J. ROBINSON.

SKIVING MACHINE.

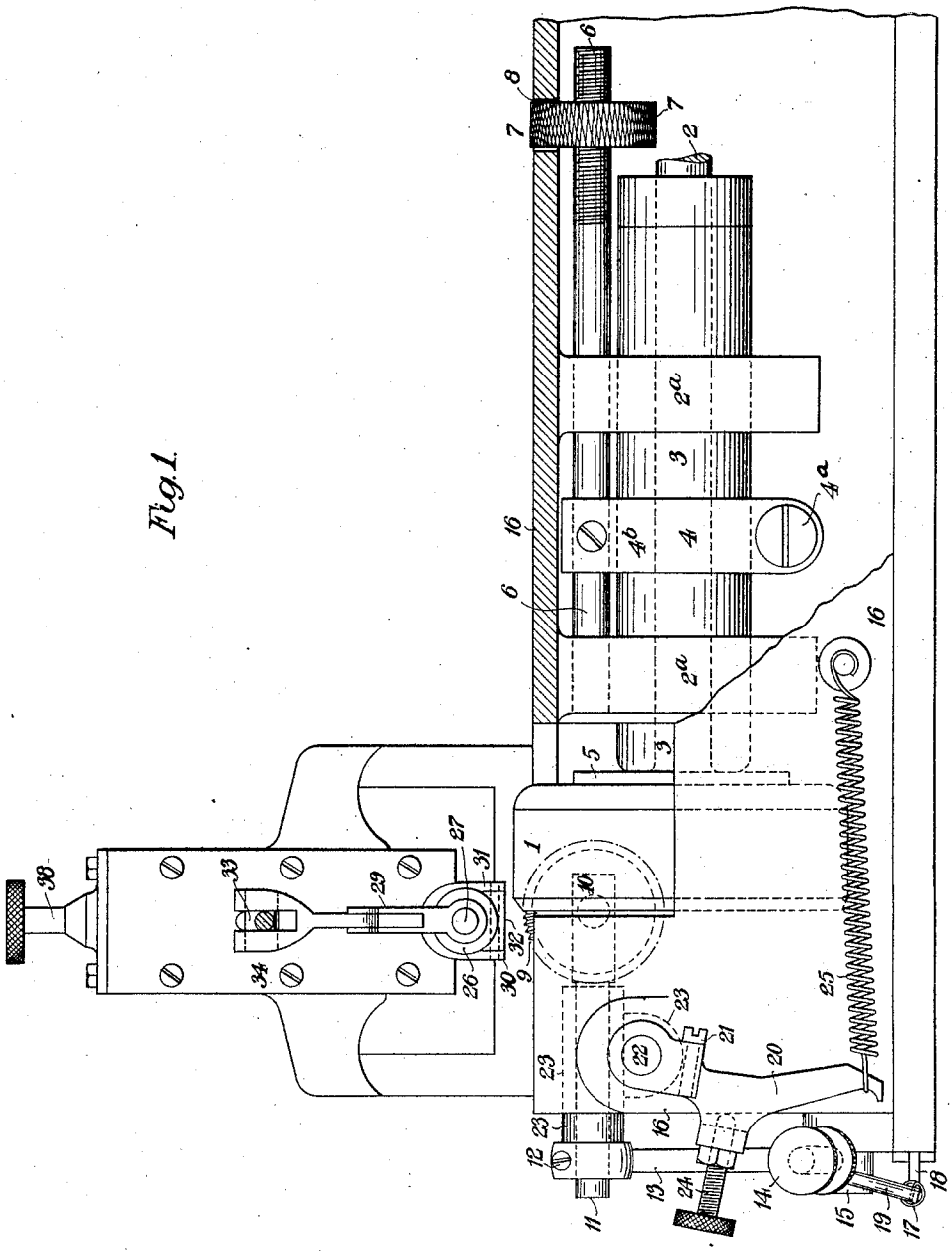
APPLICATION FILED DEC. 10, 1919.

1,388,971.

Patented Aug. 30, 1921.

2 SHEETS—SHEET 1.

Fig. 1.



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By Wm. Wallace White
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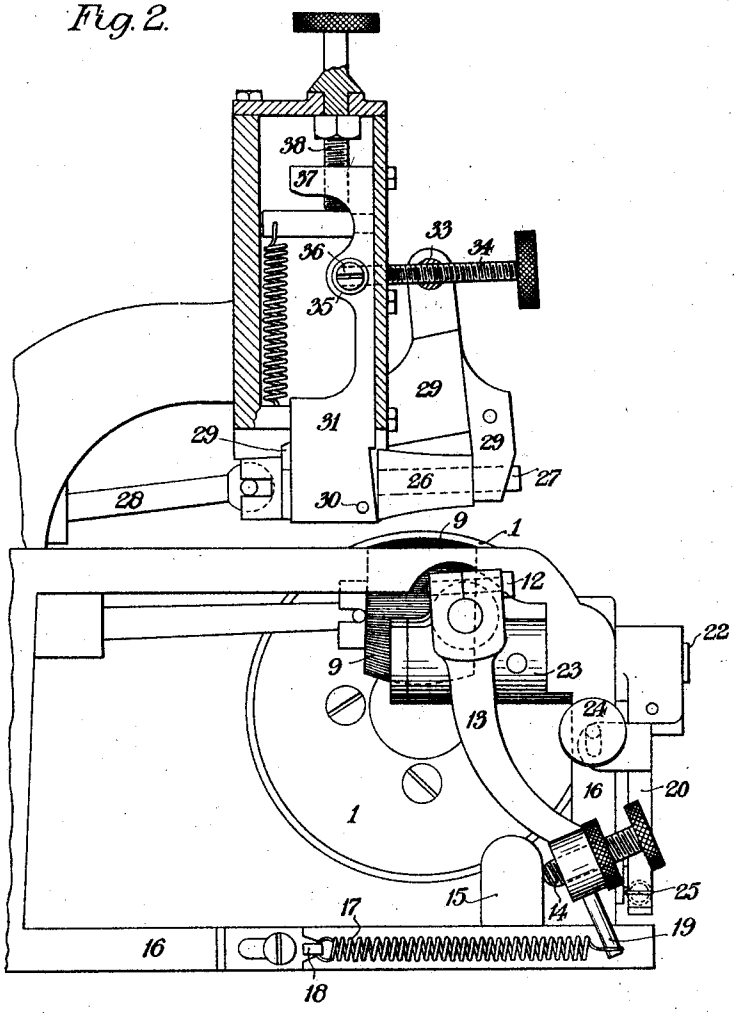
2 SHEETS—SHEET 2.

Fig. 2.



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UNITED STATES PATENT OFFICE.

JOHN ROBINSON, OF KINGSWOOD, NEAR BRISTOL, ENGLAND, ASSIGNOR OF ONE-HALF TO HODGE, JACQUES & COMPANY, LIMITED, OF BRISTOL, ENGLAND.

SKIVING-MACHINE.

1,388,971. Specification of Letters Patent. Patented Aug. 30, 1921.

Application filed December 10, 1919. Serial No. 343,892.

To all whom it may concern:

Be it known that I, JOHN ROBINSON, of Park Road, Kingswood, near Bristol, in the county of Gloucester, England, a subject of the King of Great Britain and Ireland, have invented certain new and useful Improvements in Skiving-Machines, of which the following is a specification.

This invention relates to machines of the cylindrical cutter type for skiving leather in the manufacture of boots and shoes.

This invention has for its object to provide improvements in means for advancing the cylindrical knife as it wears away by use.

According to this invention a skiving machine is provided with means for advancing the cylindrical knife forward to the feed rollers as the knife wears and for facilitating detachment and withdrawal of the knife for substitution by another; said means comprising a screw-threaded spindle passed through a collar adapted to be clamped upon a sleeve slidable with the knife-driving shaft, and an adjusting nut working on the screw-threaded part of the spindle, the said nut being held from axial movement.

Referring to the accompanying drawings:—

Figure 1 represents a part side elevation and part longitudinal section of my improved skiving machine;

Fig. 2 is an end view partly sectional.

From both figures are omitted certain usual parts not necessary to be shown, which said parts are arranged as ordinarily.

The cylindrical knife 1, which is of the usual kind, is screwed to the flanged driving shaft 2 on which is mounted a concentric sleeve 3 which is embraced by a collar 4 which is normally tight on the sleeve, being held so by a screw 4^a. The sleeve 3, which at the forward end butts against the flange 5 of the driving shaft 2, is supported by and is slidable in lugs 2^a cast with the machine frame. Supported also in the lugs 2^a is a feeding spindle 6 which for a part of its length near the end, is screw-threaded. A grub screw 4^b holds the collar 4 on the spindle 6. The spindle carries a nut 7 which is restrained from axial movement along the spindle by the sides of an aperture 8 in the frame of the machine through which aperture the nut 7 projects. By turning the nut 7 the spindle 6 is advanced or retired according to direction in which the nut 7 is turned. It follows that the sleeve 3, when the collar 4 is tight thereon, travels with the spindle 6. As the knife 1 wears, it is fed forward by means of the nut 7.

When it is required to detach and remove the knife 1, the collar 4 is loosened by slackening the screw 4^a. The sleeve 3 is then retired to the right to the full extent of its travel. The worn knife 1 is then unscrewed from the flange 5 of the driving shaft 2 and taken out. A fresh knife having been screwed to the flange 5, the nut 7 is operated to bring the collar 4 to starting point. The collar is then re-clamped on the sleeve 3.

The lower feed roller 9, which is of the usual serrated kind, rotates about the spindle 10, which is, as ordinarily, carried in the rectangular continuation of the spindle 11 by which the roller is tilted axially for skiving to various degrees of inclination. Held tightly to the spindle 11 by the screw 12 is a lever 13 through the lower part of which is screwed an adjusting screw 14 which bears against a lump 15 cast with the frame 16 of the machine. A coiled spring 17, which is attached at one end to a hook 18 and, at the other end, is connected to a pin 19 fixed in the lever 13, keeps the wheel 9 up to its work. The wheel 9 is adjusted to work at varying degrees of axial inclination according to adjustment by the adjusting screw 14. Adjustment of the lower feed roller up and down in relation to the knife is effected by means of the side lever 20 and associated mechanism. Adjustment in this respect is, as is well understood, required to be made to accommodate different thicknesses of leather introduced between the lower and upper feed rollers. The lever 20 is clamped by the screw 21 upon a pin 22 which extends through a transverse arm of a bracket 23, the other arm of which carries the spindle 11. The lever 20 carries an adjusting screw 24 the point of which bears against the frame 16 of the machine. A coiled spring 25 keeps the feed wheel 9 up to its work as adjusted. The levers 13 and 20 act in concert.

The upper feed roller 26, which is of the usual kind, is fixed on and rotates with the spindle 27 which is driven through the medium of the shaft 28 having ball and socket joints at each end. At the outer end the shaft 28 is connected with a train of bevel

and spur gearing of usual kind which is driven off a main driving shaft. The spindle 27 is supported at its outer part in one arm of a bracket 29 which is pivotal on the pin 30 fixed in the slide 31. The other arm of the bracket 29 engages the forked bottom of the slide 31. The spindle 27 is rotatable in a block 32 which is integral with the bracket 29. The said bracket is forked at its upper end and contains in the fork a cylindrical nut 33 which can turn through a short range. Adapted to turn in the nut 33, as a nut and in the slide 31, is an adjusting screw 34 which extends into a sleeve 35 and is held thereon by a screw 36 which takes into an annular groove provided in the adjusting screw 34. Thus, in adjusting the degree of inclination of the roller 26, as required to meet the angle of skive, the adjusting screw 34 works at all times without liability to become jammed. Screwed into the upper part 37 of the slide 31 is a screw 38 by means of which the slide 31 is raised and lowered to accommodate different thicknesses of leather to be fed between the rollers.

What I claim and desire to secure by Letters Patent is:—

1. In a skiving machine, a frame, a shaft on said frame, a cylindrical cutter on said shaft, means for moving the shaft axially, a barrel-shaped feed roller adapted to conform with the segment of the cutter, its axis being substantially in line with the edge of the cutter, said means for moving the shaft axially comprising a sleeve, a screwed spindle disposed longitudinally of and slidably mounted on said frame, and a collar clamped to said sleeve and connected to said screwed spindle.

2. In a skiving machine, a frame, a pair of feed rollers mounted on spindles disposed transversely of said frame, a sleeve and a screwed spindle disposed longitudinally of and slidably mounted on said frame, a collar clamped to said sleeve and connected to said screwed spindle, a shaft mounted in said sleeve, a flange on said shaft, a cylindrical knife mounted on said flange, said sleeve being adapted to be pressed to bear on said flange, and means for moving the screwed spindle longitudinally of the said frame to move the said shaft forward to the feed rollers as the knife wears and to facilitate the detachment and withdrawal of the knife for substitution of another.

3. In a skiving machine, a frame, a pair of feed rollers mounted on spindles disposed transversely of said frame, a sleeve and a threaded spindle disposed longitudinally of and slidably mounted on said frame, a collar clamped to said sleeve and connected to said threaded spindle, a shaft mounted in said sleeve, a flange on said shaft, a cylindrical knife mounted on said flange, said sleeve being adapted to be pressed to bear on said flange, and means for moving the threaded spindle longitudinally of the said frame to move the said shaft forward to the feed rollers as the knife wears and to facilitate the detachment and withdrawal of the knife for substitution by another.

In testimony whereof I have signed my name to this specification.

JOHN ROBINSON.