

(No Model.)

F. J. BIGGS.
COMBINED LATCH AND LOCK.

No. 304,159.

Patented Aug. 26, 1884.

Fig. 1.

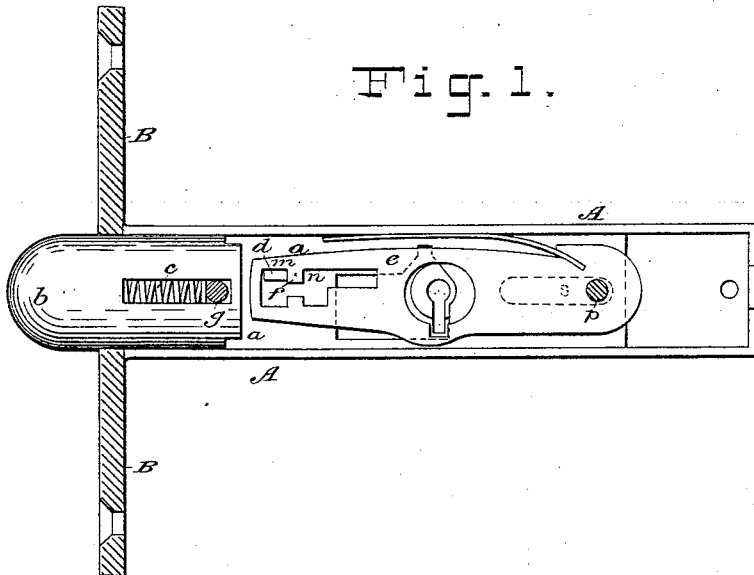
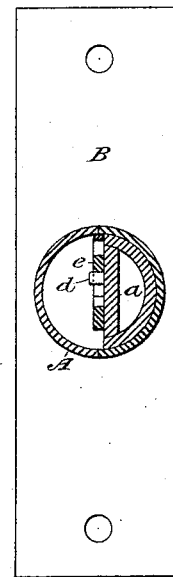
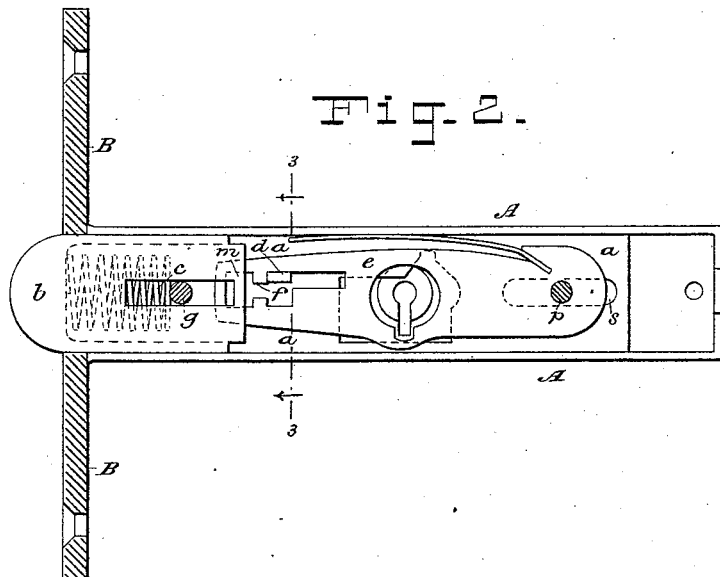


Fig. 3.

Fig. 2.



WITNESSES:

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FREDERICK JAMES BIGGS, OF LONDON, ENGLAND.

COMBINED LATCH AND LOCK.

SPECIFICATION forming part of Letters Patent No. 304,159, dated August 26, 1884.

Application filed April 10, 1884. (No model.) Patented in England October 2, 1883, No. 4,675.

To all whom it may concern:

Be it known that I, FREDERICK JAMES BIGGS, of London, England, have invented certain new and useful Improvements in Spherical-Ended Latch-Bolts, of which the following is a specification.

In latch-bolts which have a spherical-ended latch, or a latch in the form of a ball or sphere carried in a cup within the case, and which are used in connection with a corresponding striking plate or receiver on the door-frame, it has not hitherto been possible to shoot the latch forward beyond its normal position, and thereby lock it.

My invention consists in constructing spherical-ended latch-bolts in such manner that the latch or bolt is normally shot, and that it can be withdrawn from the shot position by means of a key into such a position that it merely retains, like an ordinary spherical-ended latch, the door to which it is fitted, and be again by means of the key allowed to resume its normal or shot position.

The annexed drawings illustrate my invention.

Figure 1 is a side elevation of the latch-bolt with the side of the case removed and the front plate in section, the parts being shown in the positions they normally occupy—that is to say, with the latch or bolt shot. Fig. 2 is a similar view, but showing the parts in the positions they occupy when the latch or bolt has been withdrawn by means of the key. Fig. 3 is a transverse section on the line 3 3 of Fig. 2.

A is the case, which is shown tubular, but may be rectangular. B is the front plate. *a* is the latch or bolt, which is of semi-cylindrical form in section to fit the inner periphery of the case. *b* is the spherical end of the latch, which is normally kept shot, as seen in Fig. 1, by means of a spring, *c*. This spring, as represented, is helical, and is contained within a cylindrical part of the latch, its rear end bearing against a fixed stop, *g*, in the case.

On that part of the latch or bolt *a* which is within the case I form a stump, *d*, which takes into the notches in the tumbler *e*. In the normal or shot position, Fig. 1, the stump *d* lies in a notch, *m*, in front of the projection *f* on the tumbler and the latch is thereby locked; but, on the other hand, when the key is inserted into the lock and turned it first raises the tumbler *e*, thereby freeing the latch, and

then withdraws the latch to such an extent that only the spherical end protrudes beyond the front plate, as seen in Fig. 2. In this position the latch is held back by the projection *f* of the tumbler coming in front of the stump *d*. With the latch in this position the door to which it is fitted can be opened in either direction, as with an ordinary spherical-ended latch-lock. The reverse action of the key, by lifting the tumbler, frees the latch, which is then shot by the spring *c*. The tumbler is fulcrumed on a fixed transverse pin, *p*, and the bolt *a* has a slot, *s*, through which this pin passes.

I am well aware that spherical-ended latches are very old; but prior to my invention a separate bolt has been necessary whenever it has been desired to provide a lock in addition to the spherical-ended latch.

I am also aware that latch-locks (not spherical-ended) have been made wherein the bolt is divided, its two portions being connected by a tumbler, the disengagement of which by means of a key permitting the latch end of the bolt to be shot to a greater distance, thus enabling it to serve as a locking-bolt.

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

1. A latch-bolt consisting of the combination of a casing, a sliding bolt having a spherical end and parallel sides, a spring adapted to shoot said bolt until not only its spherical end but also some of its parallel portion shall be protruded beyond said casing and caused to act as a lock, and a tumbler adapted, when said bolt is retracted by the key, to engage the same and prevent the protrusion of more than its spherical portion, whereby it then acts as an ordinary spherical-ended latch, substantially as set forth.

2. The combination of case A, sliding bolt *a*, having spherical end *b*, the spring *c*, arranged in a cavity in said bolt, and tending to shoot the same, stop *g*, against which said spring abuts, fixed to the case, and tumbler *e*, adapted to hold said bolt fully shot or to restrain it from being fully shot, substantially as set forth.

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

FREDERICK JAMES BIGGS.

Witnesses:

GEORGE C. BACON,

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