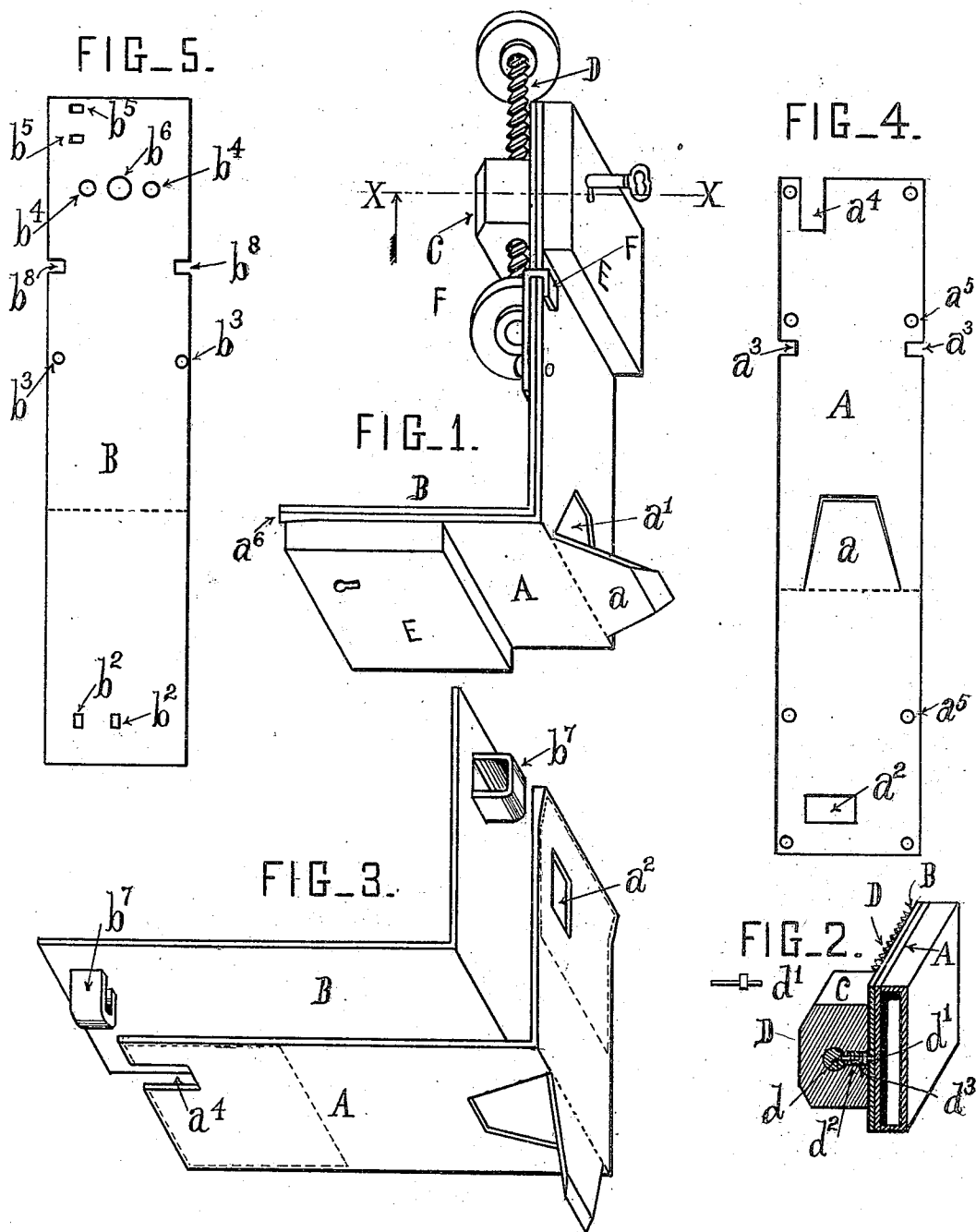


(No Model.)

J. L. FRAZIER, M. W. SPEULDA & N. DU BOIS.
DOOR SECURER.

No. 511,840.

Patented Jan. 2, 1894.



WITNESSES.

John S. Northcutt.
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UNITED STATES PATENT OFFICE.

JAMES L. FRAZIER, OF CHICAGO, AND MARTIN W. SPEULDA AND NICHOLAS DU BOIS, OF SPRINGFIELD, ILLINOIS; SAID SPEULDA AND DU BOIS ASSIGNORS, BY MESNE ASSIGNMENTS, TO THE FRAZIER LOCK COMPANY, OF CHICAGO, ILLINOIS.

DOOR-SECURER.

SPECIFICATION forming part of Letters Patent No. 511,840, dated January 2, 1894.

Application filed March 21, 1891. Renewed June 3, 1893. Serial No. 476,528. (No model.)

To all whom it may concern:

Be it known that we, JAMES L. FRAZIER, of Chicago, and MARTIN W. SPEULDA and NICHOLAS DU BOIS, of the city of Springfield, county of Sangamon, and State of Illinois, citizens of the United States, have invented a new and useful Improvement in Door-Secur-ers, of which the following is a specifica-
tion.

10 The invention herein described is a modifi-
cation and improvement on that described
in the application of the said James L. Fra-
zier for Letters Patent of the United States
for detachable door locks, Serial No. 378,055,
15 filed January 16, 1891.

The purposes of our invention are, first, to
provide simple and effective means for lock-
ing the door either on the outside or inside;
second, to provide a lock having both the
20 bolt and the staple inside of the shell of the
lock thereby making the lock more secure
and less likely to be picked; third, to provide
means whereby the projecting wedge at the
angle of the outer angle plate may be formed
25 from the same plate or piece of metal as the
outer angle plate itself thereby simplifying the
construction and reducing the cost of manu-
facture; fourth, to provide means whereby the
outer angle plate being secured to the door
30 jamb and the inner angle plate being clamped
to the door may, by closing the door, be
brought, in juxtaposition with each other so
that the staples on the inner angle plate
will project through openings in the outer
35 angle plate inside the shell of the lock so that
the bolts of the locks on the outer angle plate
will enter the staples on the outer angle plate
and lock the plates together; fifth, to provide
a plate or blank for forming the outer angle
40 plate having all perforations or slots punched
therein thereby facilitating the manufacture
and reducing the cost; sixth, to provide a
plate or blank for forming the inner angle
plate having all perforations or slots punched
45 therein thereby facilitating manufacture and
reducing the cost; seventh, to provide means
whereby the clamping screw may be auto-
matically secured, and held so that it cannot
be turned while the angle plates remain
50 locked together but may be readily turned

when the plates are unlocked. This we ac-
complish by the mechanism shown in the ac-
companying drawings, in which—

Figure 1 is a perspective view showing the
two angle plates locked together. Fig. 2 is an 55
enlarged vertical transverse section on the
line X X showing the bolt by means of which
the clamping screw is secured to prevent
turning when the plates are locked together.
Fig. 3 is a detached view of the angle plates 60
with the locks removed so as to show the sta-
ples on the inner angle plate and the openings
through the outer angle plate into which they
enter. Dotted lines indicate the position of
the locks on the outer angle plate. Fig. 4 is 55
a top view of the blank from which the outer
angle plate is formed. Fig. 5 is a top view
of the blank from which the inner angle plate
is formed.

Similar letters in all the figures indicate 70
similar parts.

The outer angle plate A is formed from a
single sheet of metal bent at a right angle,
and the projecting sharpened wedge *a* is
punched out of the body of the sheet leaving 75
an opening *a'*. The inner angle plate B is
also formed from a single sheet of metal bent
at a right angle. The end *a''* of the outer an-
gle plate may be swaged up as shown or oth-
erwise reinforced to prevent battering the 80
ends of the plates while driving the wedge *a*
into the angle of the door jamb. To each end
of the outer angle plate A is secured a lock E
of ordinary construction except that instead
of the bolt projecting through the shell and 85
entering the staple as shown and described
in the application of said James L. Frazier,
Serial No. 378,055, filed January 16, 1891, both
the bolt and the staple are enclosed within
the shell of the lock so that the end of the 90
bolt is not exposed and the bolt cannot be
thrown except by the use of the key, thereby
increasing the security of the locks. In prac-
tice we prefer to make the locks E with inter-
changeable parts, so that one key will answer 95
for both locks. To the inside of the inner
angle plate B is secured a projecting lug C
supporting the clamping screw D. To secure
the lug C to the plate B we prefer to use screws
passing through countersunk holes in the 100

plate and into the lugs; though rivets or other suitable means may be employed. Near the upper and the lower edge of the inner angle plate are pivoted latches F clearly shown in Figs. 1 and 3 which work in contiguous notches a^3 in the angle-plates and latch them together as described in the said application of said James L. Frazier.

In the transverse center of the lug C is a hole d^3 large enough to contain a coil spring d^2 . A hole of smaller diameter having the same axis extends in one direction to the center of the lug and in the opposite direction through the inner angle plate B. In the screw, D is milled a longitudinal groove or channel. Within the hole d^3 is placed the pin d' having near one end a collar as clearly shown in Fig. 2. The coiled spring, d^2 incloses the long end of the pin and one end of the spring presses against the end of the hole d^3 while the other end presses against the collar of the pin d' so that when the angle plates A and B are separated, the spring presses the locking pin d' outward until the long end of the pin is withdrawn from the channel in the screw D leaving the screw free to turn. When the angle plates A and B are in juxtaposition the plate A pressing against the projecting end of the pin d' forces the pin inward compressing the spring d^2 and causing the other end of the pin to enter the channel d in the screw D thereby locking the screw so that it can not be turned until the pin is withdrawn. When the plates A and B are separated the spring d^2 reacts to move the pin outward as already described. By placing this mechanism within the lug C it can not be tampered with as might be the case if the mechanism were exposed. In practice we have found that after the screw D has clamped the inner angle plate B to the door the screw may still be turned sufficiently to bring the channel of the screw into position for the locking pin d' to enter the channel. Near each end of the inner angle plate B is secured a staple b^7 which when the two angle plates are brought together enter the holes a^2 and a^4 and project through the outer angle plate A so that the bolts of the locks secured to the outer angle plate may enter the staples and lock the angle plates together. By having a lock at both ends of the angle plate A the door may be locked either from the inside or from the outside.

In practice we have found it advantageous in forming the outer angle plate to use a blank as shown in Fig. 4 in which a represents the sharpened wedge integral with the body of the plates, a^2 a^4 the openings to receive the staples b^7 . The holes a^3 are to receive pins by means of which the lock E may be secured to the plates A and a^3 the notches to receive the latches F. Likewise to form the plate B we use the blank shown in Fig. 5 in which b^2 b^5 are holes to receive the pins by means of which the staples b^7 are secured to the plate. b^3 are holes to receive the rivets by means of

which the latches are attached to the plate B; the notches b^8 are to receive the latches F, the hole b^6 is to receive the locking pin d' and the holes b^4 are to receive the screws securing the lug C to plate B. These blanks may be punched out under a power press in a manner well known. The operation of our device is as follows: The plate B is clamped to the door by means of the screw D. The plate A is secured to the door jamb by driving the wedge a into the rabbeted angle of the door jamb and parallel to the plate B. When the door is closed the lugs b^7 on the plate B enter the holes a^2 a^4 in the plate A and rest in position for the bolts of the locks E to enter the staples and lock the plates together. If desired to lock the door from the inside the lock on the long arm of the plate A is used, and if desired to lock the door from the outside the lock on the shorter arm of the plate A is used. To latch the door from the inside the latch F is turned until it rests in the contiguous notches a^3 in the plates A and B. To detach the lock the clamp screw D is loosened, the plate B removed from the door and the wedge a withdrawn from the door jamb.

We do not claim broadly the angle plates, the sharpened wedge, the single lock nor the latch, as all are shown and described in the said application of said James L. Frazier.

What we claim as new, and desire to secure by Letters Patent, is—

1. In a portable door lock, an outer angle plate having a swaged end, an integral wedge, staple-openings, and a lock at each end; in combination with an inner angle plate supporting a clamping screw and having staples which enter the openings in the outer angle plate substantially as shown and described and for the purpose stated.

2. In a door securer the combination of an inner angle plate provided with staples and adapted to be secured to the door, an outer angle plate attachable to the door-jamb and provided with openings for said staples, locking devices adapted to engage with said staples, and shells covering said locking devices and staples substantially as set forth and for the purpose stated.

3. In a door securer the combination of an outer angle plate attachable to the door jamb, having a wedge pressed from and integral with said angle plate, the locks one at each end of said outer angle plate, and the inner angle plate having a lug supporting a clamping screw and having near each end staples which enter openings in the outer angle plate substantially as shown and described and for the purpose stated.

4. In a door securer the combination of an inner angle plate provided with a clamping screw, a spring pressed pin for engaging the clamping screw said pin projecting through the inner angle plate and adapted to be held in engagement with the clamping screw by the outer angle plate substantially as set forth and for the purpose stated.

5 5. In a door securer a blank for forming the outer angle plate consisting of a plate of metal having a wedge a openings $a^2 a^4$ to receive staples and notches a^3 to receive latches substantially as shown and described and for the purpose stated.

10 6. In a door securer a blank for forming the inner angle plate consisting of a plate of metal having perforations $b^2 b^5$ to receive the riveted ends of the staples notches a^3 to receive latches a hole b^6 to receive a locking pin and holes b^4 to receive screws securing a lug to the plate substantially as shown and described and for the purpose stated.

15 7. In a door securer an outer angle plate having one end swaged up or reinforced a pressed out wedge integral with said angle plate two locks one at each end of the angle

plate, two openings one at each end of the angle plate and within the shell, of the lock, an 20 inner angle plate two staples secured to the inner angle plate, one at each end entering corresponding openings in the outer angle plate two latches pivoted to the inner angle plate and entering contiguous notches in the 25 inner and outer angle plate a clamping screw and a lug supporting the clamping screw all co-operating substantially as shown and described and for the purpose stated.

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NICHOLAS DU BOIS.

Witnesses:

JOHN J. CROWDER,
JOHN S. NORTHCUTT.