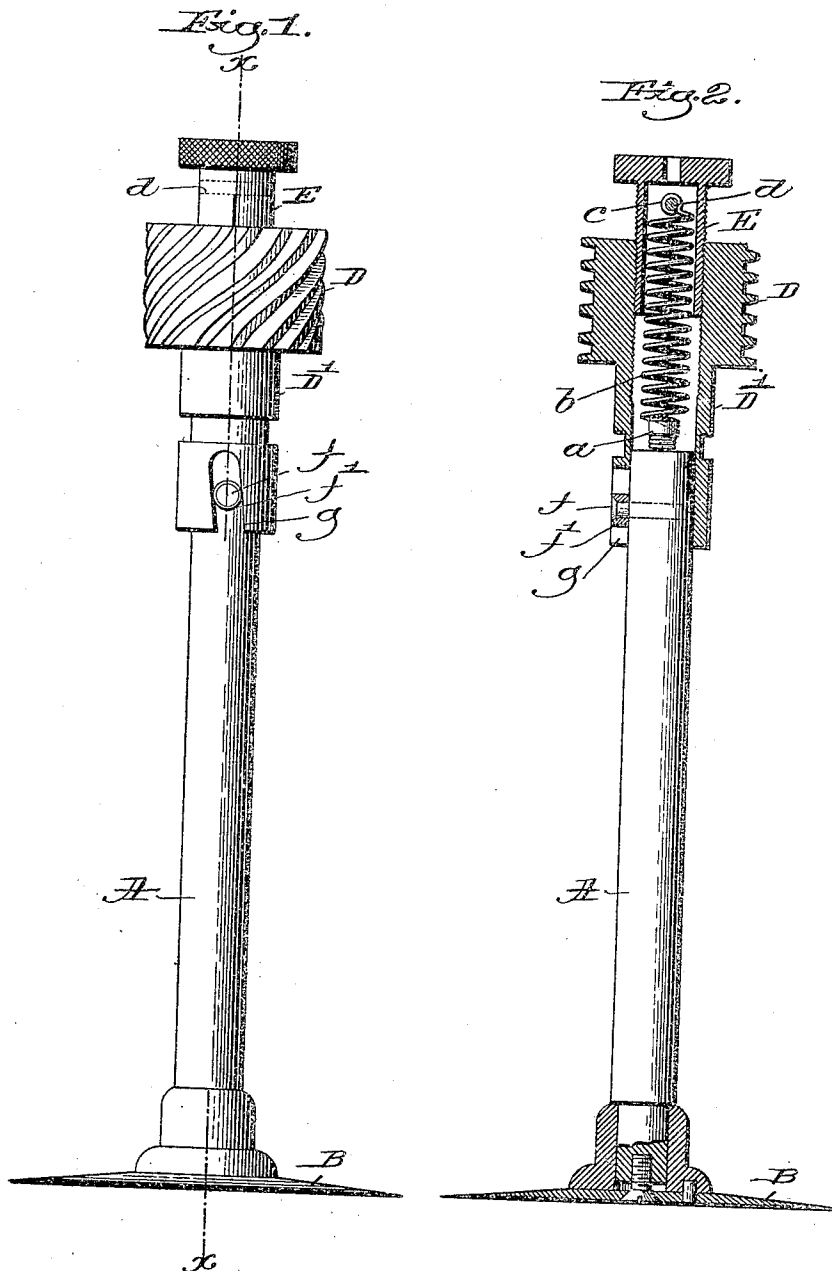


958,155.

Patented May 17, 1910.



Witnesses:
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Joseph M. Ward.

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UNITED STATES PATENT OFFICE.

LORENZ MUTHER, OF DENVER, COLORADO, AND GEORGE A. HENDERSON, OF MARBLEHEAD, MASSACHUSETTS, ASSIGNORS TO THE PEERLESS MACHINERY COMPANY, OF BOSTON, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

SHAFT FOR LEATHER-SKIVING MACHINES.

958,155.

Specification of Letters Patent.

Patented May 17, 1910.

Application filed December 24, 1906. Serial No. 349,310.

To all whom it may concern:

Be it known that we, LORENZ MUTHER, a citizen of the United States, and a resident of Denver, in the county of Denver and State of Colorado, and GEORGE A. HENDERSON, a citizen of the United States, and a resident of Marblehead, in the county of Essex and State of Massachusetts, have invented an Improvement in Shafts for Leather-Skiving Machines, of which the following description, in connection with the accompanying drawing, is a specification, like letters on the drawing representing like parts.

This invention has for its object more especially to improve that class of machines employed for skiving leather, the improvement relating to the shaft carrying the pressure disk, the purpose of the improvement being to facilitate the adjustment longitudinally of the shaft carrying the disk with relation to its driving means. The disk-carrying shaft in skiving machines has usually combined with it a spring, the pressure of which on the end of the shaft may be regulated by or through turning a sleeve nut, the adjustment of the nut causing the disk to be held with more or less pressure against the stock lying on the feeding roll, which stock is fed by said pressure disk and rolled as the knife skives the stock.

In practice we have discovered that at times the pressure of the disk on the shaft due to the weight of the disk and its shaft is too great, especially when the stock is soft and thin, soft stock clinging closer to the feed roll so that the disk and feed roll effect the feeding of the stock faster than the operator can handle the same, and consequently the operator loses control of the stock, and the stock is damaged. To overcome this usual difficulty and enable the operator to maintain under full control all kinds of stock being skived, soft stock as well as hard stock, we have devised means hereinafter fully described, whereby the weight of the shaft and its disk may be more or less overcome or counterbalanced especially when the stock is soft, the same means also serving to increase the pressure on the shaft to force the pressure disk against the stock more or less hard as the stock may require.

As we have herein illustrated our invention, when the sleeve nut is rotated in one direction, the pressure on the spring is in-

creased and when rotated in an opposite direction beyond a certain defined point, the pressure of the spring on the shaft is reduced and the spring is made to counterbalance more or less of the weight of the shaft and the pressure disk. The lower end of the sleeve forming part of the worm employed to rotate the shaft is provided with an inclined slot that is entered by a stud carried by the shaft, the stud being provided preferably with a roller that stands normally in the slot, the inclination of the slot preventing jumping of the shaft and disk when acting on stock varying in thickness.

Figure 1 shows a shaft such as commonly employed in a leather-skiving machine, it carrying a pressure disk, and Fig. 2 is a section in the line *x*.

The shaft A with its circular disk B and the worm D having a sleeve D' extended below the same, and the sleeve nut E are and may be all as common to United States Patent No. 636,942, November 14, 1899.

Herein in accordance with our invention we have provided the upper end of the shaft with a stud *a*, shown as a screw inserted in a hole in the upper end of the shaft, and about the shank of said stud below its head, see Fig. 2, we have connected loosely the lower end of a spring *b*. This connection may be made by winding the extremity of the wire of the spring about said stud below its head or in any other suitable manner, and we have sustained the upper end of said spring from the upper end of the nut, as shown by making in the spring an eye *c* through which we have extended a pin *d*.

Referring to the drawings it will be understood, supposing that the worm D is being rotated and that the shaft A is being rotated in unison with the worm through the stud *f* provided with a roller *f'* in the inclined slot *g*, that by turning the sleeve nut in a direction to screw it into the worm the spring is compressed causing it to exert a greater pressure on the end of the shaft to thereby keep the disk in contact with the stock with greater or less pressure. When, however, the stock to be skived is soft and thin, it is essential that the pressure of the disk on the stock should be practically entirely or nearly relieved, and to do this the stress of the spring *b* must be made to pull upwardly on the shaft to relieve its weight

and that of the disk, thus reducing the pressure of the disk on the stock.

The sleeve nut sustaining the upper end of the spring is moved to turn the nut outwardly for a distance far enough to pull upwardly on the spring with a force sufficient to more or less counterbalance the weight of the shaft and disk, and in making this adjustment, it will be understood that the lower end of the wire of the spring connected loosely with the upper end of the shaft revolves freely with relation to the shaft.

It will be noted from the above that we have provided means whereby the shaft A may be subjected either to pressure tending to force it downwardly or to a counterbalancing action tending to lift it or counterbalance it; and that in the present embodiment of our invention this means is situated between the shaft and the rotatable element by which the shaft is driven.

We believe we are the first to connect the upper end of the shaft with a sleeve nut in such manner that the pressure on the disk due to the weight of the shaft and its disk may be practically removed from the stock, and therefore our invention is not to be limited to the particular means shown for effecting the uplifting of the shaft and disk.

While we have exhibited our invention as employed with the worn and shaft of a leather-skiving machine, yet we wish it understood that our invention might be applied to shafts in other classes of machines where the weight of the shaft and any load carried thereby at times was to be relieved on some co-acting part of the machine and where the pressure exerted by the said shaft was to be increased at other times.

Having fully described our invention, what we claim as new and desire to secure by Letters Patent is:—

1. The combination with a shaft, of a rotatable device operatively connected to the shaft for rotating the latter, and means operative upon adjustment either to exert a pressure on said shaft or to counterbalance to a required extent the weight of said shaft and any load carried thereby.

2. The combination with a shaft, of a rotatable device operatively connected to the shaft for rotating the same, and means to exert with respect to said rotatable device either a pushing or a pulling action on said shaft in the direction of its length.

3. The combination with a shaft, of a rotatable device therefor, connections between said rotatable device and shaft to secure the rotation of the latter from the former, and allow of the longitudinal movement of the latter with respect to the former, a spring operatively connected to both said rotatable device and said shaft, and means to adjust said spring to cause it to tend to force the shaft in either direction as required.

4. The combination with a shaft, of a rotatable device therefor presenting a sleeve in which said shaft is longitudinally movable, an inclined slot in said sleeve, a pin on said shaft projecting into said slot, a spring connected at one end to said shaft and at the other end to said rotatable device, and means for adjusting said spring to cause it to exert either tension or compression upon the shaft and to the extent required.

5. A shaft, a device for rotating the same, means for connecting said shaft with the means for rotating the same, a sleeve nut, and a spring interposed between said nut and shaft, the spring being sustained at its upper end by the nut so that the spring may be stretched to overcome more or less of the weight of the shaft.

6. A shaft having at its lower end a disk, a device for rotating said shaft, means for connecting said shaft loosely with the means for rotating the same, a sleeve nut, and a spring sustained at its upper end by said nut and connected loosely with said shaft.

In testimony whereof, we have signed our names to this specification, in the presence of two subscribing witnesses.

LORENZ MUTHER.
GEORGE A. HENDERSON.

Witnesses:

GEO. W. GREGORY,
MARGARET A. DUNN.