No. 62,445. PATENTED FEB. 26, 1867.

J. SARGENT.

SECURING LOCK SPINDLES IN THE DOORS OF SAFES, &c.

Fig. 2.

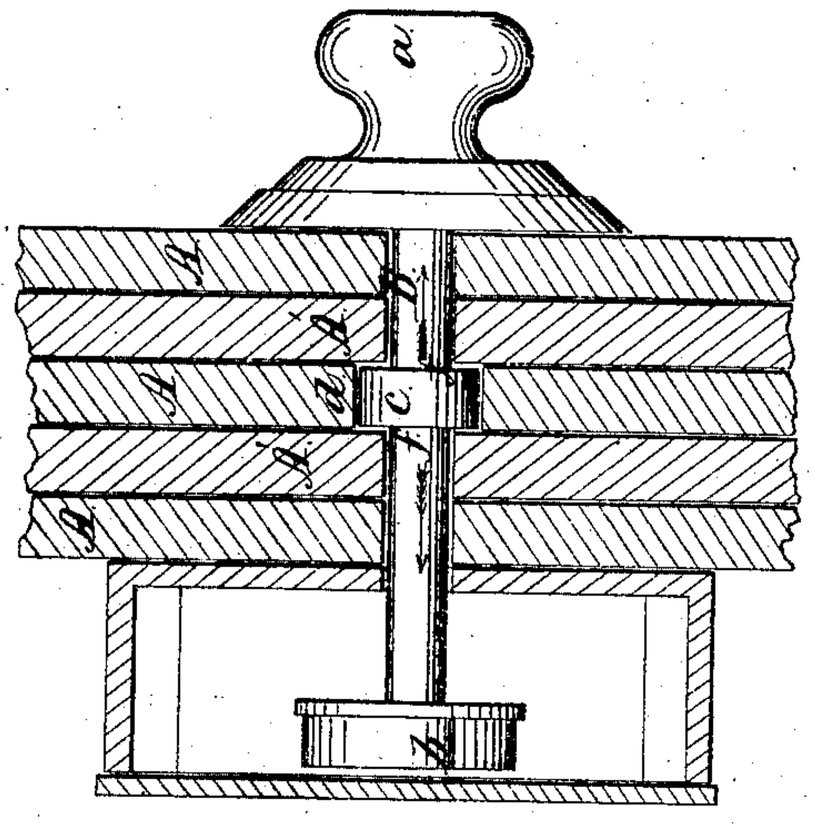


Fig. 3.

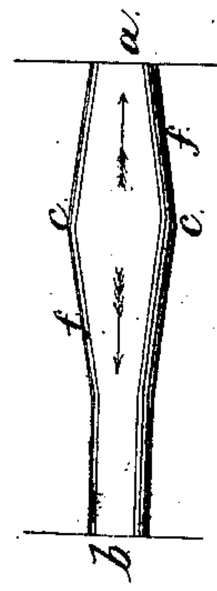
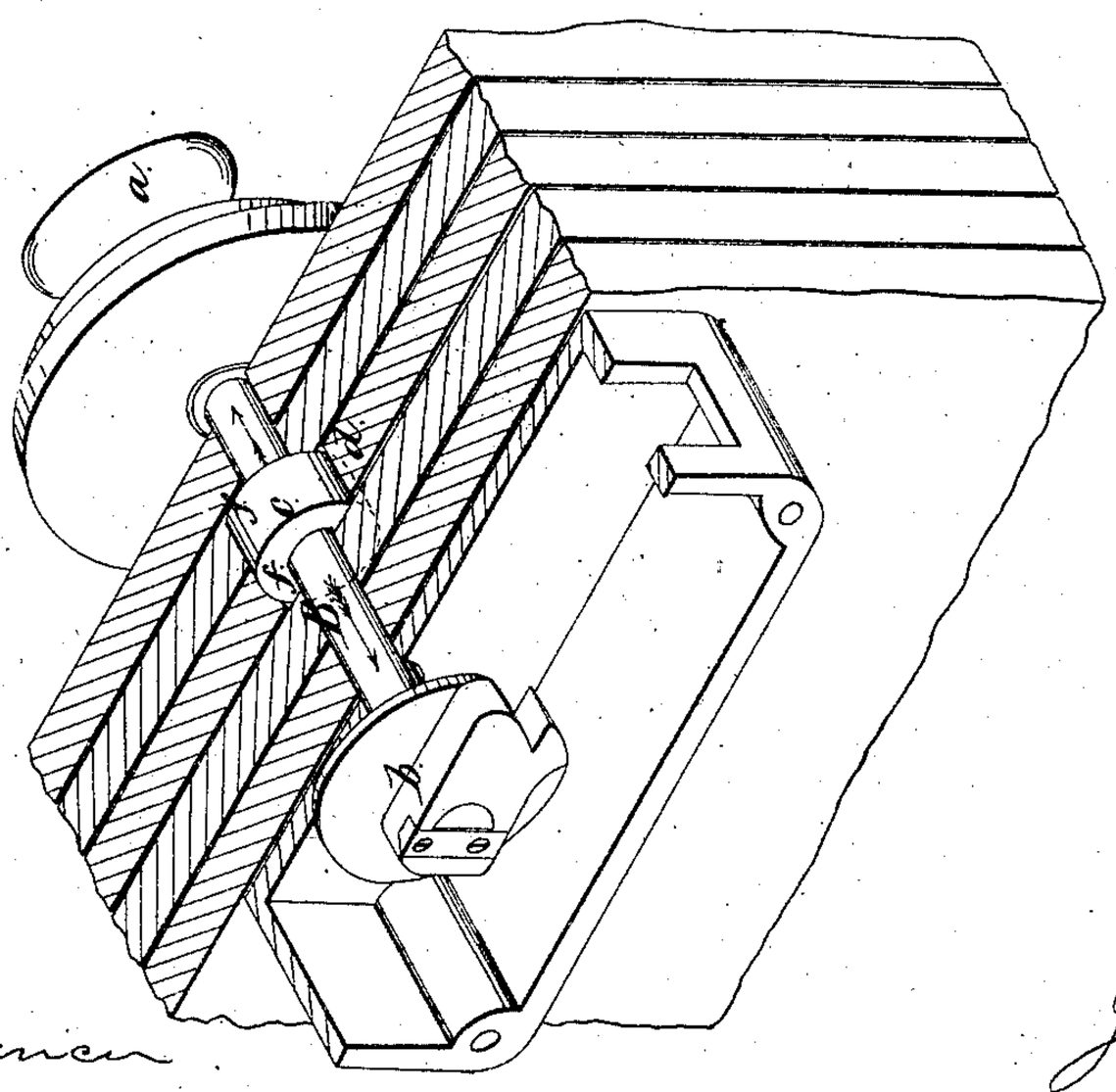


Fig. 1.



Witnesses.

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Letters Patent No. 62,445, *dated February* 26, 1867.

IMPROVEMENT IN SECURING LOCK SPINDLES IN THE DOORS OF SAFES, &c.

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

TO ALL WHOM IT MAY CONCERN:

Be it known that I, JAMES SARGENT, of Rochester, in the county of Monroe, and State of New York, have invented a certain new and useful Improvement in Securing Lock and Bolt-Shafts in Safe-Doors; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

Figure 1 is a fragment of a safe-door and a lock-case, having the spindle connected therewith in my improved manner.

Figure 2, a vertical section of the same.

Figure 3, view of a modified form of the spindle.

Like letters of reference indicate corresponding parts in all the figures.

The locks and heavy bolt-works of safes are now almost universally operated by a spindle or shaft passing through the door, and having a knob on the outside, by which it is turned. The great desideratum in such devices is to secure the spindle so that it cannot be drawn out or driven in, and so that gunpowder cannot be inserted around it. To accomplish this requires not only great strength and solidity, but also a very nice adjustment and fitting of the parts.

My invention consists in providing the spindle or shaft with an enlargement or swell that is embedded directly within the plating of the door, without intermediate parts, so that it can neither be driven in or drawn out, and fitting so closely that powder cannot be inserted around it.

In the drawings, a burglar-proof safe is shown, made up of alternate plates, A A′, of iron and steel. Through these plates passes the spindle or shaft B, having the usual knob *a*, on the outside, for actuating it, and cam *b*, on the inside, for operating the lock mechanism. At a suitable position the spindle is provided with an enlargement or swell, *c*, which is made to fit closely in a socket, *d*, in the plating. Thus arranged, it will be perceived that the spindle is a fixture in the plating, and has two shoulders or bearings *f f* formed to rest on opposite sides against the steel plates.

A device is already in use, consisting of a conical plug secured in a socket bored in the door, and having the spindle resting in the plug, with a shoulder, to prevent driving in, and a nut on the inner end, within the lock, to prevent drawing out. But there is great difficulty connected with the use of this device. The end of the plug projects outside the safe, so that great leverage can be applied thereto; and it is, therefore, liable to be wrenched from its socket. Leverage may, in a similar manner, be applied to the spindle enclosed by the plug; or, if the heavy blows of a sledge are applied, the plug and spindle may be gradually driven in, so as to totally disarrange the mechanism of the lock. If the blows are applied directly to the spindle itself, the rebound is frequently so great, and the concussion comes so angularly, that the spindle will break within or behind the shoulder, so that the latter may be drawn out, and the remaining part easily driven in. At any rate, if great strain inward or outward is applied to the spindle, great disarrangement is likely to ensue to the mechanism of the lock connected therewith, since the spindle is allowed a free end movement, to a certain degree, to connect from the combination wheels to the bolt. It will be perceived that I obviate all difficulties of this kind. I dispense with the enclosing plug by embedding the spindle directly within the plating, and there is, therefore, no envelope which can be drawn out or driven in. The spindle is a fixture with the door itself. The shoulders or bearings *f f*, resting directly against the steel plating in opposite directions, can neither be drawn out or driven in. If the spindle break from the blows, it matters not whether it is in front of, or behind, the enlargement; since, if it is in front, the enlargement cannot be driven through, and, if behind, it cannot be drawn out. This is a matter of very great importance, and in no other arrangement, so far as I am aware, has this effect been accomplished. The enlargement is so firmly embedded that no strain, either inward or outward, can be brought to bear upon the mechanism of the lock, and therefore, under ordinary circumstances, it cannot become displaced or disarranged. It will be perceived that the spindle for throwing the heavy bolt-work may be arranged in a similar manner to that above described for operating the lock.

What I claim as my invention, and desire to secure by Letters Patent, is—

The spindle B, provided with the enlargement or swell *c* and bearings *f f*, when embedded directly in the safe without intermediate parts, so as to form a fixture of the door, substantially as herein set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

JAS. SARGENT.

Witnesses: