

(No Model.)

H. H. BALLARD.
OPENING INSTRUMENT FOR BINDING CLIPS.

No. 439,994.

Patented Nov. 4, 1890.

Fig 1.

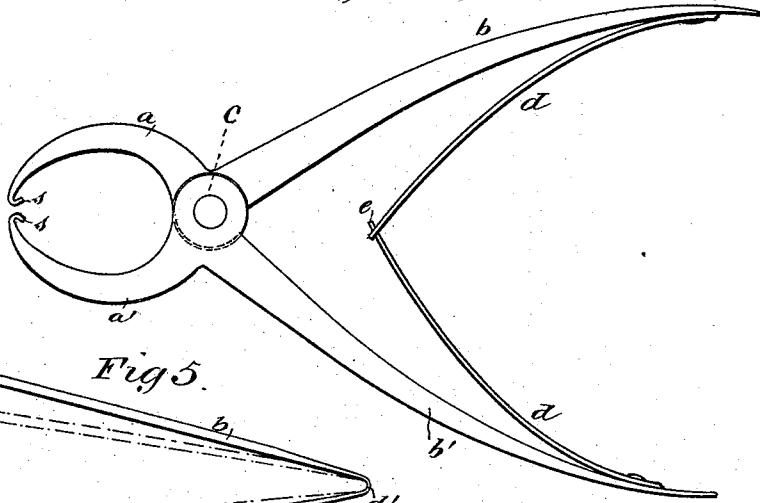


Fig 5.

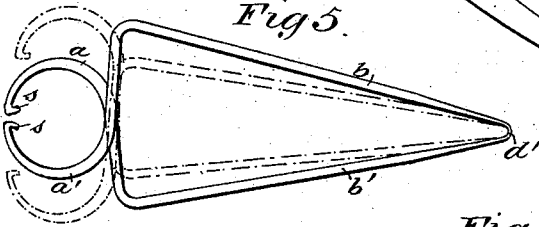


Fig 2.

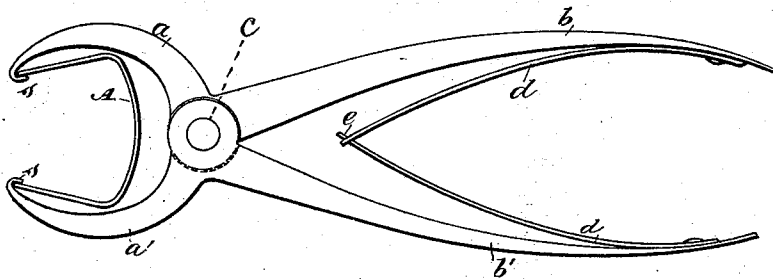


Fig 3.

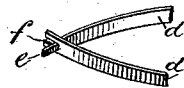
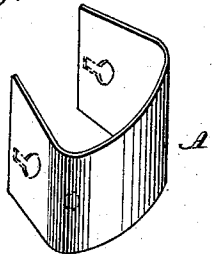


Fig 4.



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HARLAN H. BALLARD, OF PITTSFIELD, MASSACHUSETTS.

OPENING-INSTRUMENT FOR BINDING-CLIPS.

SPECIFICATION forming part of Letters Patent No. 439,994, dated November 4, 1890.

Application filed July 16, 1890. Serial No. 358,916. (No model.)

To all whom it may concern:

Be it known that I, HARLAN H. BALLARD, of
Pittsfield, in the county of Berkshire and
State of Massachusetts, have invented a new
and useful Improvement in Opening-Instru-
ments for Binding-Clips, of which the follow-
ing is a full, clear, and exact description.

This invention relates to instruments for
opening spring binding-clips used to hold pa-
pers, pamphlets, magazines, and other arti-
cles together. Such clips are usually of ap-
proximate U shape with their sides inclining
toward each other from back to front, and
when it is required to put such a clip onto
the papers or articles to be held it is neces-
sary to open or spring the sides of the clip
apart. To do this, the spring-clips have been
provided with fixed handles for opening them
arranged to project backwardly from the clip;
but such handles are greatly in the way, and
to avoid their use, yet to provide for the easy
opening of the clip, I proposed, as described
in Letters Patent No. 430,331, issued to me
June 17, 1890, to construct the spring binding-
clip with openings in it adapted to receive in-
dependent levers for springing its sides apart
or opening it. These levers were combined
to form a pinchers-like instrument and had to
be specially constructed to engage with the
walls of the holes in the clip.

I now propose and the instrument which is
the subject of this specification has for its
object an improvement in the independent
levers for springing the sides of the clip apart
or opening it. This improvement consists,
essentially, in making the engaging ends of
said levers of a peculiarly bent or hooked
form, so that they may engage with the sides
of the clip either by passing into the holes in
the sides of the clip, as was the case in the
instrument described in my Letters Patent
hereinbefore referred to, or, preferably, by en-
gaging with the sides or ends of a clip having
no such holes, so that a perfectly-plain or
closely-constructed clip may be used and be
quickly opened when desired.

Reference is to be had to the accompanying
drawings, forming a part of this specification,
in which similar letters of reference indicate
corresponding parts in all the figures.

Figure 1 represents a longitudinal view, as

seen from the face side, of a clip-opening in-
strument embodying my invention, showing
the same closed. Fig. 2 is a furtherlike view
showing the instrument open and as applied
to opening a binding-clip. Fig. 3 is a view
in perspective of certain springs in part ap-
plied to the handles of the instrument, and
Fig. 4 is a view in perspective of a spring
binding-clip to the opening of which the in-
strument is suitable. Fig. 5 is a side view of
the instrument under a modified form of con-
struction.

Referring in the first instance to the first
four figures of the drawings, my improved
clip-opening instrument is in the form of a
pair of detachable and engaging nippers, but
with its levers or main members—that is, its
jaws *a a'*, with their attached handles *b b'*—
not arranged to cross each other at the pivot
c uniting them, so that on closing to the han-
dle the jaws open, and vice versa. In its nor-
mal state the jaws *a a'* of the instrument,
which are generally of a curved or bowed
shape, are held closed by suitable spring-
pressure applied to throw the handles *b b'*
open. A convenient spring arrangement for
this purpose consists of two flat or bowed
springs *d d*, secured at their back ends to the
inside of the outer ends of the handles and
engaging in a free or sliding manner, as by a
tongue *e* and slot *f* at their free ends, to in-
sure the two members formed by the jaws and
handles working in unison with each other
and giving to the instrument a spring-like ac-
tion. The outer ends of the curved jaws *a a'*
are of special construction—that is, are made
with hooked extremities *s s* turning inward,
thereby virtually forming U-shaped recesses
between said extremities and the adjacent
portions of the jaws. To apply such instru-
ment to spring open a clip—such, for instance,
as shown at *A* in Figs. 2 and 4—when it is re-
quired to put said clip onto the papers or ar-
ticle it is designed to hold the handles *b b'*
are closed by the hand toward each other,
which opens the jaws *a a'* to receive between
them the spring-clip *A*, and so that on relax-
ing pressure upon the handles the free ex-
tremities of the spring sides of the clip will
enter within the hooked ends *s s* of the jaws,
as shown in Fig. 2, and by farther squeezing

or closing the handles *b b'* the jaws *a a'* will be farther opened to spring outward the spring sides and mouth end of the clip with which said jaws are engaged. This opens the spring-clip to apply it to the article or articles it is intended to bind or hold, after which the instrument is disengaged from said clip, the elasticity of which exerts the necessary binding action.

10 In the modification shown in Fig. 5 of the drawings the levers, instead of being pivoted together, are made all in one piece of spring metal or having a back spring portion *d'*, uniting the handle parts *b b'* of the levers, and 15 the jaw-end portions *a a'* of the levers, having the hook-shaped formations *s s* in their outer engaging extremities, are made to cross each other; but the action is the same as that described for the other modification.

20 By means, then, of this lever-instrument, which forms a separate or detachable handle to open the spring-clip by, the same may readily be applied to and made to engage with or over the mouth end of the clip, whereby a 25 plain or closely-constructed and smooth clip or cluster of such clips may be used—that is, a clip without any projections on or perforations in it—for the opening-instrument to engage with; or the same instrument may be 30 used to open a clip constructed substantially as described in my Letters Patent hereinbefore referred to, having openings in its sides, as shown by dotted lines in Fig. 4 of the accompanying drawings, by simply entering the 35 hooked end *s s* of the jaws through said openings, so as to engage with the walls of them and manipulating the instrument as hereinbefore described.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. In a pinchers-like instrument for opening spring binding-clips, the jaws at the forward ends of the handle portions of the instrument bent over or inward and backward at their fronts in a substantially-parallel manner upon themselves, thereby forming integral hook-shaped extremities open in the rear, substantially as and for the purposes specified.

2. In a pinchers-like instrument for opening spring binding-clips, the opening and closing portions of the instrument, each consisting of a single member composed of a handle portion and bowed jaw, said members being united to open at their jaw ends on closing the handles and the jaws being bent over and inward or backward at their outer ends in a substantially-parallel manner, forming hook-shaped extremities open in the rear, essentially as set forth.

3. In an instrument for opening spring binding-clips, the combination of the bowed jaws *a a'*, having hook-shaped outer extremities *s s* and handles *b b'*, the pivot *c*, uniting said members, composed each of a jaw and handle on opposite sides of the axis of the pivot, and the springs *d d*, attached to the handles and in sliding engagement with each other, substantially as shown and described.

HARLAN H. BALLARD.

Witnesses:

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MAGGIE JOYCE.