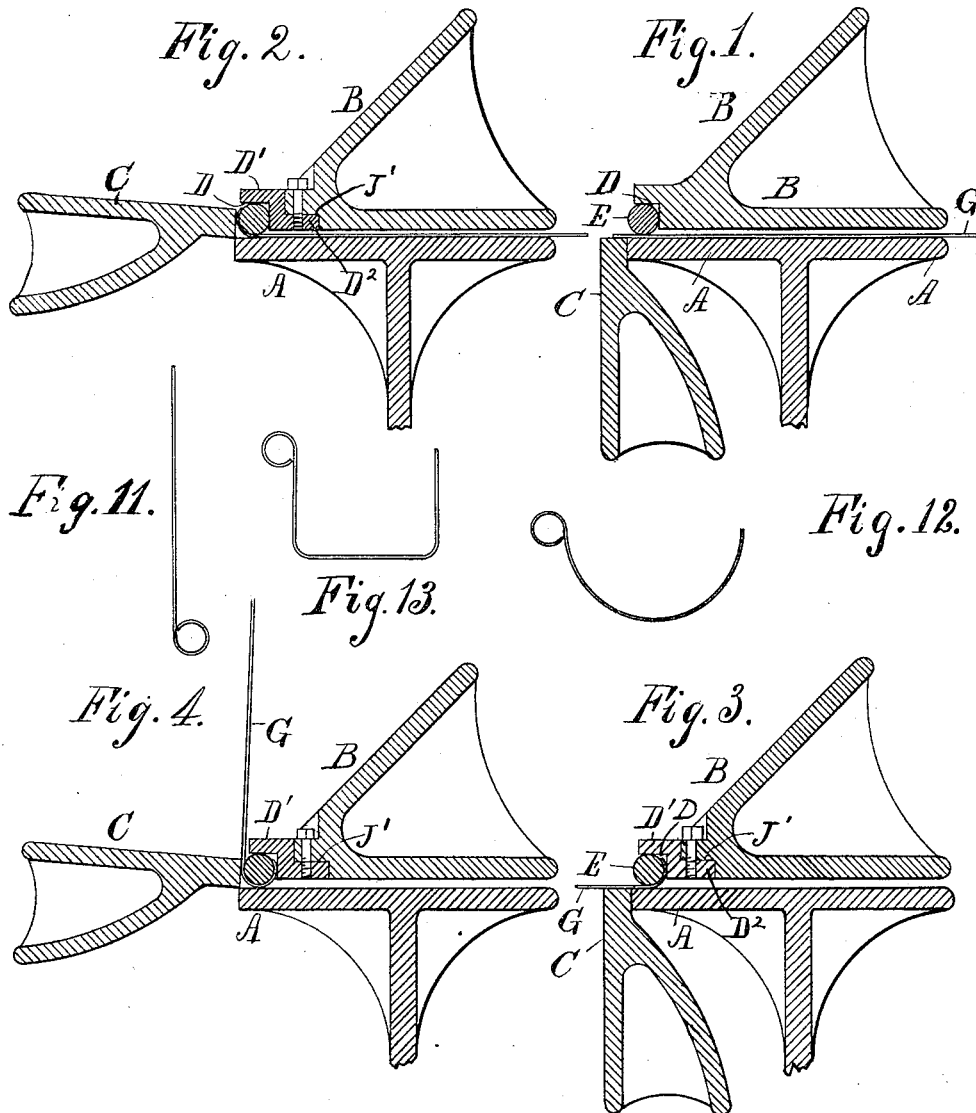


P. SHACKLETON.
GUTTER BEADING DEVICE.

No. 348,423.

Patented Aug. 31, 1886.



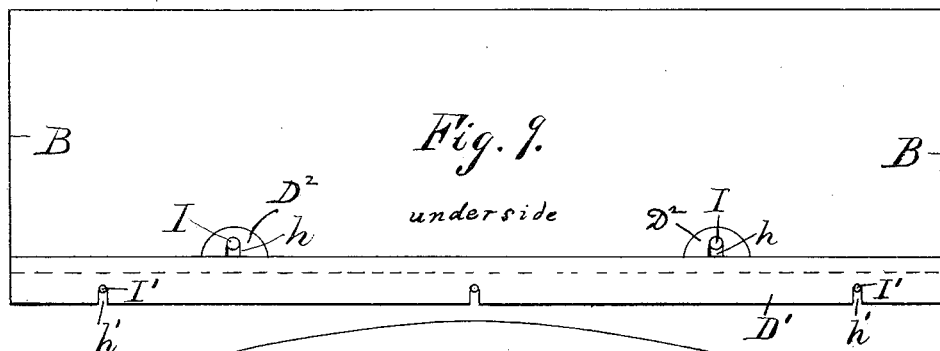
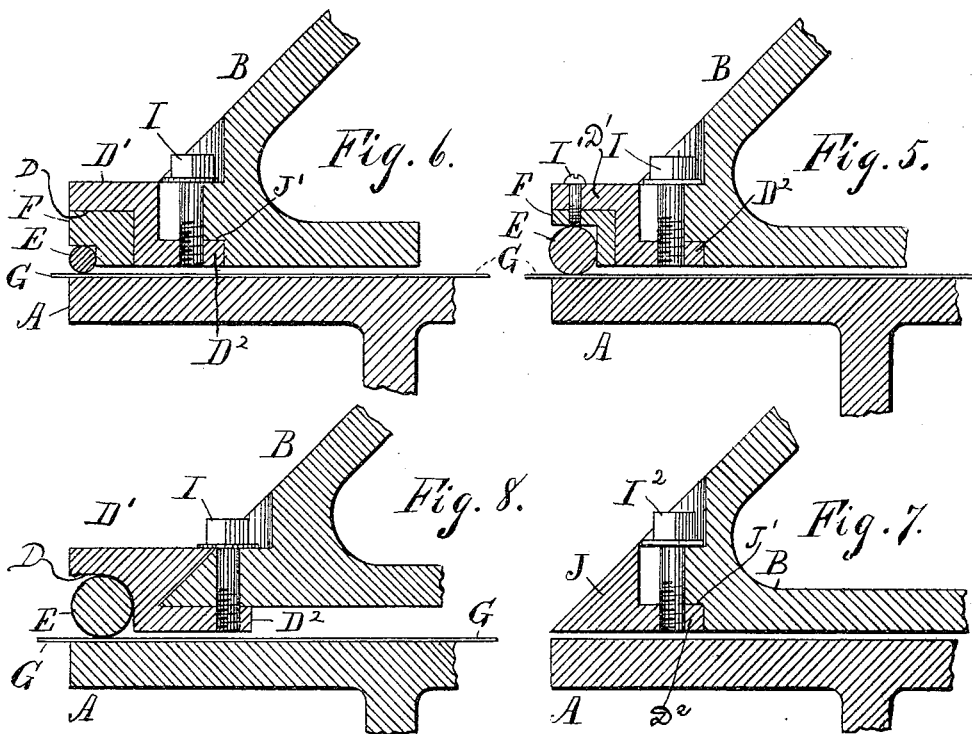
Attest:
L. Lee
Henry J. Theberath, per Crane & Miller, Atty.

Inventor.
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UNITED STATES PATENT OFFICE.

PARKER SHACKLETON, OF CLEVELAND, OHIO.

GUTTER-BEADING DEVICE.

SPECIFICATION forming part of Letters Patent No. 348,423, dated August 31, 1886.

Application filed May 29, 1886. Serial No. 203,599. (No model.)

To all whom it may concern:

Be it known that I, PARKER SHACKLETON, a citizen of the United States, residing at Cleveland, Cuyahoga county, Ohio, have invented certain new and useful Improvements in Gutter-Beading Devices, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

The object of this invention is to furnish a simple construction, whereby the bending of gutter-beads may be effected either by an independent apparatus or by a cheap attachment to an ordinary cornice-brake and without the use of a groove in the forming-rod.

My device may be applied to an independent machine or as a removable attachment for any cornice-brake in which the upper or movable clamping-leaf is adjustable to and from the edge of the lower stationary leaf. The beading-machine shown herein may also be converted into a species of cornice-brake at pleasure by removing the rabbeted fixture and substituting a beveled flange or a former of any desired shape upon the front edge of the upper leaf.

My improvements will be understood by reference to the annexed drawings, in which Figures 1 to 8, inclusive, represent transverse sections of two or three of the required leaves.

As the means for mounting and operating the three principal members in a cornice-brake—namely, the fixed clamping-leaf A, the movable clamping-leaf B, and the turning-leaf C—are already well known, I have not shown the frame or actuating mechanism of the members in the annexed drawings, but have simply shown the three members in their proper relations at different stages of the bending operations described herein.

Fig. 1 represents the upper and lower clamping-leaves, with a rod clamped near the front edge of a sheet of metal and the turning-leaf in its normal position. Fig. 2 represents the same parts, with the turning-leaf raised and the initial bend produced upon the edge of the sheet metal. Fig. 3 represents the sheet of metal reversed, with its curved edge inserted beneath and behind the forming-rod and the turning-leaf in its normal position, while Fig. 4 represents the same parts with the turning-leaf elevated and the

bend continued by forcing the sheet of metal upward against the exposed front of the rod. Fig. 5 represents the leaves A and B and the rabbeted holder D', with a filler inserted therein to hold a rod smaller than that shown in Figs. 1 to 4. Fig. 6 represents the same parts, with a still smaller filler and rod, the rods in both figures being clamped upon the sheet metal to form the initial bend. Fig. 7 represents the leaves A and B, with a beveled flange substituted for the rabbeted holder. Fig. 8 represents the leaves A and B of an ordinary cornice-brake, with the rabbeted holder secured thereon as a separate attachment, the corner of the rabbeted holder being rounded to fit the rod. Fig. 9 is a plan of the leaf B, with the rabbeted holder and a filler attached by bolts and screws; and Fig. 10 is a front elevation of the same leaf, with the holder and filler attached by dovetails, a portion of the holder and filler being broken away to show the recess J' in the leaf B. Fig. 11 shows the metal when beaded; Fig. 12, the completed gutter, and Fig. 13 shows another form of gutter completed.

I am aware that heretofore a forming-rod has been clamped between jaws of various shapes, and that the sheet metal has been bent around the same either by rotating a grooved rod between the jaws or by bending the sheet metal around a rigidly-clamped rod, and my invention differs from the constructions heretofore employed chiefly in the extreme simplicity of the device which is used for holding and clamping the forming-rod, and which consists merely in a longitudinal rabbet provided in the front edge of the clamping-leaf and opening toward the turning-leaf, so that the latter may operate to bend the sheet metal around the exposed side of the rod. Such rabbet may be formed directly in the front corner of the clamping-leaf; but I prefer to form it in the front corner of a separate holder, D' (shown in Figs. 2 to 6,) having a flange, D², for attachment to the clamping-leaf, the latter method admitting of more convenient repair and the substitution of rabbeted holders of different sizes, or the application successively of different formers to the clamping-leaf, as at J in Fig. 7, for making various-shaped bends. The rabbet is made of lesser height than the diameter of the forming-rod E so

that when the clamping-leaf B is pressed toward the leaf A the rod is clamped upon the latter close to its forward edge. The front side of the rod is then wholly exposed, so that
 5 the sheet metal may be wrapped around the same by the elevation of the turning-leaf, as shown in Figs. 2 and 4.

To form a bead with this mechanism, the sheet of metal G is inserted between the clamping-jaws, with its edge projecting beneath the rod E and extending sufficiently over the operative edge of the turning-leaf to be raised and pressed against the rod by the latter, as shown in Fig. 2. The sheet metal is then removed from the clamping-leaves and reversed,
 15 with its previously-bent edge inserted beneath the rod, as shown in Fig. 3. It is then clamped between the rod and the leaf A, and the elevation of the turning-leaf serves, as shown in Fig. 4, to form a continuation of the bend. This last operation may be repeated as often as is necessary to complete the bead, the leaf C being lowered, the sheet metal turned downward again to the horizontal position exhibited in Fig. 3, and the leaf again raised to bend the sheet metal after the rod has been clamped thereon. As the rabbet is entirely open upon the side adjacent to the turning-leaf where the sheet metal is chiefly handled
 25 during the operation of forming the bead, it is obvious that the latter may be readily removed from the rabbet at the close of the forming operation and the rod removed therefrom for subsequent use.

By the application of a filler or angle-strip of suitable thickness to the rabbet a smaller rod may be inserted therein and the bead formed in exactly the same manner, and the same apparatus may therefore be used to form
 40 beads of any desired size with equal facility, and the operation of turning a bead upon the smallest rod may be effected with greater ease than upon the grooved rods heretofore used by rotating them between clamping-jaws, and
 45 which necessarily require considerable size and strength to admit a groove and to endure the torsional strain required to form a bead along the edge of a long strip of sheet metal.

The separate holders, in which the rabbet is formed for attachment to the clamping-jaw, are readily attached thereto by means of bolts I or other suitable fastenings, and the fillers F may be fastened therein by screws I', as shown in Fig. 5, or by dovetails l, formed
 55 or secured thereon and fitted to grooves m in the top of the rabbet, as in Fig. 10. When screws or bolts are used, the holes for the same may be slotted out to the edge of the metal, as shown at h h' in the plan of the leaf B and holder D' in Fig. 9, while the application of the dovetails l to both the filler F and the flange D² is shown in Fig. 10.

In Fig. 7 is shown the method of operating my beading-machine as a cornice-brake by the
 65 removal of the rabbeted holder D' and the insertion of a beveled flange or corner-plate, J, the plate being secured by bolts I², inserted in

the slots h, in a manner similar to the bolts I'. The sharp front corner of such plate adapts it to form acute angles, and the substitution
 70 of formers with a round front corner in place of the plate J, or the application of such formers to the outer inclined face of the leaf B, as in other cornice-bending machines, adapts my apparatus to perform very much of
 75 the same work that is effected in ordinary cornice-brakes.

In the construction shown in Figs. 1 to 7, inclusive, the upper leaf is recessed at J' upon its under side to receive the flange D² or J, and
 80 the solid front corner of such leaf is not, therefore, when the holder D' is removed from the front corner of the leaf A, directly adapted for clamping sheets of metal to make acute bends; but my device may be applied as an
 85 attachment to such machines as are provided with a sharp corner at the front edge of the upper leaf by raising such leaf sufficiently to insert the flange D² beneath the same and retracting such leaf sufficiently to bring the rab-
 90 bet D over the front corner of the lower leaf. The means for retracting such upper clamping-leaf have already been used in many cornice-brakes, and are not therefore shown herein. The leaf B is shown in Fig. 8 with my rab-
 95 betted holder attached thereto, so as to operate in conjunction with the upper leaves in the desired manner, the upper leaf being raised sufficiently, when thus used, to admit of the flange D², and the holder D' being pref-
 100 erably formed to embrace the sharp corner of the leaf B to support the holder more perfectly upon its rear side.

I have represented the rabbet in Fig. 8 as having a rounded corner in contact with the
 105 rod E, which form may be used instead of that constructed with its sides meeting to form an angle; but it is obvious that the precise form of the inner surface of the rabbet is immaterial.

I am aware that a loose rod has been held in an adjustable jaw to bend sheet metal, and do not therefore claim such a construction, broadly; but,

Having set forth the features essential to
 115 my own construction, what I claim herein is—

1. In a gutter-beading device, the combination, with the stationary leaf A and the movable clamping-leaf B, of the rabbeted holder D', applied to the front edge of the clamping-
 120 leaf B, a round rod fitted in the rabbet of such holder, and a turning-leaf, C, operating to bend the sheet metal against the rod, as and for the purpose set forth.

2. In a gutter-beading machine, the combination, with a stationary leaf, A, and the movable clamping-leaf B, of the rabbeted holder D', applied to the front edge of the clamping-
 125 leaf, a rabbeted filler secured therein, a round rod fitted loosely in the rabbet of such filler, and a turning-leaf, C, operating before the joint of the clamping-leaf to bend the sheet metal against the rod, the whole arranged and
 130 operated as and for the purpose set forth.

3. In a gutter-beading device consisting of three members arranged substantially as described, the combination, with the stationary leaf A, the turning-leaf C, and the movable clamping-leaf B, having the recess J' at its front corner, of the angle-plate D', having the flange D², and the beveled flange J, having the flange D², whereby either a rabbet or an acute angle may be formed at the point of the leaf B, as and for the purpose set forth.

4. The combination, with a three-leaved cornice-brake, of a rabbeted holder, D', at-

tached by a flange, D², to the front edge of the movable leaf B, and having a rabbet, D, presented toward the fixed and turning-leaves A and C, and a rod fitted within such rabbet, as and for the purpose set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

PARKER SHACKLETON.

Witnesses:

FRANK N. WILCOX,
C. L. NEWELL.