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J. RIPPIN & W. TREYER.

Safe Bolt Works.

No. 201,702. Patented March 26, 1878.

Fig. 1.

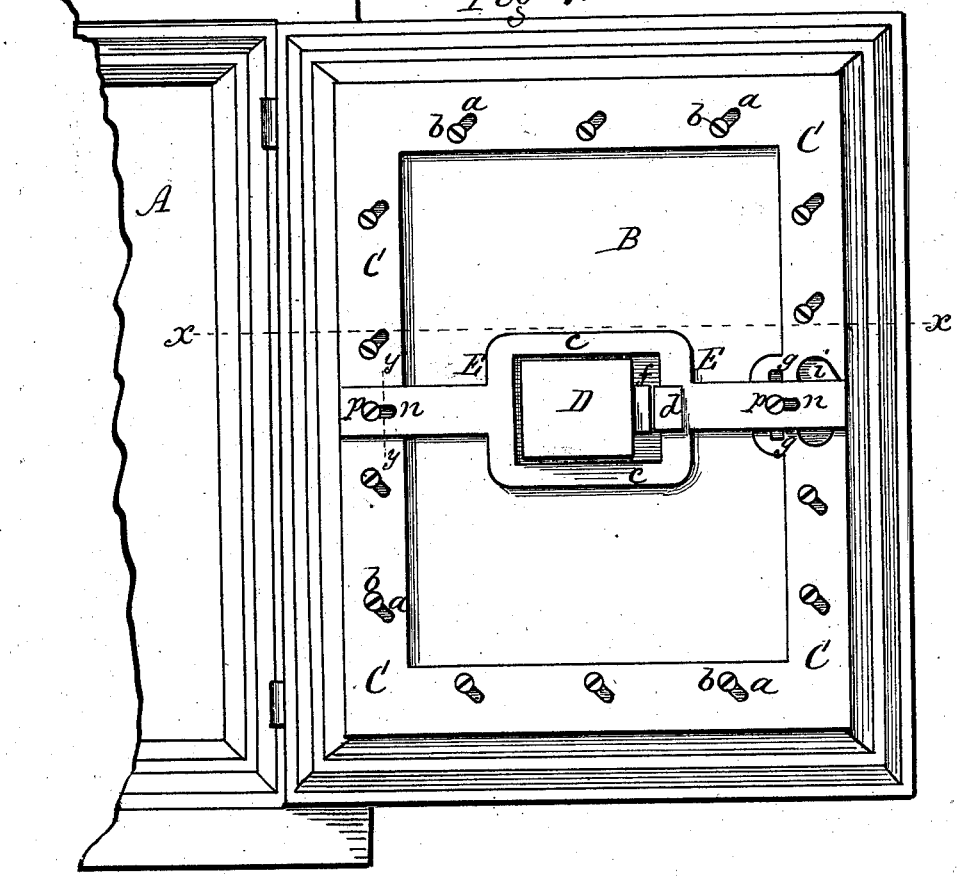
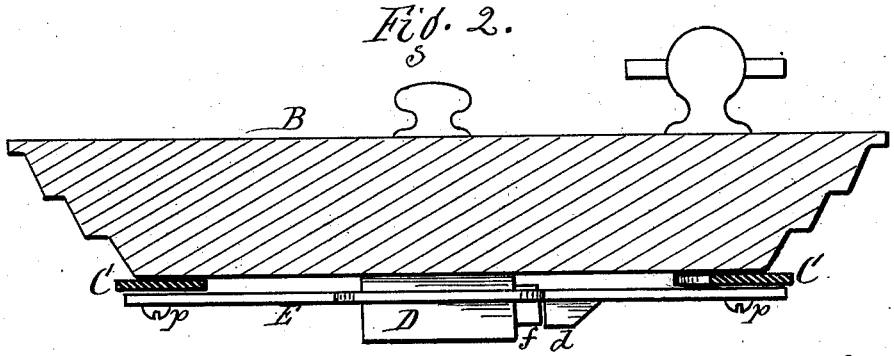


Fig. 2.



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Atty.

2 Sheets—Sheet 2.

J. RIPPIN & W. TREYER.

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Fig. 3.

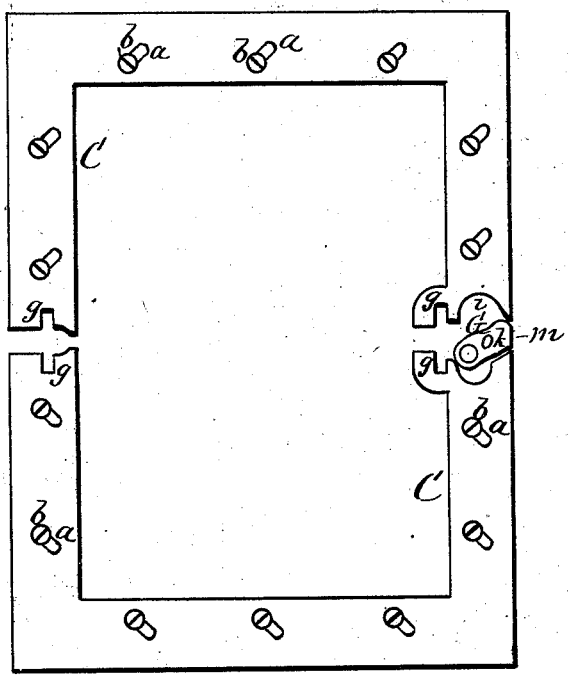


Fig. 4.

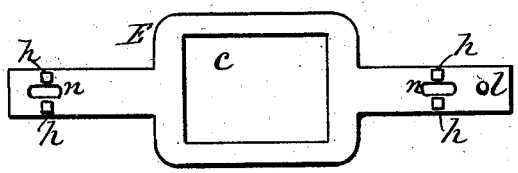
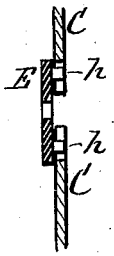


Fig. 5.



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UNITED STATES PATENT OFFICE.

JOSEPH RIPPIN AND WILLIAM TREYER, OF ROCHESTER, NEW YORK.

IMPROVEMENT IN SAFE-BOLT WORKS.

Specification forming part of Letters Patent No. **201,702**, dated March 26, 1878; application filed February 26, 1878.

To all whom it may concern:

Be it known that we, JOSEPH RIPPIN and WILLIAM TREYER, both of the city of Rochester, county of Monroe, and State of New York, have invented a certain new and useful Improvement in Safe-Bolt Works; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, in which—

Figure 1 is an elevation of the inside of a safe-door, showing our improvement. Fig. 2 is a horizontal section in line *x x* of Fig. 1. Fig. 3 is an elevation of the bolt-work with the tie-plate removed from place. Fig. 4 is an inside view of the tie-plate. Fig. 5 is a section in line *y y* of Fig. 1.

Our improvement relates to the bolt-work of the door, and is of that kind in which flat plates are used, which shut over or behind the jamb at all points, thereby making a powder and fire proof joint. Such bolt-works are well known.

Our invention consists in the peculiar connection between the tie-plate and the ends of the plates forming the bolt-work, whereby the latter are thrown, and in the cam which operates the bolt-work, as hereinafter more fully described and definitely claimed.

A represents a safe, and B a safe-door, which, in themselves, are of ordinary construction. C C are the two plates forming the bolt-work of the door. Each of these plates forms a half-square or rectangle, being divided in the center of the height of the door. They are located on the inner face of the door, and are made to slide out and in by means of inclined slots *a a*, which rest upon screws *b b* in the well-known way in this kind of bolt-work.

When the door is closed, the rear vertical plate strikes into a groove in the jamb, and when fully closed the plates can be thrown out or expanded, which throws them beyond the jamb, and makes a close joint all around. Thus far the construction is ordinary and well known.

D is the lock, and E is a tie-plate. The tie-plate is a thin straight bar, of the form shown in Figs. 1 and 4, which are outside and inside views, respectively. In the center of the tie-plate is a square loop, *c*, which embraces the lock, and is of sufficient length to allow the tie-bar to be thrown longitudinally forward and back in locking and unlocking the door. The tie-plate is also provided with a dog, *d*, which strikes the lock-bolt *f* when the latter is protruded to hold the bolt-work in the locked position.

The bolt-plates and the tie-plate are connected as follows: The contiguous ends of the bolt-plates are provided on opposite sides with two vertical slots, *g g*, Fig. 3, and the inner face of the tie-plate is provided at opposite ends with corresponding projecting lugs *h h*, Fig. 4, which fit in said slots.

When the tie-plate is thrown forward and back, the bolt-plates will be correspondingly thrown, and, as the slots are made long to hold the lugs, the bolt-plates can rise and fall as their inclined slots pass over the screws.

G, Fig. 3, is a cam secured on the inner end of the bolt-spindle, and it turns forward and back in a socket, *i*, formed in the end of the bolt-plate. This cam has a round or oval socket, *k*, in which fits a pin, *l*, on the inside of the tie-plate. By this means the tie-plate is thrown when the cam is turned. The outer end of the cam is made square, as shown at *m*, and, when fully thrown forward or outward, this square end strikes into the open space between the ends of the two door-plates, which otherwise would be left open, and furnish a convenient point through which to insert gunpowder.

By this form of the cam and the shape of the socket in which the cam moves, the space is perfectly closed, and still the cam can be thrown forward and back without impediment. The corresponding space on the opposite side is covered by the jamb, and is not exposed.

The tie-plate is held and guided by means of longitudinal slots *n n* and screws *p p*.

One advantage of the slots *g g* and lugs *h h* is that, being located on opposite sides of the door-bolts, the balance and the bolts can be thrown without binding and without difficulty.

What we claim herein as new is—

1. In a safe, the combination, with the door-bolts C C and the tie-plate E, of the slots *g g* in the ends of the door-bolts, with the lugs *h*

h of the tie-plate resting therein, and the cam G connecting with the tie-plate by the socket *k* and pin *l*, the whole arranged to operate as and for the purpose specified.

2. The combination, with the door-bolts C C, divided in the center, and arranged to rise and fall, and with the tie-plate E for operating said door-bolts, the cam G, provided with the square end *m*, arranged to strike into and close the open space between the ends of the door-bolts when expanded, as shown and described, and for the purpose specified.

In witness whereof we have hereunto signed our names in the presence of two subscribing witnesses.

JOSEPH RIPPIN.
WILLIAM TREYER.

Witnesses:
R. F. OSGOOD,
F. A. HITCHCOCK.