

H. H. GILMORE.

Rolls for Rolling and Creasing Horseshoe-Bars

No. 163,864.

Patented June 1, 1875.

Fig. 1.

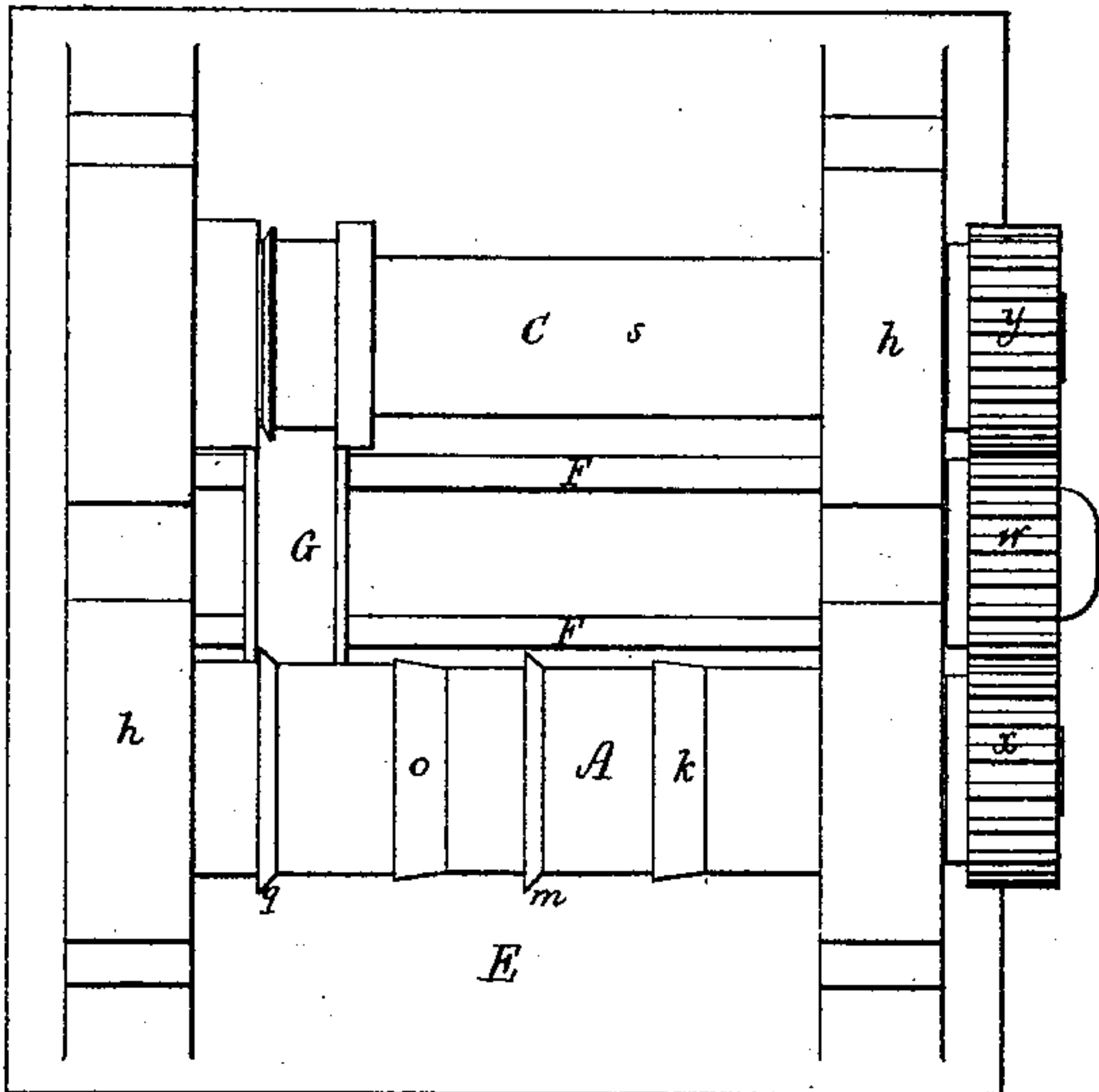


Fig. 6.

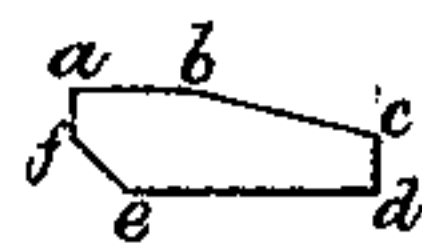


Fig. 7.

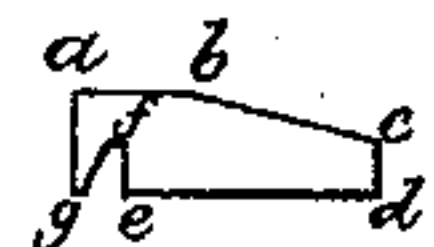


Fig. 3.

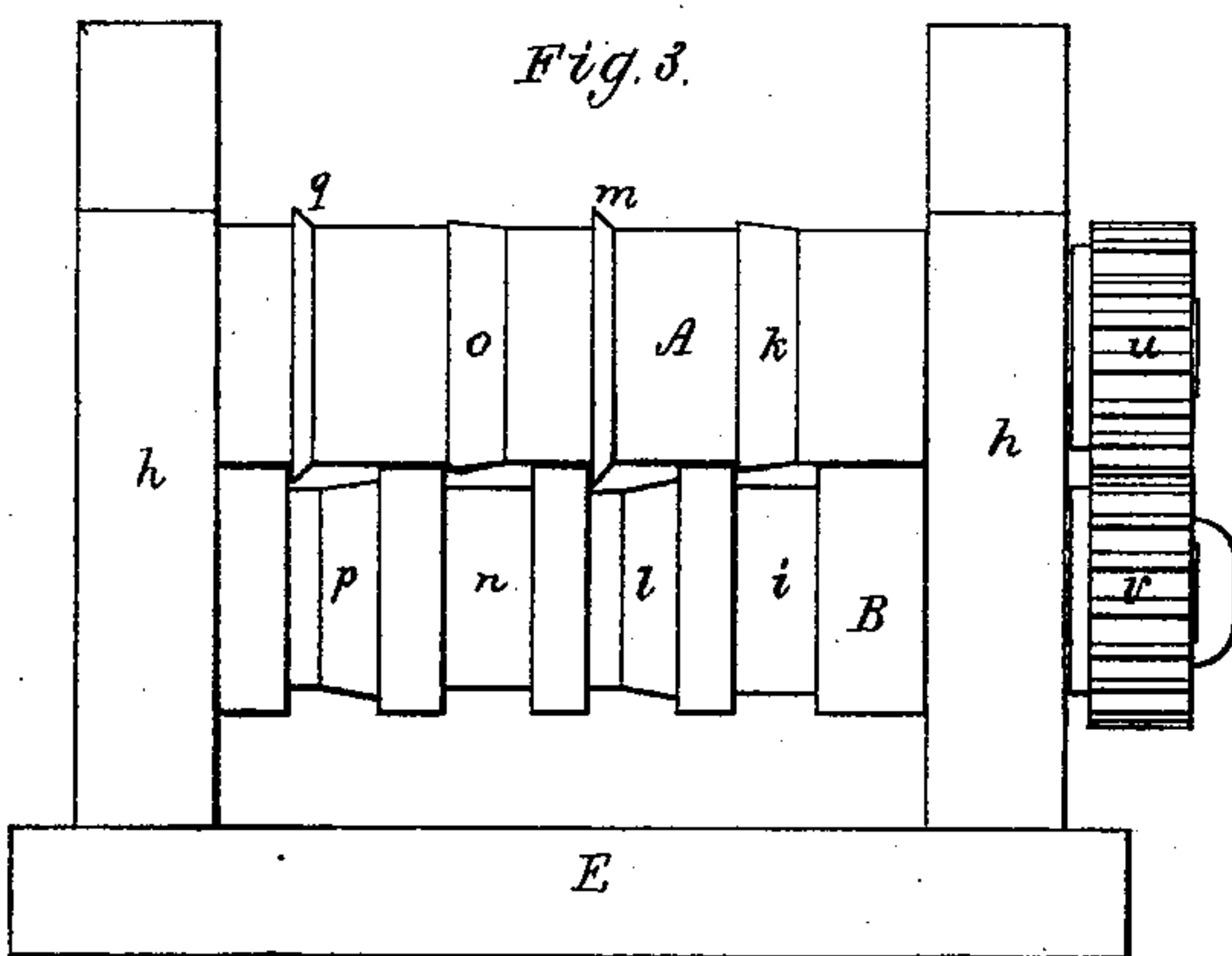


Fig. 2.

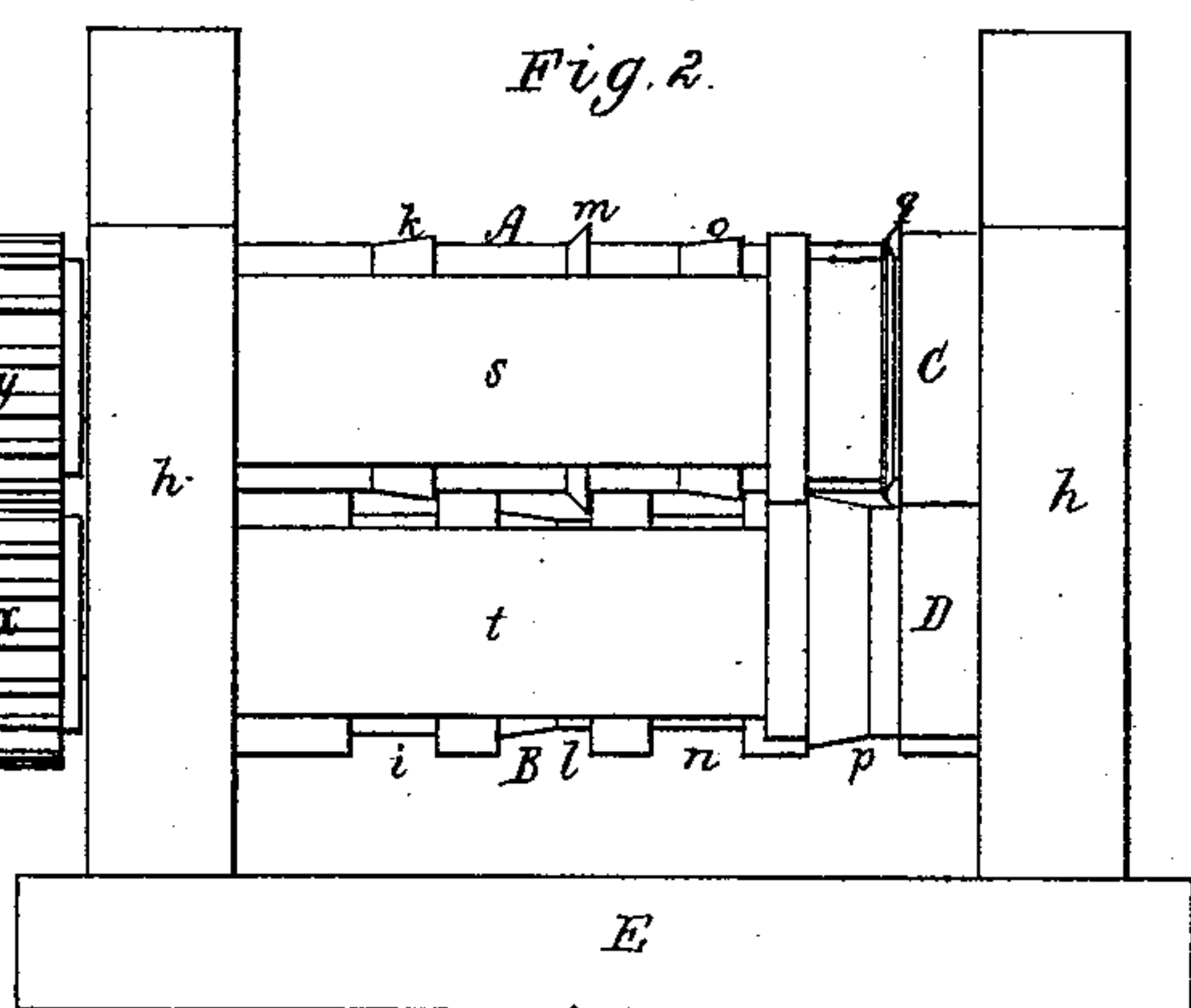


Fig. 4.

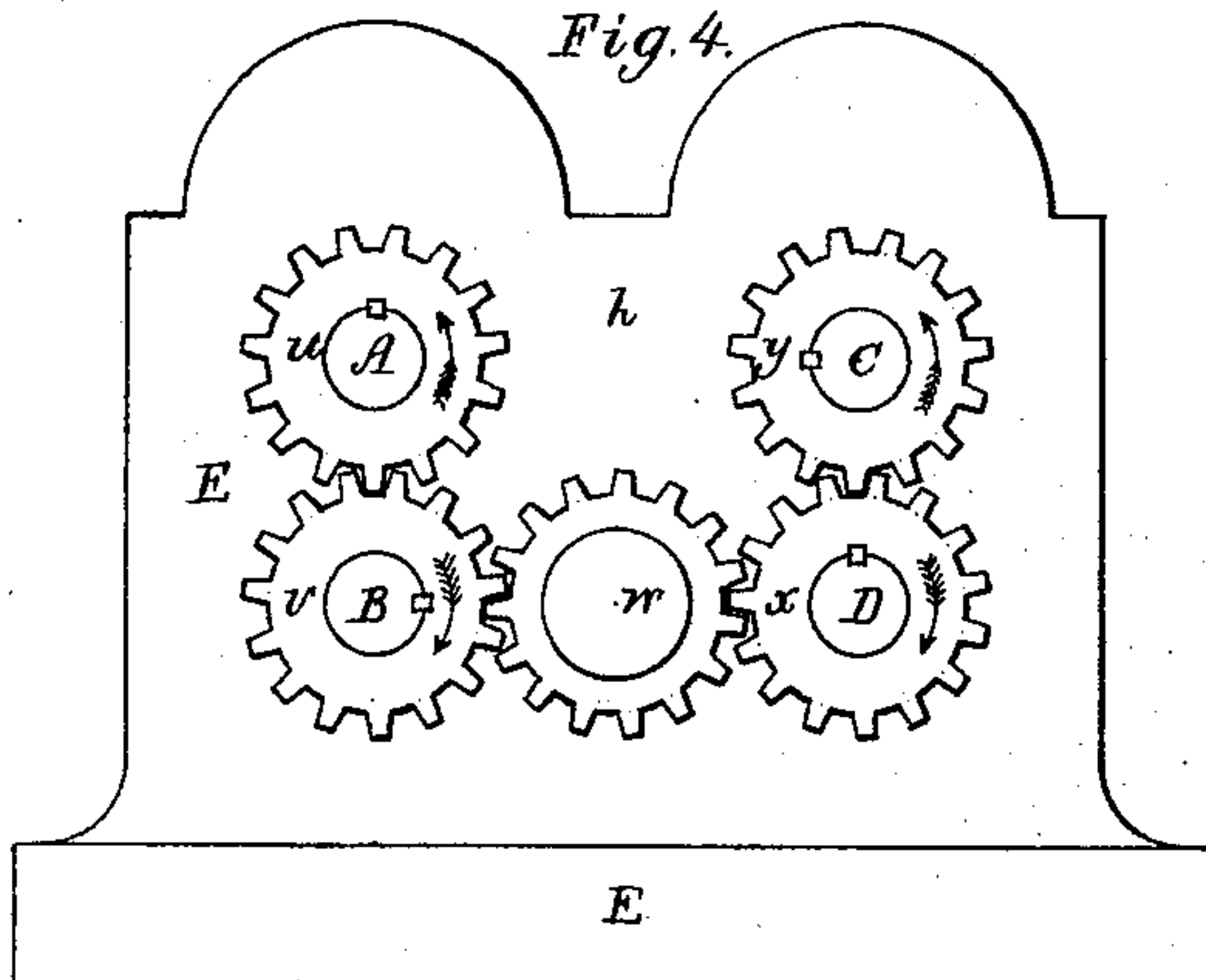
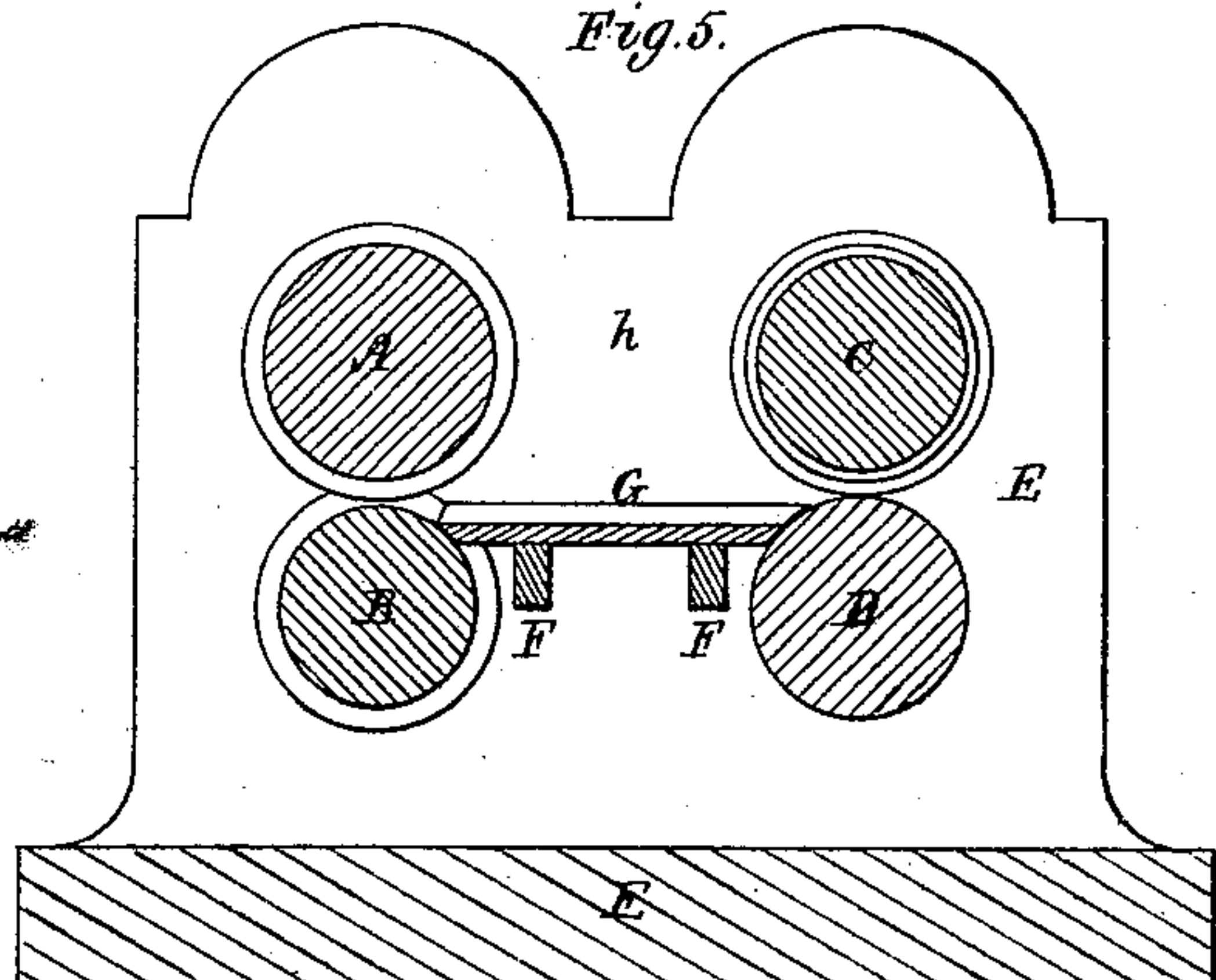


Fig. 5.



Witnesses.

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UNITED STATES PATENT OFFICE.

HENRY H. GILMORE, OF CAMBRIDGEPORT, MASSACHUSETTS.

IMPROVEMENT IN ROLLS FOR ROLLING AND CREASING HORSESHOE-BARS.

Specification forming part of Letters Patent No. 163,864, dated June 1, 1875; application filed April 14, 1875.

To all whom it may concern:

Be it known that I, HENRY H. GILMORE, of Cambridgeport, of the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Machinery for Rolling and Creasing Horseshoe-Bars; and do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a top view, Fig. 2 a front elevation, Fig. 3 a rear elevation, Fig. 4 an end elevation, and Fig. 5 a transverse section, of my improved horseshoe-bar-rolling machine.

Its purpose is to first roll a bar of iron so as to impart to it a transverse section throughout its length, as exhibited in Fig. 6, and next to crease it, substantially as shown at *efg* in Fig. 7, so as to give it a transverse section throughout its length, as shown at *abcdefg* in Fig. 7. To this end I make use of a set of reducing-rolls and a set of creasing-rolls. The reducing-rolls (shaped as represented) are shown at A B, one being disposed over the other, and both having their journals sustained in bearings in the bits or standards *h* of a frame, E. The creasing-rolls CD (shaped as shown) are arranged in the frame, in advance of the rolls A B. Between the two sets of rolls are two support-bars, F F, which extend horizontally across the frame E, and sustain a platform or trough, G, leading from the reducing to the creasing rolls. The grooves *in* of the lower reducing-roll B, and the flat frustums *k* and *o* of the upper roll A, serve to effect the first and second reductions of the bar, or to impart to it the bevel or slope *bc*. The grooves *lp* of the lower roll, the frustums or flanges *mq* of the upper roll, and the cylindrical parts of said upper roll, situated directly over the grooves *l* and *p*, are to receive the bar and reduce it so as to impart to it the slope *ef*. After being thus reduced and shaped by the receiving-rolls, the bar is passed or passes from them through the trough to and between the creasing-rolls, by which it is creased and thrown out throughout its length with the sectional form shown in Fig. 7. The slope *ef* of Fig. 6 is to

save the usual "hemming in," which has to be done on an ordinary bar by the smith preparatory to bending and creasing it in the process of converting it into a horseshoe. The rails or bars F F, besides answering to sustain the trough G, serve to guide the bar from the reducing-rolls to and between the shaft parts *st* of the creasing-rolls. These shaft parts, while in movement, guide and advance the bar out of the machine, after such bar may have left the reducing-rolls, at each of the first, second, and third reduction of it by them. The shafts of the several rolls are connected by a train of gears, *uvwxy*, arranged as shown, the directions of revolution of the several rolls being shown in Fig. 4 by arrows.

In making a bar by the machine, such bar is first to be run between the reducing-rolls until it may have been sloped, as set forth, it being next run between the creasing-rolls and creased by the upper of them. It then becomes in a state for sale in the market as a bar from which horseshoes are to be made by a smith, he being saved the labor of creasing and sloping each piece of the bar while converting such piece into a shoe. He, of course, will have to puncture the shoe at the crease to form in it the nail-holes.

The first reduction of the bar is to be accomplished by passing it between the rolls and in the groove *i*, by which it will be drawn down approximately to the required shape.

It next is to be passed between the rolls and in the groove *l*, and submitted to the action of the first edge-beveler *m*, which makes the edge bevel, which has to be finished by the groove *p* and beveler *q*. After passing through the groove *p*, the bar goes between the rolls C D, and by their action on it is creased at the point *c*, and the bevel *ef* obliterated, so as to give to the bar the form in transverse section as shown in Fig. 7.

I claim—

1. In the horseshoe-bar-rolling machine, the rolls A B, constructed to reduce the bar with the tread slope *bc* and the edge slope *ef*, in combination with the rolls C D for creasing it, substantially as described.

2. The combination of the discharging rolls

or cylinders *s t* with the creasing-rolls C D and the rolls A B, for reducing and sloping the bar on its upper surface and edge, as set forth.

3. The combination of the guide-rails F F and the trough G with the frame, the reducing-rolls A B, the creasing-rolls C D, and the discharging rolls or cylinders *s t*, all being ar-

ranged and applied substantially in manner and to operate as and for the purpose explained.

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Witnesses:

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J. R. SNOW.