

R. GARSTANG.
Flanging-Machines.

No. 157,810.

Patented Dec. 15, 1874.

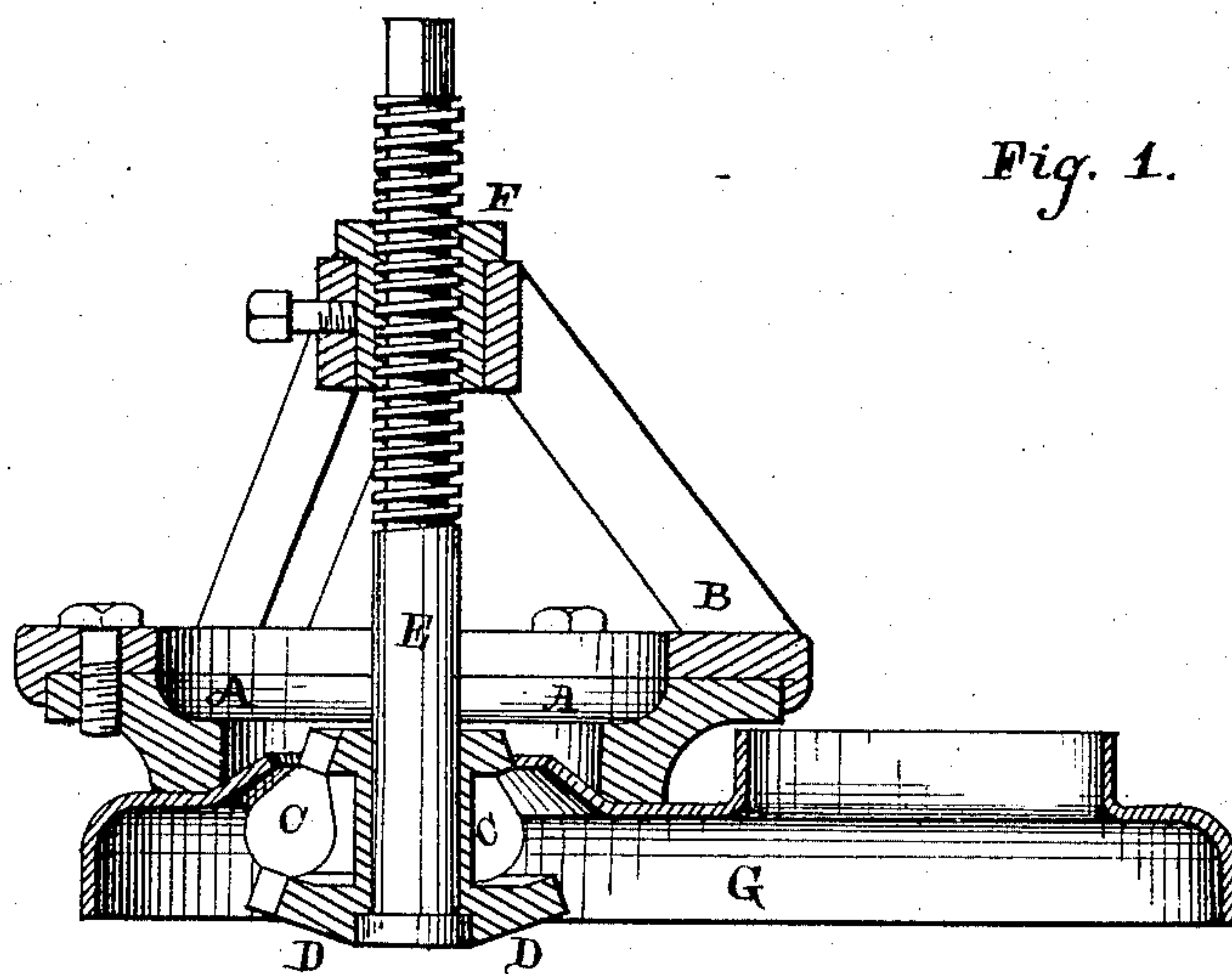


Fig. 1.

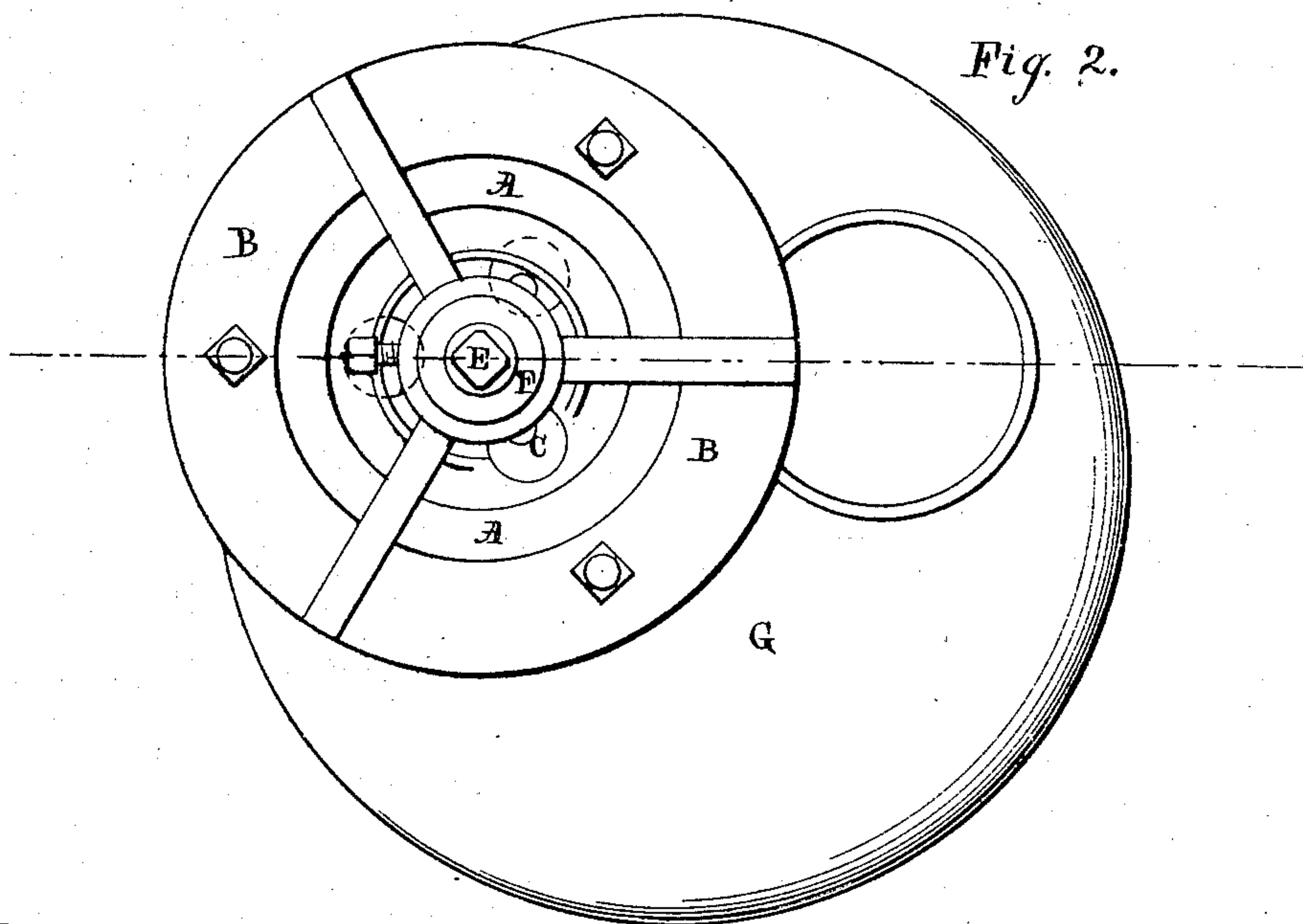


Fig. 2.

WITNESSES:

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RICHARD GARSTANG, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN FLANGING-MACHINES.

Specification forming part of Letters Patent No. **157,810**, dated December 15, 1874; application filed October 28, 1874.

To all whom it may concern:

Be it known that I, RICHARD GARSTANG, of the city and county of St. Louis, State of Missouri, have invented certain Improvements in Flange-Presses, of which the following is a specification:

The object of my invention is to perform the operation of flanging flue-holes of plate-iron boiler-heads, or any other object subject to a similar operation, by the combined action of rolling and pressing the iron into the required shape. The means by which I attain this end, and which constitute the distinctive features of my invention, consist in the employment of rollers, which, by suitable arrangement, receive a rotative and rectilinear motion, and in the combination of the same with a removable ring fastened to the frame of the machine, so that in putting any red-hot plate-iron piece properly prepared between this ring and the rollers, and setting the latter in motion, a flange will be rolled and pressed out fitting in the inside circumference of the ring.

In the drawings, Figure 1 represents a vertical section through center, and Fig. 2 a plan of my invention.

The removable ring A is fastened with screws to the frame B. Frame B consists of a ring, being cast in one piece, with three strong oblique arms concentrating into a socket which is accurately bored out for the reception of a nut, F. This nut, which is threaded so as to fit a strong screw, E, is prevented from turning in the socket of frame B by a set-screw, or any other convenient means. On the upper part of screw E is formed a square for the reception of a wrench, and its lower extremity is provided with a square head. On the lower part of the screw, which has no thread, is fitted a piece, D, so that the square head will be countersunk in it. Piece

D consists of two circular plates united by a connecting hollow cylindrical part, as shown in section, Fig. 1. On the circumference of the two plates of D are formed a number of recesses for the reception of the axles of rollers C. The position and shape of these rollers C is such that the curve which constitutes their form is as far as possible tangential to the surface to be operated upon.

This machine may be used for flanging holes of different dimensions by changing removable ring A and rollers C.

The flanging operation may be performed by putting a properly-prepared and heated boiler-head, G, over screw E, with its roller attachment of D and C. Then frame B with ring A is placed concentrically over the hole of boiler-head G, nut F is screwed down to its place in socket of B and fastened, a wrench is applied to screw E, and in turning the screw the rollers C will come in contact with the red-hot plate-iron G, and will, in revolving, roll and stretch the border of the flue-hole of G, and in advancing vertically they will at the same time press and upturn it, so that when the largest part of the rollers shall have reached to the height of the upper edge of the inside circumference of ring A, the operation of flanging shall be performed.

I claim as my invention—

1. The rollers C, turning in recesses formed on circular plates of D, in combination with screw E, substantially as and for the purpose hereinbefore set forth.

2. The combination of rollers C, piece D, screw E, with removable ring A, substantially as and for the purpose set forth.

RICHARD GARSTANG.

Witnesses:

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