

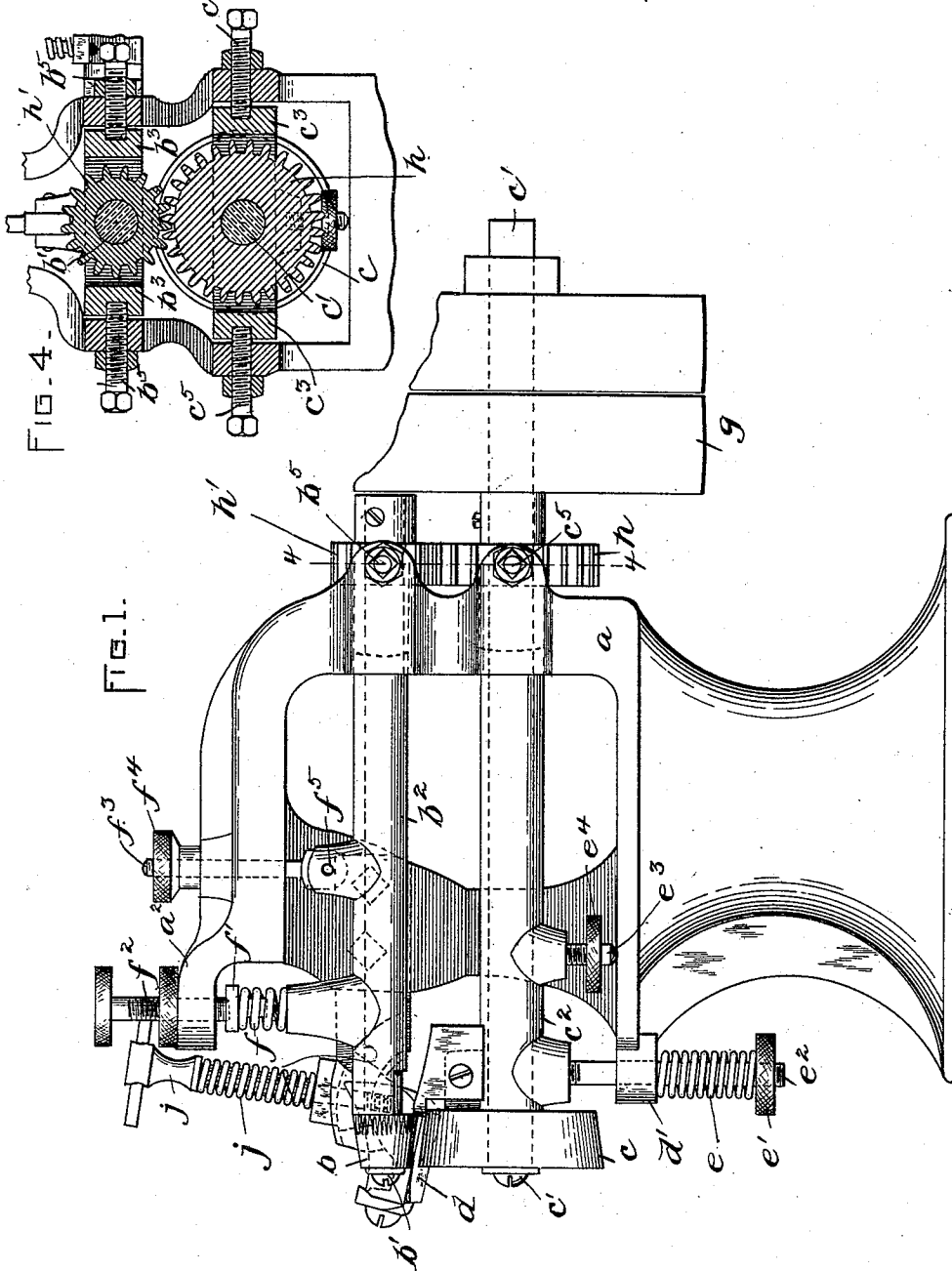
(No Model.)

2 Sheets—Sheet 1.

A. K. WASHBURN.
LEATHER SKIVING MACHINE.

No. 486,813.

Patented Nov. 22, 1892.



WITNESSES:

H. A. Hall.
J. M. Allen.

INVENTOR:

A. K. Washburn
by *Wright & Son* Attys.

(No Model.)

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FIG. 3.

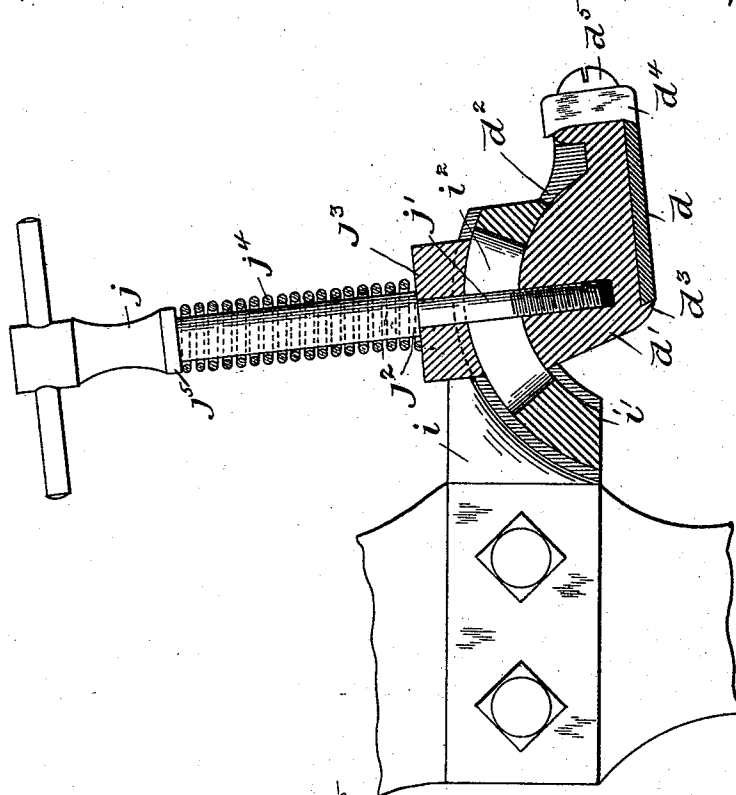
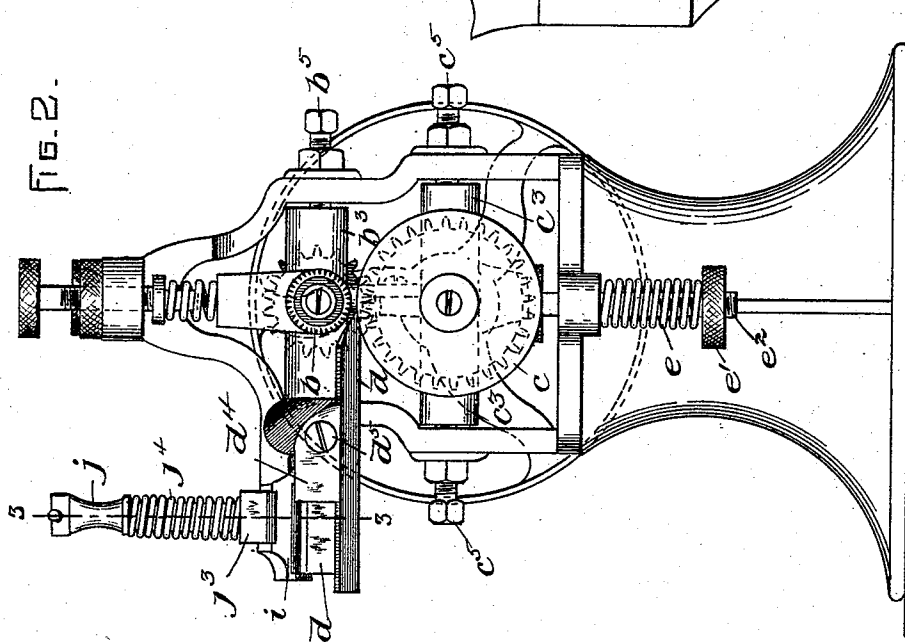


FIG. 2.



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UNITED STATES PATENT OFFICE.

ALBION K. WASHBURN, OF BRIDGEWATER, ASSIGNOR TO THE SWAIN & FULLER MANUFACTURING COMPANY, OF BOSTON, MASSACHUSETTS.

LEATHER-SKIVING MACHINE.

SPECIFICATION forming part of Letters Patent No. 486,813, dated November 22, 1892.

Application filed April 1, 1892. Serial No. 427,323. (No model.)

To all whom it may concern:

Be it known that I, ALBION K. WASHBURN, of Bridgewater, in the county of Plymouth and State of Massachusetts, have invented certain new and useful Improvements in Leather-Skiving Machines, of which the following is a specification.

This invention relates to leather-skiving machines of the type in which feed-rolls are employed to feed the leather to be skived forward to a skiving-knife, which is adapted to be set at various inclinations, so that its edge may be more or less diagonal to the plane occupied by the adjacent surfaces of the feed-rolls, thus enabling any desired angle to be given to the skived surface.

The invention consists in the several improvements hereinafter described and claimed relating to the means for supporting and adjusting the knife and feed-rolls and to other parts of the machine.

Of the accompanying drawings, forming part of this specification, Figure 1 represents a side elevation of a skiving-machine provided with my improvements. Fig. 2 represents an end view of the same. Fig. 3 represents a section on the line 3 3, Fig. 2, looking toward the right. Fig. 4 represents a section on line 4 4, Fig. 1, looking toward the left.

The same letters of reference indicate the same parts in all the figures.

In the drawings, *a* represents the supporting-frame.

b c represent the leather-feeding rolls, and *d* represents the skiving-knife. The lower or bed roll *c* is of larger diameter than the upper roll *b*, as shown in Figs. 1 and 2. The roll *c* is affixed to a shaft *c'*, which is journaled in an elongated sleeve or tubular bearing *c²*, having at its rear end arms or divisions *c³ c³*, Figs. 2 and 4, which are engaged with pivots *c⁵ c⁵*, affixed to the supporting-frame, the latter having an opening which receives the arms *c³ c³*, as best shown in Fig. 4. The feed-roll *b* is affixed to a shaft *b'*, which is journaled in the elongated or tubular bearing *b²*, having arms *b³ b³* at its rear end, which arms are engaged with pivots *b⁵ b⁵*, affixed to the supporting-frame. It will be seen, therefore, that the bearings *b² c²* are adapted to swing vertically, so as to raise

or lower the feed-rolls supported thereby, each feed-roll being capable of being raised or lowered. The bearing *c²* and the feed-roll *c* are normally depressed by means of a spring *e*, interposed between a nut *e'* on a stud *e²*, affixed to the bearing *c²* and a boss or projection *a'* on the supporting-frame. The extent of the depression of the bearing *c²* and feed-roll *c* is determined by means of an adjusting or stop screw *e³*, which is fitted in a tapped socket formed on the bearing *c²*, and bears on a fixed part of the supporting-frame. The screw *e³* has a milled disk *e⁴* affixed to it, whereby it may be rotated to raise or lower the bearing *c²* and roll *c*, as the case may be. The bearing *b²* and roll *b* are normally pressed downward by means of a spring *f*, interposed between a shoulder *f'* on an adjusting-screw or stud *f²*, which is secured to a boss *a²* on the supporting-frame and a projection on the bearing *b²*. The extent of the downward movement of the bearing *b²* and roll *b* is determined by means of an adjusting-nut *f⁴* on a screw *f³*, which is pivoted at *f⁵* to an ear or projection formed on the bearing *b²*. When the nut *f⁴* is turned upwardly on the screw *f³*, the spring *f* forces the bearing *b²* and roll *b* downwardly, and when said nut is turned in the opposite direction it raises the bearing *b²* and roll *b* against the pressure of the spring *f*. Power is applied to the shaft *c'* by means of a belt running on a suitable pulley *g*, affixed to the said shaft.

h represents a gear on the shaft *c'*, meshing with a gear *h'* on the shaft *b'*. The said gears *h* and *h'* are so arranged with relation to the pivots *c⁵ c⁵* and *b⁵ b⁵* that the pivots *c⁵* if extended through the gear *h* would pass through the center of said gear—that is to say, at the axis and at a point midway between the sides thereof—while the pivots *b⁵* if extended would pass through the center of the gear *h'*. It will be seen that the described relative arrangement of the gears and the pivots of the bearings of the feed-roll-carrying shafts reduces the displacement of the gears caused by the swinging movements of the said bearings and shafts to the minimum, so that there is practically no variation in the relative positions of said gears under all adjustments of the feed-rolls. The knife *d* is affixed to a

block or holder d' , having a segmental upper surface d^2 , Fig. 3.

i represents an arm or bracket rigidly affixed to the supporting-frame a and provided with a segmental seat i' , formed to fit the surface d^2 of the knife-holder, said seat i' having a slot i^2 , Fig. 3.

j represents a rod or bolt having a reduced and threaded lower end j' , which is screwed into a tapped orifice in the knife-holder d' . A shoulder j^2 on the bolt j bears on a block j^3 , interposed between said shoulder and the convex upper surface of the seat i' , the bottom surface of said block being concave to fit said convex surface. When the rod j is turned in one direction, its screw-threaded portion draws the knife-holder d' upwardly, and its shoulder j^2 at the same time forces the block j^3 downwardly, so that the knife-holder and block are clamped firmly against the upper and lower surfaces of the seat i' , the knife-holder being thus rigidly held. When the rod j is turned in the opposite direction, the knife-holder is loosened, so that it may be turned or moved upon the seat i' to vary the inclination of the knife, such movement being permitted by the slot i^2 , which is of sufficient length to permit the knife d to assume various angles with relation to the adjacent surfaces of the feed-rolls. The arrangement of the knife is such that the direction of its length from its cutting-edge to its rear end is substantially at right angles to the axes of the feed-rolls, while the movement of the knife caused by the described adjustment of the knife-holder upon the seat i' raises one end of the cutting-edge and depresses the other end, thus varying the angle of said cutting-edge with relation to the adjacent surfaces of the feed-rolls, and causing the knife to cut at any desired angle.

j^4 represents a spring, which is interposed between a shoulder j^5 on the rod j and the upper surface of the block j^3 , the office of said spring being to prevent the knife-holder from dropping when the rod j is turned to loosen the connection between the knife-holder and the seat i' , said spring pressing the knife-holder against the seat with sufficient force to retain the seat in any position to which it may be adjusted, so that the operator is not obliged to exercise special care to keep the seat in its adjusted position while turning the rod j to lock the seat.

The knife-holder is provided with a lip d^3 , which bears against one edge of the knife-

body, and with a clamping-block d^4 , which is held by a screw d^5 , against the opposite edge of said body, the knife being adjustable endwise when the block d^4 and screw d^5 are loosened.

I claim—

1. In a leather-skiving machine, the combination, with the feed-roll, of the skiving-knife, the knife-holder having a segmental surface, the fixed slotted segmental seat having a concave and a convex side, the former being in contact with the segmental surface of the knife-holder, the screw-threaded locking-rod engaged with the knife-holder and passing through the slot in the segmental seat, and the block interposed between the shoulder on the said rod and the convex surface of the segmental seat, all arranged and operating substantially as set forth.

2. In a leather-skiving machine, the combination, with the feed-roll, of the skiving-knife, the knife-holder having a segmental surface, the fixed slotted segmental seat having a concave and a convex side, the former being in contact with the segmental surface of the knife-holder, the screw-threaded locking-rod engaged with the knife-holder and passing through the slot in the segmental seat, the block interposed between the shoulder on the said rod and the convex surface of the segmental seat, and the spring interposed between the upper surface of the said block and the shoulder on the rod, as set forth.

3. In a leather-skiving machine, the combination, with the supporting-frame and the skiving-knife, of the feed-rolls, the shafts supporting said rolls, the elongated tubular bearings supporting said shafts and connected with the supporting-frame by means of pivots, the intermeshing gears affixed to said shafts and arranged, as described, relatively to the said pivots, whereby the displacement of the gears caused by the swinging movements of the bearings and shafts is reduced to the minimum, and means for adjusting and holding said bearings, shafts, and feed-rolls, all arranged and operating substantially as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 28th day of March, A. D. 1892.

ALBION K. WASHBURN.

Witnesses:

C. F. BROWN,
JONATHAN GILEY.