

No. 679,027.

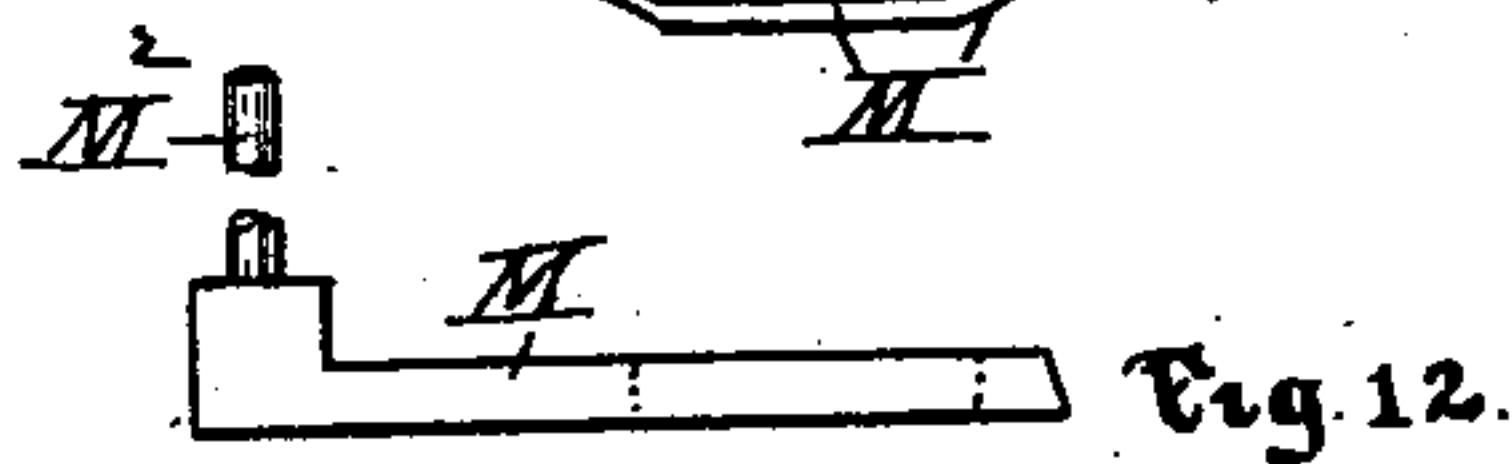
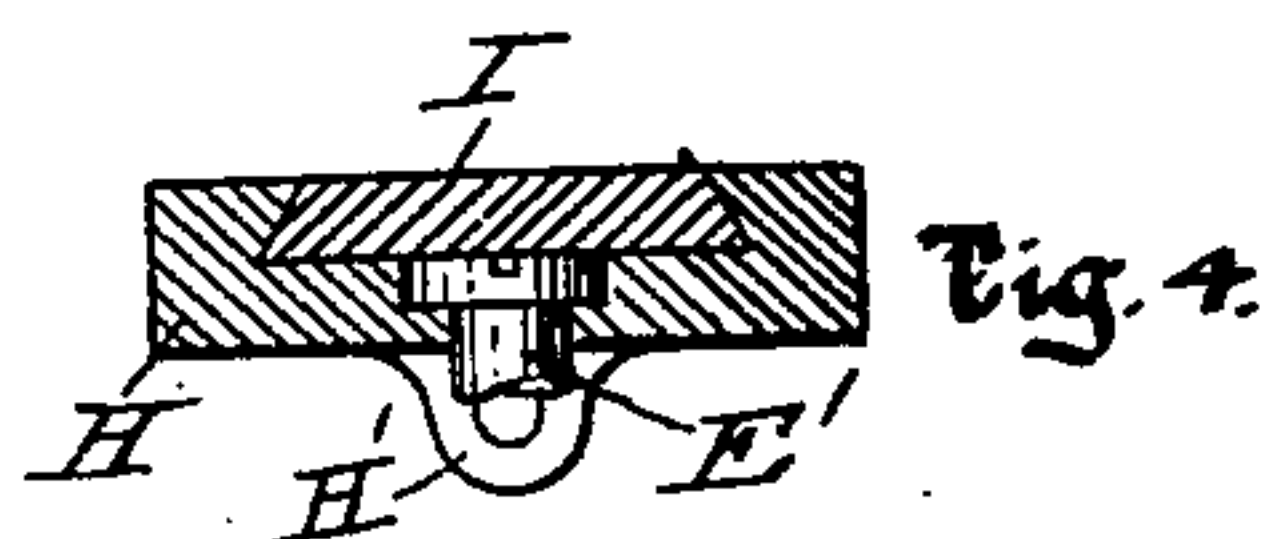
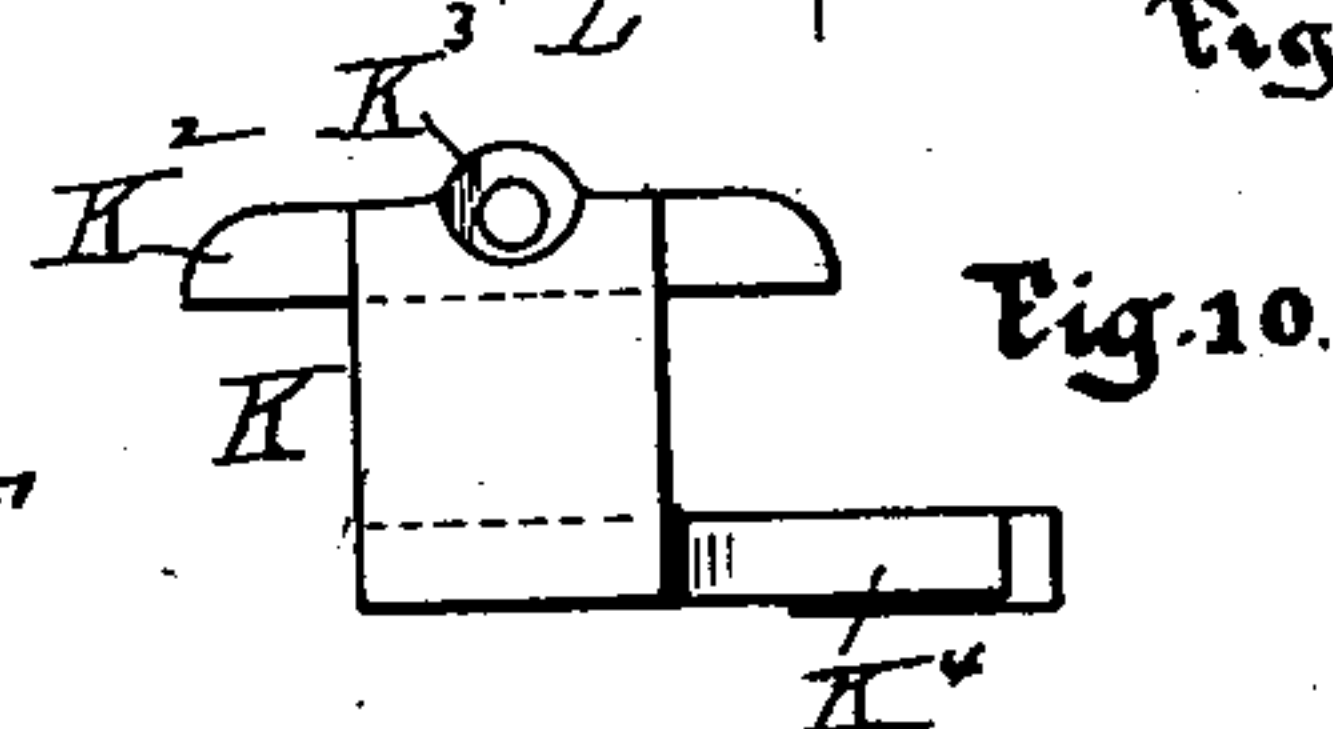
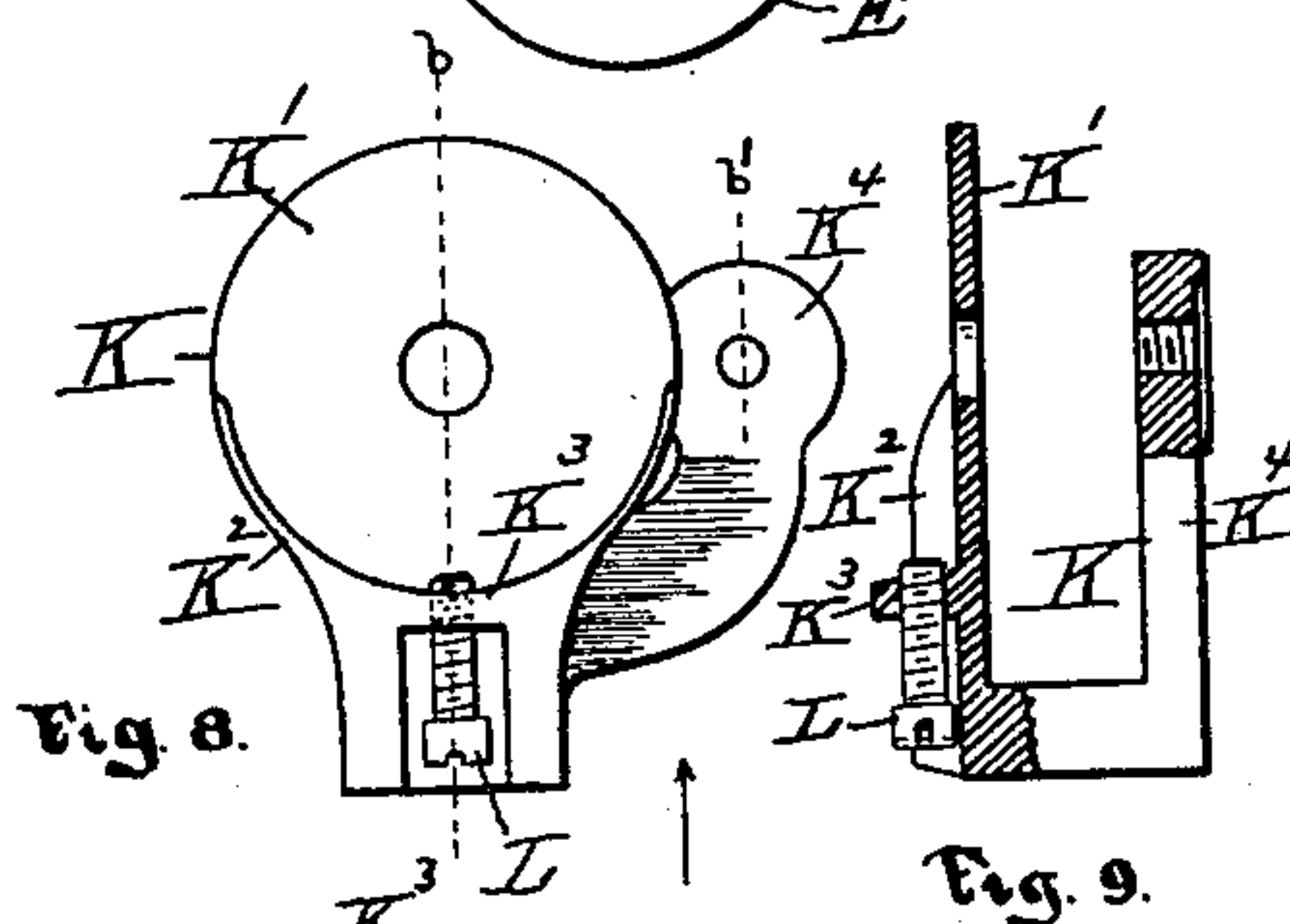
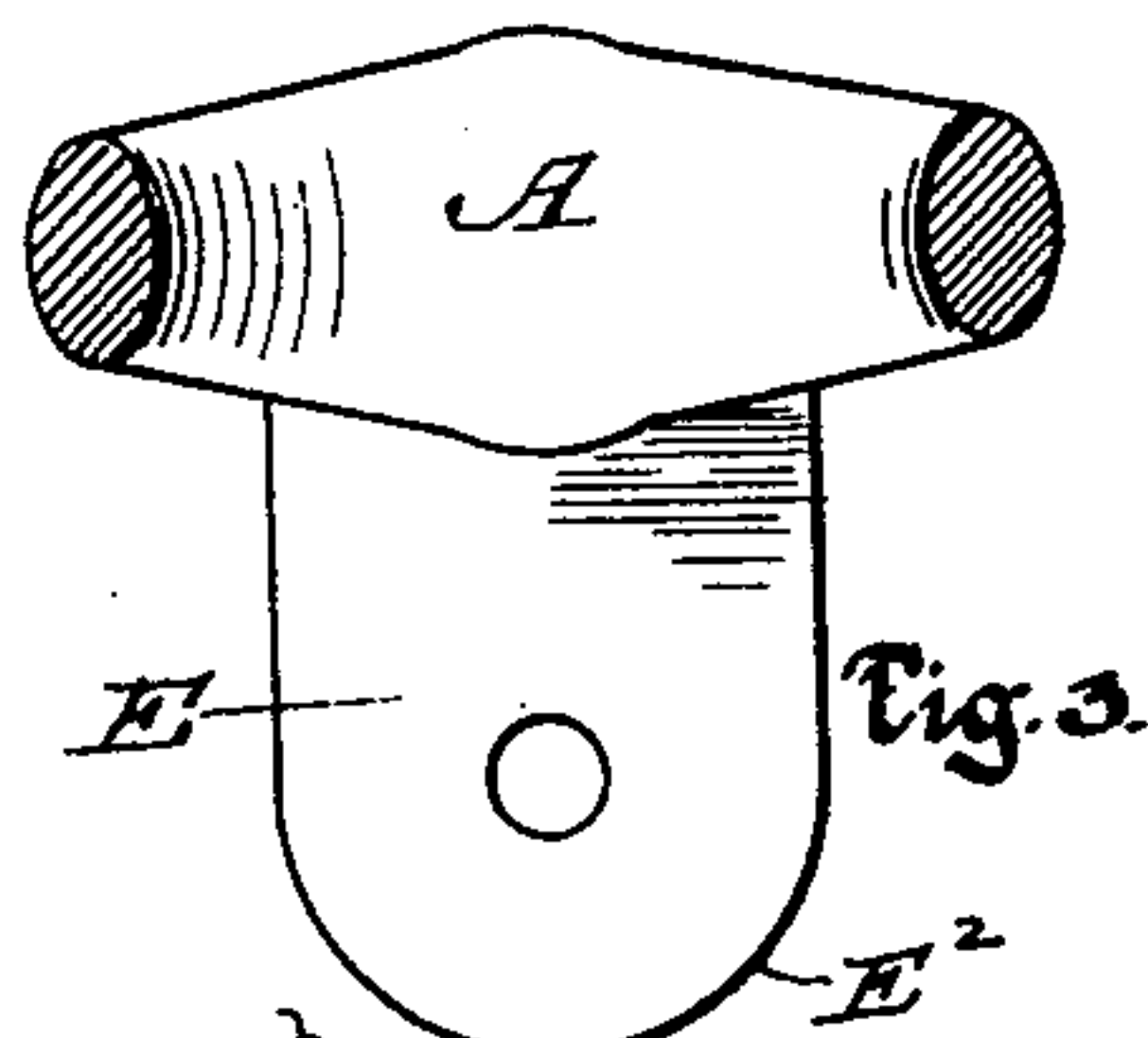
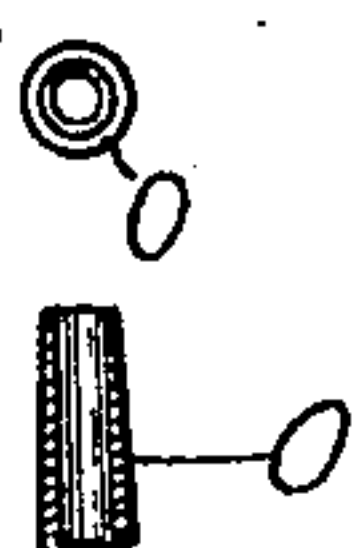
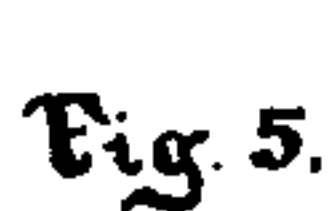
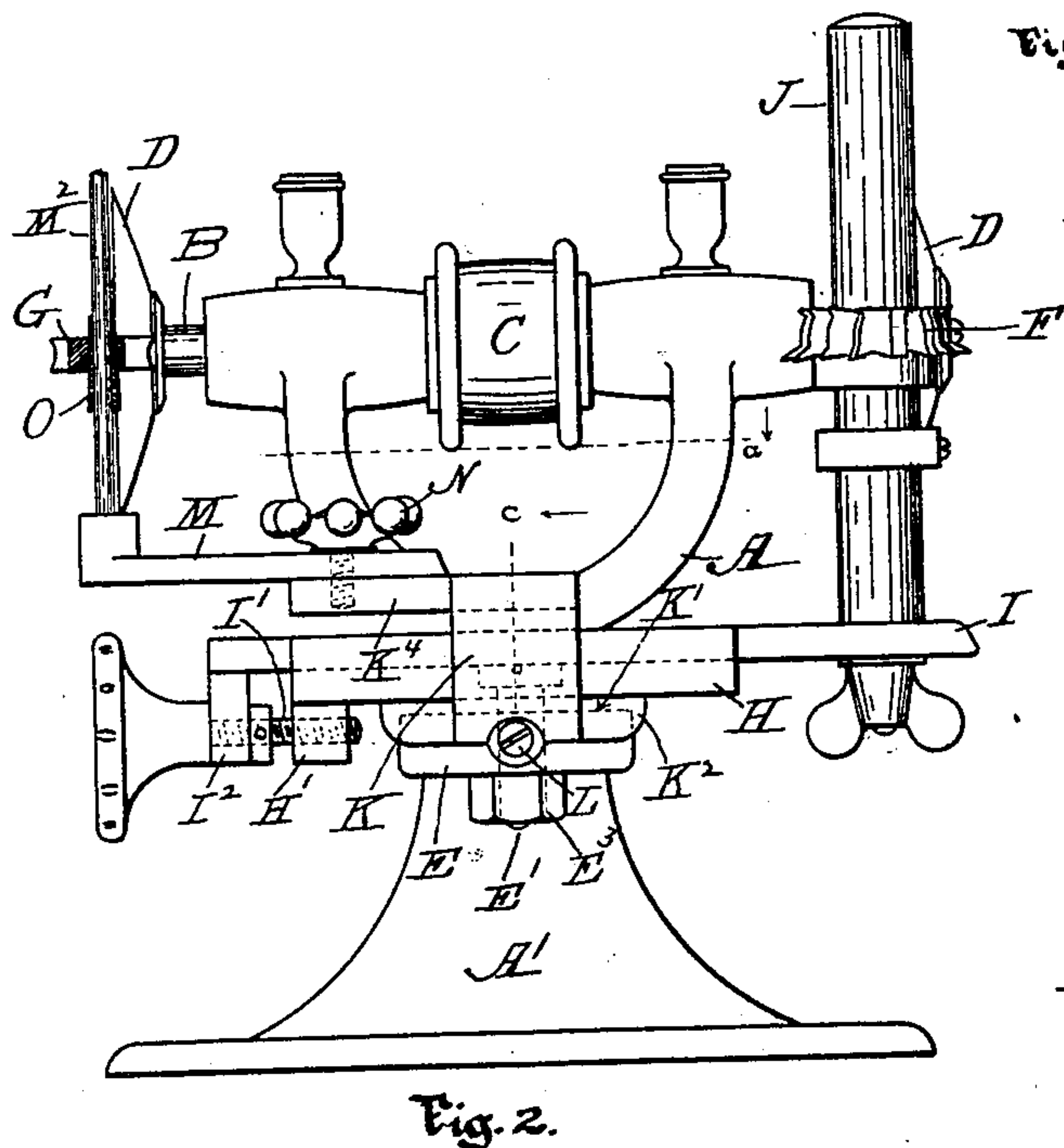
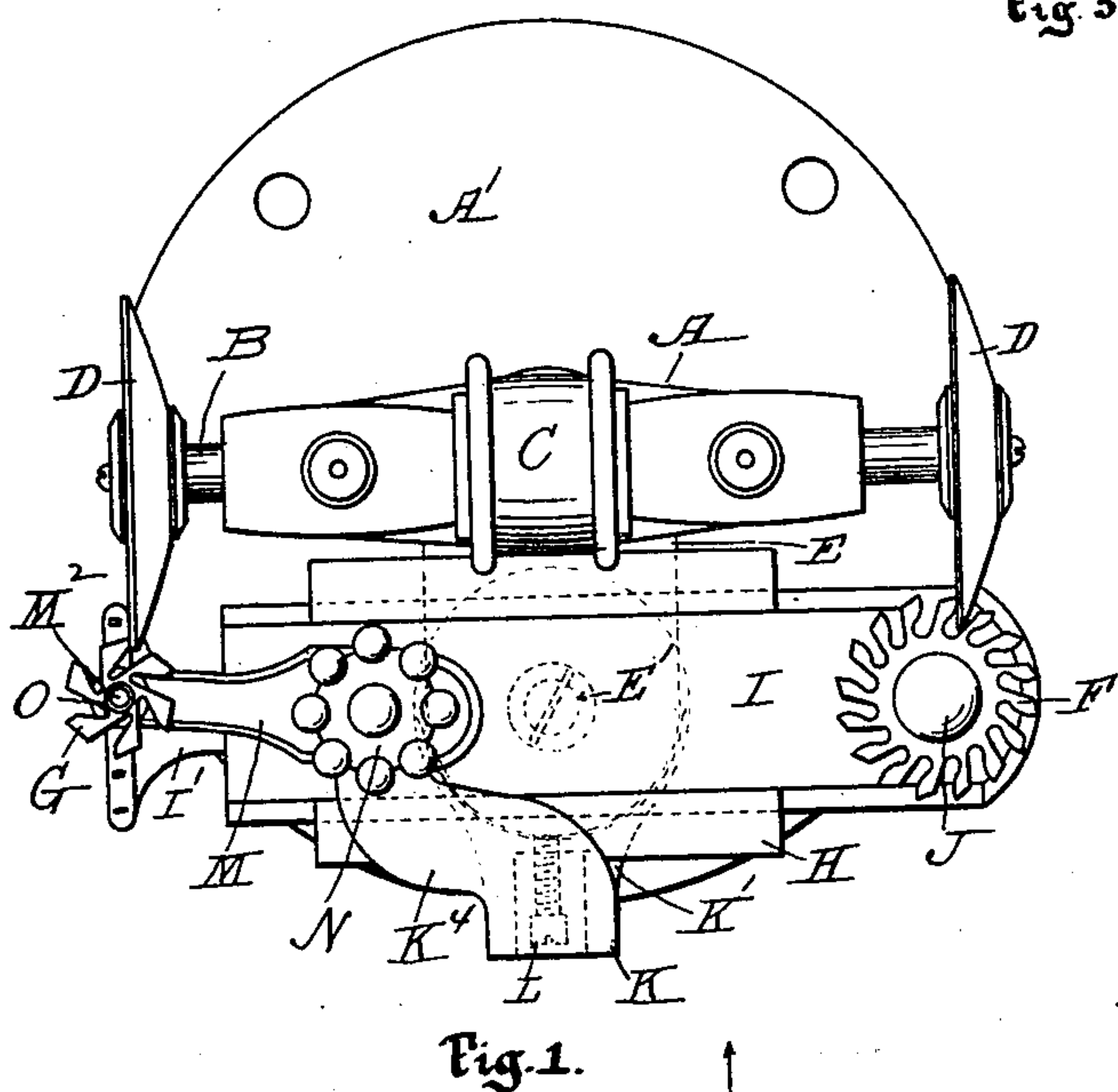
Patented July 23, 1901.

G. A. KNOWLTON.

ATTACHMENT FOR GRINDING SHANK CUTTERS FOR BOOT OR SHOE TRIMMING MACHINES.

(Application filed Aug. 31, 1900.)

(No Model.)



Witnesses

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UNITED STATES PATENT OFFICE.

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ATTACHMENT FOR GRINDING SHANK-CUTTERS FOR BOOT OR SHOE TRIMMING MACHINES.

SPECIFICATION forming part of Letters Patent No. 679,027, dated July 23, 1901.

Application filed August 31, 1900. Serial No. 28,637. (No model.)

To all whom it may concern:

Be it known that I, GEORGE A. KNOWLTON, of Natick, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Attachments for Grinding Shank-Cutters for Boot or Shoe Edge Trimming Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a plan of a grinder for boot and shoe edge trimming machines with my improved attachment applied thereto. Fig. 2 is a front side view of the parts shown in Fig. 1 looking in the direction of the arrows in said Fig. 1. Fig. 3 is a horizontal section through the frame, taken at the point indicated by line *a*, Fig. 2, showing a plan of a horizontal circular bracket formed on said frame. Fig. 4 is a vertical central section on line *c*, Fig. 2. Figs. 5 and 6 are an end view and longitudinal section, respectively, of the tapered bushing upon which the shank-cutter is placed in grinding the same. Fig. 7 is a side view of the main set-screw of the shank-cutter-supporting device. Fig. 8 is a bottom plan view of the frame and another set-screw of said shank-cutter-supporting device. Fig. 9 is a section on lines *b b'*, Fig. 8. Fig. 10 is a front view of the parts shown in Fig. 8 looking in the direction of the arrow; and Figs. 11 and 12 are a plan and side view, respectively, of the swivel-arm of the shank-cutter-supporting device.

The object of my invention is to provide a simple and effective adjustable device for supporting the shank-cutter in grinding the same upon a grinder for boot and shoe edge trimming machines and also means whereby the support for the "fore-part" or edge-sole cutter may be held in place in a firm and rigid manner by holding the cutter in the fingers. Said invention consists of certain improvements in the construction of said device for supporting and holding the shank-cutter while being ground, as aforesaid, in the means employed for clamping said support, and also for holding or clamping the main pivot-bolt and the support for the fore-part

or edge-sole cutter so that said support may not move out of position laterally in grinding said fore-part or edge-sole cutter, as will be hereinafter more fully set forth.

In order that others may better understand the nature and purpose of my said invention, I will now proceed to describe it more in detail, with reference to the accompanying drawings.

In said drawings, A represents the frame, which has mounted therein the horizontal shaft B, upon which are in turn mounted the usual central drive-pulley C and end grinders D D. Said frame also has the usual horizontal bracket E, projecting from the upper part of the base A' of said frame. Upon said bracket are mounted the supports for the edge-sole cutter F and shank-cutter G. The support for the edge sole-cutter is substantially the same as in other boot and shoe edge trimming machines, the same consisting of the swivel-bed H, which is pivoted to said bracket E by means of the vertical bolt E', the plate I, fitted to slide in said swivel-bed H, and the vertical post J, detachably and adjustably secured, as usual, to the end of said slide-plate I. The slide-plate I may be adjusted longitudinally by means of an adjusting-screw I', which turns, but does not move, longitudinally in a bearing I² on the slide-plate and turns in a threaded opening in the bearing H' on swiveled bed H. These parts are all old, and I make no claim thereto.

The support for the shank-cutter, and to which my improvements relate, is constructed as follows: An irregular-shaped frame K is provided with a horizontal disk K', which fits between the bracket E and swivel-bed H, being held by the pivot-bolt E', which also serves as the pivot for said swivel-bed H. Said disk K' is provided with a reinforcing-shoulder K², which when the parts are assembled for use fits against the circular front edge E² of bracket E. The frame K is also provided with a transverse set-screw L, which turns in the bearing K³ thereof against the edge E² of bracket E. By turning said set-screw L against the stationary edge E² the pivot-bolt E' is held or clamped rigid, and therefore its set-nut E³ is held from turning, thereby holding the swivel-bed H and parts

mounted thereon in a firm and rigid position from turning after the parts are adjusted into proper position to bring the sole-cutter in position for grinding, as is shown in Figs. 1 and 2. The frame K is provided in addition to the aforesaid disk K' with a lateral arm K⁴, of curved form in this instance, as is shown in Fig. 1, and to its outer end is pivoted a swivel-arm M by means of the set-screw N, which passes through a vertical slot M', and thus admits of the lateral adjustment of said arm M independent of the swivel movement of bed H. The outer end of said swivel-arm M has a small post M² extending up vertically therefrom to carry the shank-cutter G; but instead of placing the cutter directly on the post in contact therewith a tapered bushing O is fitted to slide vertically on the post, and the shank-cutter G is fitted over said bushing, as is shown in Figs. 1 and 2. Said shank-cutters G, as is well known, are made with slightly-tapering holes, and therefore in grinding the blades thereof while held on the post they wobble about laterally, and consequently cannot be properly ground. To obviate this objection is the purpose of the bushing O. Its central hole, being cylindrical in shape, fits the post so that it does not wobble on that, and, being tapered on the outside to fit the tapered opening of the cutter, it is likewise held from wobbling on said bushing. It may therefore be moved up and down in perfect alinement vertically with the cutting edge of the grinder D and is consequently ground straight and true. This feature is quite an important one in a machine of this class, as it is very essential that the cutters

be properly ground to produce good work upon the boot or shoe. The feature of holding the central pivot-bolt E rigid by means of the set-screw L, so that its nut E³ will not turn, and thus become loose, and whereby the swivel-bed H and parts mounted thereon may be held from turning after adjustment, is also an important one in machines of this class.

My improved attachment may be readily applied to the old form of grinder for boot and shoe edge trimming machines. It is simple in construction, not easily got out of repair, and by its use the shank-cutters may be ground in a perfect manner.

Having now described my invention, what I claim therein as new, and desire to secure by Letters Patent, is—

1. The combination of frame A having the bracket E, with the swivel-bed H; plate I, fitted to slide therein; pivot-bolt E'; frame K, provided with the disk K', reinforcing-shoulder K², set-screw L and arm K⁴; swivel-arm M; set-screw N; post M²; and bushing O, substantially as and for the purpose set forth.

2. The combination of frame A, having the bracket E, with the swivel-bed H; plate I, fitted to slide therein; pivot-bolt E'; frame K, provided with the disk K', reinforcing-shoulder K², set-screw L and arm K⁴; swivel-arm M; set-screw N; post M²; bushing O and post J mounted on slide-plate I, substantially as and for the purpose set forth.

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Witnesses:

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