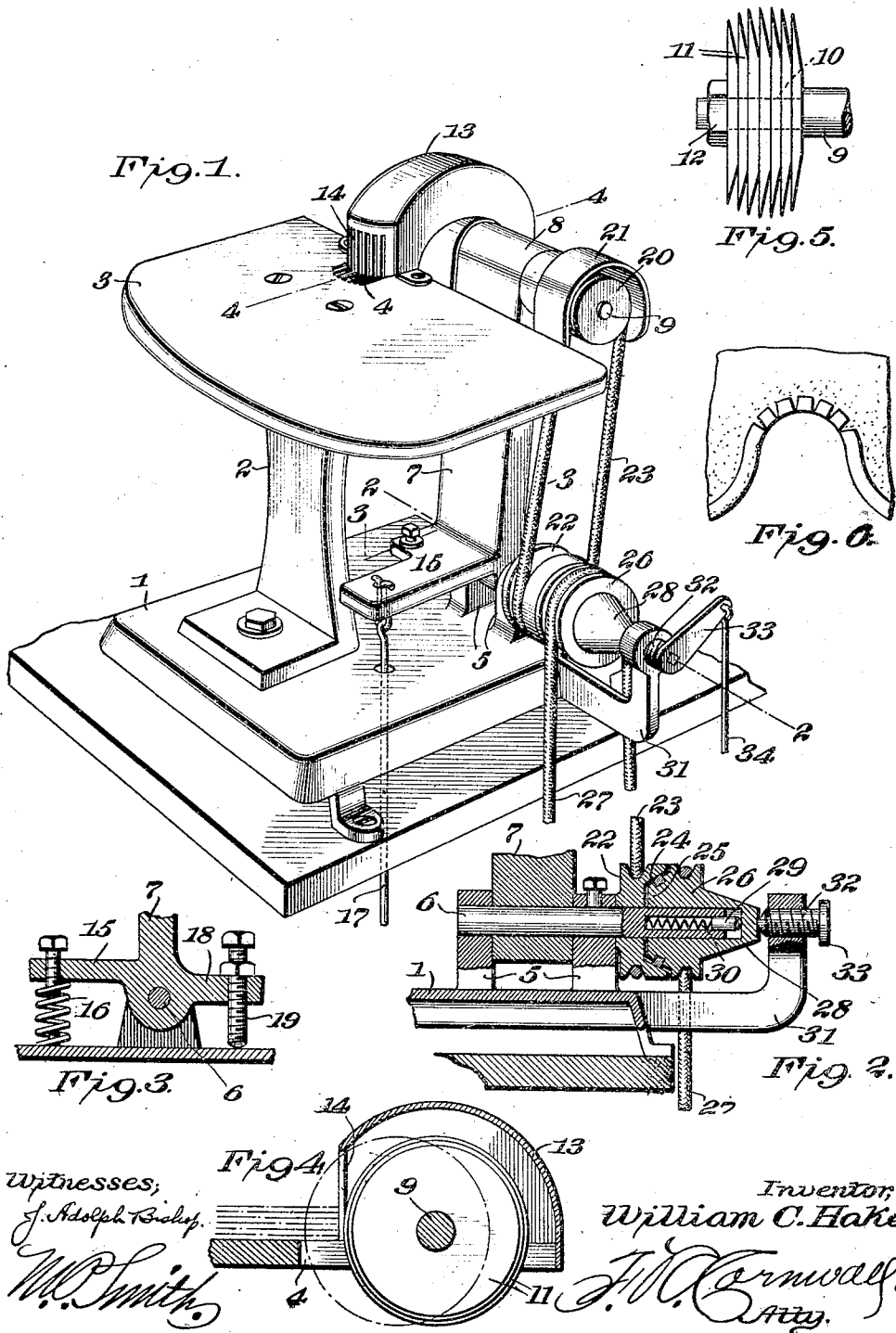


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 SNIPPER FOR LEATHER OR FABRIC.
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Patented Feb. 4, 1913.



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SNIPPER FOR LEATHER OR FABRIC.

1,052,053.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM C. HAKE, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Snippers for Leather or Fabric, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a perspective view of a snipping machine of my improved construction. Fig. 2 is a detail sectional view taken approximately on the line 2—2 of Fig. 1. Fig. 3 is a detail section taken approximately on the line 3—3 of Fig. 1. Fig. 4 is a detail section taken approximately on the line 4—4 of Fig. 1. Fig. 5 is a detail section of the rotary blades or cutters forming a part of my improved machine. Fig. 6 is a fragmentary view of a section of fabric or leather that has been snipped or cut in my improved machine.

My invention relates to a new and improved machine known as a snipper and particularly intended for use in shoe factories for snipping or cutting the curved edges of flexible sections of material utilized in the manufacture of shoes.

In the formation of the vamps of shoes it is the usual practice to snip or cut the inwardly curved edges thereof in order that said edges may be readily turned under in order to present a neat and finished appearance when the shoe is completed, and where this snipping or cutting operation is performed by hand the cuts are generally irregular and of unequal depth; moreover, hand snipping or cutting involves considerable time and labor.

I propose to produce a simple machine that can be operated with comparatively little power and which includes a rotary cutting member composed of a series of blades by means of which regular cuts can be very rapidly formed through a number of sections of fabric or leather.

The principal objects of my invention are, to provide a cutting member made up of a series of cutting disks and to arrange said cutting member so that it can be moved forward through the edges of a series of sections of material located on a work table, to provide a housing for the rotary cutter,

which housing serves as a protection for the operator of the machine and to provide simple means including a clutch for throwing the machine into operation.

To the above purposes my invention consists in certain novel features of construction and arrangement of parts hereinafter more fully described and claimed.

Referring by numerals to the accompanying drawings, 1 designates a base, 2 a post or standard extending forward from said base and 3 a work table fixed to the upper end of the post or standard. Formed through the rear edge of the central portion of the work table is a series of inwardly extending parallel slots 4 through which the blades of the rotary cutter operate.

Formed on the rear portion of the base 1 is a pair of lugs 5 in which is rigidly fixed a short, horizontally disposed shaft 6, and hinged on this shaft is the lower end of an upwardly extending arm 7 provided on its upper end with a bearing 8. This bearing occupies a position to the rear of the table 3, and journaled for rotation in said bearing is a shaft 9. The left hand end of this shaft is reduced in diameter, as designated by 10, and positioned on said reduced portion is a series of disks 11, the same being provided with sharp cutting edges, and said disks are locked on the shaft against the shoulder between the reduced end 10 and the main body of said shaft by means of a nut 12 applied to the end of the reduced portion. These disks which form the rotary cutting member of my improved machine are made in various diameters with the largest disks at the center so that the cutting edges of said disks lie in the arc of a circle. This arrangement is shown in order that cuts of equal depth can be formed in the curved edges of the work.

A hood 13 is fixed in any suitable manner to the table 3 and extends over and to the rear of the rotary cutting member or post of the disks 11, and formed through the front wall of this hood is a series of slots 14 which coincide with the slots 4 in the table 3.

Extending forwardly from the lower portion of the arm 7 is a lug 15, and interposed between said lug and the base 1 is a compression spring 16 which normally holds the bearing 8 on the upper end of the arm 7 at its limit of movement away from the table 3, and consequently, the rotary cutting

member is normally maintained within the rear portion of the hood 13, as shown by solid lines in Fig. 4. The upper end of a rod or cable 17 is attached to the forward end of the lug 15, and said rod or cable extends downward through the base 1 to a pedal or foot-lever (not shown).

Extending rearwardly from the lower portion of the arm 7 is a lug 18 through which passes a vertically disposed set screw 19, and the lower end of this set screw normally rests upon the top of the base 1 to limit the rearward swinging movement of the arm 7 and parts carried thereby.

Fixed on the right hand end of the shaft 9 is a pulley 20 that is partially inclosed by a suitable hood 21.

Loosely mounted on the shaft 6 is a grooved pulley 22, and passing around said pulley and the pulley 20 is a belt 23. Formed in the outer face of the pulley 22 is a conical recess 24, and adapted to engage therein is a conical member 25 formed on a grooved pulley 26, which latter is loosely mounted on the right hand end of the shaft 6. Operating on the grooved pulley 26 is a driving belt 27. The pulley 26 is provided on its outer face with a tubular extension 28, and bearing against the disk at the end of this tubular extension is the outer end of a pin 29 that is seated in a recess in the end of the shaft 6, and which pin is normally forced outward by an expansive coil spring 30 located within said recess.

Formed on the right hand side of the base 1 is a bracket 31 having an upturned outer end, and screw-seated in the upturned end of this bracket is a screw 32, the end of which bears against the disk on the end of the tubular extension 28. The thread of this screw 32 has an acute pitch so that a partial rotary movement of said screw results in a substantial lengthwise movement of the same.

Mounted on the outer end of the screw 32 is a short arm 33 to the outer end of which is attached the upper end of a rod or cable 34, the lower end of which is connected to a pedal or foot-lever (not shown).

The driving belt 27 operating on the pulley 26 imparts continuous rotary movement thereto, but as the spring-pressed pin 29 holds the pulley 26 at its outward limit of movement against the end of the screw 32 the clutch face of the part 20 is held out of engagement with the corresponding face within the conical recess 24. Thus the operating parts of my improved device are not actuated until the rod or cable 34 is pulled downward by foot power, thereby partially rotating the screw 32, and consequently, moving the pulley 26 inward to cause the clutch face thereon to engage the corresponding clutch face on the pulley 22, and thus said last mentioned pulley is rotated.

The belt 22 imparts rotary motion to the pulley 20, and shaft 9, and thus the rotary cutting head is rotated.

The work to be snipped or cut is placed on the table 3 with the edge in which the snips or cuts are to be formed directly against the slotted front wall of the housing 13, and the operator now moves the rod or cable 17 downward by foot power, thereby pulling downward upon the forward end of the lug 15 and rocking the lower end of the arm 7 upon the shaft 6. This action moves the bearing 3 and shaft 9 carried thereby forwardly and the rapidly rotating cutter head is moved forward so that the cutting edges of said head project through the slots 14 in the front wall of the housing and engage to cut or snip through the edges of the pieces of work located on the work table. As soon as this operation is complete the operator releases the foot pressure and the spring 16 will incidentally act to swing the upper portion of the arm 7 backward away from the table 3, thereby carrying the cutter head into the rear portion of the housing 13.

The work to be cut or snipped in shoe factories is usually the fabric or leather vamps of shoes, and as there is usually a large number of these vamps to be cut or snipped in making up a certain lot of shoes, said vamps can be snipped or cut in lots of eight or ten at a time, the same being arranged one upon the other, as shown in Fig. 4. The rotary cutter readily enters and passes through the material of which the vamps are formed and makes a number of equal cuts of uniform depth and at equal distances apart, and for this reason the work of turning under the edges of the vamps is greatly lessened besides permitting much neater work to be produced than where the cutting or snipping is done by hand.

A machine of my improved construction is comparatively simple, can be operated with little power and provides means whereby a number of sheets of material can be uniformly cut or snipped at one operation, thereby materially reducing the time, labor and consequent expense ordinarily involved in the work incident to the snipping of shoe vamps and the like.

It will be readily understood that minor changes in the size, form and construction of the various parts of my improved snipping machine can be made and substituted for those herein shown and described without departing from the spirit of my invention, the scope of which is set forth in the appended claims.

I claim:

1. In a machine of the class described, the combination with a slotted work support, of a rotary cutting head comprising a series of circular blades, the edge portions of which

blades are adapted to traverse the slots in the work support, and a guard housing between the work support and the rotary cutting head.

5 2. In a machine of the class described, a work table provided with a series of slots, a rotatably mounted shaft arranged to move toward and away from the work table, and a series of disks fixed on said shaft, which
10 disks are provided with cutting edges, and which disks are adapted to move through the slots in the work table when the shaft is moved toward said table.

15 3. In a machine of the class described, a work table provided with a series of slots, a guard plate provided with a series of slots corresponding with the slots in the work table, and a rotary cutting head comprising a series of disks having sharp edges that are
20 adapted to move through the slots in the work table and guard plate.

4. In a machine of the class described, a work table provided with a series of slots, a guard plate provided with a series of slots
25 corresponding with the slots in the work table, a rotatably mounted shaft arranged to move toward and away from the work table, and a rotary cutting head comprising a series of disks fixed on said shaft, which disks are
30 provided with sharp edges that pass through the slots in the guard plate and work table when the shaft is moved toward said work table.

35 5. In a machine of the class described, a work table provided with a series of slots, a guard plate provided with a series of slots corresponding with the slots in the work table, a rotatably mounted shaft arranged to

move toward and away from the work table, a rotary cutting head comprising a series of
40 disks fixed on said shaft, which disks are provided with sharp edges that pass through the slots in the guard plate and work table when the shaft is moved toward said work table, and means for normally holding the
45 shaft away from the work table.

6. In a machine of the class described, a work table provided with a series of slots, a guard plate provided with a series of slots
50 corresponding with the slots in the work table, a rotatably mounted shaft arranged to move toward and away from the work table, a rotary cutting head comprising a series of disks fixed on said shaft, which disks are
55 provided with sharp edges that pass through the slots in the guard plate and work table when the shaft is moved toward said work table, and means for moving the shaft toward the work table.

7. In a machine of the class described, a
60 plate provided with a series of slots, a rotary cutting head comprising a series of blades having cutting edges adapted to move through the slots in the plate, and means whereby said cutting head is moved toward
65 the plate so that the cutting edges of the blades project through the slots in said plate.

In testimony whereof I hereunto affix my signature in the presence of two witnesses,
70 this 15 day of April, 1912.

WILLIAM C. HAKE.

Witnesses:

M. P. SMITH,
M. A. HANDEL.