

W. P. UHLINGER.  
Machines for Dressing Millstones.

No. 156,109.

Patented Oct. 20, 1874.

Fig. 1.

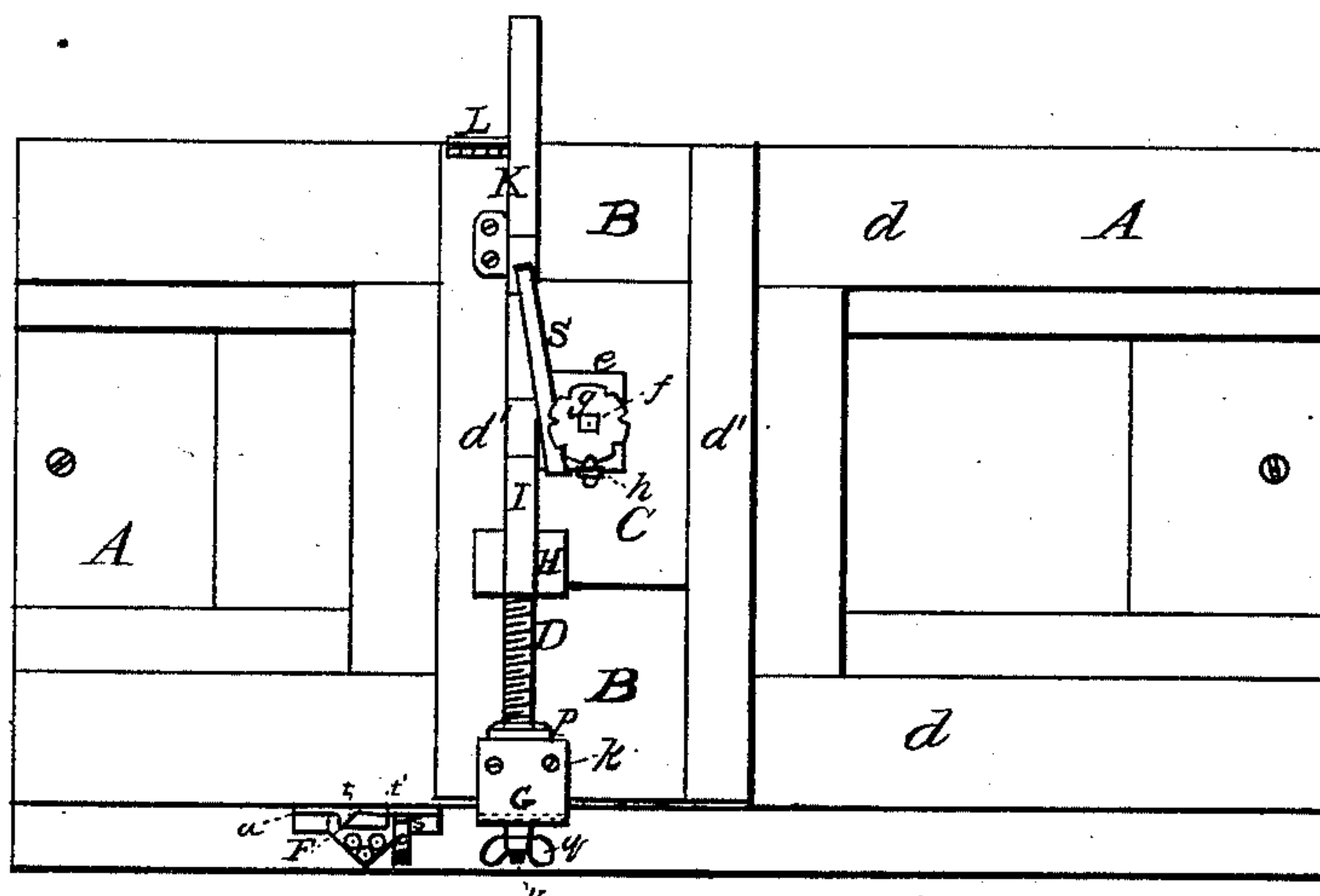


Fig. 2.

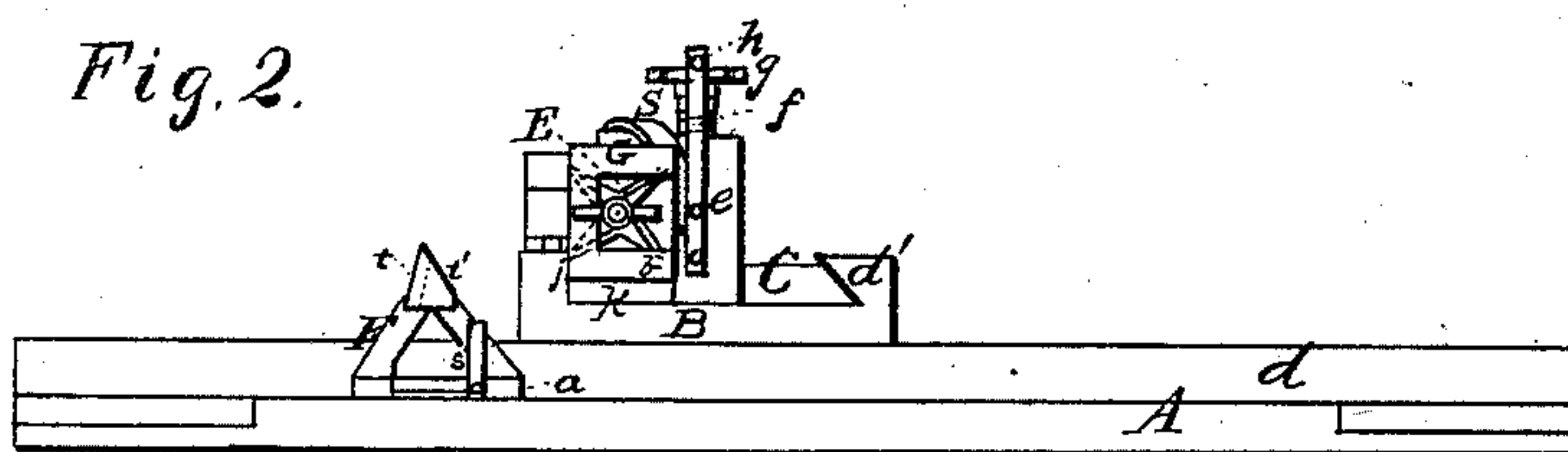


Fig. 3.

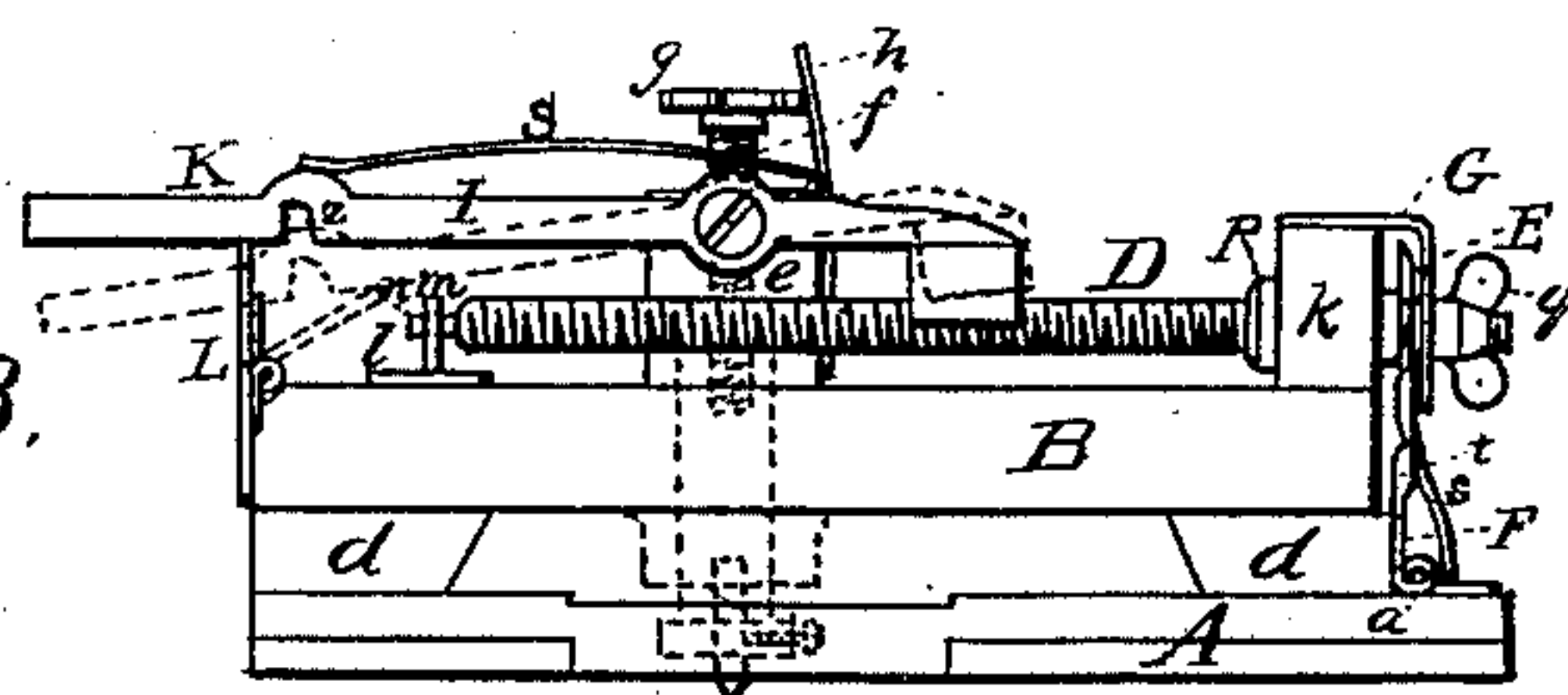


Fig. 4.

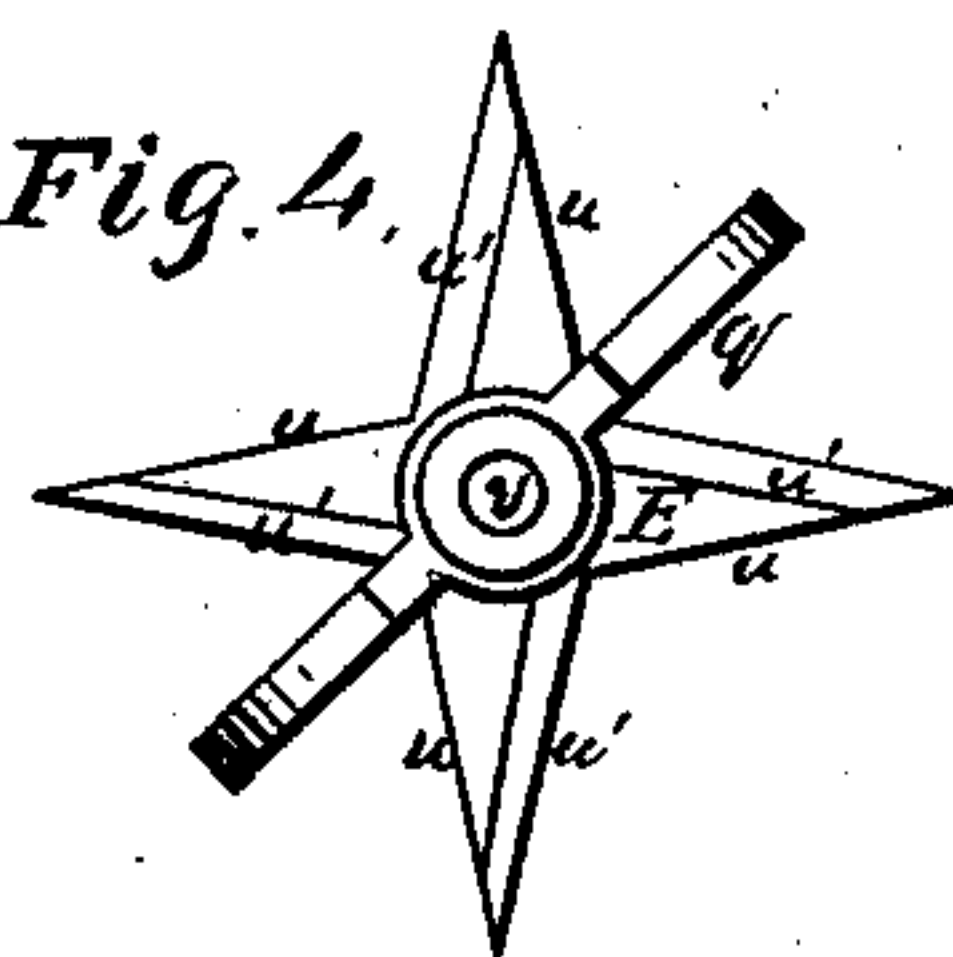


Fig. 6.

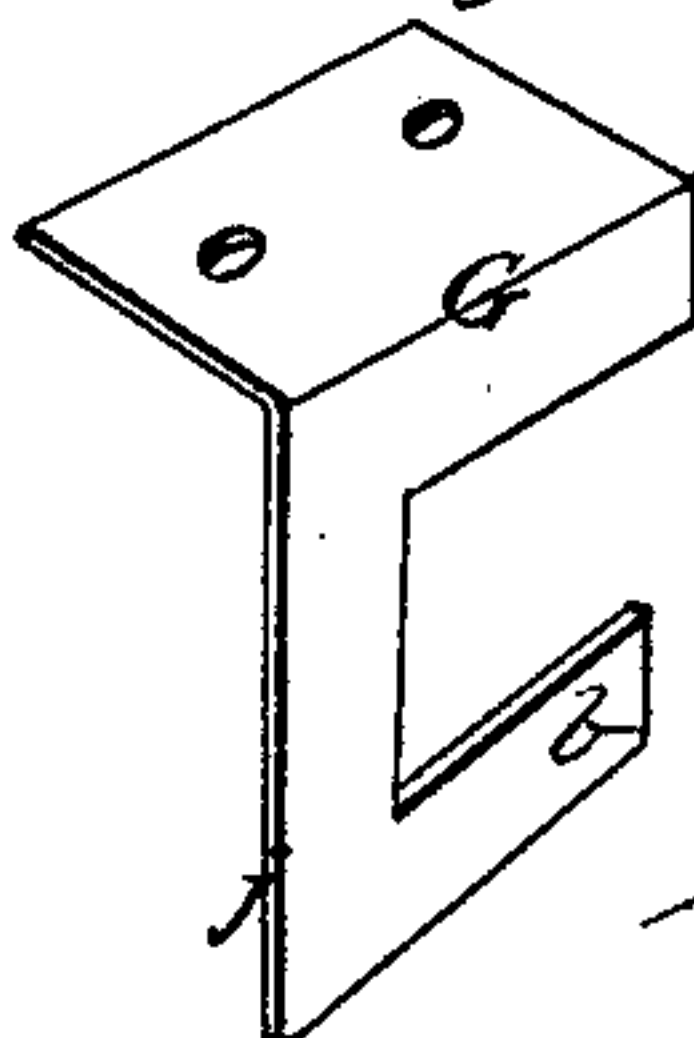
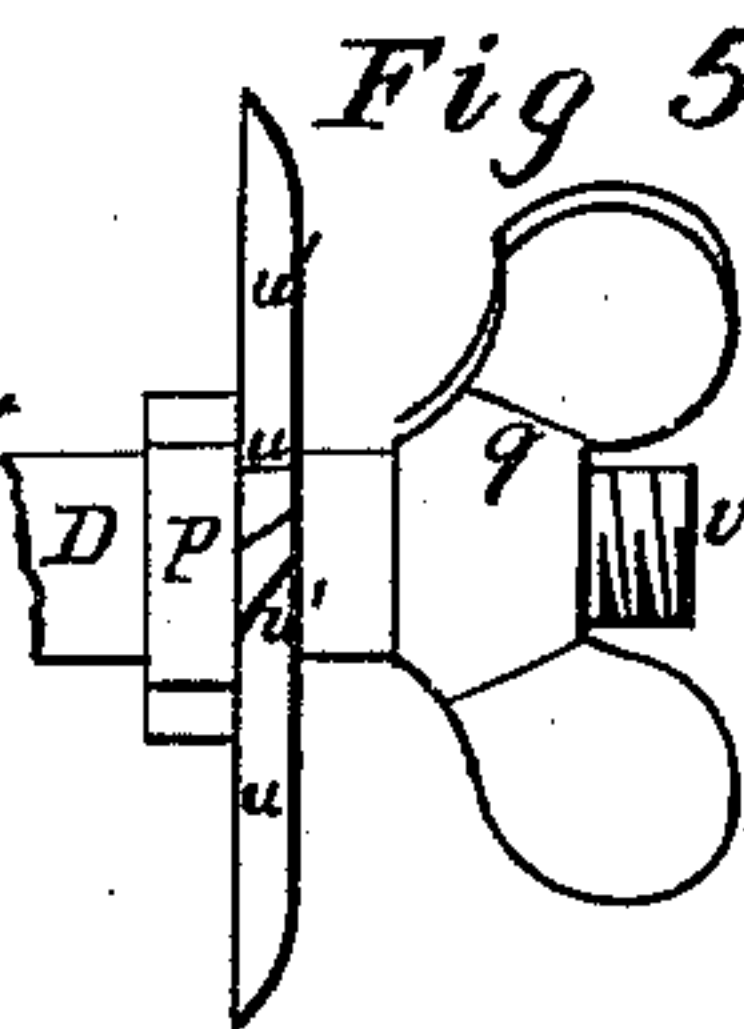


Fig. 5.



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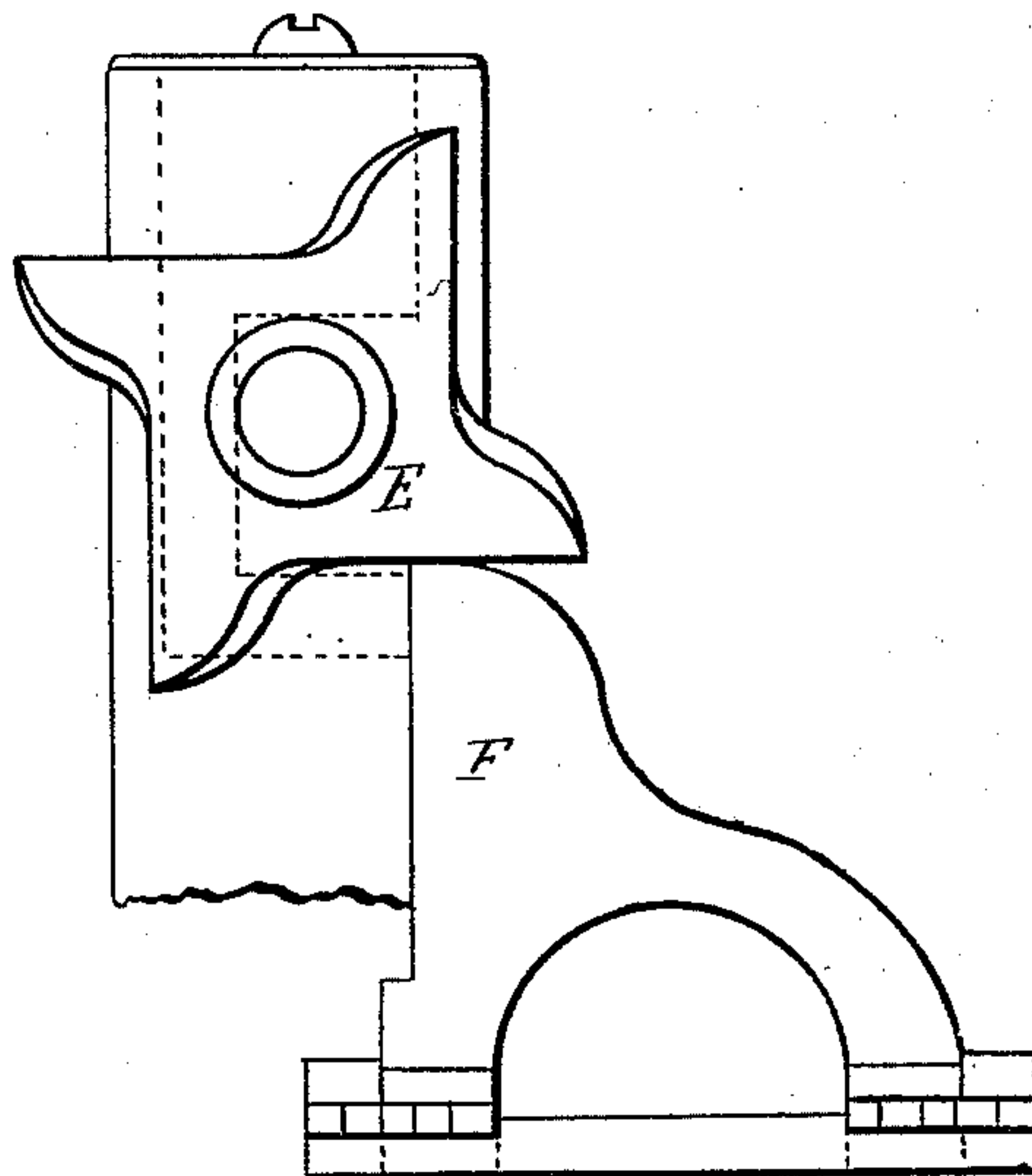
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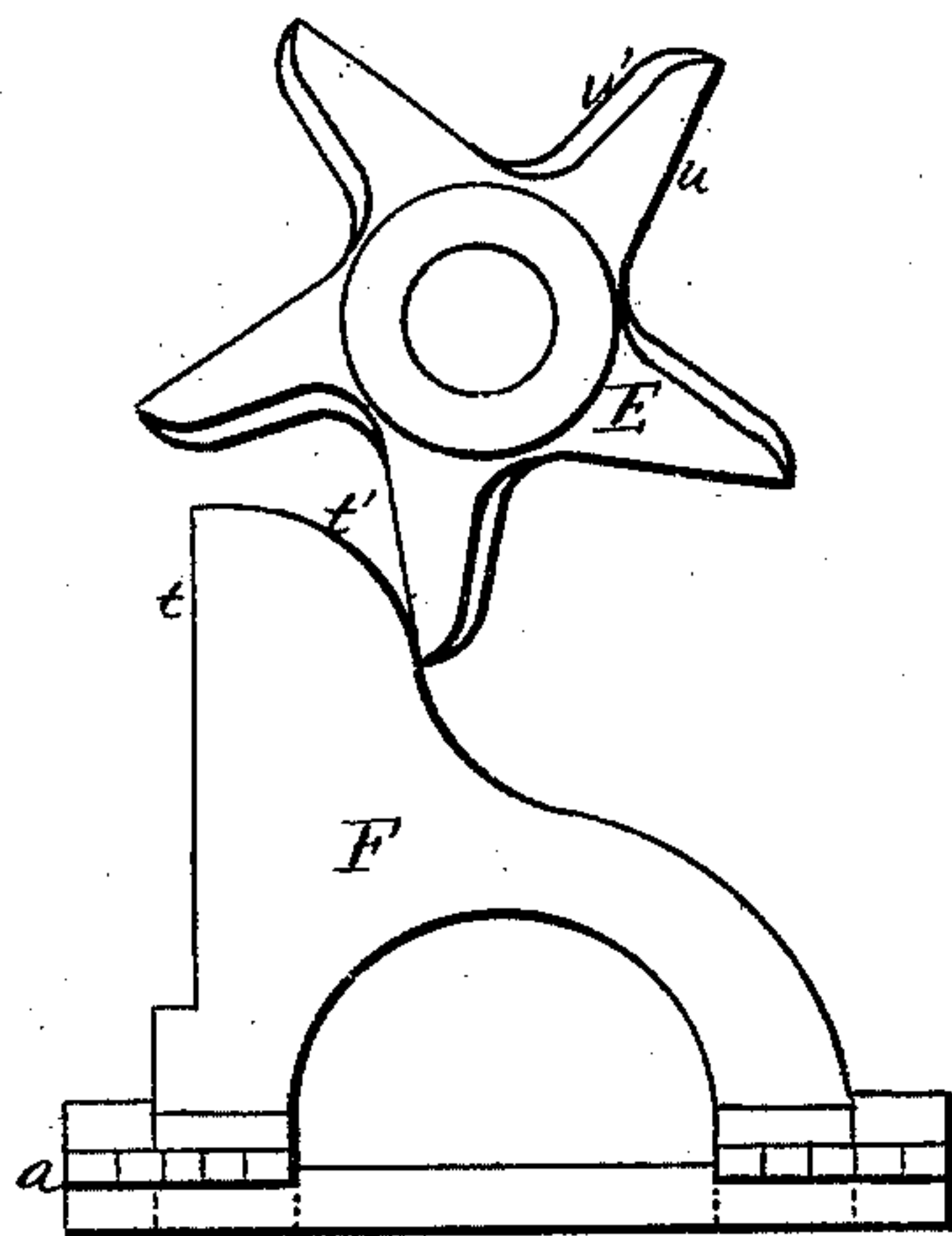
Attorneys

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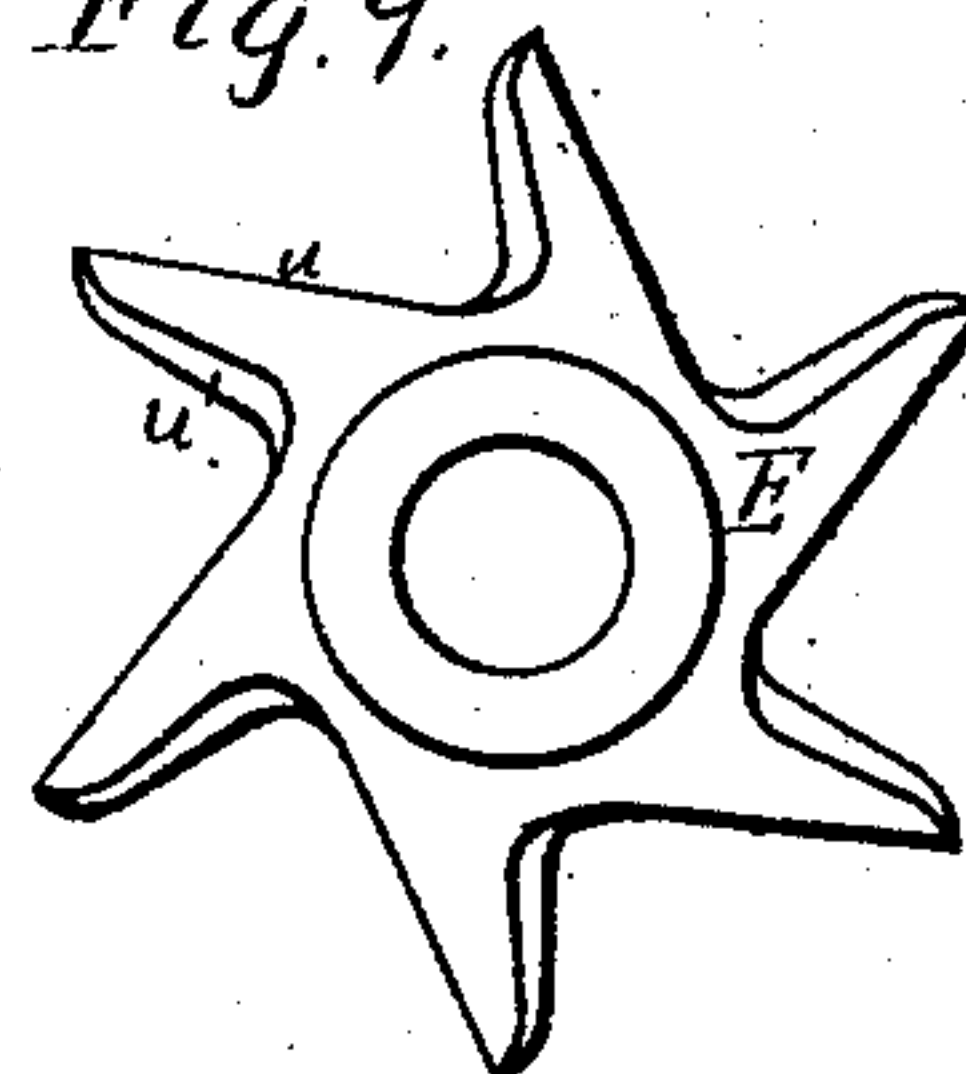
*Fig. 7.*



*Fig. 8.*



*Fig. 9.*



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# UNITED STATES PATENT OFFICE

WILLIAM P. UHLINGER, OF PHILADELPHIA, PENNSYLVANIA.

## IMPROVEMENT IN MACHINES FOR DRESSING MILLSTONES.

Specification forming part of Letters Patent No. **156,109**, dated October 20, 1874; application filed August 22, 1874.

### CASE A.

*To all whom it may concern:*

Be it known that I, WM. P. UHLINGER, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and valuable Improvement in Diamond Millstone-Dressing Machines; 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 drawing is a representation of a plan view of my diamond millstone-dressing machine. Fig. 2 is a side view. Fig. 3 is an end view. Figs. 4, 5, 6, 7, 8, and 9 are detail views of the same.

This invention has relation to diamond millstone-dressing machines; and it consists in the construction and novel arrangement of the devices forming the feed and stop motion, as hereinafter fully described.

In the accompanying drawings, the letter A designates the bed-plate, which is designed to rest on the stone to be dressed. B represents a longitudinally-traveling carriage, which carries the transverse block C, to which the diamond-holder is secured. The bed A and carriage B are provided with suitable slideways or guides *d d'*, respectively, for the carriage B and block C. The block C is provided with a post or projection, *e*, through which passes the diamond-holder or screw *f*, the head *g* of which is notched at regular intervals to engage with a spring-pawl, *h*, which serves to note and keep the adjustment. Rising from one end of the carriage B is the post *k*, and secured near the other end of the same, on one of the ribs or guides, *d'*, is the plate *l*, said post and plate forming bearings for the journal ends of the feed-screw D, one end of which passes through said post, and the other end bears against a pivot-screw, *n*, passing through an ear, *m*, of the plate *l*. A collar, *p*, is secured on the screw D, and bears against the inside of the post *k*, the journal of the screw passing through the post and carrying externally thereto the star-wheel E, which is fastened by a thumb-nut, *q*, or is otherwise arranged for removal or replace-

ment upon the screw-end *v* of the journal of the feed-screw. The feed is regulated by the number of teeth on the star-wheel E, and it is designed to provide several of these with different numbers of teeth to be used upon the screw end *v*, according to the requirement of the work. The teeth of these star-wheels are finished on one side with a square edge, *u*, and on the other with a beveled edge, *u'*, preferably. Below the path of the star-wheel is secured to the bed-plate A, by means of a hinge or yielding connection, *a*, the laterally-vibrating stop-pawl F, which is preferably kept in the upright position by spring-action, as shown at *s*. At its upper end the stop-pawl is finished in angular form, apex upward. This pawl is located near the end of the bed-plate, and the side or edge *t* of the angular tooth next the nearest end of the bed-plate is beveled, the other edge, *t'*, of the same being finished off squarely across, but inclined upward, as shown in the drawings. The beveled edge *t* is, preferably, arranged in the vertical position, and serves a purpose hereinafter explained. To the post K is secured a guard-spring or divider-plate, G, which, extending downward by the side of the star-wheel E, and forward in the form of an elastic tongue, as shown at *b*, presses against the beveled edge of the tooth of said wheel, and serves as a friction-stop to prevent the momentum of the shaft from rotating the wheel farther than it will be carried by the operation of the stop-pawl F against the succeeding tooth of this wheel when the carriage B is moved forward. When said carriage is drawn back the spring-tongue *b* passes inside the bevel edge *t* of the apex of the stop-pawl, and, forming an inclined plane, forces outward the laterally-yielding pawl F over the face of the tooth of the star-wheel, so that it cannot engage therewith. After the pawl has escaped from the heel *j* of the spring-plate G its upright or original position is resumed, and when the forward movement of the carriage B is given it passes inside of the outwardly-sprung heel *j* to engage with the square edge *t'* of the tooth of the star-wheel which is opposite, thus turning the screw-shaft D a certain distance. Upon the screw D bears the threaded head H of



the lever I, the long arm K of which is kept in the raised position by a hinged arm or plate, L, which is secured to the carriage B. A spring, S, bears upon the long arm of said lever, and, when the arm L is thrown down, lifts the head H from the thread of the screw D, stopping the feed. The lever I is pivoted to the post *e* of the feeding-block C. A notch is designed to be made in the under side of the long arm of the lever I, as shown at *z*, for the purpose of admitting the upper edge of the plate L when the diamond-carrier block C has been fed entirely across the bed, and thereby automatically stopping the dressing operation.

The star-wheel is, preferably, constructed according to the patterns illustrated by Figs. 7, 8, and 9 of the drawings. It will be observed that, although the wheels shown have different numbers of teeth, they are formed upon similar principles. The square edges of the teeth are straight, and at right angles with the radiuses of the wheel, extending outward to the heel of each tooth, and the beveled edges are curved in convex form and approximate the radial direction. It is designed that the contact between the tooth of the wheel and the end of the pawl shall take place near the inception of

the end curve of said tooth, as indicated in Fig. 8 of the drawings.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the star-wheel and yielding pawls, of the spring-guard G, substantially as specified.

2. The combination, with the feed-screw D, of the lever I, its threaded bearing H, the spring S, and the hinged dropping-arm L, substantially as specified.

3. The spring-guard G, having the laterally-inclined spring-tongue *b*.

4. The star-wheel E, having teeth, the square edges of which are at right angles with radiuses, and the beveled edges of which are approximately inclined with radius of said wheel, substantially as specified.

5. The laterally-yielding pawl F, substantially as specified.

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

WILLIAM P. UHLINGER.

Witnesses:

D. D. KANE,

H. C. HOLLINGSHEAD.