

UNITED STATES PATENT OFFICE.

HIRAM F. GAINES, OF KEESEVILLE, NEW YORK.

IMPROVEMENT IN THILL-COUPPLINGS.

Specification forming part of Letters Patent No. **215,907**, dated May 27, 1879; application filed February 1, 1879.

To all whom it may concern:

Be it known that I, HIRAM F. GAINES, of Keeseville, in the county of Essex and State of New York, have invented a new and valuable Improvement in Thill-Couplings; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a side elevation of my thill-coupling; and Figs. 2, 3, and 4 are perspective detail views of the same.

The nature of my invention consists in the construction and arrangement of a thill-coupling which is cheap, simple, and durable, and not liable to become accidentally detached, as will be hereinafter more fully set forth.

In the annexed drawings, A represents an ordinary axle-clip, with bolts *a*, cross-bar B, and nuts *b*. From the front of the clip A extend forward two arms or ears, C C, which are made solid, without any holes through them. Near the front end, on the inner side of each ear C, is a vertical groove, *d*, extending from the top edge downward to or below the center of the ear.

D represents the thill-iron, provided at its end with an eye, F, for the passage of the pin or bolt I, and this eye is at each end provided with a curved flange, *p*, to fit over the rounded forward ends of the ears C, as shown.

The pin or bolt I is provided with a square head, *h*, and the other end is flattened on one

side, as shown at *i*; but if desired the head *h* may be either round or half-round.

Between the ears C C is inserted a rubber block, G, the front side of which is made concave to correspond somewhat with the convex surface of the eye F. The pin or bolt I is inserted in the eye F, and said eye then pressed from the top against the rubber block, so that the head and end of the pin will enter the grooves *d* in the ears C, when the whole is pressed down till the pin rests in the bottom of said grooves.

This invention will enable one to shift shafts for pole, and vice versa, without delay or the necessity of using hammer or wrench. It avoids accidents, being so much easier to examine the condition of the bolt or pin, and there are no nuts to lose off. It is simple, strong, and durable, and can be manufactured cheaply of either wrought or malleable iron, and is susceptible of as much or little ornamental finish as desired.

I claim—

The combination of the clip A with solid ears C C, having grooves *d d*, the thill-iron D, with eye F, having side flanges *p p*, the pin or bolt I, and the rubber block G, substantially as and for purposes herein set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

HIRAM F. GAINES.

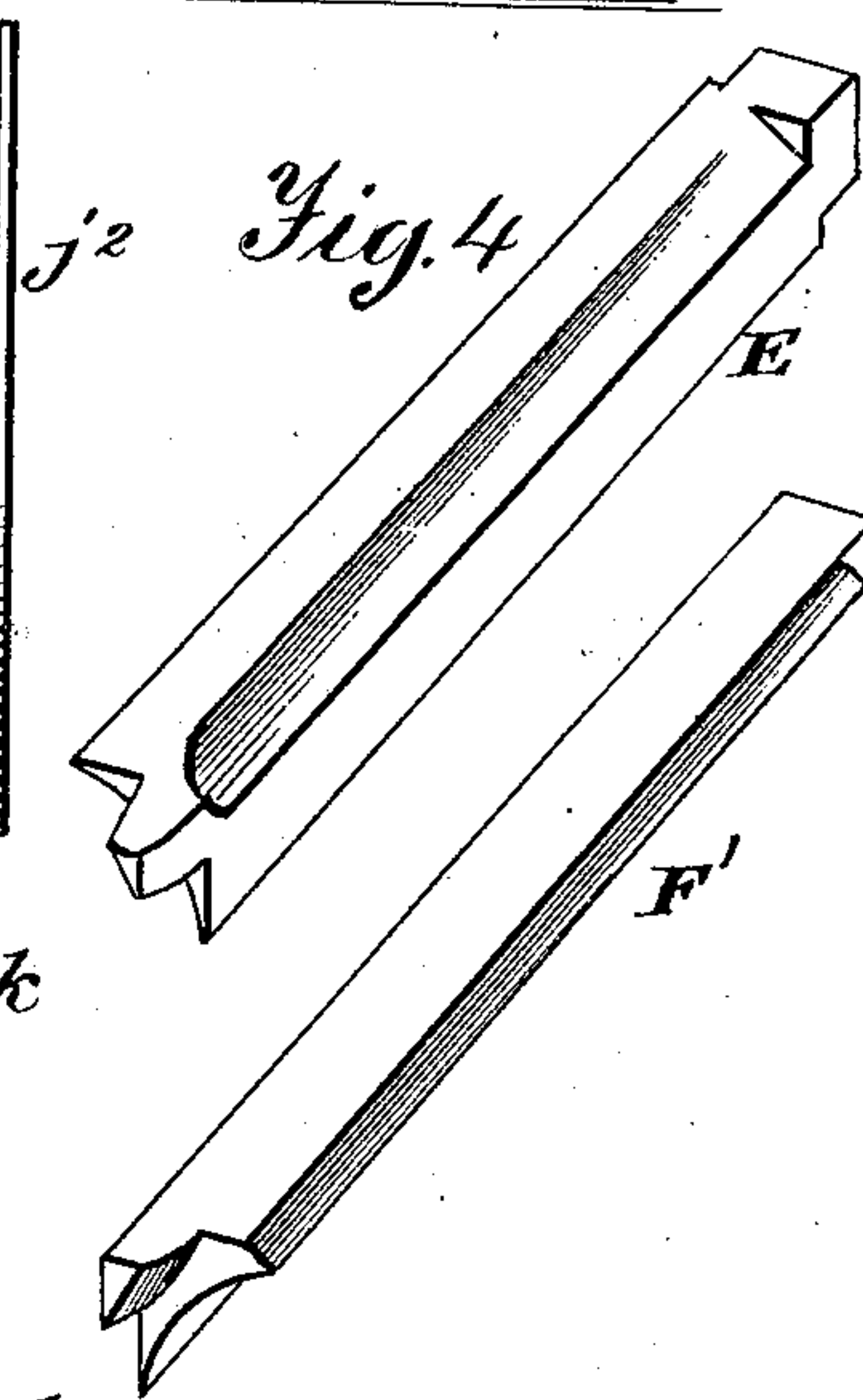
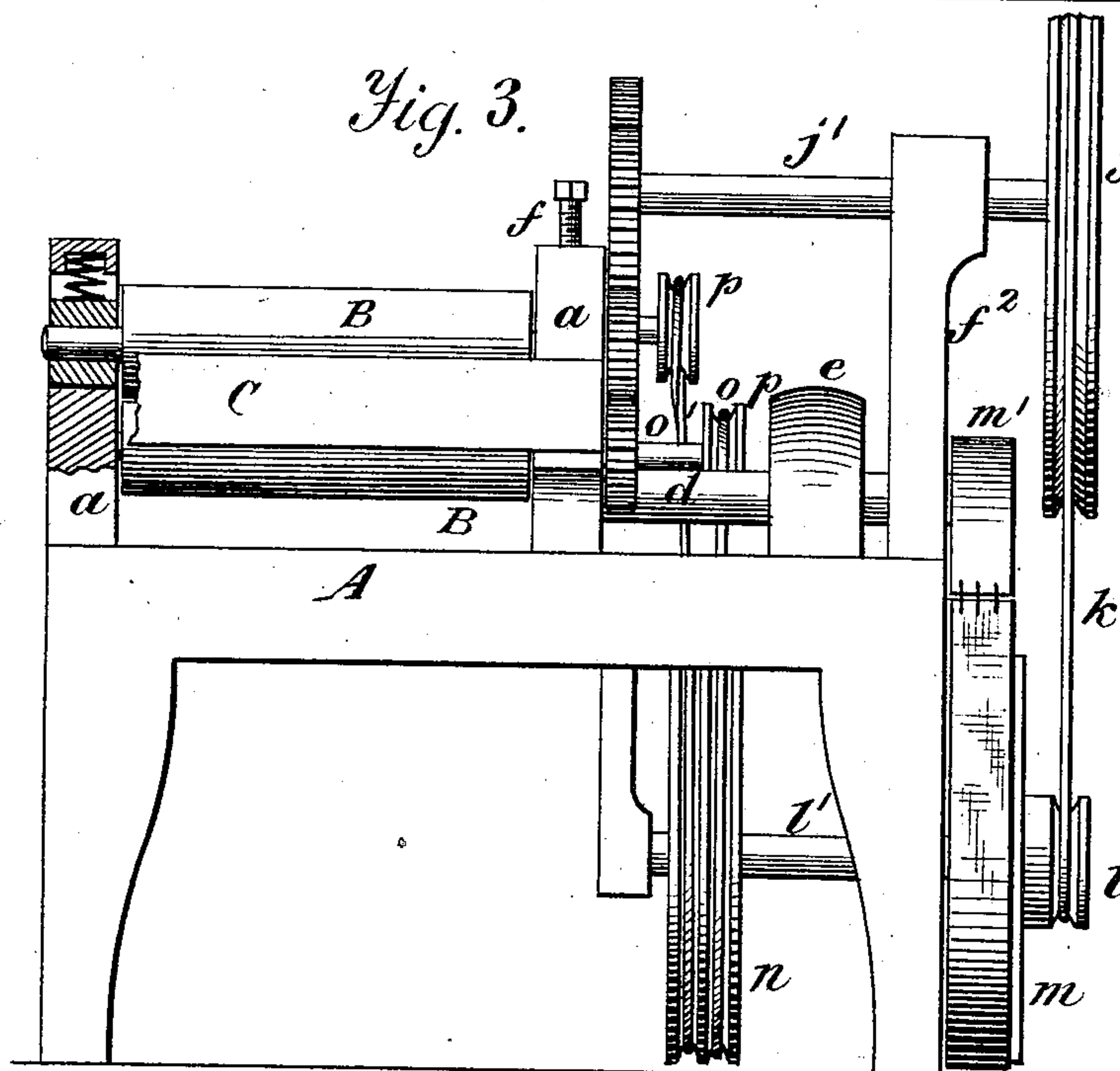
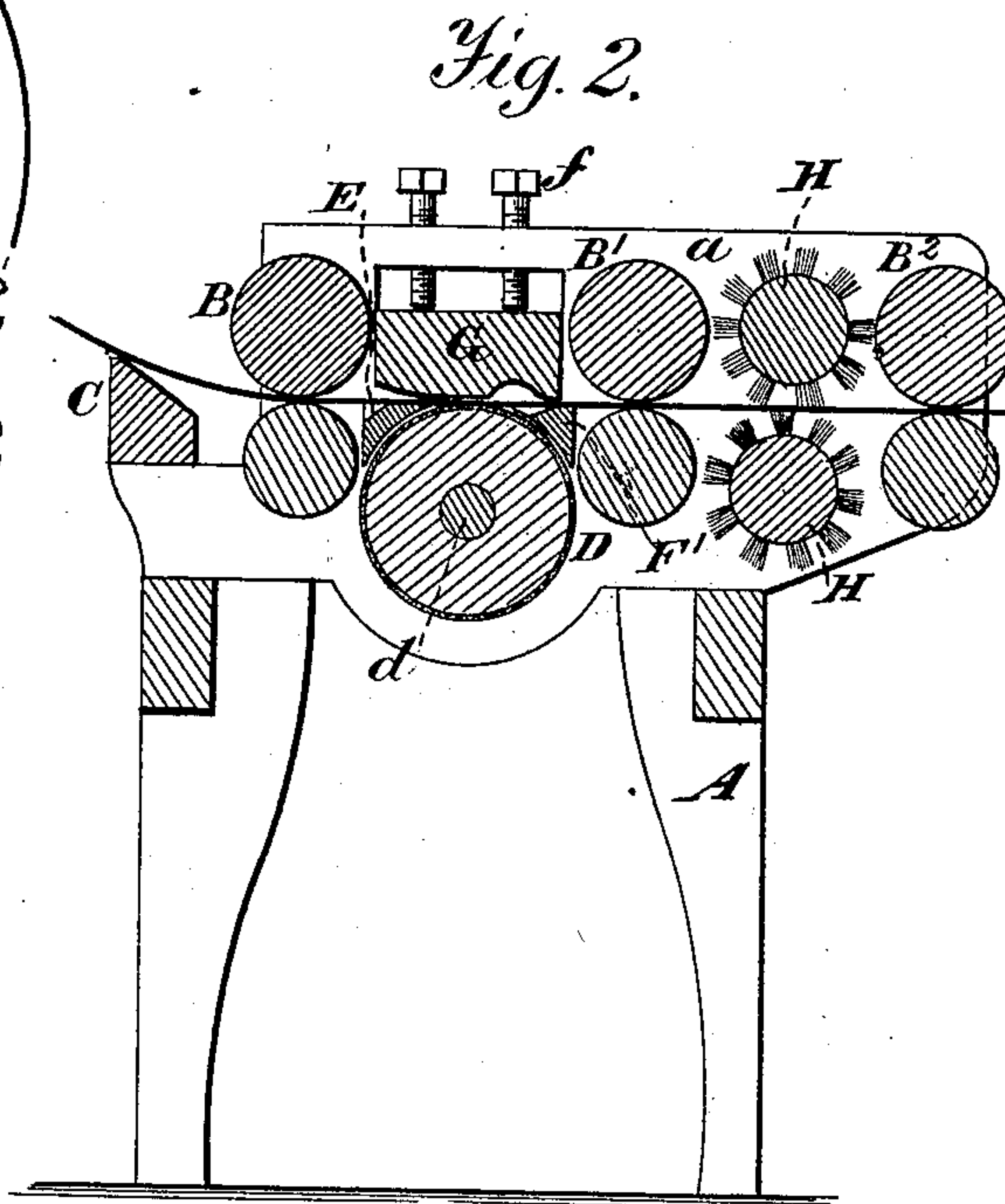
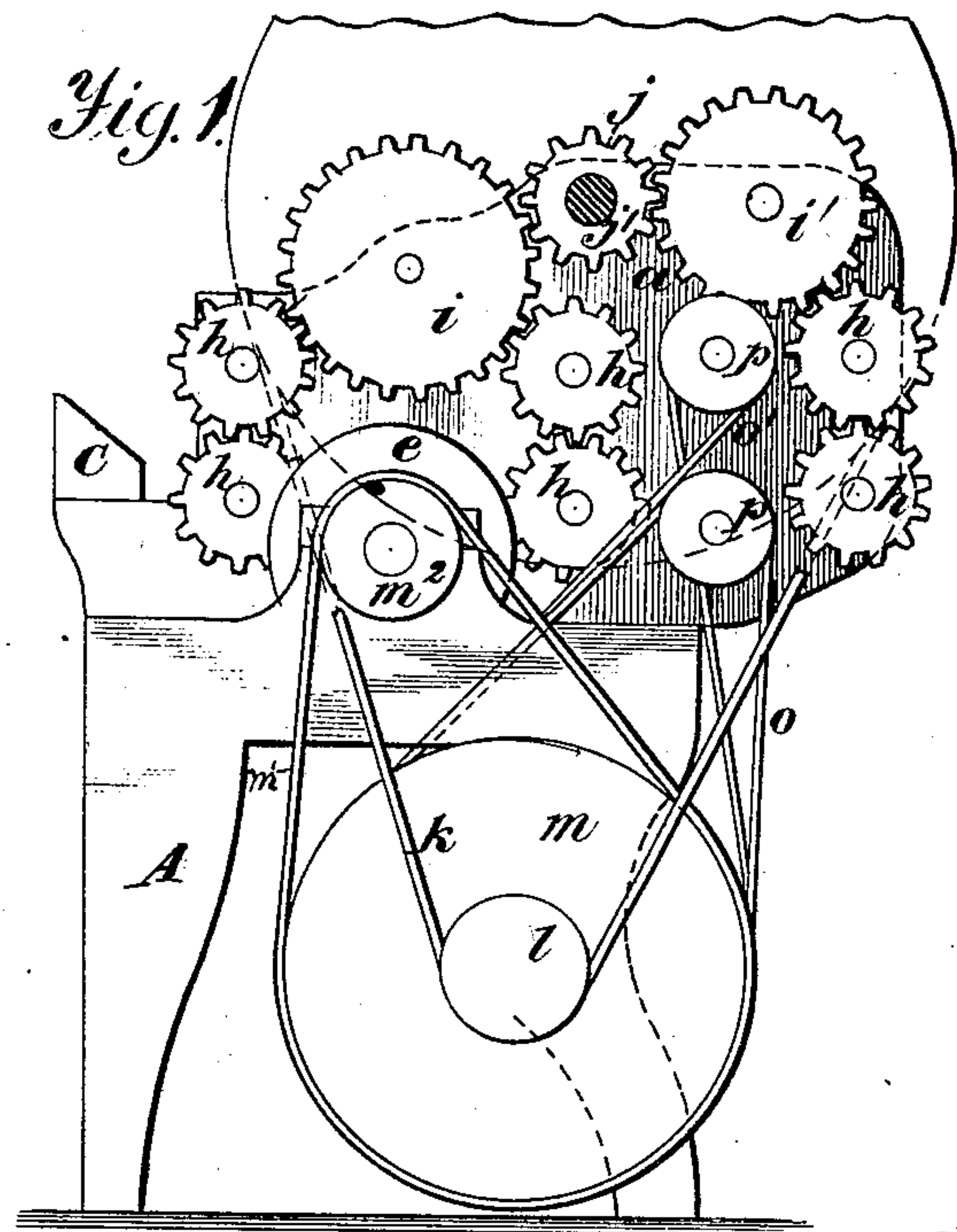
Witnesses:

H. S. BLINN,
CEPHAS CLARK.

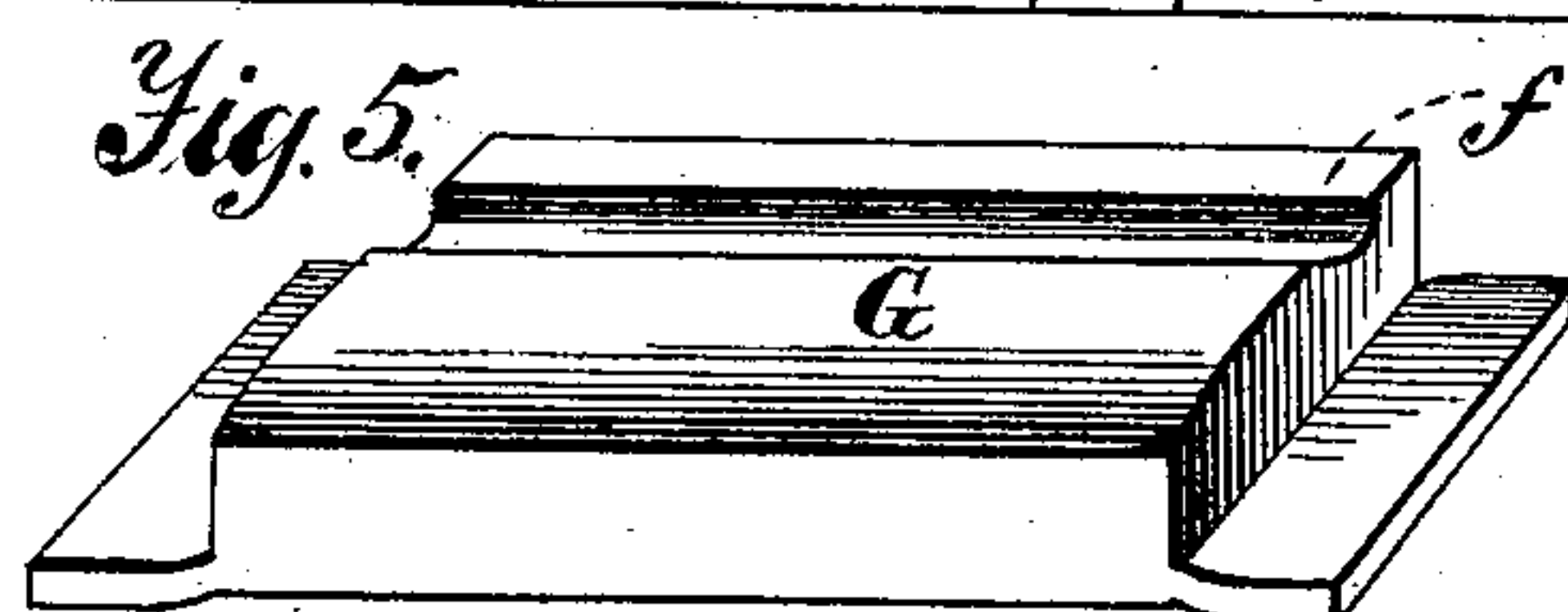
W. GARDNER.
Machine for Sanding and Smoothing Veneers.

No. 215,908.

Patented May 27, 1879.



Witnesses.
A. Ruppert,
J. M. Lange.



William Gardner,
Inventor.
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UNITED STATES PATENT OFFICE.

WILLIAM GARDNER, OF NEW YORK, N. Y.

IMPROVEMENT IN MACHINES FOR SANDING AND SMOOTHING VENEERS.

Specification forming part of Letters Patent No. **215,908**, dated May 27, 1879; application filed April 5, 1879.

To all whom it may concern:

Be it known that I, WILLIAM GARDNER, of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Machines for Sanding or Smoothing Veneers; and I do hereby declare that the following is a full, clear, and exact description of the invention, which 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 letters of reference marked thereon, which form a part of this specification, and in which—

Figure 1 is a side elevation of my improved veneer or board sanding or smoothing machine with one of the pulleys broken away to better expose the parts. Fig. 2 is a vertical longitudinal section thereof, and Fig. 3 is a front elevation of the same. Fig. 4 is a perspective view of the bed plates or bars. Fig. 5 is an inverted perspective view of the pressure-bar.

The same part in the several figures is denoted by the same letter.

This invention has reference to certain improvements in machines for treating veneers or boards, the object of which is to avoid the splitting or breaking of the veneers or boards—a cause of great waste in machines as heretofore constructed; and it consists, primarily, in the arrangement at the front end of the machine, opposite the feed-rolls thereat, of a bar or roll with its upper surface occupying a plane above the point of entrance between said rolls; and, secondarily, in the employment, first, of a bed plate or bar arranged upon the front side of the smoothing or operating roll or cylinder with that edge next to the feed-rolls beveled or chamfered; secondly, in the arrangement upon the opposite or rear side of the said cylinder or roll of a similar plate or bar with that edge next to the cylinder also beveled or chamfered; and, thirdly, in the general construction and arrangement of the parts, substantially as hereinafter more fully set forth.

In the accompanying drawings, A marks a frame or support of suitable construction, upon which is supported and fastened two or more side bearing supporting-pieces, *a a*, ar-

ranged transversely with the length of said frame or support, leaving a portion of said frame extending beyond one side thereof.

B B¹ B² refer to three pairs or series of feed-rolls, with their shafts hung in the side pieces, *a a*, the rolls of each pair being disposed one above the other, and suitably spaced apart to enable the feeding between them of veneers or boards of great thinness.

C is a bar or roll fastened to projecting pieces, either of the side pieces, *a*, or of supporting-pieces for said side pieces, and arranged at the front end of the machine, opposite the rolls B, disposed thereat with its upper surface occupying a plane above the point of entrance between these rolls. The object of this bar or roll is to enable the passing of the veneer or board to the rolls in an upwardly bent or curved position, as it is apparent that by inserting the end of the veneer or board between the rolls the veneer or board will rest upon said bar or roll, and consequently from its elevated position cause the veneer or board to assume such position. It is found that by thus passing or feeding the veneer or board to the rolls it will be prevented from breaking or splitting, as the crookedness therein resulting from drying will be taken out to a greater or less extent, and the veneer or board be prevented from buckling or folding together in creases, as it does in passing or being fed as heretofore in a straight line to the rolls or machine. This difficulty, which is entirely overcome by my machine, has been a source or cause of great waste in smoothing, pasting, gluing, or otherwise treating veneers or thin boards. I therefore effect a great saving of material, and consequently am enabled to manufacture from this material, which is very extensively used, cheaper and to a greater advantage than by the methods heretofore employed.

D is a sand-paper covered or smoothing cylinder or roll, with its shaft *d* hung or supported upon a cross-piece and the end piece of the frame A. Upon this shaft is the driving-pulley *e* of the machine, through which and a belt connecting with a suitable motor motion is imparted to the cylinder or roll D. This cylinder or roll is arranged between the two series of rolls B B¹ to act upon the ve-