

J. GRIFFITHS.

Improvement in Machines for making Bolts and Rivets.

No. 123,341.

Patented Feb. 6, 1872.

Fig. 1.

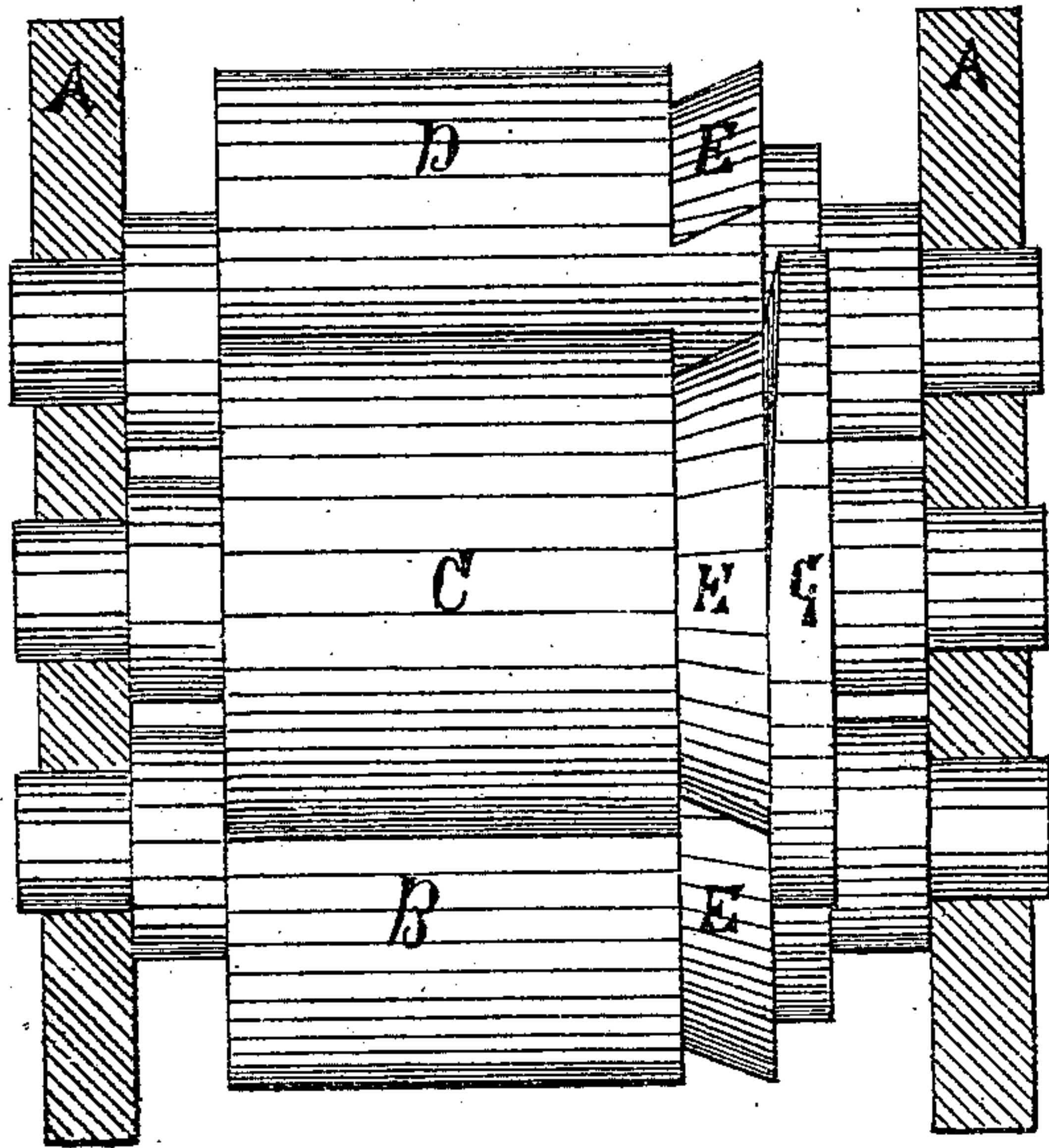


Fig. 2.

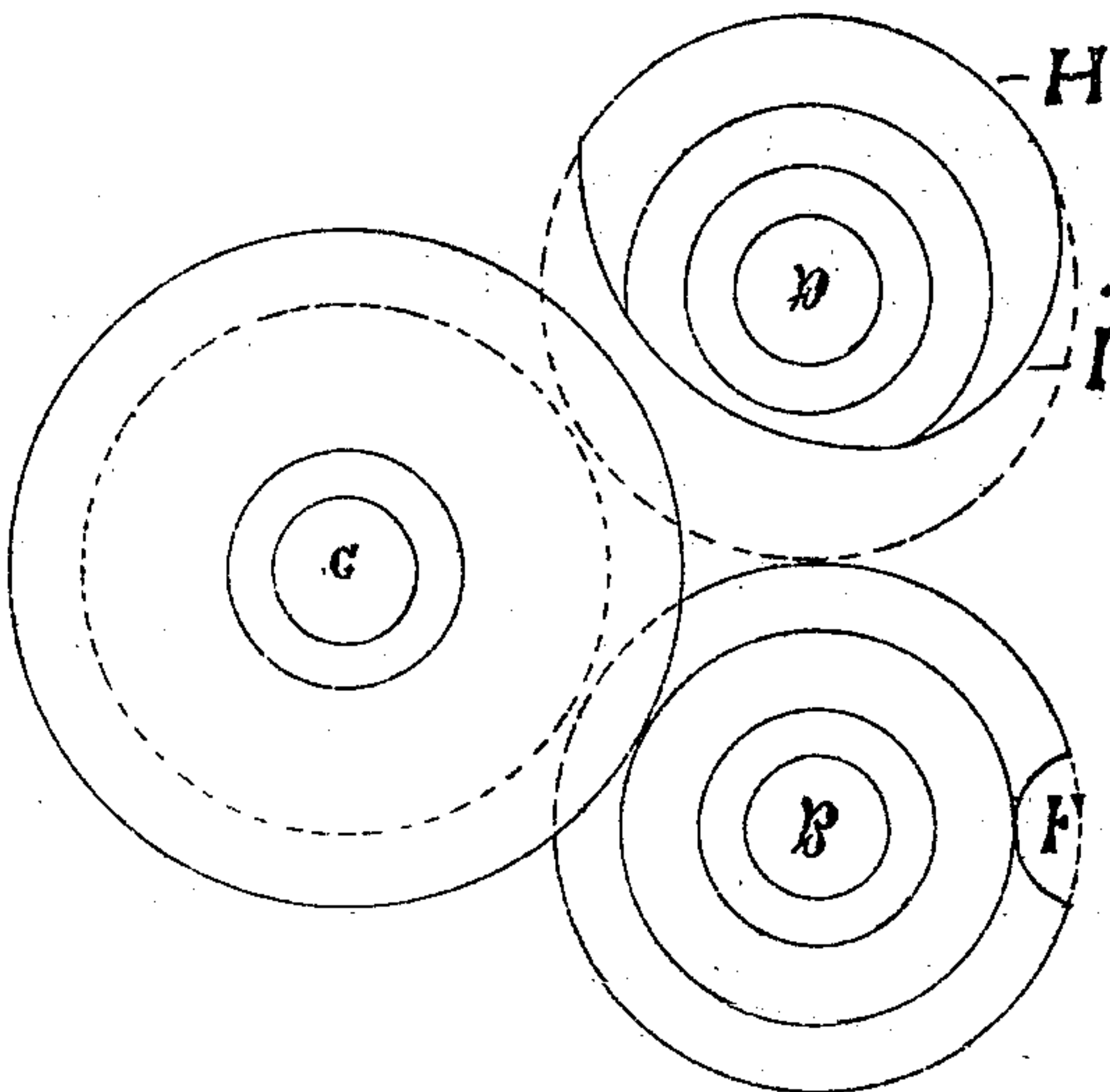
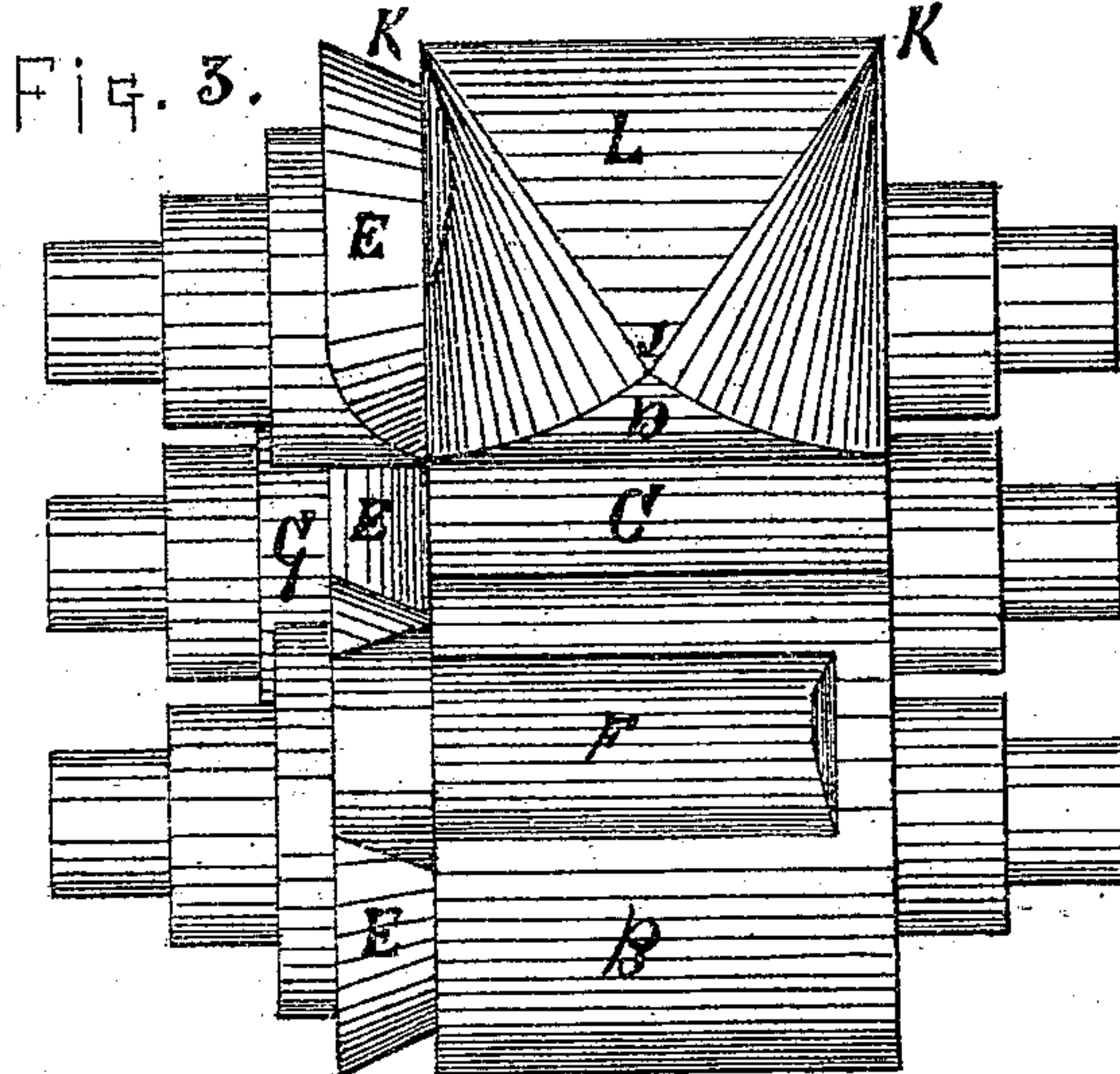
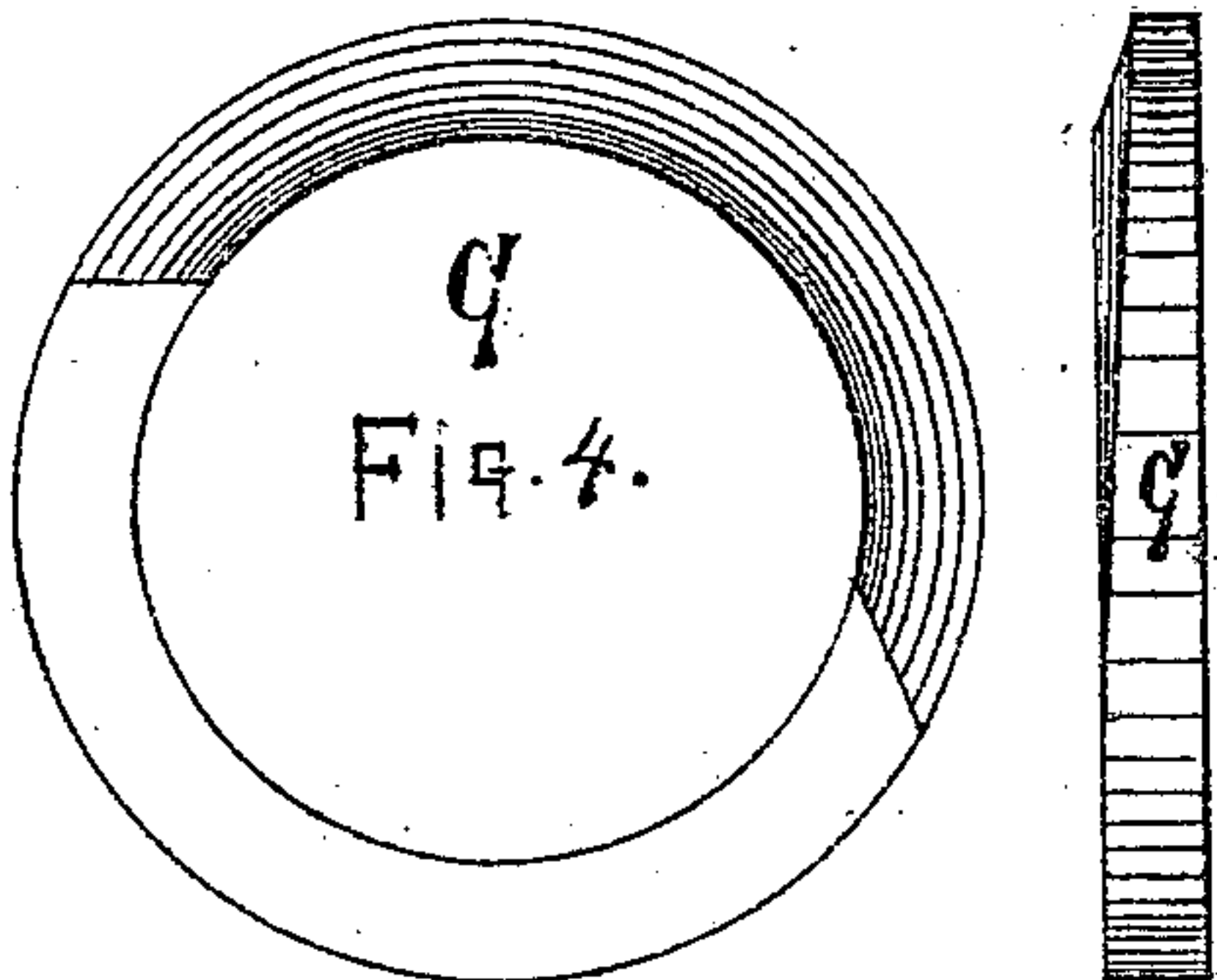


Fig. 5.



WITNESSES

Cyrus B. Howard
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UNITED STATES PATENT OFFICE.

JOHN GRIFFITHS, OF WHEELING, WEST VIRGINIA, ASSIGNOR OF ONE-HALF HIS RIGHT TO NICHOLAS RAHR, OF SAME PLACE.

IMPROVEMENT IN MACHINES FOR MAKING BOLTS AND RIVETS.

Specification forming part of Letters Patent No. 123,341, dated February 6, 1872.

To all whom it may concern:

Be it known that I, JOHN GRIFFITHS, of the city of Wheeling, in the county of Ohio and the State of West Virginia, have invented a new and useful Machine for Making Rivets, Bolts, Round Nails, and such like articles of manufacture, of which this is a specification, reference being had to the accompanying drawing and the letters thereon.

I will now describe the manner of constructing and using the above machine, "the principle thereof," and the best mode in which I have contemplated applying it, and the particular parts and combinations thereof, which I claim as my inventions.

Figure 1 is a front view, showing a part of its general construction and arrangement. Fig. 2 is an end view, showing the construction and arrangement of that part of the rollers which forms the head of the article being made, and also the relative arrangement of the rollers with each other. Fig. 3 is a back view, showing that part of the construction not shown in Fig. 1. Figs. 4 and 5 are views of the flange on the central roller, showing its eccentric or spiral shape.

In the drawing, A A are the upright supporting-frames of the rollers. B, C, and D are three rollers having the same diameters and placed in the frame so that lines drawn from the centers of their axes will form an equilateral triangle. The roller B, which is the lowest one in the frame, has formed in or on one end of it the triangular-shaped groove or channel E, and the receiving slot F cut lengthwise in it. The roller C also has formed in and on it a groove or channel like the one on roller B and on the end opposite thereto. And on the same end, and outside and above this groove, there is attached an eccentric or spiral flange, G. This eccentric is in extent equal to one-half of the circumference of the flange, and on its inner side. It may be an incline running around the inner part of the flange, commencing and ending at or near a line drawn across the edge of the flange. The roller D is of a peculiar construction, one-half of its exterior surface H being circular and the other, I, an eccentric curve. From the horizontal center of this half circle, and at the place of

its beginning J, its circumference is somewhat beveled on both sides back to points K K on the ends of the roller and about one-half the extent of this half circle, thereby making this part of its circumference between the points J K K V-shaped, as shown by the drawing. On the end of this roller D and on the circular part thereof there is a groove or channel, E, like those in the others. The relative arrangement of these rollers with each other when set up in the frame, as heretofore described, and so that the one will barely pass the other when revolving, is such that the space or opening between them will be either the largest or the smallest they are capable of making. These rollers, when thus formed and set up, are driven by a central cog-wheel, which works in like wheels on the axes of each roller, which gives the rollers the same directions in their movements.

Operation.

Place a piece of hot metal of a given size at the place where the rollers C and D come together on top. When the cut-off side of roller D comes to that point the metal will fall in between the rollers, where it is first engaged by the sides of rollers B C and projection on roller D contained within the lines formed between the points J, K, and K, and marked L, and which I call the elongator of roller D. This elongator presses the metal toward and against the deepest part of the flange G or at or near the part on the flange where the eccentric or incline begins to form; then, as the rollers continue to revolve, the circular side of roller D comes around, which shapes the body of the article, and the eccentric on the flange forces back into the head-groove E the metal which had been before thrown beyond it, when, by means of the groove E and the flange G, the head is formed. By the time this has been done the articles fall into the receiving slot F in roller B, from whence it is delivered on the rear of the machine. The groove or channel E in the rollers herein described are of a shape to form the head of a boiler-rivet; but by changing the form of these grooves to suit the head of the article to be made any round article with a

round head can be made, and I claim these modifications of the grooves E to suit the head of the article to be made as parts of or as embraced in my invention. The other ends of the rollers C, B, and D may be provided with the same grooves and flange, so that the machine can be made a double one. To make a pointed bolt or nail these rollers must be shaped or beveled, and to such an extent, as the bolt or nail may require. But this modification to adapt the machine to such work I claim to be in the scope of my invention. They are merely changes in form, for when it is discovered that a rivet can be made by this machine all these modifications suggest themselves to the skilled mechanic.

What I claim as new and as my inventions are—

A machine for the purpose set forth, consisting of rollers B provided with receiving and delivery slot F and head groove E, roller C provided with head groove E and eccentric or inclined flange G, and roller D provided with elongator L and head groove E, all combined and operating as described.

Witness my signature this 22d day of September, 1871.

JOHN GRIFFITHS.

Witnesses:

J. BOONE MCLURE,
JAS. W. WARD.