

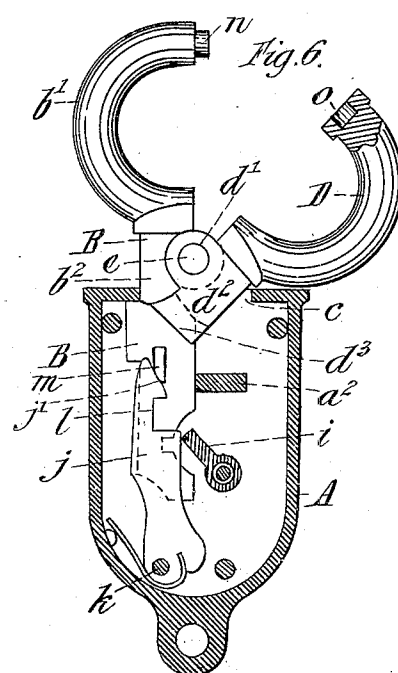
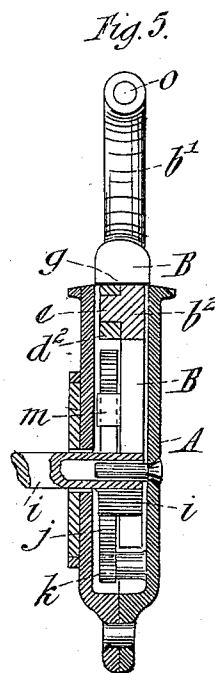
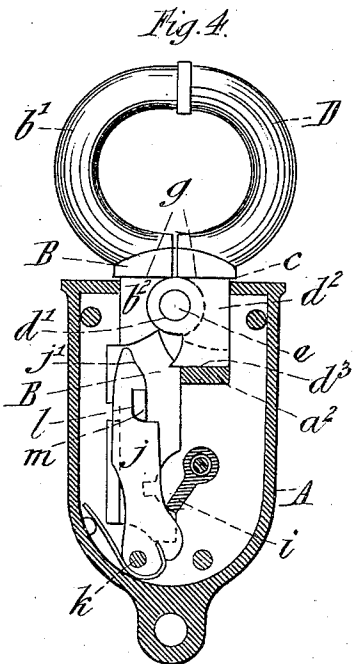
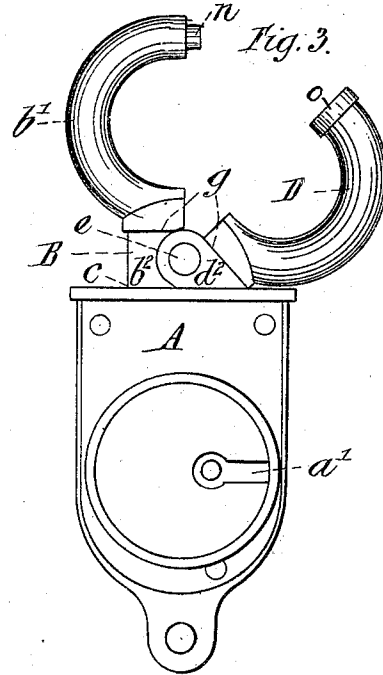
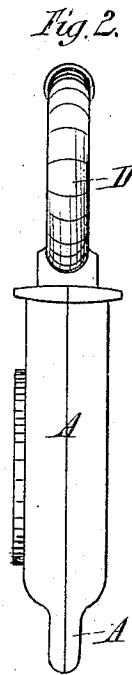
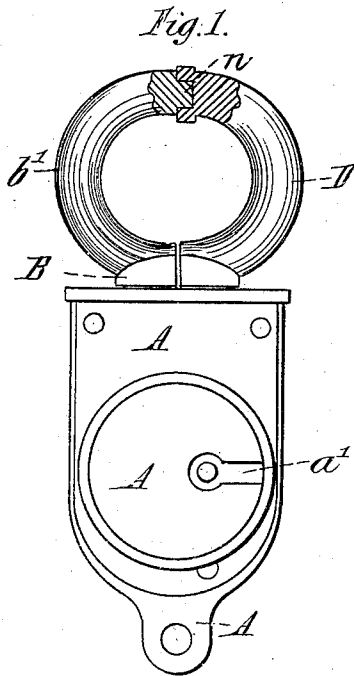
(No Model.)

D. & I. WAINE.
PADLOCK.

3 Sheets—Sheet 1.

No. 380,961.

Patented Apr. 10, 1888.



WITNESSES.

Charles Bismuth Ketley,
George Herbert Bloye.

INVENTORS.

David Waine,
Isaac Waine.

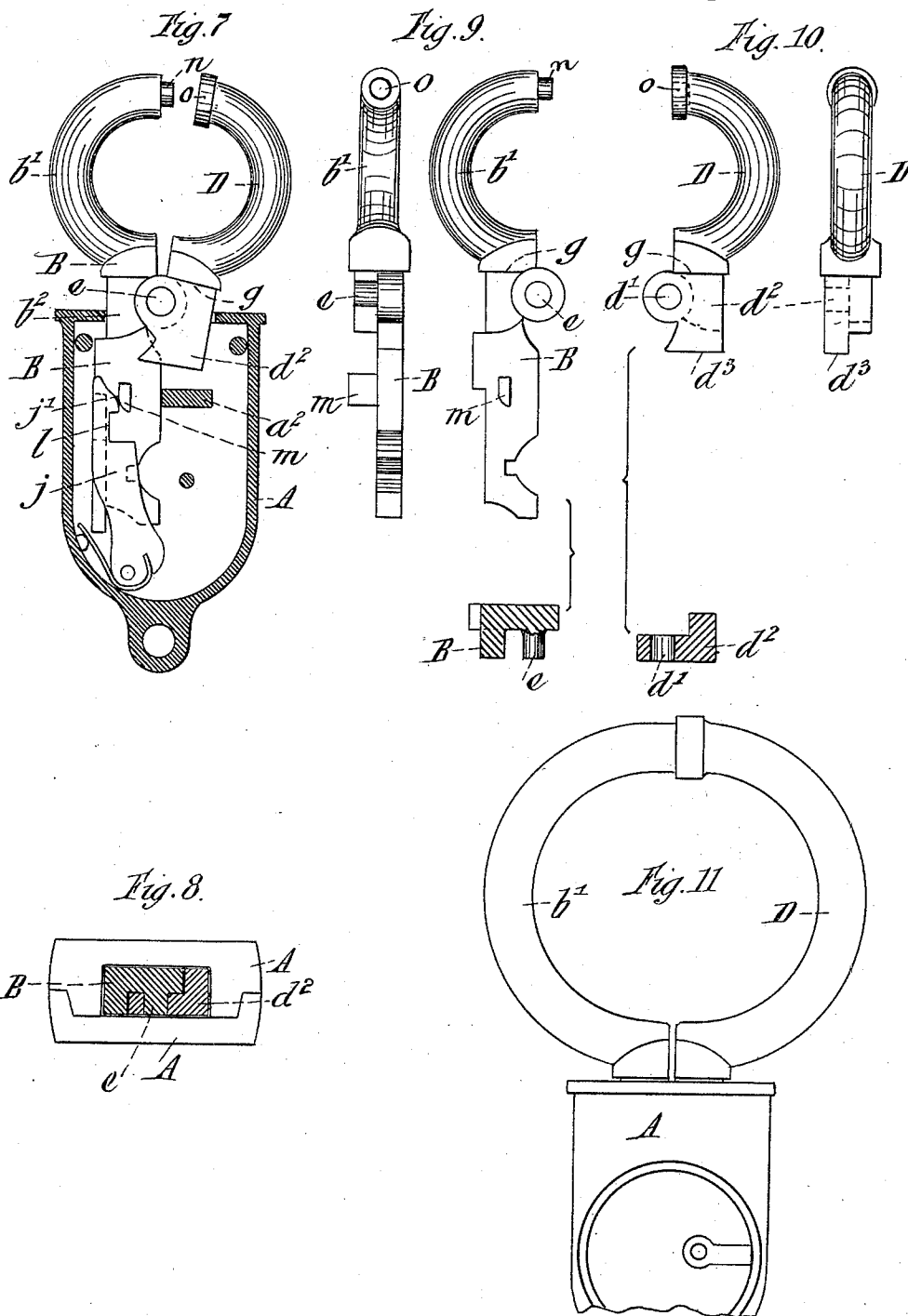
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D. & I. WAINE.
PADLOCK.

3 Sheets—Sheet 2.

No. 380,961.

Patented Apr. 10, 1888.



WITNESSES.

Charles Brewster M. Kelley.
George Herbert Bloye.

INVENTORS.

David Waine.
Isaac Waine.

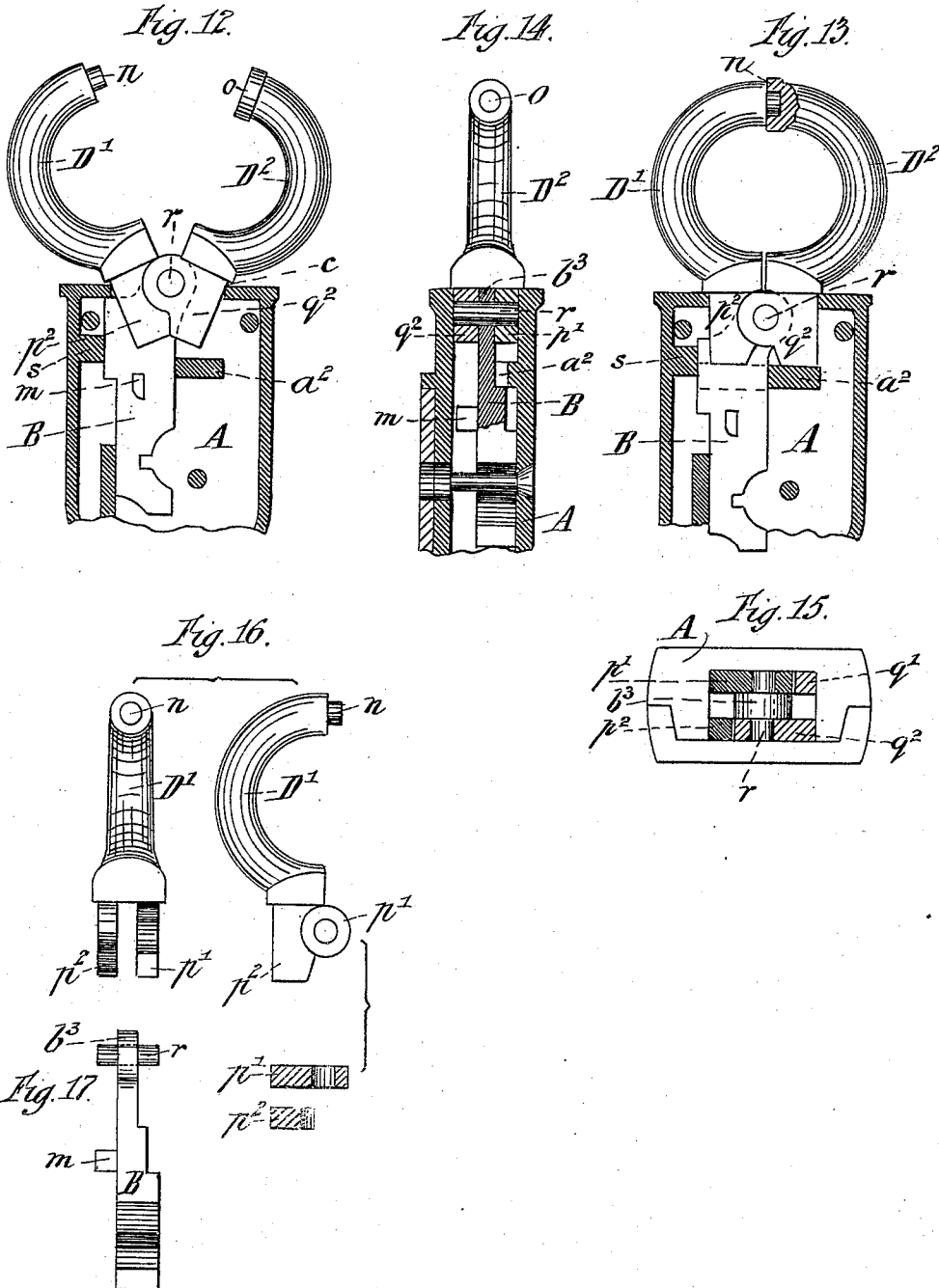
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D. & I. WAINE.
PADLOCK.

3 Sheets—Sheet 3.

No. 380,961.

Patented Apr. 10, 1888.



WITNESSES.

Charles B. Smith, Ketley.
George Herbert, Bloye.

INVENTORS.

David Waine.
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UNITED STATES PATENT OFFICE.

DAVID WAINE AND ISAAC WAINE, OF WILLENHALL, COUNTY OF STAFFORD, ENGLAND.

PADLOCK.

SPECIFICATION forming part of Letters Patent No. 380,961, dated April 10, 1888.

Application filed September 26, 1887. Serial No. 250,719. (No model.)

To all whom it may concern:

Be it known that we, DAVID WAINE and ISAAC WAINE, subjects of Her Majesty the Queen of Great Britain, both residing at Wil-
lenhall, in the county of Stafford, England, have
invented certain new and useful Improvements
in Padlocks, of which the following is a speci-
fication.

This improvement in padlocks consists in a
novel arrangement, construction, and combi-
nation of certain of the parts as herein de-
scribed, whereby padlocks are rendered self-
locking and more secure, and advantages are
obtained in the manufacture, as hereinafter set
forth.

We will describe our invention by referring
to the accompanying drawings, in which—

Figure 1 is a front elevation, and Fig. 2 a
side elevation, of a padlock constructed ac-
cording to our invention, the padlock being
represented as locked. Fig. 3 is a front ele-
vation of the same unlocked. Fig. 4 is a front
sectional elevation, and Fig. 5 is a side sec-
tional elevation, of the same locked. Figs. 6
and 7 are front sectional elevations of the same,
the lock being represented as unlocked in Fig.
6 and almost locked in Fig. 7. Fig. 8 is a
plan of the casing of the same. Figs. 9 and
10 represent details of the same. Fig. 11 shows
the same lock with an enlarged shackle. Figs.
12 and 13 are part front sectional elevations,
and Fig. 14 is a part side sectional elevation,
and Fig. 15 a partial plan, of a modified form
of padlock represented by the preceding fig-
ures; and Figs. 16 and 17 represent details of
the said modification.

Referring first more particularly to Figs. 1
to 10, both inclusive, in all of which the same
letters of reference indicate the same parts, A
is the padlock-case, a' is the key-hole, and B
is the bolt of the lock projecting through a
rectangular hole, c , in the top of the casing.
The projecting part b' of the bolt B is bow-
shaped, so as to form part (preferably one
half) of a ring-shaped shackle, the other half,
D, of which is made loose from the bolt B, and
is hinged or jointed thereto by a pin, e , formed
on the bolt B passing into a hole, d' , in a side
ear of the piece D. The end of the pin e is
riveted over, so as to form a loose joint. The
pin e is, for the purposes hereinafter described,

so situated on the bolt B that it is outside the
case A when the bolt is shot forward, (see
Figs. 3 and 6,) and is inside the case when the
bolt is withdrawn. (See Figs. 1, 2, 4, and 5.)
The neck b'' of the bolt B, immediately below
the bow part b' , and the neck d'' of the loose bow
D form in cross-section a rectangle when to-
gether and fit in the opening c in the top of
the casing. (See Fig. 8.) A shoulder, g , is
provided at the neck of the bolt B and the
loose bow D, which fits against the top of the
casing when the bolt is withdrawn, as herein-
after described. The lower end, d'' , of the
loose bow D is squared off, so as to bear against
a stop, a'' , in the case when the bolt is in its
locked position.

The internal mechanism of the padlock—that
is, that part of the bolt B which is inside the
case and is operated on by the key i to shoot
the bolt forward or to withdraw it, and the
mechanism for maintaining the bolt in either
its forward or withdrawn positions—may be
similar to the mechanism employed in other
locks. The internal mechanism represented
by the drawings is similar to that used in some
lever-locks, j being the tumbler turning on a
fulcrum, k , and having at its free end a notch,
 l , which engages with a projection, m , on the
bolt B when the bolt is in its locked position.
The tumbler is moved sidewise to free the bolt,
and the bolt moved forward or withdrawn in
the well-known manner by turning the key i .

The operation of the padlock above de-
scribed is as follows: When the bolt B is shot
back into the case, (see Figs. 1, 2, 4, and 5,) the
padlock is locked, as the pin e on which
the loose bow D turns is then inside the case
A, which latter, as the necks b'' d'' fit in the
hole c , holds the loose bow D locked against
the bow part b' of the bolt B, and the end d'' of
the bow D takes against the stop a'' inside the
casing. When the bolt B is shot forward, (see
Figs. 3 and 6,) the padlock is unlocked, as the
pin e will then be outside the case, and the
loose bow D can turn on its joint and be opened
out from the bow b' of the bolt B, so as to al-
low of the padlock being locked onto or re-
moved from a staple or the like, as may be
required.

This padlock is self-locking, as on pushing
the bolt B inward the projection m on the bolt

acts upon the inclined end j' of the tumbler j , and pressing the said tumbler sidewise (see Fig. 7) passes into the notch l and locks the bolt.

In order to more effectually prevent the shackle being wrenched open by twisting the outer ends of the two parts b' D sidewise, we form a projecting pip, n , on the end of one part, which, when the padlock is locked, fits into a corresponding hole, o , in the end of the other part.

Instead of one only of the halves of the shackle being made loose from the bolt B , as above described, both halves may be made loose and similarly hinged to the bolt B , as in the modification illustrated by Figs. 12, 13, 14, 15, 16, and 17. The two halves of the shackle are respectively marked D' and D'' . At the bottom of each of the parts D' D'' is a pair of ears, those on D' being marked p' p'' and those on D'' being marked q' q'' . The end b^3 of the bolt B fits between these ears, and they are there jointed by a pin, r , passing through them and through the bolt. As in this case the hole c does not form a guide for the bolt, an additional guide, s , is formed inside the case, between which and the stop a^2 the bolt B can slide. The parts which we have not described in this modification are similar to corresponding parts in the padlock hereinbefore described, and illustrated by Figs. 1 to 10, both inclusive.

In the manufacture of these improved padlocks there is a considerable advantage, as the size of the shackle can be varied without altering the size of the padlock-case and the

mechanism contained therein—for instance, as shown by Fig. 11, where the size of the shackle is considerably increased without altering the casing A .

It will be evident that the shape of the shackle can be varied without departing from the nature of our invention, as instead of being ring-shaped it may, for instance, be a hollow triangle or an oval ring, and it may be so divided that one arm or bow is larger than the other.

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

1. In a padlock and in combination, a non-rotating case, a shackle formed in two parts, a sliding support for said parts, and operating means for the sliding support, substantially as described.

2. In combination, the case, the shackle formed in two parts, a sliding support, B , the pivot-point e of the two parts of the shackle being on said support and adjacent to the opening in the case, a tumbler and operating means for the support, whereby the pivot may be thrown into and out of the case, substantially as described.

In testimony whereof we have each signed in the presence of two subscribing witnesses.

DAVID WAINE.
ISAAC WAINE.

Witnesses:

CHARLES BOSWORTH KETLEY,
GEORGE HERBERT BLOYE.