(No Model.)

R. D. SEWARD & S. D. NOEL.

TROUGH CLAMP.

No. 319,139. Patented June 2, 1885.

Fig. 1.

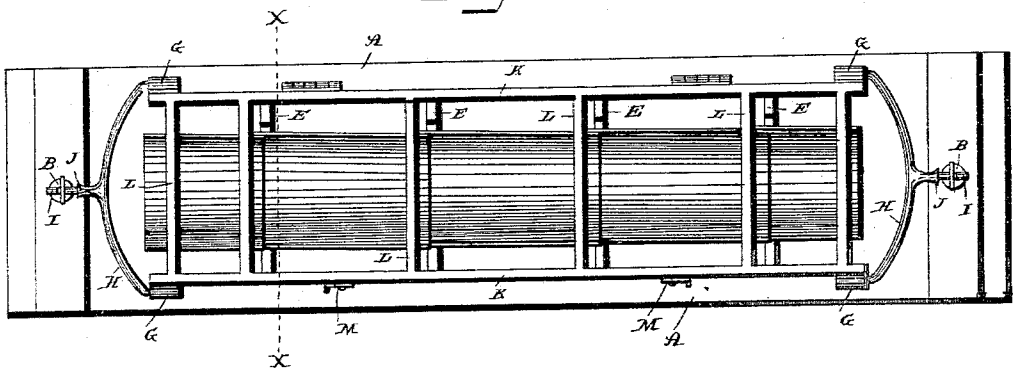


Fig. 2.

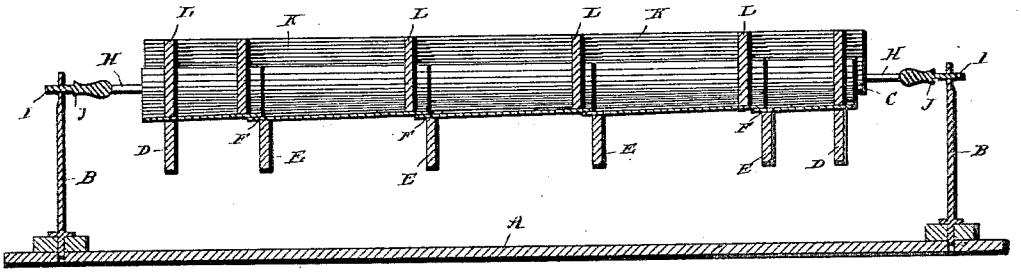


Fig. 3.

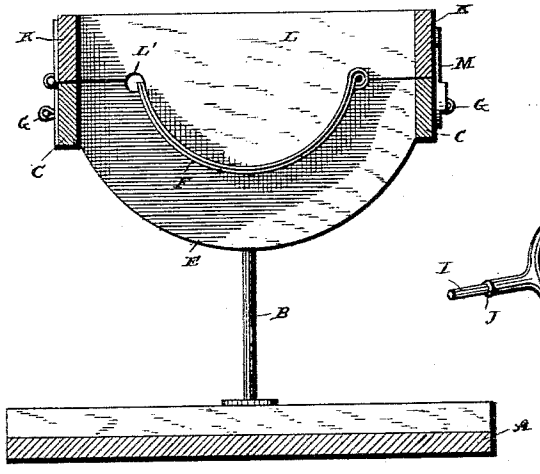
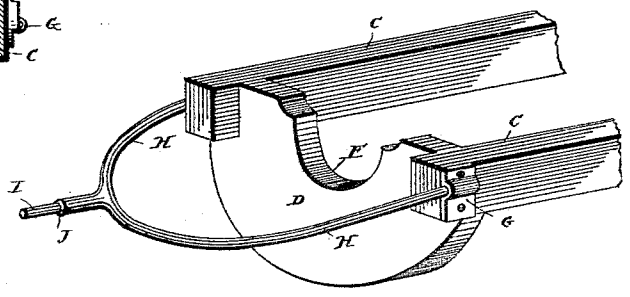


Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

ROBERT D. SEWARD AND SYLVESTER D. NOEL, OF BLOOMINGTON, INDIANA.

TROUGH-CLAMP.

SPECIFICATION forming part of Letters Patent No. 319,139, dated June 2, 1885.

Application filed March 7, 1885. (No model.)

To all whom it may concern:

Be it known that we, ROBERT D. SEWARD and SYLVESTER D. NOEL, citizens of the United States, residing at Bloomington, in the county of Monroe and State of Indiana, have invented certain new and useful Improvements in Trough-Clamps, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in clamps for temporarily securing together the sections of eaves-troughs during the operation of soldering such sections together; and it has for its objects, first, to construct an eaves-trough clamp in such manner as that both sides of the joint between the sections of the trough will be exposed, so that solder can be applied to both sides of such joints without changing the position of the sections in the clamp; second, to also so construct such clamp as that troughs with the bead either on the right or left hand side may be received and held; and, third, to provide the clamp with detachable bails and to mount the bails in standards, whereby the clamp can be rotated so as to present the concave or convex sides of the trough successively toward the workman.

In the accompanying drawings, forming a part of this specification, and on which like letters of reference indicate the same or corresponding features, Figure 1 represents a plan view of our improved trough-clamp, showing the same mounted in standards; Fig. 2, a longitudinal vertical sectional view of the same; Fig. 3, a transverse sectional view thereof on the line *x x* of Fig. 1, and Fig. 4 a detached enlarged perspective view of a portion of a clamp and one of the bails.

The letter A designates a platform or base, in which are mounted the vertical standards B, having eyes in their upper ends for the reception of the bail-spindles, as will presently appear. These standards B may, however, be attached to the floor of the shop or to a bench.

The letter C designates the frame proper of the clamp, the same consisting of side pieces or rails of suitable dimensions, usually about seven feet long, and to these pieces are connected the heads D and the intermediate cross-pieces E, the number and distance apart of which may be varied to suit individual circumstances, the pieces next to the heads being nearer to the heads than the intermediate pieces to each other. These cross and end pieces are provided with semicircular or approximately semicircular trough-seats F, by cutting away the material to that configuration, the under edges of these transverse pieces being also preferably curved, so as to make a rocker when the bails are detached, and to prevent catching the garments of the workmen as the clamp is inverted. The heads and cross-pieces are further provided on their upper edge and at either side of the trough-seats with semicircular depressions, which afford seats for the beads of the trough-sections, whether these beads be on the right or left hand side.

At either end and on both sides the clamp-frame proper is provided with metallic eyes G, which receive the ends of the bails H, from about the middle of which extend the spindles I, having collars J. These spindles find their bearings in the eyes of the standards B, and thus support the clamp and allow it to swing clear of the base A or other support.

The letter K designates the side pieces of the upper frame of the clamp, the same being also of such dimensions as may be found proper, and agreeing in length with the rails of the frame C. These side pieces, K, are likewise provided with the head and intermediate transverse pieces, L, one edge of each of which is of approximately semicircular form, so as to fit down within the trough, and at either side of the semicircular portion are formed the semicircular bead-seats L', and the position of which with respect to each other is the same as the position of the heads and transverse pieces of the frame proper with respect to each other. While the upper head-pieces, however, are placed substantially above or in a vertical line with the lower head-pieces, the intermediate upper cross-pieces are placed to one side of the corresponding lower cross-pieces, so as to present to view the ends of the trough-sections, both on the inner and outer sides of the trough.

The side pieces, K and C, are hinged to-

gether at one side of the clamp, and are provided at the other side, respectively, with hooks and studs M, whereby after a number of trough-sections have been fitted together, by allowing one to lap the other, with the bead of one section extending into the bead of the adjacent section and placed within the clamp, the two parts of the clamp are locked together. Thus it will be observed that the trough-sections during the operation of soldering them together are not only held firmly together and kept in a straight line, but that the ends of the lapping sections are exposed, so that solder can be applied to them as well on the inner as on the outer surfaces.

It is also to be observed that the configuration and size of the head and intermediate transverse pieces may be varied, so as to fit a variety of shapes and sizes, the entire width of the clamp being usually about ten inches.

Owing to the detachability of the bails, the same may be removed and, together with the clamp, set aside in some corner of the shop, so as not to be in the way.

Another object in making the bails detachable is to allow two or more long trough-sections which would extend beyond one or both ends of the clamp being placed in the clamp so as to be soldered together. If the bails were not detachable they would stand in the way of the projecting ends of these sections.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a trough-clamp, the combination, with the frame proper mounted in standards, and having approximately semicircular trough and bead seats in its head and transverse pieces, of the upper frame hinged thereto, and having its head and intermediate transverse pieces formed with correspondingly-shaped lower edges, the intermediate pieces of the frame proper and the upper frame being set to one side of each other.

2. In a trough-clamp, the combination of the frame proper and the upper frame, hinged together and provided, respectively, with the head and intermediate transverse pieces, those of one frame having trough and bead seats, and those of the other having correspondingly-shaped lower edges and bead-seats, the intermediate pieces of the respective frames being placed to one side of each other.

3. In a trough-clamp, the combination, with the detachable pivotally-mounted bails and the frame proper connected therewith, and having its head and intermediate transverse pieces constructed with approximately semicircular trough-seats and with similarly-shaped bead-seats at either side of the trough-seats, of the upper frame hinged to the frame proper, means to clamp them together, the upper frame having its head and transverse pieces constructed with approximately semicircular lower edges and with like bead-seats at either side, the intermediate pieces of the respective frames being placed to one side of each other.

4. A trough-clamp consisting of the frame proper having head and intermediate transverse pieces formed with semicircular trough-seats and like bead-seats at either side of the trough-seats, and of the upper frame hinged thereto, and having its head and transverse pieces constructed with semicircular lower edges and with like bead-seats at either side, and devices to clamp the frames together.

5. In a trough-clamp, the combination, with the frame proper provided with eyes at its ends, of the detachable bails fitted to said eyes and having projecting spindles.

In testimony whereof we affix our signatures in presence of two witnesses.

ROBERT D. SEWARD.
SYLVESTER D. NOEL.

Witnesses:
JOHN W. SHOEMAKER,
CHARLES H. MCPHEETERS.