

J. Sargent,
Permutation Lock.

No. 98,623.

Patented Jan. 4, 1870.

Fig. 1.

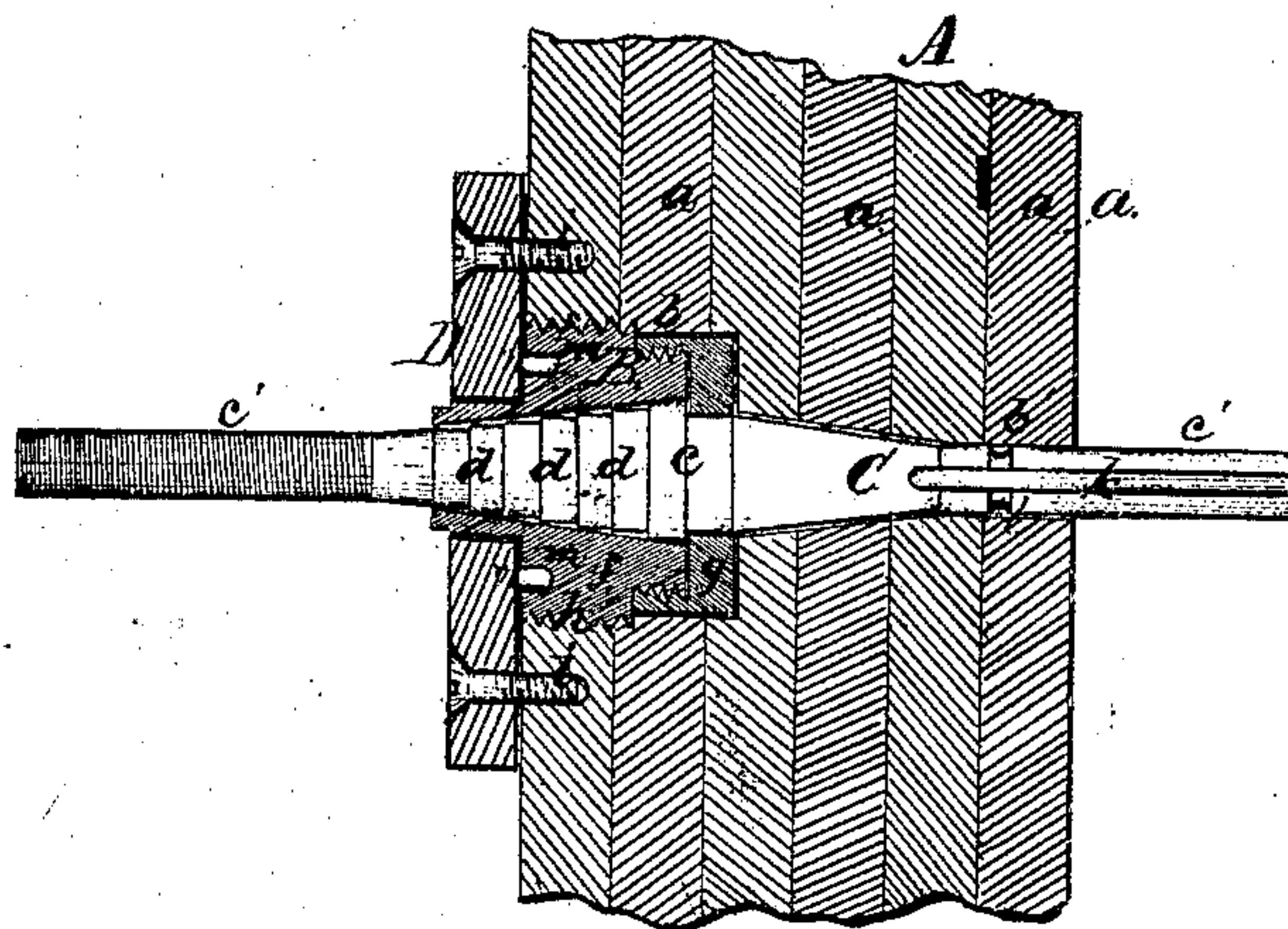
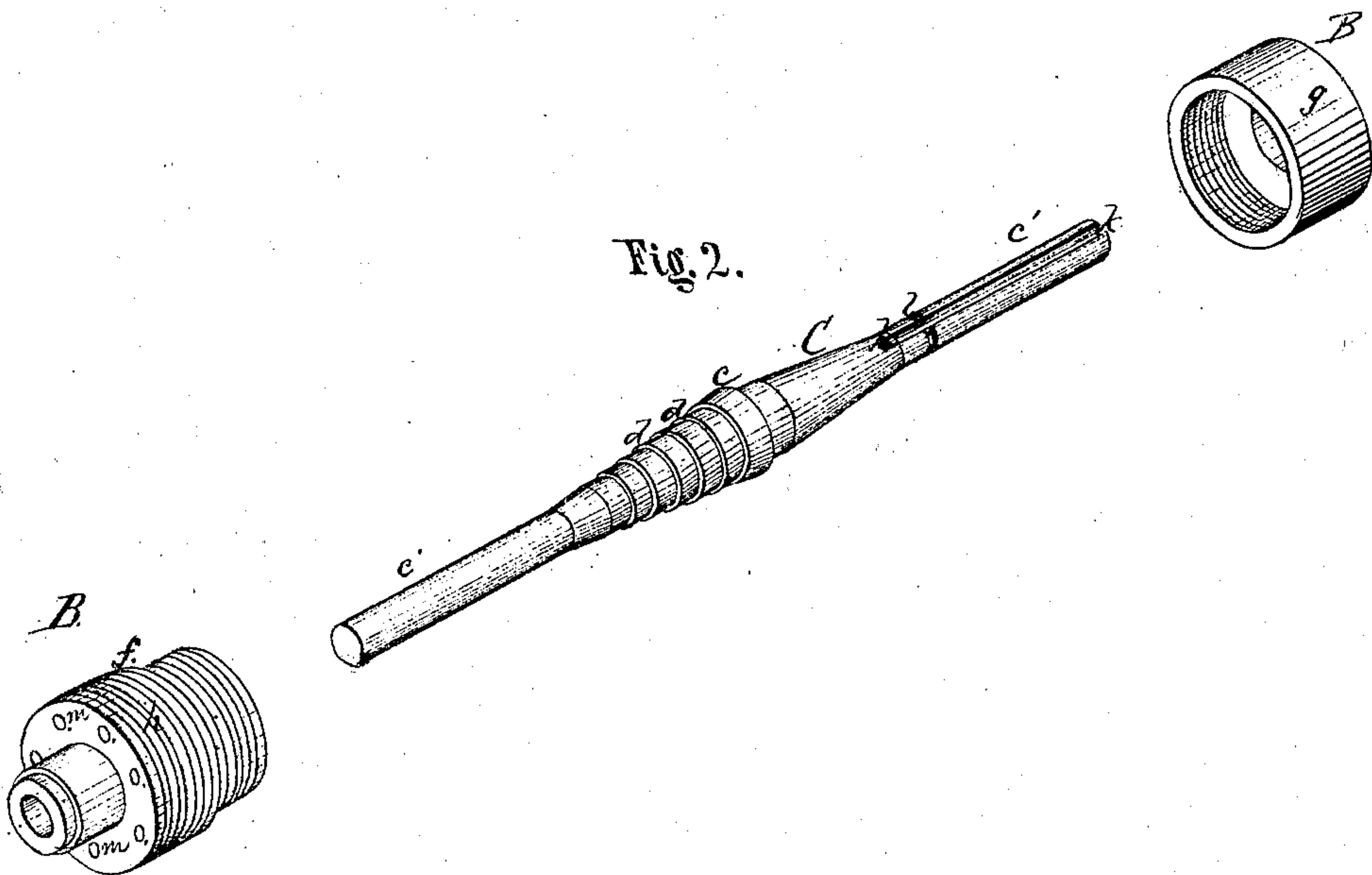


Fig. 2.



Witnesses.

John A. Frederick
D. P. How

Inventor.

J. Sargent

United States Patent Office.

JAMES SARGENT, OF ROCHESTER, NEW YORK.

Letters Patent No. 98,623, dated January 4, 1870.

IMPROVEMENT IN LOCK AND BOLT-SPINDLES.

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 the city of Rochester, county of Monroe, and State of New York, have invented a certain new and useful Improvement in Lock and Bolt-Spindles for Safes, &c.; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a section of a portion of a safe-door, with my improved spindle applied thereto.

Figure 2, a view, in perspective, of the spindle and its enclosing parts separated.

Like letters of reference indicate corresponding parts in both figures.

Nature of the Invention.

This invention consists of a lock or bolt-spindle, of conical form, enclosed in a head or shell composed of two parts, which are separable, said spindle and head being located in a socket formed in the inner side of the safe-door, in such a manner as to be removable therefrom at pleasure.

General Description.

In the drawings—

A indicates a portion of a safe-door, made up of plates *a a a* of welded steel and iron, or of other construction.

In the inner side of this door is bored a socket, *b*, in which rests the head or shell B, and from this socket extends an opening, *b'*, through the door, in which rests the spindle C, to the outer end of which is attached a knob or handle in the ordinary way.

The spindle has a central enlarged portion, *c*, of conical form, the ends *c' c'* of which, connecting with the knob and lock-work, are of smaller diameter, as shown.

One side of the cone (pointing outward) simply rests in the socket in the plating, while the opposite side, which preferably has offsets or steps *d d*, to prevent driving through, rests in the head or shell B.

This head is made in two parts, *f g*, the latter unscrewing, to allow the spindle to be inserted or removed.

The part *f* may, or may not have a screw-thread, *h*, for holding in its socket. It is not absolutely necessary, as the head is held in place by a plate, D, on the inner side, held to the plating by screws *i i*.

Thus arranged, it will be seen that the spindle C and the enclosing-head B form one connected piece, and are removed and applied together.

Furthermore, no portion of the device rests in the front portion of the door, except the small end of the spindle, several of the plates intervening between the head and the front of the door; therefore, no

hold can be obtained to draw the parts out, except upon the small end of the spindle, which will break when undue force is applied, and leave the inner parts intact.

I am aware that the spindle has been before enclosed in a plug resting in the safe-door; but, so far as I am aware, said plug has always been inserted from the outside of the door, and extended clear through it.

A special feature of novelty in my case is, that the spindle and its enclosing-head rest in a socket in the inner side of the door, leaving the front of the door entire or unbroken, except a small hole, through which the end of the spindle can pass.

Another feature is, the enlarged cone *c* of the spindle. This portion of the spindle is hardened, while the ends *c' c'* of the same are not. By this arrangement, much less of the surface of the spindle is exposed to the action of burglars, and it is much more difficult to punch through than in the usual construction.

It is claimed that the hardened conical part of the spindle being so far removed from the face of the door, and the outer extremity *c'* of the spindle being so small, that neither punching or heating this exposed part can seriously injure the hardened part, nor can there be danger of breaking the latter, owing to its bracing form and large size.

The small opening through which the driving can be done, is so small that the inner parts cannot be affected thereby.

The outer end of the spindle, within the plating, is provided with a longitudinal feather-groove, *k*, and also with a circular groove, *l*, which lessens the thickness of the spindle at that particular point.

The feather-groove extends in a little distance beyond the circular groove, as shown.

The object of the circular groove is to weaken the spindle at that particular point, so that when undue force is applied to the spindle, in driving, or otherwise, it will break at that point, and leave the main parts embedded in the plating, so that they cannot be reached. At the same time, the extension of the longitudinal groove in beyond the circular one, allows a connection to be made with the spindle, by the insertion of an instrument having a projecting point, which strikes into said longitudinal groove; and by turning the spindle thereby till the wheels are all set upon the prearranged formula, the lock can be opened.

The afore-described construction of the various parts is applicable both to lock and bolt-spindles, and to the doors of safes, vaults, banks, &c., as well as to any use where a spindle is required.

The end of head B is provided with a series of con-

centric holes, *m m*, into which strike pins *n n* of the outer plate *D*, which thus serves as a wrench to turn the head.

When turned up to place, the plate *D* is held by screws *i i*, as before described.

The special use of a series of the cencentric holes *m* is to allow the pins *n* to fit in any of them, and thus adapt the position of plate *D*, so that when turned up properly, the screw-holes for screws *i i* may coincide in the plate and door.

I am aware, that in the patent of G. M. Phelps, granted December 23, 1862, is shown a spindle having two circular grooves and a longitudinal groove; but this is for an entirely different purpose, and forms no part of my invention.

Claim.

1. The head *B*, consisting of the two parts *f g*, arranged within the door *A*, at the inner side thereof, in combination with the conical spindle *C*, substantially as and for the purpose described.

2. The combination, with the circular groove *l*, of the longitudinal groove *k*, extending inward on the spindle, beyond the circular groove, in the manner and for the purpose specified.

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

JAMES SARGENT.

Witnesses:

R. F. OSGOOD,
GEO. W. MIATT.