July 21, 1925. 1,546,824

E. C. BUCKLES ET AL

FLASHING FORMING MACHINE

Filed Dec. 18, 1924

Fig. 1.

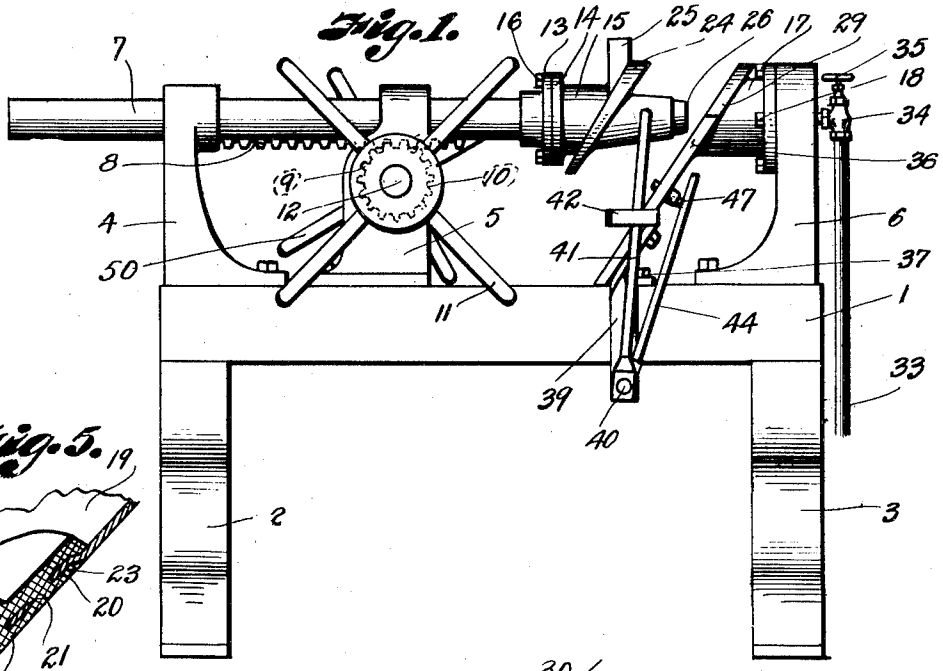


Fig. 5.

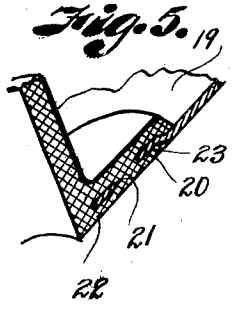


Fig. 2.

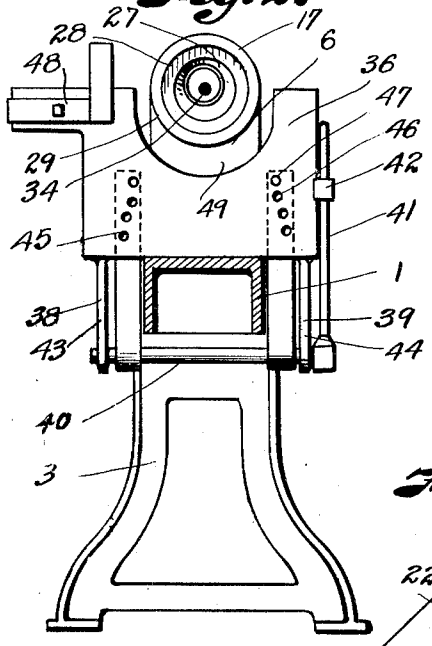


Fig. 3.

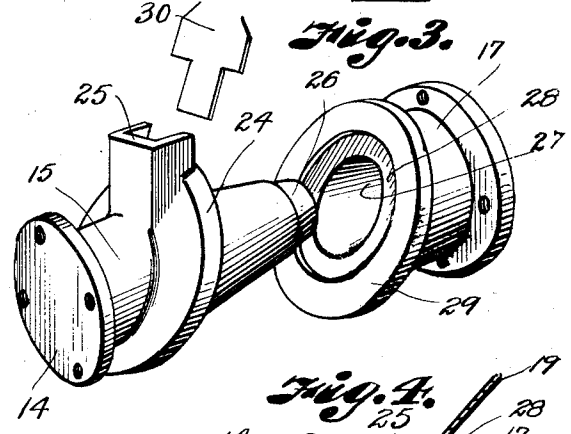


Fig. 4.

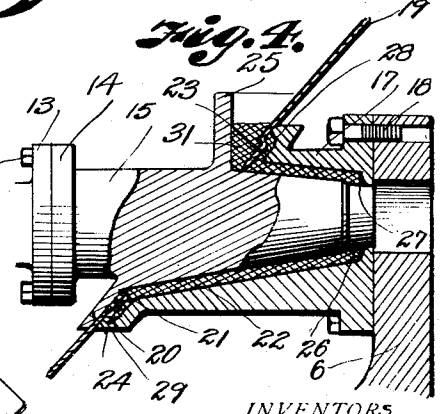
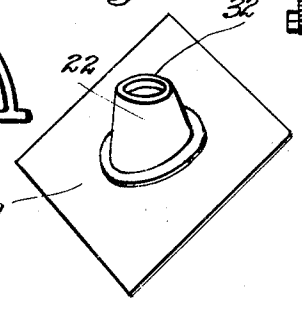


Fig. 6.



INVENTORS
Edgar C. Buckles, Jules Henri, and Robert Clow
BY Arthur LeBrown
ATTORNEY

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UNITED STATES PATENT OFFICE.

EDGAR C. BUCKLES, JULES HENRI, AND ROBERT CLOW, OF KANSAS CITY, MISSOURI, ASSIGNORS TO MIDLAND METAL MANUFACTURING COMPANY, OF KANSAS CITY, MISSOURI, A CORPORATION OF MISSOURI.

FLASHING-FORMING MACHINE.

Application filed December 18, 1924. Serial No. 756,702.

To all whom it may concern:

Be it known that we, EDGAR C. BUCKLES, JULES HENRI, and ROBERT CLOW, citizens of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Flashing-Forming Machines; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to a roof flashing forming machine and the primary object is to provide a simple, rugged, inexpensive roofing flashing forming mechanism whereby the roof sheet and the collar may be fastened together.

In a companion application, we have applied for patent upon the flashing per se and the details of construction of the flashing are set forth in said application. This application contains the subject matter of the machine only as distinct from the product resulting from the use thereof.

The novelty of the invention will be apparent by reference to the following description in connection with the accompanying drawings, in which—

Fig. 1 is a side elevational view of the machine constructed in accordance with our invention.

Fig. 2 is an end view of the machine.

Fig. 3 is a perspective view of two members of the mold.

Fig. 4 is a sectional view through the mold.

Fig. 5 is a fragmentary sectional view through the roof sheet and part of the collar, and

Fig. 6 is a perspective view of the flashing.

The frame 1 of the machine may be supported upon legs 2 and 3. On the frame 1 are bearing blocks 4, 5 and 6. The bearing blocks 4 and 5 support a reciprocatory bar 7 provided with rack teeth 8 engaged by the teeth 9 on the pinion 10, operated by the radial arms 11 so that the bar may be moved to and fro. The pinion is supported upon a stud 12 on the block 5.

On one end of the reciprocatory bar 7 is a collar 13 adapted to receive the collar 14 of the mold core 15, the collars 13 and 14 being secured together by bolts or machine screws 16. The core co-operates with the matrix 17 fast to the block 6 by fastening devices 18. The core and the matrix may be of different sizes to provide different sizes of flashings.

The flashing is shown as consisting of a roof plate 19 having an offset ring 20 on a plane different from the plane of the major portion of the sheet 19. The ring 20 is provided with perforations 21. The collar 22 of the flashing consists preferably of lead or similar material which is poured so as to flow over the ring 20 through the openings 21 and into the recess 23 formed by the offset ring so that the collar will be fast to the sheet 19. The core 15 is provided with a collar 24 at an angle to a plane passing transversely through the axis of the core and the collar 24 is provided with a recessed portion or gate 25 to receive the molten metal from which the collar 22 is to be formed.

The core is in the form of a truncated cone and it has a constricted end 26 adapted to be received in the matrix. The end of the constricted portion is of substantially the same diameter as the diameter of the inner ring shaped portion 27 of the matrix. (See Fig. 4.) The matrix is provided with a recessed annulus 28 within the flange 29 against which the collar 24 bears, the flange 29 and the collar 24 being arranged at substantially the same angle so that when the collar 24 and the flange 29 come together the face of one will lie flush against the face of the other at all points except where the gate comes. The sheet 19 preferably of galvanized iron is placed against the face of the collar 29. The core is then moved into the matrix by operating the pinion, then molten lead or similar material is flowed into the gate and around the space

between the core and the matrix to form the collar 15 and fasten it to the sheet 19 in the manner shown in Figs. 4 and 5.

In order to prevent the molten metal from scorching or spotting the sheet 19 during the pouring operation, we place a blade or guard 30 over the sheet at the point where the metal is poured, this being removed as soon as the metal solidifies. When the members 19 and 22 are fast together the core is removed from the matrix and the formed flashing is taken off the core or removed from the matrix and the portion 31 is broken off so that the face of the flashing is smooth and free from projections ready to be attached to a roof or other support. It is understood of course that the constricted portions 26 and 27 form an edge 32 on the collar which can be peened over against the pipe extending through the collar so as to make a tight joint between the collar and the pipe.

For preheating the mold, we may utilize a fuel pipe 33 with a burner attachment 34 and a valve 35, the burner being of any preferred construction to admit gasified fuel into the mold to heat it so that the incoming lead will not solidify in the mold until it has filled it.

While we prefer to form the sheet 19 of ferric material, it is obvious that any other appropriate sheet metal may be used such as copper or the like so we wish not to be limited to any particular material for the sheet 19.

The sheets are cut to size and provided with central openings before they are introduced into the machine, and after the flashing is formed, there is a slight tendency of the sheets to adhere to the matrix requiring pressure to move the flashing out of the matrix so in order to facilitate production we have provided a templet plate 36 supported on the machine by the brackets 37. The plate 36 extends beyond the side edges of the channel shaped frame member 1 and it carries depending brackets 38 and 39 which support a rock shaft 40. The rock shaft carries a hand lever 41 with a stop 42 secured thereto which is adapted to contact with the plate 36 to limit the rearward throw of the lever 41. The lever 41 of course is the operating lever for rocking the shaft 40. The shaft 40 carries two fixed upwardly and rearwardly extending arms 43 and 44 which are in line with a series of offset holes, there being a series 45 of holes in line with the arm 33 and a similar series 46 of holes in line with the arm 44.

The holes are adapted to receive removable slidable pins 47 so that they can be projected through the holes 45 and 46 by the arms 43 and 44 to guide the plate 19 into position. The pins can be introduced into any of the holes for various sizes of flashing sheet 19 and an edge guide 48 is provided at the upper edge of the plate to assist in properly fitting the sheet 19 so that the hole in the middle thereof will align with the core 15. The edge guide 48 of course is adjustable laterally. The upper edge of the plate 36 is cut away as at 49 to provide room for the core 15 as it moves into and out of the matrix.

The sheet 19 may be laid on the templet plate 36. The core may then be passed into the matrix and the molten metal poured as above described, then when the core is removed, the operator can swing forward slightly upon the lever 41 so that the upper ends of the arms 43 and 44 will push against the pins 47 which in turn will force the sheet 19 away from the templet plate permitting its easy removal from the machine. The forward movement of each arm 43 and 44 will be limited by the fact that the extreme upper ends of the respective levers will contact with the back side of the plate 36 so danger of pushing the pins entirely through the plate 36 will be eliminated. The pinion shaft 12 can be held rigid in its bearing block 5 by a lock wheel having handles 50. The lock wheel is not shown in detail because the construction of such a lock wheel and its application to shafts for holding them against turning is well known in the art.

Slight changes in form, proportion and minor details of construction in our invention may be made without departing from the spirit of the same or sacrificing the invention.

What we claim and desire to secure by Letters Patent is:—

1. In a machine for making flashing, a cylindrical matrix, a heater at the end of the matrix, a reciprocatory core cooperating with the matrix to form the mold, a gate on the core, and a removable guard plate cooperating with the gate, movable into position so it will be in spaced relation to one wall of the gate.

2. In a machine for making flashing, a two part mold, one part being provided with a gate, channel shaped in cross section, and a complementary guard plate for the gate having a constricted end receivable within the channel.

3. In a machine for making flashing, a two part mold, one part being provided with a channel shaped gate, and a guard plate insertable within the channel shaped gate at an angle thereto, the guard plate having means to space its end away from the web of the channel.

4. A machine for making flashing, a matrix, a core, the core and matrix co-operating to clamp a sheet between them to hold the sheet in position to receive a molded collar, a templet plate for supporting the sheet

in collar receiving position with respect to the matrix and means for moving the sheet away from the templet plate.

5. A machine for making flashing, a matrix, a core, the core and matrix co-operating to clamp a sheet between them to hold the sheet in position to receive a molded collar, a templet plate for supporting the sheet in collar receiving position with respect to the matrix, means for moving the sheet away from the templet plate, said means comprising a rock shaft, upstanding arms on the rock shaft, means for operating the rock shaft and pins in the templet plate movable longitudinally between the arms.

6. A machine for making flashing, a matrix, a core, the core and matrix co-operating to clamp a sheet between them to hold the sheet in position to receive a molded collar, a templet plate for supporting the sheet in collar receiving position with respect to the matrix, means for moving the sheet away from the templet plate, said means comprising a rock shaft, upstanding arms on the rock shaft, means for operating the rock shaft and pins in the templet plate movable longitudinally between the arms, the templet plate having offset openings for the pins.

7. In a machine for making flashings, a matrix, a reciprocatory core communicating with the matrix, the core and matrix having means for clamping a sheet between them, a templet plate for guiding the sheet in position to be clamped, means carried by the plate for moving the sheet away from the plate and means for actuating said means.

8. A machine for making flashings, comprising two members for clamping a sheet between them, one of the members being a matrix and the other a core, means for effecting relative movement between the two members, a templet plate for holding the sheet in position to be clamped between the two members and manually actuated means for moving the sheet off the plate when the two members are in spaced relation.

In testimony whereof we affix our signatures.

EDGAR C. BUCKLES.
JULES HENRI.
ROBERT CLOW.