

No. 620,205.

Patented Feb. 28, 1899.

E. E. WINKLEY.
WELT SKIVING MACHINE.

(Application filed Dec. 21, 1896.)

(No Model.)

FIG. 1.

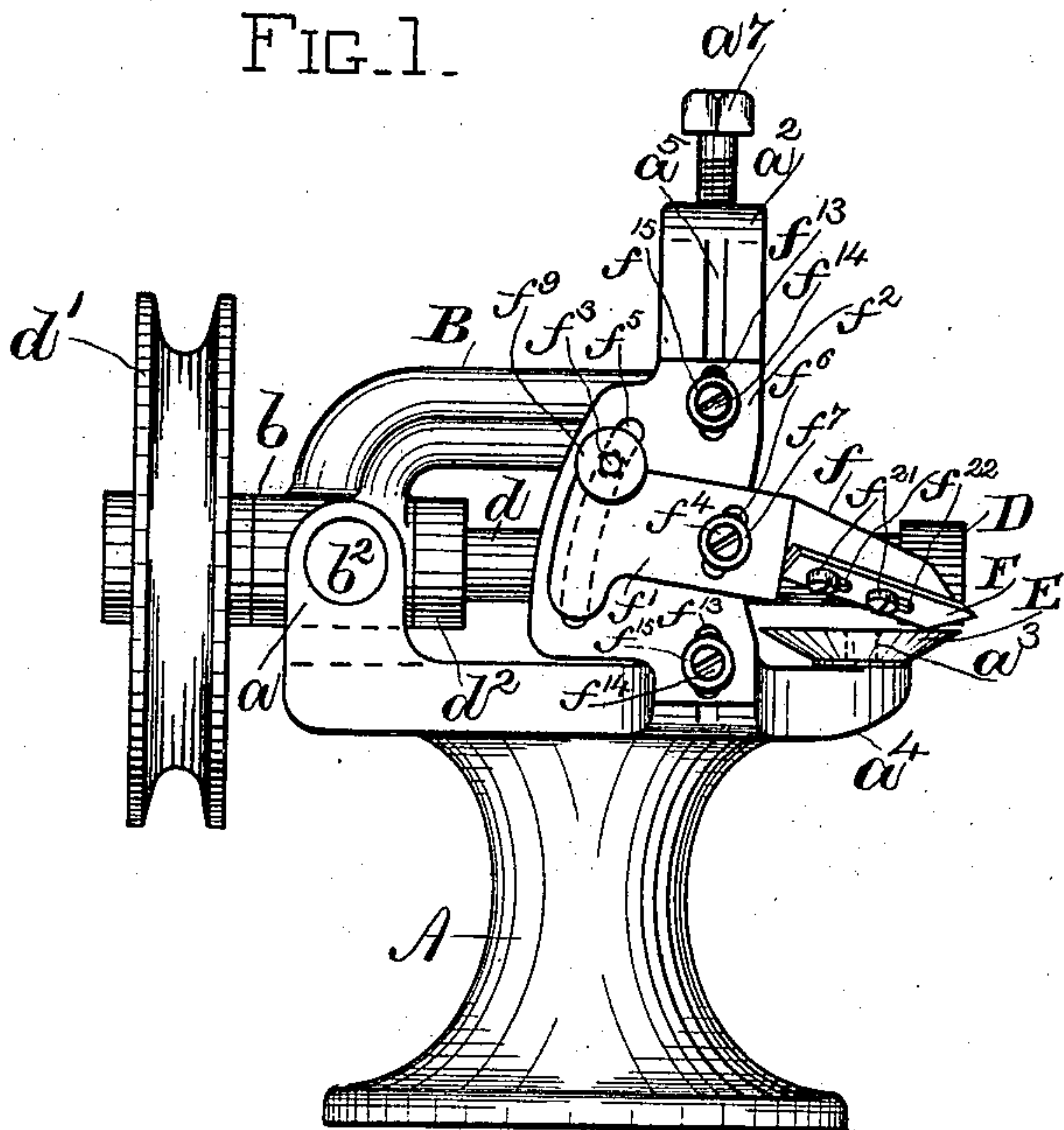


FIG. 2.

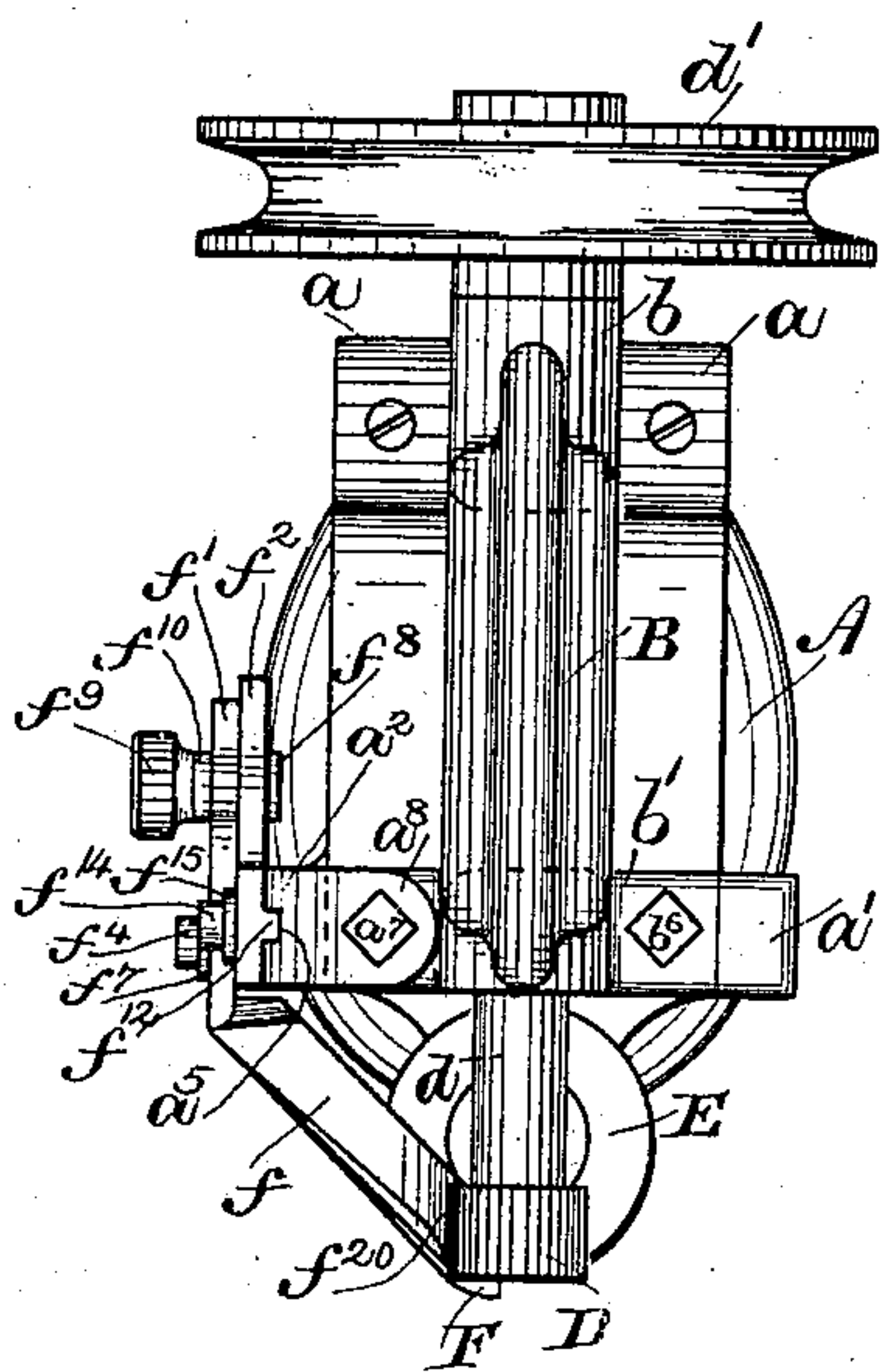
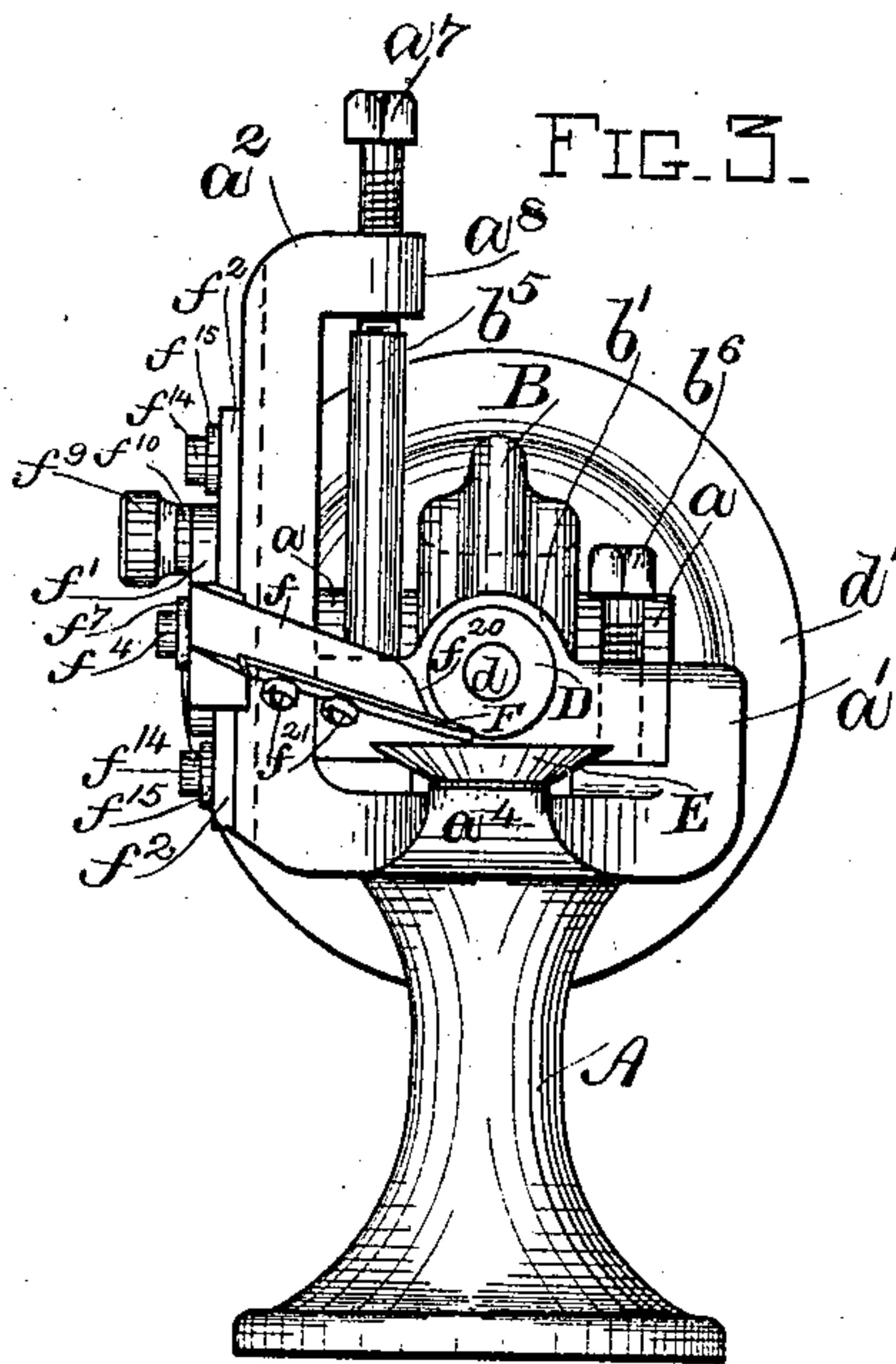


FIG. 3.



WITNESSES.

A. E. Hays
A. O. Orme

INVENTOR.
E. E. Winkley,
By his attorney
Phillips & Henderson.

UNITED STATES PATENT OFFICE.

ERASTUS E. WINKLEY, OF LYNN, MASSACHUSETTS.

WELT-SKIVING MACHINE.

SPECIFICATION forming part of Letters Patent No. 620,205, dated February 28, 1899.

Application filed December 21, 1896. Serial No. 616,389. (No model.)

To all whom it may concern:

Be it known that I, ERASTUS E. WINKLEY, a citizen of the United States, residing at Lynn, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Welt-Skiving Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to improvements in welt-skiving machines, and more particularly to an improved machine arranged to skive or bevel a welt after its attachment to a lasted upper and insole.

The object of the present invention is to produce a machine which will accurately skive the welt after its attachment to the lasted upper and insole and position the skived portion with reference to the inseam.

To the above end the present invention consists of a feed-roll and combined work-table and crease-guide and a skiving-knife, arranged and combined as hereinafter described and claimed.

A preferred form of the present invention is shown in the accompanying drawings, in which similar letters of reference indicate like parts, and in which—

Figure 1 is a side elevation of a machine embodying the present invention. Fig. 2 is a plan view, and Fig. 3 is a front elevation.

In the drawings, A represents a frame or base suitable to support the working parts of the machine.

B represents a vertically-swinging head which carries the feed-roll D. As shown, the head B is substantially U shape, one of its downwardly-extending arms being secured to a sleeve *b* and the other to a guide-block or cross-head *b'*. From opposite sides of the sleeve *b* are projected the trunnions *b*², which are provided with suitable bearings in the lugs or ears *a* on the base A, the arrangement being such that the head B is free to swing vertically on the trunnions *b*².

The feed-roll D is mounted upon and rotates with a shaft *d*, having a bearing near said roll in the cross-head *b'* and near the back of the machine in the sleeve *b*. The shaft *d* is driven by a pulley *d'* at the back of

the machine, being, as shown, held from longitudinal movement in its bearing by the hub of the pulley *d'*, which bears against the back of the sleeve *b*, and by a collar *d*² at the opposite end of said sleeve.

The guide-block or cross-head *b'*, while vertically movable with the head B, is held from lateral movement by suitable guides, conveniently the vertical standards *a'* and *a*² on the base A, between which it is fitted and free to reciprocate vertically for the purpose of vertical adjustment, the standards *a'* and *a*² bearing against the ends of the guide-block or cross-head *b'* and preventing any lateral movement thereof.

E represents the work-support, which also acts as a crease-gage, being formed and arranged to enter the crease between the welt and upper and bear upon the inseam. As shown, the work-support E is mounted upon and is free to rotate about a trunnion *a*³, (see dotted lines, Fig. 1,) projected from a bracket *a*⁴ upon the base A.

F represents the skiving-knife, which, as shown, is projected under the feed-roll D, its cutting edge preferably lying between the work-support and feed-roll and in a vertical plane substantially parallel with the vertical plane of the axis of said feed-roll. The cutting edge of the skiving-knife is inclined to the surface of the work-support, so as to cut a beveled shaving from the outer and lower edge of the welt, as hereinafter described.

The knife F is supported and held in position by means of a knife-carrier *f*, to which it is preferably adjustably secured by means of the set-screws *f*²¹, passing through slots *f*²², and which is vertically adjustable to position the knife above the work-support E, and is provided with a further adjustment to vary the inclination of the cutting edge of the skiving-knife F.

As shown in the drawings, the above-suggested results are secured as follows: To the knife-carrier *f* is fixedly secured a guide-plate *f'*, from which the knife-carrier *f* is projected forward and downwardly to bring the knife F into position relatively to the work-support E and roll D. The plate *f'* is carried by and angularly adjustable upon a plate *f*², which is supported by and vertically adjustable along a suitable support upon the base

A, conveniently an upward extension of the standard a^2 .

The plate f' may be conveniently supported upon the plate f^2 and its angular adjustment provided for by the following arrangement: As shown in the drawings, f^3 and f^4 represent two bolts not in vertical alinement which support the plate f' and hold it in a fixed angular position upon the plate f^2 . In the plate f^2 is provided a circular slot f^5 , and in the plate f' a similar slot f^6 , the slots f^5 and f^6 being substantially concentric and struck from a center substantially in horizontal alinement with the lower cutting-point of the cutting edge of knife F, so that when the plate f' is angularly adjusted upon the plate f^2 , as hereinafter described, the edge of knife F is angularly adjusted to change the degree of bevel cut thereby without substantially changing its vertical position relative to the work-table E. As shown, one of the bolts f^4 passes through the slot f^6 in plate f' and engages threaded bearings (not shown) in plate f^2 . The bolt f^4 conveniently carries a clamping-washer f^7 , which overlaps the plate f' , and when the bolt is set up firmly holds said plate. The bolt f^3 , as shown, passes through the slot f^5 and is provided on the inside of plate f^2 with a head or washer f^8 , which overlaps plate f^2 on each side of slot f^5 . The threaded portion of the bolt f^3 , outside of plate f' , carries a threaded thumb-nut f^9 , the hub of which bears upon the plate f' or an interposed washer f^{10} . By setting up the bolt f^3 the plates f' and f^2 may be clamped firmly together.

The above-described arrangement is such that by loosening the bolts f^3 and f^4 and moving them in the slots f^5 and f^6 the cutting edge of the knife F may be set at any desired degree of inclination to the work-support E, and when in the required position may be firmly secured by setting up the bolts.

To secure a vertical adjustment of the cutting edge of the knife F without changing its inclination to the work-table E, I find it preferable to provide upon the inner face of the plate f^2 a vertical tongue or rib f^{12} , which is fitted to a vertical groove a^5 on the standard a^2 . Through the plate f^2 and its rib f^{12} are formed the vertical slots f^{13} , through which pass the bolts f^{14} , having threaded bearings in the standard a^2 . The bolts f^{14} are headed upon the outside of plate f^2 and preferably carry clamping-washers f^{15} , which overlap the plate f^2 on each side of slots f^{13} , the arrangement being such that by loosening the bolts f^{14} the plate f^2 may be moved vertically upon its support, and by setting up said bolts clamped in any desired position thereon.

The upward movement of the guide-block or cross-head b' , and hence of the head B, may be conveniently limited by the post b^5 , which is arranged to contact with a set-screw a^7 , having a threaded bearing in the lateral projection a^8 on the standard a^2 .

The downward movement of cross-head b'

may be conveniently controlled by a set-screw b^6 , projected through threaded bearings in the cross-head b' and resting upon the base A. By proper adjustment of the set-screws a^7 and b^6 provision is made for different thickness of stock.

The knife-carrier f , as shown, is projected under the roll D to carry the support for the knife F as near its cutting edge as possible, and to clear the roll D the forward end of the carrier f is beveled or cut away, as shown at f^{20} . The roll D, as shown, is in the usual form of corrugated roll; but, as shown, it will be noted that it acts not only as a feed-roll, but as a pressure-roll to prevent the work from rising while being acted upon by the knife.

The operation of my invention is as follows: The parts being adjusted as required, power is applied to the pulley d' , and the welt, which has been previously attached to the lasted upper and insole, is inserted between the roll D and the table E at a point at or near the shank, the work-table E, which, as before stated, acts as a crease-guide, entering the crease between the welt and upper and determining the distance from the in seam at which the welt is acted upon by the knife. The work is then fed along, the work-table E continuing to bear upon the in seam, and as the welt is fed against the cutting edge of the knife F a beveled shaving is cut therefrom, the welt being prevented from rising when acted upon by the knife by the roll D, which, as before stated, acts as a presser-roll as well as a feed-roll. When a sufficient portion of the welt has been skived, the shoe is removed from the machine. It is of course understood that in using my improved welt-skiver the shoe is supported by the operator and held with the insole up.

I am aware that welting has been skived or beveled before its attachment to the lasted upper and insole; but in so far as I am advised of the state of the art I am the first to skive a welt upon the last and to position the skived portion with reference to the in seam, thus insuring a uniform thickness of edge and giving a neater appearance to the finished shoe.

I claim—

1. In a welt-skiving machine, the combination with a feed-roll and a combined work-support and crease-guide, of a skiving-knife and knife-supporting means, the said knife-supporting means having means for longitudinal, angular and vertical adjustment of the knife with reference to the combined work-support and crease-guide, substantially as described.

2. In a welt-skiving machine, the combination with a feed-roll and a combined work-support and crease-guide, of a skiving-knife, knife-carrier, and knife-carrier support, said knife-carrier and knife-carrier support having means for longitudinal, angular and vertical adjustment of the knife with reference

to the work-support and crease-guide, substantially as described.

3. In a welt-skiving machine, the combination of a skiving-knife, work-support, feed-
5 roll, a carrier for the knife, a guide-plate secured to the carrier, a vertically-movable support carrying said guide-plate, and concentric slots in said plate and support, and suitable clamping means for angularly adjusting

said plate and clamping it in the required position, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

ERASTUS E. WINKLEY.

Witnesses:

WILLIAM A. SARGENT,
BENJ. PHILLIPS.