of which passes into a slot or recess near the end of the bolt E as the same is brought in contact with it. The disconnection of the spring-bolt *b* from the bolt E is accomplished by hand through the medium of an arm, *c*, extending from the spring-bolt *b* through the casing of the keeper. The arm *c* is notched to admit of the engagement therewith of a spring-arm, *d*, when the spring-bolt is forced down and out of the notch in the bolt E by means of the said arm. When the bolt E has passed a considerable distance into the keeper the end thereof comes into contact with a pin, *f*, on the upper side of the spring-arm, and by forcing the arm back the spring-bolt is released.

By referring to Fig. 2 it will be seen that one end of one of the bolts E, when forced out in the locking operation, is held by a spring, *g*, and that before the said bolt, which moves in connection with the others, can be drawn back the said spring must be moved aside. This movement is accomplished by means of the key G, which is inserted through a curved slot in the lock-case. The keepers are secured to the door-frame, and, as an additional security against removal, are held to the brick-work H by pins or other suitable devices.

The devices being locked, the unlocking operation is as follows: The keys are inserted in their respective places, and the key G turned in such position as to move back the spring *g*. The projecting end of the spring-bolt *b* is then pressed in, after which the bolts E are withdrawn from the keepers by a partial revolution of the key F′.

In the locking operation, the small key being removed, the large key only is used, the fastening of the end of the bolt, as before described, and the engagement of the spring *g* with the end of one of the bolts, being automatic in operation.

This invention is specially designed to prevent the forcing open of doors from the outside thereof by means of bars, the door being secured at as many points as there are bolts employed. It will be seen that the keys and

the other locking and unlocking devices are operative only from the inside of the door.

Having thus described our invention, what we claim as new, and wish to secure by Letters Patent of the United States, is—

1. An offset toothed bolt, E, projected and retracted by means of the toothed hub F, as described, combined with the spring *g*, which, when the said bolt is projected, springs over the base thereof and locks the same, substantially as specified.

2. In combination with one of the bolts E, notched near to the outer end thereof, as shown, the keeper E′, provided with the spring-bolt *b*, adapted to be held, when pressed down, by means of the spring-arm *d*, and released through the medium of the pin *f*, projecting from the said spring-arm, substantially as and for the purpose set forth.

In testimony whereof we have hereunto subscribed our names this 7th day of July, in the year of our Lord 1876.

BENJAMIN T. WHITSON.
SAMUEL C. HUSH, JR.

Witnesses:
WM. T. HOWARD,
THOS. MURDOCH.