(No Model.)

A. J. ALLEN.

LEATHER SKIVING MACHINE.

No. 500,838. Patented July 4, 1893.

FIG. 1.

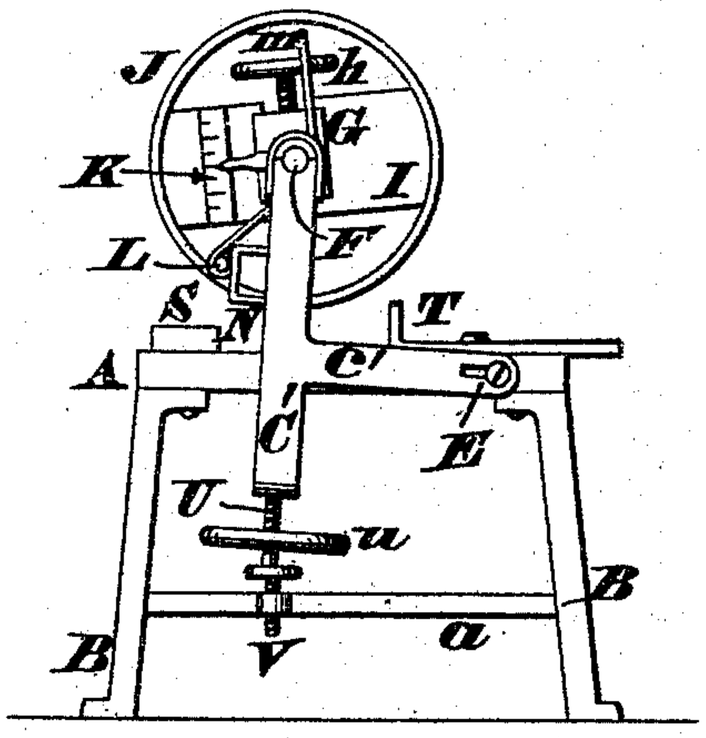


FIG. 2.

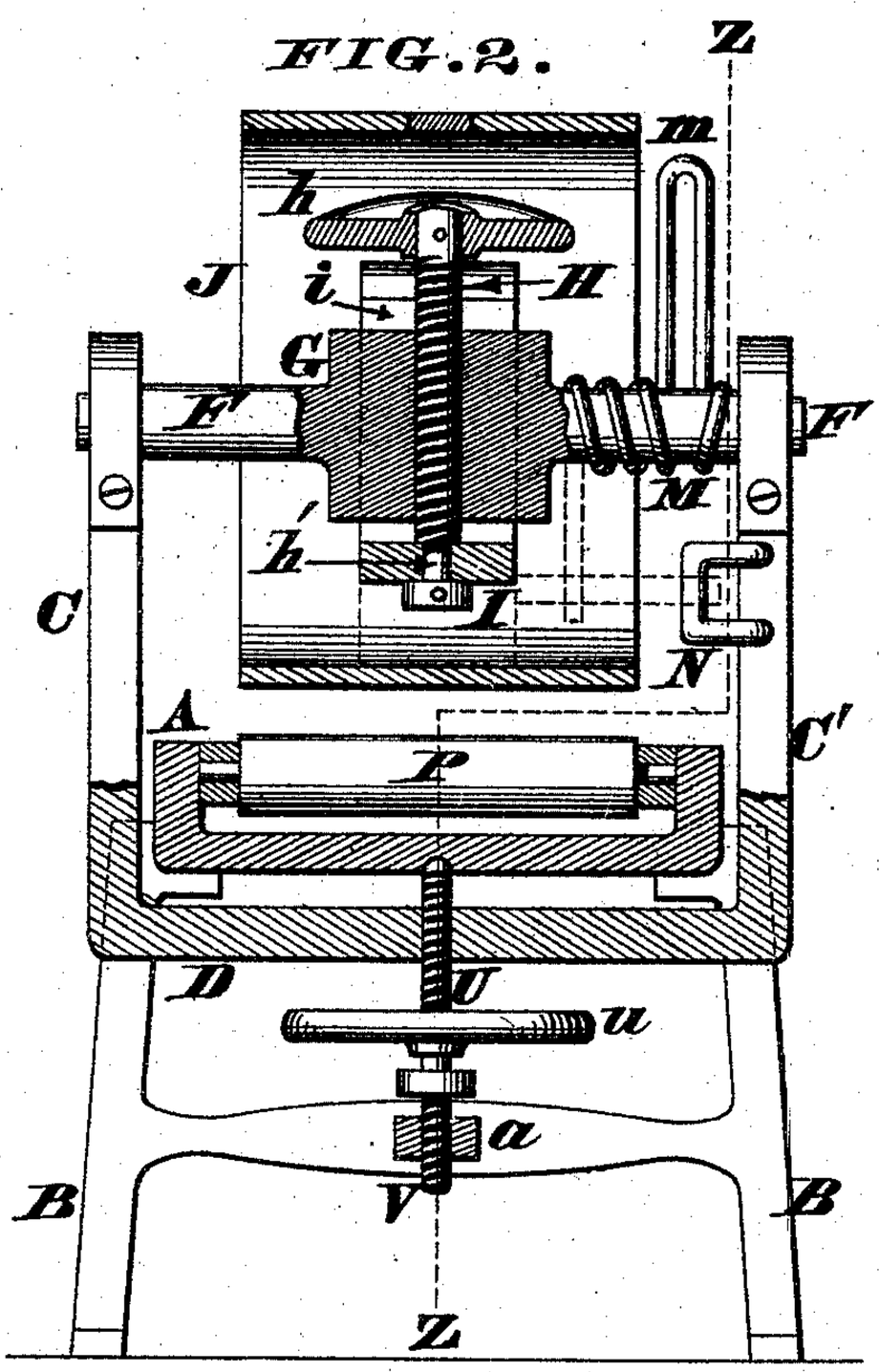


FIG. 3.

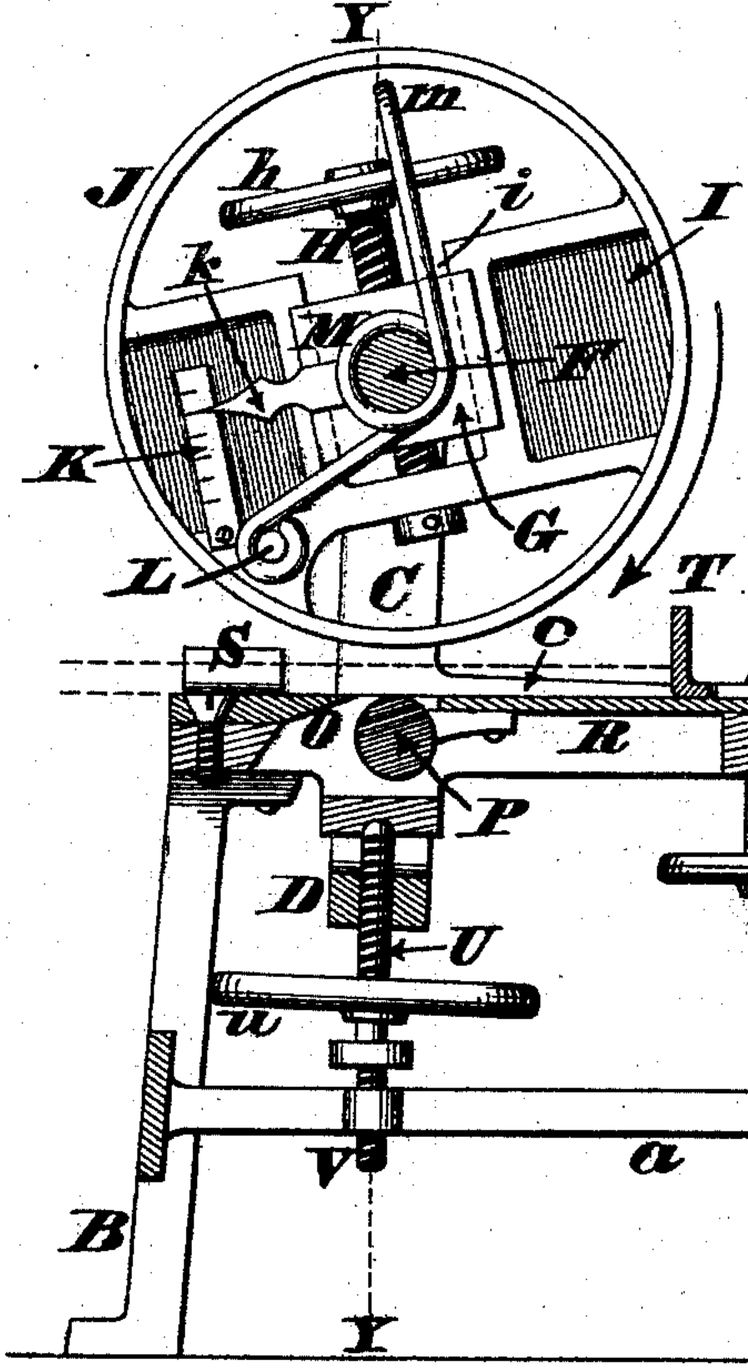


FIG. 4.

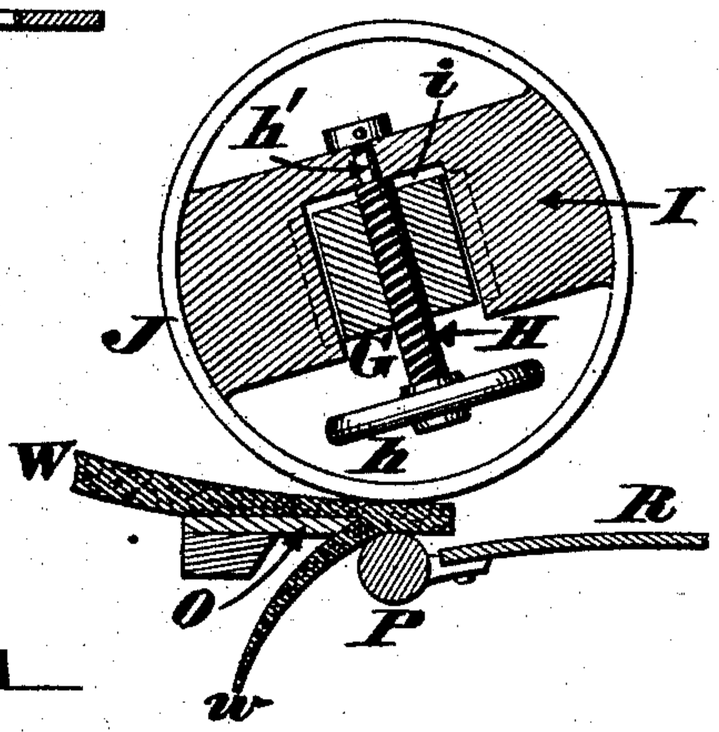
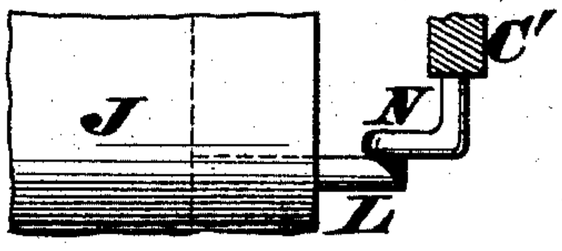


FIG. 5.



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UNITED STATES PATENT OFFICE.

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LEATHER-SKIVING MACHINE.

SPECIFICATION forming part of Letters Patent No. 500,838, dated July 4, 1893.

Application filed December 19, 1892. Serial No. 455,626. (No model.)

To all whom it may concern:

Be it known that I, ALFRED J. ALLEN, a subject of the Queen of Great Britain, residing at Essex, in the county of Essex and Province of Ontario, Canada, have invented certain new and useful Improvements in Skiving-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention comprises a skiving machine which is so constructed as to bevel a piece of leather to any desired degree or angle, the principal feature of the machine being a drum or cylinder capable of being adjusted eccentrically with reference to its supporting shaft. This drum is associated with a fixed knife, and when the piece of leather is properly drawn through the machine, said drum gradually approaches said knife, and thereby produces the required bevel, as hereinafter more fully described. Furthermore, the machine is so constructed as to enable the skiving drum to be adjusted to operate on leather of different thicknesses, as hereinafter more fully described.

In the annexed drawings, Figure 1 is a side elevation of my improved skiving machine. Fig. 2 is an enlarged transverse section of the same taken at the line Y—Y. Fig. 3 is an enlarged vertical section taken at the line Z—Z. Fig. 4 is a central section through the skiving drum and its accessories, a piece of leather being shown in the act of being beveled at one end. Fig. 5 is a detail view.

A represents the main frame of the machine, and B are legs or feet for supporting the machine upon a work bench or table.

C, C′, are standards extending up on the sides of the machine, and connected together by a cross bar D, each standard being provided with lateral arms *c*, *c′*, pivoted to the main frame at E, and the upper ends of said standards being furnished with boxes or other bearings for a shaft F. This shaft projects from the opposite sides of a nut-block G, which latter is tapped to permit the engagement of an adjusting screw H, having at one end a hand-wheel *h*, wherewith said screw is readily turned, either to the right or left. Screw H has an unthreaded shank *h′*, that turns freely within a web I of the skiving drum or cylinder J, and said web is mortised at *i* to admit the nut block G. *k* is a pointer attached to this block, and adapted to be used in connection with a scale K, in determining the eccentricity of the drum, and the consequent length of the bevel, the scale K being attached to the web I. Projecting horizontally from this web is a pin L, more clearly seen in Fig. 5, which pin has attached to it one end of a spring M, which, after being coiled around shaft F, terminates with an extension *m*, adapted, at the proper moment, to come in contact with a stop N, of standard C′.

Secured to the main frame, in a position parallel to the axis of drum J, is a fixed knife O, and slightly in the rear of the latter is journaled a roller P, whose axis is also parallel to that of said drum, the roller being applied to the free edge of a spring plate R, and the fixed edge of the latter being attached to a cross-bar of said frame.

S is a side gage, and T, an end gage for the leather, the gage T being clamped upon the spring-plate R by means of a bolt *t*, and threaded hand-wheel *t′*. *t″* is a longitudinal slot in this gage T.

Tapped in the cross bar D of standards C, C′, is a screw U, the upper end of which bears against a cross-bar of the main frame, while the lower end of said screw rests upon the head of another screw V, engaged with a longitudinal tie *a*, of said frame. *u* is a hand wheel, for turning this screw U.

W, in Fig. 4, is a piece of leather, and *w* the "skive" that is being cut therefrom.

My skiving machine is adjusted and operated in the following manner: The screw U is so turned as to raise the bar D, and its side pieces C, C′, and thereby elevate the shaft F, the proper distance above the knife O, with reference to the desired thickness at the end of the bevel. After these adjustments have been effected, the screw H is turned to regulate the eccentricity of the axis of drum J with reference to the axis of shaft F, the change being very slight if a long bevel is to be cut, while a shorter bevel will require a correspondingly greater eccentricity. Gages S, T, are then properly set, and the machine

is at once ready for use, as represented in Fig. 1, which illustration shows that the pin L is now in contact with the stop N of standard C′. The piece of leather is then inserted in the machine until arrested by the stop T, as indicated by the dotted lines in Fig. 3, and drum J is turned in the direction of the arrow until its lower surface comes in contact with the knife, and then the strap is drawn forward. This frictional contact of the leather with the drum, is all that is necessary to complete the turning of the latter, and as it revolves its lower or convex surface is gradually brought nearer and nearer to the knife, on account of the axis of the drum being eccentric with reference to the axis of shaft F, thus beveling the strap. Again, when the knife first begins its work, the upper edge of roller P is about level with said knife, but as the skive increases in thickness, said roller is gradually depressed, on account of it being applied to the free edge of the yielding bearing R. When the drum has revolved a sufficient distance, the extension *m* comes in contact with the stop N, and then the further turning of said drum imparts some considerable tension to the spring M, which tension is sufficient to cause a retrograde turning of the drum as soon as the leather escapes from the machine. It will thus be seen that the drum cannot make a single complete revolution in any direction, but is confined to a reciprocating-rotary, or rocking motion. Finally, if it is desired to reduce the thickness of a piece of leather, without beveling it, the axis of the drum is adjusted until it becomes the axis of shaft F, thereby rendering said drum concentric with reference to said shaft and insuring a uniform cut after the shaft has been set in the proper position with reference to the knife.

I claim as my invention—

1. The combination, in a skiving-machine, of a knife, a shaft or bearing whose axis is parallel therewith, and, carried by said shaft, a rocking-device, the axis of which is both constantly parallel to the axis of said shaft and provided with mechanism, substantially as described for eccentric adjustment with reference thereto, said rocking-device being automatically turned by frictional contact with a piece of leather drawn between it and said knife, and thereby caused to gradually approach the latter, substantially as herein described.

2. The combination, in a skiving-machine, of a knife, a shaft or bearing whose axis is parallel with said knife and provided with mechanism, substantially as described whereby it can be adjusted either toward or away from it, and, carried by said shaft, a rocking-device, the axis of which is both constantly parallel to the axis of said shaft and capable of eccentric adjustment with reference thereto, said rocking-device being automatically turned by frictional contact with a piece of leather drawn between it and said knife, and thereby caused to gradually approach the latter, substantially as herein described.

3. The combination, in a skiving-machine, of a knife, a shaft or bearing whose axis is parallel therewith, and, carried by said shaft, a rocking-device, the axis of which is both constantly parallel to the axis of said shaft and provided with mechanism, substantially as described, for eccentric adjustment with reference thereto; and a roller applied to a yielding support, said rocking-device being automatically turned by frictional contact with a piece of leater drawn between it and said knife, and thereby caused to gradually approach the latter, substantially as herein described.

4. The combination, in a skiving machine, of a fixed knife, a shaft having its axis parallel with said knife, a nut-block carried by said shaft, a drum having a bearing within which said block is fitted, and a screw engaging with the latter and turning freely within said bearing, whereby said drum is adjusted eccentrically with reference to said shaft, for the purpose described.

5. The combination in a skiving machine, of a fixed knife, a bearing having its axis parallel with said knife, a drum capable of being adjusted eccentrically upon said bearing, and a scale and pointer for indicating the eccentricity of said drum, substantially as herein described.

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

ALFRED J. ALLEN.

Witnesses:
M. B. O'DOGHERTY,
N. L. LINDOP.