No. 705,069. Patented July 22, 1902.

J. G. GRALL.

VAMP SNIPPER.

(Application filed Dec. 27, 1898. Renewed Oct. 28, 1901.)

(No Model.)

Fig. 2.

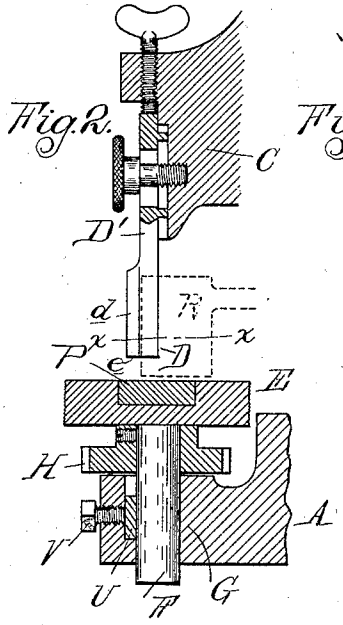


Fig. 3.

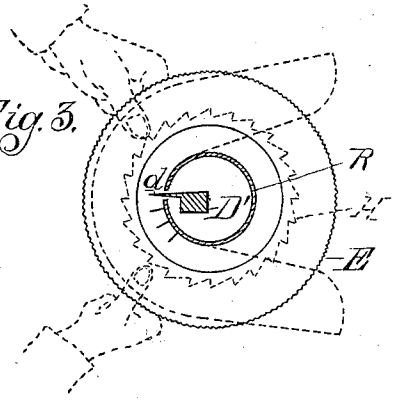


Fig. 4.

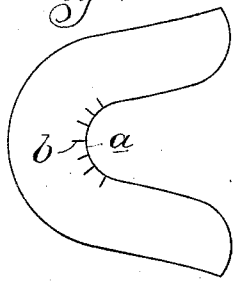
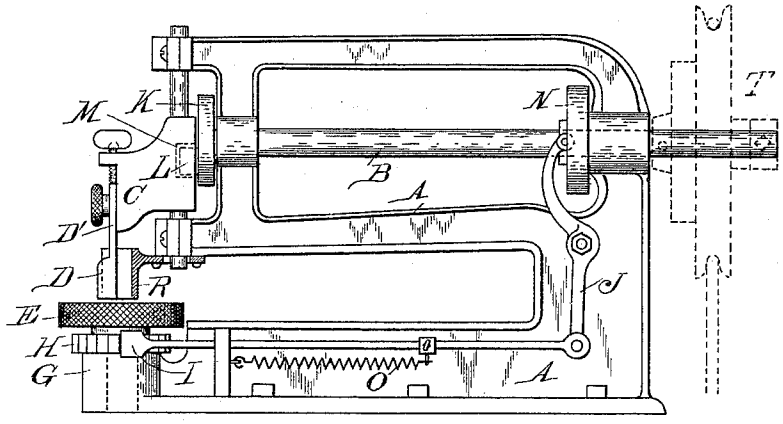


Fig. 1.



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOSEPH G. GRALL, OF DETROIT, MICHIGAN, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE ROBERT MITCHELL MACHINERY COMPANY, A CORPORATION OF MICHIGAN.

VAMP-SNIPPER.

SPECIFICATION forming part of Letters Patent No. 705,069, dated July 22, 1902.

Application filed December 27, 1898. Renewed October 28, 1901. Serial No. 80,279. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH G. GRALL, a citizen of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Vamp-Snippers, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to the art of making shoes, and has for its object to perform the work of what is technically called "snipping," which consists in making a series of small knife-cuts along the concave edges of the vamps and other parts in which a welt is to be formed.

To this end my invention consists in the peculiar construction, arrangement, and operation of a reciprocating knife operating in conjunction with an intermittently-operated rotary feed-table and a stationary guide, all as more fully hereinafter described, and shown in the accompanying drawings, in which—

Figure 1 is a side elevation of my machine. Fig. 2 is an enlarged vertical central section of the feed-table and parts immediately above. Fig. 3 is a horizontal section in line $x x$, illustrating the use of my machine for snipping the vamps of shoes. Fig. 4 shows a vamp which has been snipped by the machine.

A is the frame which supports the operating parts.

B is the drive-shaft, journaled in suitable bearings in the frame and provided with means for applying power.

C is a vertically-reciprocating knife-head guided in vertical bearings in the frame.

D is the knife, formed with a shank D′, by means of which it is detachably and adjustably secured to the knife-head.

E is a horizontal feed-table rotatorily supported by a central stud F, projecting from its under side into a vertical bearing G of the frame.

H is a ratchet-wheel secured upon the stem F below the table.

I is a feed-pawl for actuating the ratchet-wheel.

J is the feed-lever for actuating the feed-pawl through the medium of the cam N on the drive-shaft and the retracting-spring O.

K is a crank-disk carried by the drive-shaft and provided with a crank-pin L.

M is a horizontal slot in the knife-head, into which the crank-pin L engages.

The feed-table has a block of wood P, secured in a recess for the knife to cut against, and immediately above the table and stationarily secured to the frame is supported the guide R, which has a vertical slot, through which the cutting edge of the knife projects.

The parts being constructed and arranged as shown and described, they are intended to operate as follows: Motion is communicated to the shaft B in any suitable manner, the drawings showing a grooved pulley T, operated by a belt, and the power may be applied continuously or under control of a foot-lever operating through a suitable clutch. When power is applied, the shaft B through the medium of the crank imparts a vertically-reciprocating motion to the knife-head. At the same time the table E rotates on its axis in such manner that each time the knife is at its highest elevation the table rotates the distance of one tooth on the ratchet.

The operator in using the machine for snipping vamps usually takes several together at one time superimposed upon each other and placing them on the feed-table pushes them with the concave side a against the guide, so that the knife in its operation will snip or cut through the leather. By holding the vamps at the same time firmly on the feed-table the work and the table rotate together, and thus a series of snips or cuts b will be formed by succeeding operations, as shown in Figs. 3 and 4. In this manner the operator (by placing the work properly in position at the start and keeping the work in proper contact with the guide and with the feed-table by taking hold of the edge of the feed-table with his fingers) can complete the work very quickly and without requiring any particular skill or attention.

To provide a good hold for the fingers on the table, I preferably mill or knurl it on the edge, and to prevent the table from being

turned accidentally a friction device is used, the drawings showing a friction-plate U held in frictional contact with the stem by the set-screw V. Instead of the friction device the usual back-stop may be applied to the ratchet.

The table may be constructed to revolve to the right or left, as convenience may make it preferable, and such adjustments are provided to the guide D and other parts as may be deemed necessary, and if the machine is only required for doing very light work it may be constructed to be operated by hand. By applying suitable mechanical power, however, the work is greatly expedited, as a number of vamps or other pieces may be superimposed upon each other, according to the distance the knife rises above the table.

The knife which I preferably use is formed with a vertical cutting edge *d* and a horizontal cutting edge *e*, and the guide is preferably of tubular shape; but any other form of slotted guide formed with a rounded face will be found suitable. This guide is preferably placed concentric with the table, and the reciprocating knife is placed radially to the axis on which the feed-table revolves.

My machine saves labor, and its work is superior to the work accomplished by hand with the use of scissors, as has been done heretofore.

Although my machine is principally designed for snipping vamps, it is intended to do other work of a like character.

What I claim as my invention is—

1. In a leather-snipping machine, the combination with a supporting-frame, of a feed-table rotatorily supported in the frame, a work-guide fixedly secured above the table independently thereof having a vertical slot through which the cutting edge of the knife projects and a vertically-reciprocating knife supported in the frame above the table having the horizontal cutting edge arranged radially with the table.

2. In a leather-snipping machine, the combination with a supporting-frame, of a circular feed-table means for intermittently turning the same on its vertical axis, a reciprocating knife in vertical guides above said table, and with its cutting edge in a plane radially with the table, and a work-guide supported above the table and independently thereof having a rounded face concentric with the table and a vertical slot through which the cutting edges of the knife project outwardly.

3. In a leather-snipping machine, the combination with the supporting-frame, of an intermittently-operated circular feed-table, a reciprocating knife in a radial plane with the table and having horizontal and vertical cutting edges, and a work-guide secured in relation to the knife having a rounded face concentric with the table and a slot in said face through which the cutting edges of the knife freely project.

4. In a leather-snipping machine, the rotary circular feed-table having a knurled rim in combination with the reciprocating knife vertically adjustably secured in the frame of the machine and the stationary work-guide, adjustably secured above the feed-table and independently thereof.

5. In a leather-snipping machine, the rotary circular feed-table having the knurled rim and the cutting-block centrally recessed in the table in combination with the reciprocating knife and stationary slotted work-guide, horizontally adjustable on the frame.

6. In a leather-snipping machine, the reciprocating knife having a shank and knife-blade formed with vertical and horizontal cutting edges thereon, in combination with the stationary tubular work-guide around the shank of the knife adjustably secured in relation thereto, and provided with a slot through which the knife-blade of the knife projects radially to said guide.

7. In a leather-snipping machine, the combination with the frame and drive-shaft, of the vertically-reciprocating cross-head arranged in vertical guides of the frame, the knife carried by said cross-head, the circular feed-table below the knife, the stem F carrying the table, the ratchet-wheel H secured upon said stem and having actuating connection with the drive-shaft for imparting intermittent motion to the feed-table, and the slotted tubular work-guide R stationarily mounted above the feed-table.

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

JOSEPH G. GRALL.

Witnesses:
OTTO F. BARTHEL,
ADOLPH BARTHEL.