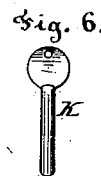
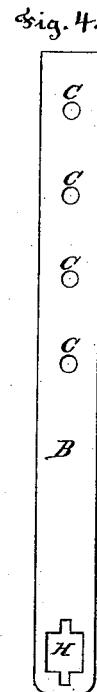
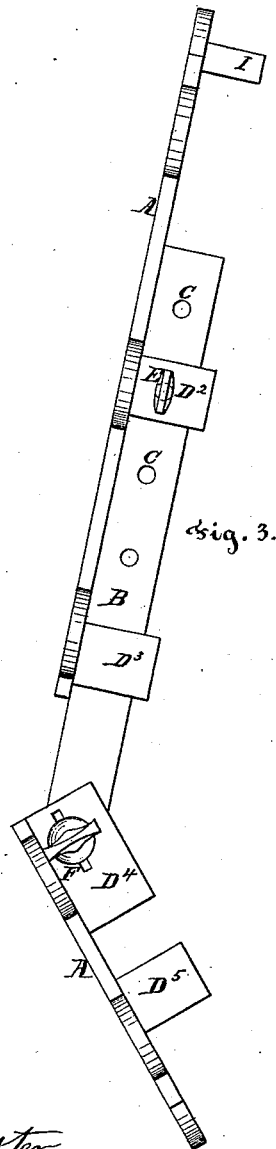
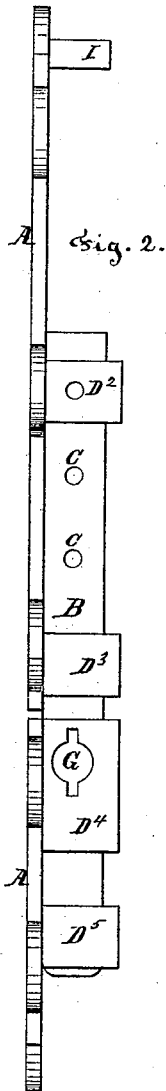
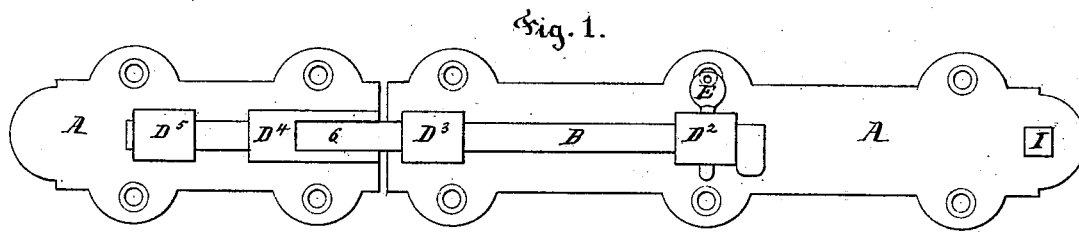


HAIR & WOOD.  
SHUTTER FASTENER.

No. 109,818.

Patented Dec. 6, 1870.



Witnesses.

Jacob D. Custer  
John C. Snyder

Inventors.

Theodore Hair  
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# United States Patent Office.

THEODORE HAIR AND JAMES WOOD, OF NORRISTOWN, PENNSYLVANIA.

Letters Patent No. 109,818, dated December 6, 1870.

## IMPROVEMENT IN SHUTTER-FASTENERS.

The Schedule referred to in these Letters Patent and making part of the same.

We, THEODORE HAIR and JAMES WOOD, of Norristown, in the county of Montgomery and State of Pennsylvania, have invented a new and improved Bow and Lock Shutter-Bolt, of which the following is a specification.

The nature of our improved bow and lock shutter-bolt consists in applying two keys and corresponding key-holes and slots so that the shutter can be bowed open as desired, and remain locked at the same time, as well as when shut.

The object of our improved bow and lock shutter-bolt is to furnish a bolt which will be simple, cheap, and durable, and which will supply a great public want.

### *Description of the Accompanying Drawing.*

Figure 1 is a view of the bolt on the shutter, taken from inside, when closed and locked.

Figure 2 is a view, taken from above, when the shutter is closed and locked.

Figure 3 is a view, taken from above, when the shutter is bowed open.

Figure 4 is a top view of the bolt.

Figure 5 is a view of the large key.

Figure 6 is a view of the small key.

The same letters and numbers of reference refer to like parts in each figure.

A A are the bolt-plates. We construct them with the projections at the screw-holes, as shown at fig. 1, or with straight edges, as desired.

B is the bolt. It is set on its narrow side on the plate so as to give room for the key-holes, as shown at fig. 4. It works in staple D<sup>2</sup>, D<sup>3</sup>, D<sup>4</sup>, and D<sup>5</sup>.

D<sup>2</sup> has a round hole through it and the bolt, in which the key E is fitted.

D<sup>4</sup> is slotted out at 6, as shown at 6, fig. 1, so as to permit the end of the bolt to vibrate in it, as shown at F, fig. 3.

The plate under 6 may also be slotted out or not, as desired.

The staples D<sup>4</sup> and D<sup>5</sup> may be made in a single piece, or in two, as shown.

The piece I is to prevent the bolt from coming out. The bolt, set on its edge, gives strength to it.

C C C are the small key-holes. We make as many of them in the bolt as desired.

A spring with a square tooth on its end, at right angles with it, riveted or fastened to the top of D<sup>2</sup> or

D<sup>3</sup>, so as its tooth will fall into suitable notches cut in the outer edge of the bolt, will also answer instead of the key and holes, and we use said spring when desired. It has a thumb-piece on the tooth end by which it is lifted to move the bolt.

G, fig. 2, is a slotted hole made in staple D<sup>4</sup>. The slots are cut the same size clean through, but the hole in the lower part of it is as much smaller as to fit the small end of key F, fig. 5.

The part 8 of this key is square or four-sided and fits the hole H, shown at fig. 4, and the part above 8 is round and fits the hole G, fig. 2, and the part below 8 fits the small hole below G.

The feathers on the small end of this key pass down through the slots shown at G, fig. 2, and at H, fig. 4, and it can only be put in and taken out when the shutter is shut and the slots are in line.

When the shutter is bowed open but little the slots are out of line, and the key cannot be taken out, which makes it safe when bowed open.

When the shutter is shut the small key E is put in the key-hole above D<sup>2</sup>, fig. 2, which makes it impossible to move the bolt back from outside.

The key F will answer with but one feather, but not as well as with two, as shown.

K, fig. 6, is the small key. It has a small hole in it by which it is hung to the shutter by a chain which is attached to an eye-pin above the bolt. The large key F is also hung by a chain in the same manner. The chains are not shown, as it is deemed unnecessary.

The above specification is believed to be sufficiently clear, and will be understood.

It will be seen that we have invented a simple, cheap, and durable bow and lock shutter-bolt.

We claim as our invention—

The key F, with its square shoulder, its round portions, and feathers, when combined with a square opening in the shutter-bolt and a round one in the staple, in the manner and for the purpose substantially as shown and described.

THEODORE HAIR.  
JAMES WOOD.

Witnesses:

JOHN C. SNYDER,  
JACOB D. CUSTER.