

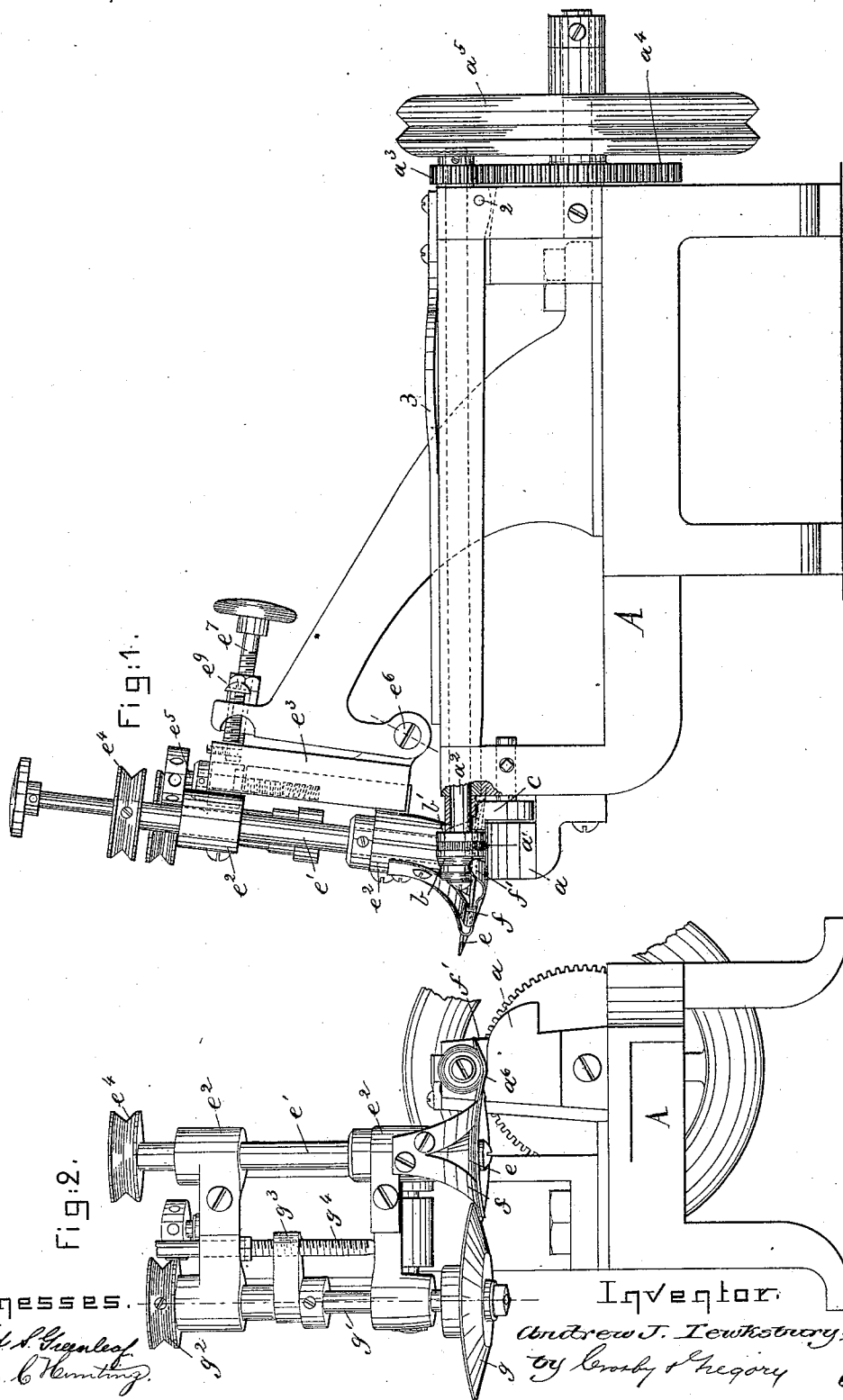
(No Model.)

2 Sheets—Sheet 1.

A. J. TEWKSBURY.  
LEATHER SKIVING MACHINE.

No. 472,148.

Patented Apr. 5, 1892.



Witnesses.

*Fred. A. Sigaleof*  
*Geo. C. Huntington*

Inventor.

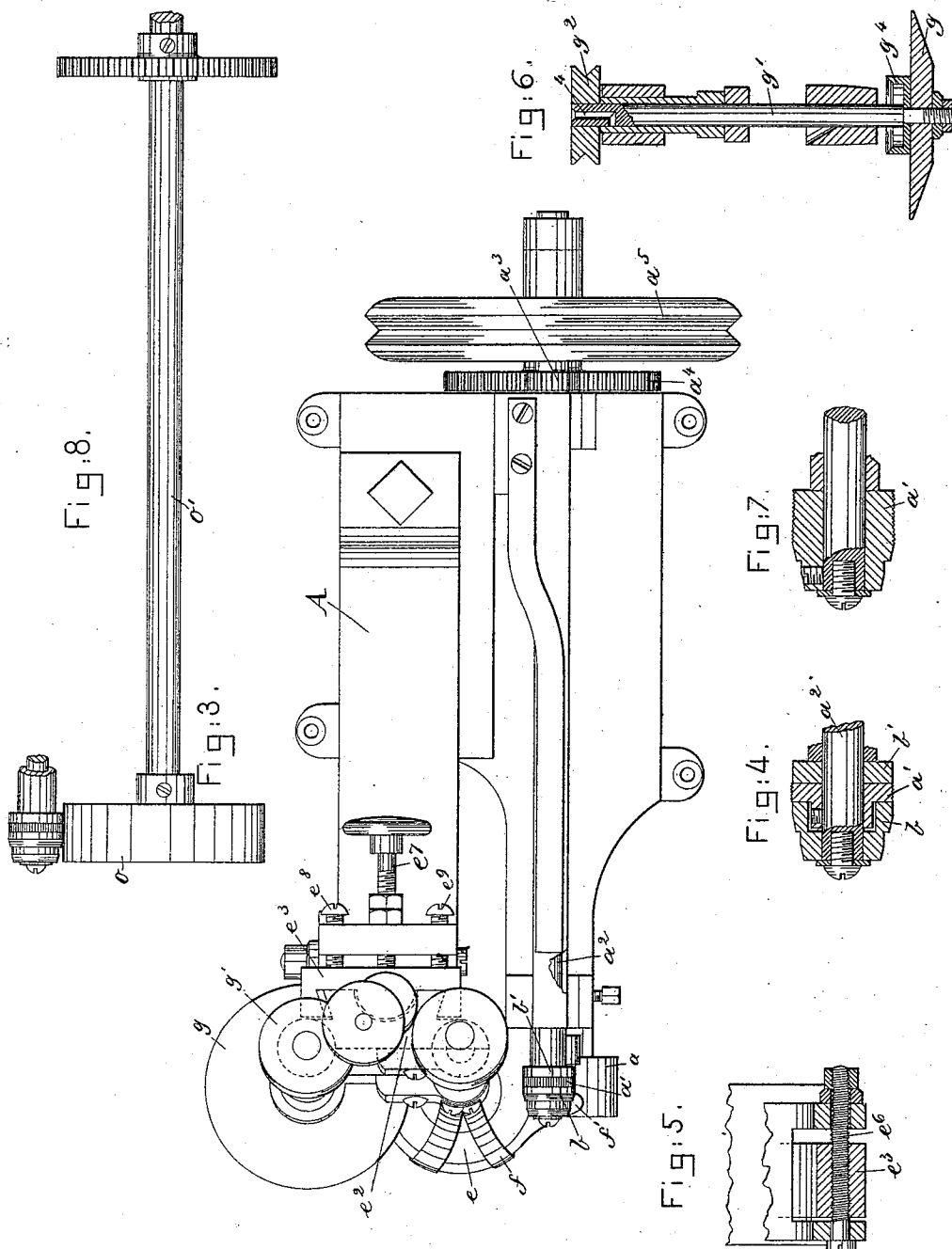
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*Fred S. Grunleaf*  
*Geo. B. Huntington*

Inventor.

*Andrew J. Tewksbury,*  
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# UNITED STATES PATENT OFFICE.

ANDREW J. TEWKSBURY, OF HAVERHILL, MASSACHUSETTS.

## LEATHER-SKIVING MACHINE.

SPECIFICATION forming part of Letters Patent No. 472,148, dated April 5, 1892.

Application filed July 31, 1890. Serial No. 360,526. (No model.)

*To all whom it may concern:*

Be it known that I, ANDREW J. TEWKSBURY, of Haverhill, county of Essex, State of Massachusetts, have invented an Improvement in Leather-Skiving Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object to improve the construction of skiving-machines especially adapted for leather-work.

In accordance with this invention a revolving knife is employed and a suitable feeding device to feed the material forward to the knife. The feeding device consists of a bed, preferably stationary, and a feed-roll above it, which when the stationary bed is used will have a serrated contacting face. The feed-roll is secured to a revolving shaft. One, or it may be two, presser-rolls are also employed, one at each side of the revolving feed-roll, to hold the material down at each side of the said feed-roll. The presser-rolls are preferably loosely mounted on the shaft. The shaft carrying the feed-roll and presser-rolls is made to yield slightly, it being pivoted to the frame-work and held down by a spring. An adjustable catch is provided at one side of the bed. A guard is provided for the knife, which incloses the cutting-edge and has a lip lying in a plane between the knife and the bed to assist in delivering the material to the knife and to prevent the material passing up over the knife. The knife is secured to a shaft having its bearings in a block, which is made vertically adjustable in a supporting-block which is pivoted to the frame-work, thereby enabling the knife to be vertically adjustable and move in an arc of a circle about the pivot of the supporting-block as a center. A grinding-wheel is secured to a shaft having its bearings in the same block with the knife-carrying shaft to be thereby adjusted simultaneously therewith. Independent adjusting devices are also provided for the grinder, whereby it may be said to properly act on the knife. A cup or equivalent is secured to the lower end of the grinder-carrying shaft, which serves as a receptacle for any oil which may find its way down the shaft, to thereby prevent the said oil from coming in contact with the grinder. Means are also provided for moving the supporting-block later-

ally to enable the knife to be moved toward and from the feeding device.

Figure 1 shows in front elevation a leather-skiving machine embodying this invention; Fig. 2, an end view of the machine shown in Fig. 1; Fig. 3, a plan view of the machine shown in Fig. 1; Figs. 4, 5, and 6, details to be referred to, and Figs. 7 and 8 modifications to be described.

The main frame-work A of the machine is of suitable shape and construction to support the operating parts.

The feeding device consists of a bed *a*, herein shown as stationary, and a feed-roll *a'*, secured to a shaft *a<sup>2</sup>*, said feed-roll *a'* bearing on the bed or on the material placed on the bed. The shaft *a<sup>2</sup>* has on it a pinion *a<sup>3</sup>*, which is driven by a toothed wheel *a<sup>4</sup>*, secured to the hub or shaft of a driving-wheel *a<sup>5</sup>*. The stationary bed *a* has a curved portion at *a<sup>6</sup>* conforming to the curvature of the feed-roll *a'*. Two presser-rolls *b b'* are loosely arranged on the shaft *a<sup>2</sup>*, one at each side of the feed-roll *a'*, to bear on the material at each side of the said feed-roll. The feed-roll *a'* will have a serrated acting face when the bed *a* is made stationary. The shaft *a<sup>2</sup>* is inclosed in a frame composed of a top plate and a side plate pivoted at 2 to the frame-work, said frame being pressed by a spring 3 to press the feed-roll down onto the bed. This allows the feed-roll and presser-rolls to yield. A gage *c* is arranged adjustable on the frame beside the presser-roll *b'* or near one end of the bed *a*. The knife *e* is secured to a shaft *e'*, having its bearings in a block *e<sup>2</sup>*, dovetailed in a supporting-block *e<sup>3</sup>*. (See dotted lines, Fig. 1, and full lines, Fig. 3.) A belt-pulley *e<sup>4</sup>* is secured to the knife-carrying shaft *e'*. A block *e<sup>5</sup>*, dovetailed in the supporting-block *e<sup>3</sup>*, is adjusted vertically by means of a screw *e<sup>6</sup>*, passing down through the supporting-block *e<sup>3</sup>* and into a block *e<sup>2</sup>*. The block *e<sup>3</sup>* is arranged on a screw-rod *e<sup>6</sup>*, supported on ears in the frame-work. By turning the screw *e<sup>6</sup>* the supporting-block *e<sup>3</sup>* will be moved laterally to move the knife toward and from the bed *a*. This screw also serves as a pivot for the supporting-block *e<sup>3</sup>*, and by means of the adjusting-screws *e<sup>7</sup>* *e<sup>8</sup>* *e<sup>9</sup>* said block is moved on its pivot *e<sup>6</sup>* and held in fixed position. A guard *f* is secured to the block *e<sup>2</sup>*, inclosing the knife *e* and having an extended upturned lip *f'* lying

in a plane between the knife and bed and so arranged as to prevent the material fed forward by the feeding device from passing up over the knife. A grinding-disk  $g$  is secured to a shaft  $g'$ , having on it a belt-pulley  $g^2$ , said shaft having its bearings in the block  $e^2$  substantially parallel with the shaft  $e'$ . The grinding-disk, being carried by the same block which carries the knife, will be adjusted simultaneously with it, and when once set it will maintain its proper adjustment as the knife is adjusted. The grinder has an independent adjusting device consisting of a block  $g^3$  fixed to it and a screw  $g^4$  turning in the block  $e^2$ , such adjustment enabling the grinder to be adjusted vertically.

In operating the machine the material is fed forward between the feed-roll  $a'$  and bed  $a$  beneath the lip  $f$ , the presser-rolls at such time holding the material down on the bed, thereby presenting it to the knife properly to be skived. An oil hole 4 passes down through a portion of the grinder-carrying shaft  $g'$  and terminates at the bearing for said shaft to supply it with oil, and a cup  $g^4$  is secured to the grinder-shaft at its lower end adjacent to the grinder  $g$ , which collects and retains any and all oil which may find its way down the shaft, thereby preventing it from coming in contact with and injuring the grinder. Many ways may be devised for so securing and locating this oil-retaining cup as to prevent the oil which runs down the shaft from coming in contact with the grinding-disk. By referring to Fig. 6 it will be seen that the cup  $g^4$  is placed on the shaft directly on the upper side of the grinding-disk, and that portion of the shaft which passes through the bottom of the cup and through the grinding-disk is reduced in diameter, leaving an annular shoulder which abuts against the bottom of the cup on the inside. This device is quite essential, as oil on the grinder will immediately destroy its usefulness, and if oil touches the center of the grinder by the rapid revolutions it soon reaches the outer edge.

In lieu of the serrated feed-roll and two presser-rolls  $b b'$ , I may use a single feed-roll, as shown in Fig. 7, although to enable the material to be easily turned while being fed forward I prefer to employ the presser-rolls.

Instead of employing a stationary bed, I may employ a roll, as  $o$ , (see Fig. 8,) secured to a shaft  $o'$ , arranged parallel to the shaft  $a^2$ , and the toothed wheel  $a^4$  will be secured to this shaft.

I may, if desired, omit the movement of the supporting-block for the knife on its pivot—that is, in the arc of a circle about the pivot as a center.

I claim—

1. In a leather-skiving machine, a bed, a feed-roll, and its rotatable shaft constituting the feeding mechanism, combined with the presser-rolls  $b b'$  and rotary knife, substantially as described.

2. In a leather-skiving machine, the sta-

tionary bed and serrated feed-roll and its rotatable shaft constituting the feeding mechanism, combined with the presser-roll beside the feed-roll, lip  $f'$ , and rotary knife, substantially as described.

3. In a leather-skiving machine, the combination of a bed over which the material passes, a feed-roll above the bed, its rotatable shaft, a pivoted spring-pressed frame supporting said shaft, and a rotary knife, substantially as described.

4. In a leather-skiving machine, the combination of a bed, a yielding feed-roll, a yielding presser-roll  $b'$ , and rotary knife, substantially as described.

5. In a leather-skiving machine, the combination of a bed, a yielding feed-roll, yielding presser  $b$ , lip  $f'$ , and rotary knife, substantially as described.

6. In a leather-skiving machine, the combination, with a feeding device, of two presser-rolls loosely mounted on a shaft, a gage, as  $c$ , a lip, as  $f'$ , and a rotary knife, substantially as described.

7. In a leather-skiving machine, a feeding device, combined with a knife, its rotatable shaft, a grinder and its rotatable shaft, a block, as  $e^2$ , serving as bearings for said shaft, and a supporting-block, as  $e^3$ , in which said block  $e^2$  is vertically adjustable, substantially as described.

8. In a leather-skiving machine, a feeding device, combined with a knife, its rotatable shaft, a grinder and its rotatable shaft, a block, as  $e^2$ , serving as bearings for said shaft, a supporting-block  $e^3$ , in which said block  $e^2$  is vertically adjustable, a pivot for the block  $e^3$ , and means to move it on its pivot, substantially as described.

9. In a leather-skiving machine, a feeding device, combined with a knife, its rotatable shaft, a grinder and its rotatable shaft, a block, as  $e^2$ , serving as bearings for said shaft, a supporting-block, as  $e^3$ , in which said block  $e^2$  is vertically adjustable, and a screw-rod on which said block  $e^3$  is mounted and upon which it is laterally movable, substantially as described.

10. In a leather-skiving machine, the following instrumentalities, viz: feeding devices, and a rotary cutter, the rotary shaft  $g'$ , reduced in diameter at its lower end to leave a shoulder, a grinding-disk, and an oil-retaining cup mounted on said reduced portion of the shaft, said cup abutting against said shoulder and held between it and the grinding-disk, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ANDREW J. TEWKSBURY.

Witnesses:

J. B. CUNNINGHAM,  
NATHL. C. BARTLETT.