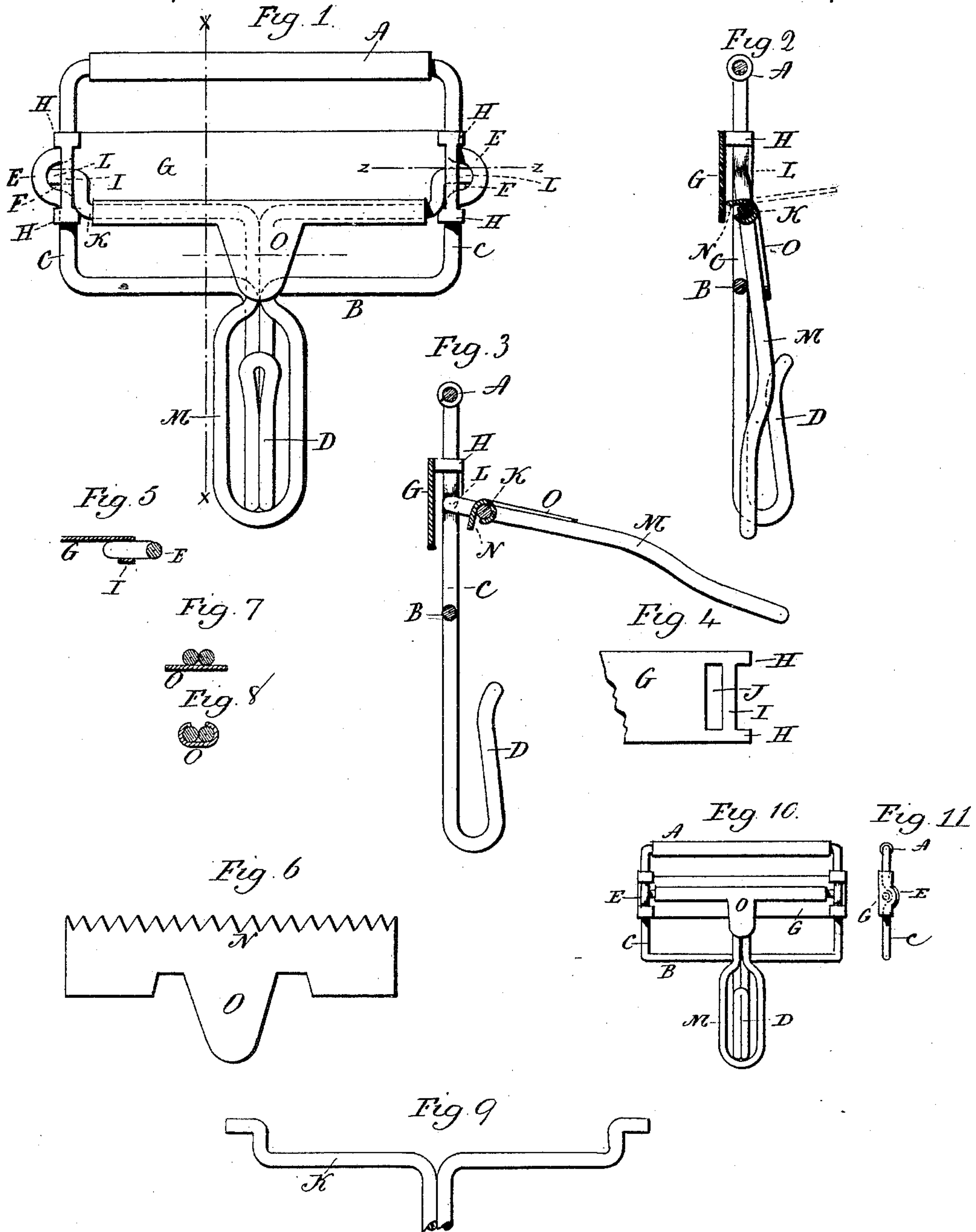


(No Model.)

D. L. SMITH.
SUSPENDER BUCKLE.

No. 462,457.

Patented Nov. 3, 1891.



Witnesses.
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UNITED STATES PATENT OFFICE.

DWIGHT L. SMITH, OF WATERBURY, CONNECTICUT, ASSIGNOR OF ONE-HALF
TO EARL A. SMITH, OF SAME PLACE.

SUSPENDER-BUCKLE.

SPECIFICATION forming part of Letters Patent No. 462,457, dated November 3, 1891.

Application filed July 6, 1891. Serial No. 398,469. (No model.)

To all whom it may concern:

Be it known that I, DWIGHT L. SMITH, of Waterbury, in the county of New Haven and State of Connecticut, have invented a new
5 Improvement in Buckles; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same,
10 and which said drawings constitute part of this specification, and represent, in—

Figure 1, a front view of the buckle complete; Fig. 2, a vertical section on line *x x* of Fig. 1; Fig. 3, the same section as Fig. 2, showing the lever as turned forward out of engagement with the frame or hook; Fig. 4, a detached view of one end portion of the bar G,
15 illustrating its construction as prepared to secure it to the frame; Fig. 5, a longitudinal central section on line *z z* of Fig. 1, showing the frame and clamping-bar secured thereto; Fig. 6, the blank from which the jaw is formed; Fig. 7, a transverse section cutting on line *y y* of Fig. 1; Fig. 8, a modification illustrating a
20 means for securing the jaw to the lever; Fig. 9, the lever detached; Fig. 10, a front view of a buckle, showing modifications; Fig. 11, an end view of the same.

This invention relates to an improvement
30 in that class of buckles made from wire and adapted especially for suspenders, and particularly to the buckles of this class in which the frame is provided with a stationary clamping-bar, combined with a lever hinged in the frame, so as to operate in connection with said
35 clamping-bar to clasp the suspender or strap passed between the jaw of said lever and the said bar. In buckles of this class as more generally produced the lever is constructed
40 with a loop or tongue which extends down to the hook formed as a part of the frame, and to which hook the suspender ends are attached, the said extension or projection on the lever being designed to secure the ends upon the hook;
45 but when the suspender-ends are attached to the hook the lever is locked in its closed position. It is therefore necessary to detach the suspender ends in order to turn the lever away from its clamping position, so as to release the
50 strap and permit its readjustment.

The object of my invention is to overcome these difficulties; and it consists in the con-

struction of the buckle, as hereinafter described, and particularly recited in the claims.

The frame of the buckle is composed of two
55 sides A and B, connected by ends C C, making the frame substantially in the form of a parallelogram. The frame is made of wire. From the lower bar B is the usual depending hook D, the frame and hook being made complete
60 from a single piece of wire, the ends of the wire meeting on the upper side A, which is inclosed by a metal sleeve, as usual in this class of buckles. As here represented, about
65 midway of the length of the two ends an outward bend E is made in the wire, which forms a recess F upon the inside of the ends of the frame directly opposite each other.

G represents the clamping-bar, which is made from sheet metal, extending across the
70 frame. The clips on the ends of the bar are closed over the ends of the frame, as at H, and so as to firmly unite the clamping-bar with the frame.

The recesses F are to form the seats or bear-
75 ings for the trunnions or pivots of the lever. To close the recesses upon opposite sides of the frame the clamping-bar is constructed as seen in Fig. 4. The ears H H project from the end of the bar and of a length sufficient
80 to close around the sides of the frame. These ears are connected by a bridge or bar I about midway of their length, and so as to leave an opening J back of the bar I. This opening J corresponds to the outside bend E of
85 the frame, and so that as the ears are turned over the frame the opening J will pass onto the bend E, as seen in Figs. 1 and 5, while the bar I will cross the recess F upon one side. The bar itself will cover the recesses upon
90 the other side and thus close the opposite sides of the recesses, leaving an opening into the recesses from the inside of the frame.

The lever is made from wire and consists of a bar K, terminating at each end in a pivot
95 L; but, as represented, the pivots are offset from the bar—that is, are out of the plane of the bar, but parallel therewith, as seen in Fig. 9, the pivots being adapted to enter the recesses F in the frame, as clearly seen in
100 Fig. 1, and so that the lever may turn on the pivots L in the backward and forward swinging of the lever.

The bar is constructed with an extension,

(here represented as in the form of a loop M,) which is constructed to close over the tongue, and so that the eye of the suspender-ends may be placed onto the hook after the loop M is set over the hook, thus holding the lever in the closed position. This feature of holding the lever is a common and well-known construction, for which any other of the known constructions of lever, whereby it may be locked, may be substituted.

On the bar K of the lever the clamping-jaw N is arranged. This jaw is made from sheet metal, as seen in Fig. 6. One edge is preferably serrated. It is of a shape to adapt it to be closed around the bar K of the lever, as represented in Figs. 1 and 3, but is hinged to it.

Midway of the length of the jaw N is a downwardly-projecting tongue O, which is adapted to lie upon the surface of the downwardly-projecting portion of the lever, as seen in Figs. 2 and 3. The tongue O forms a handle, by which the jaw may be turned on the bar of the lever, as indicated in broken lines, Fig. 2. The edge of the jaw is bent, so as to stand at substantially right angles to the plane of the lever when in the closed position, as seen in Figs. 2 and 3, and so that when in that closed position the jaw is adapted to engage the suspender passed between it and the clamping-bar G; but because the jaw is pivoted or hinged to the lever it may be turned so as to take the jaw out of its clamping position, as represented in broken lines, Fig. 2, and thus leave the space between the jaw and the clamping-bar G free for the introduction or adjustment of the suspender, and when the adjustment is made the jaw is again closed, as represented in Fig. 2. By this arrangement of the jaw the suspender may be adjusted without necessarily disengaging the suspender-ends from the hook, a great convenience in the use of this class of buckles.

By constructing the clamping-lever with the pivots offset, as I have described, when the lever is turned away from its locked position, as seen in Fig. 3, it opens a wide space between the bar or jaw of the lever and the clamping-bar G, which gives a greater freedom for the introduction and adjustment of the suspender than when the clamping-jaw is substantially in line with the pivots. The jaw may be made stationary on the lever, so as not to turn thereon as a pivot, and this may be done, as represented in Fig. 8, by simply closing the sides of the tongue O around the downward or loop projection of the lever. The offsetting of the pivots is not essential to the operation of the hinged jaw O, as the pivots may be in line with the jaw, as represented in Fig. 10.

While I prefer to make the pivot-bearings for the lever by the outward bends on the

frame, so that the bends will stand in the plane of the frame, they may be made by a forward bend, as seen in Figs. 10 and 11, so that the bent portion of the frame will form the bearing on one side, the clamping-bar closing the opposite side of the recess formed by the bend.

The outward bends in the plane of the frame to form the pivot-bearings may be employed in buckles having other mechanism for producing the engagement of the strap with the frame. I therefore do not wish to limit this part of my invention to any particular construction of lever or jaw.

From the foregoing it will be understood that I do not wish to limit the invention to any particular method of pivoting the lever to the frame, it only being essential that the jaw shall be hung upon the lever, so as to swing independent of the lever itself, and whereby the jaw may be opened or closed without turning the lever upon its pivot.

I am aware that buckles have been constructed in which a lever has been hung in the frame and extended downward, so as to form a guard for the hook, combined with a clamping-lever for the strap independent of said guard-lever, and therefore do not claim, broadly, such a construction.

I claim—

1. A buckle-frame made from wire, composed of two sides connected by ends, the said ends each constructed with an outward bend in substantially the plane of the frame, forming pivot-recesses upon the inside of the frame, combined with a clamping-bar, its ends constructed with an opening J, corresponding to the outward bends of the frame and the ends of the bar, closed around the ends of the frame, the said openings J passing over the outward bends of the frame, and so that that portion of the bar adjacent to the sides of the said openings will cover the opposite sides of the recesses formed by the bends in the frame, substantially as described.

2. A buckle having a frame made from wire, consisting of two sides connected at their ends, a clamping-bar extending across the frame and secured to the two ends thereof, a lever made from wire hung to the frame and so as to swing therein, the lever having a longitudinal bar K, with a frame interlocking extension therefrom, combined with a jaw hinged to said bar K of the lever, and so as to swing thereon independent of the swinging movement of the lever, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

DWIGHT L. SMITH.

Witnesses:

FREDERIC C. EARLE,
LILLIAN D. KELSEY.