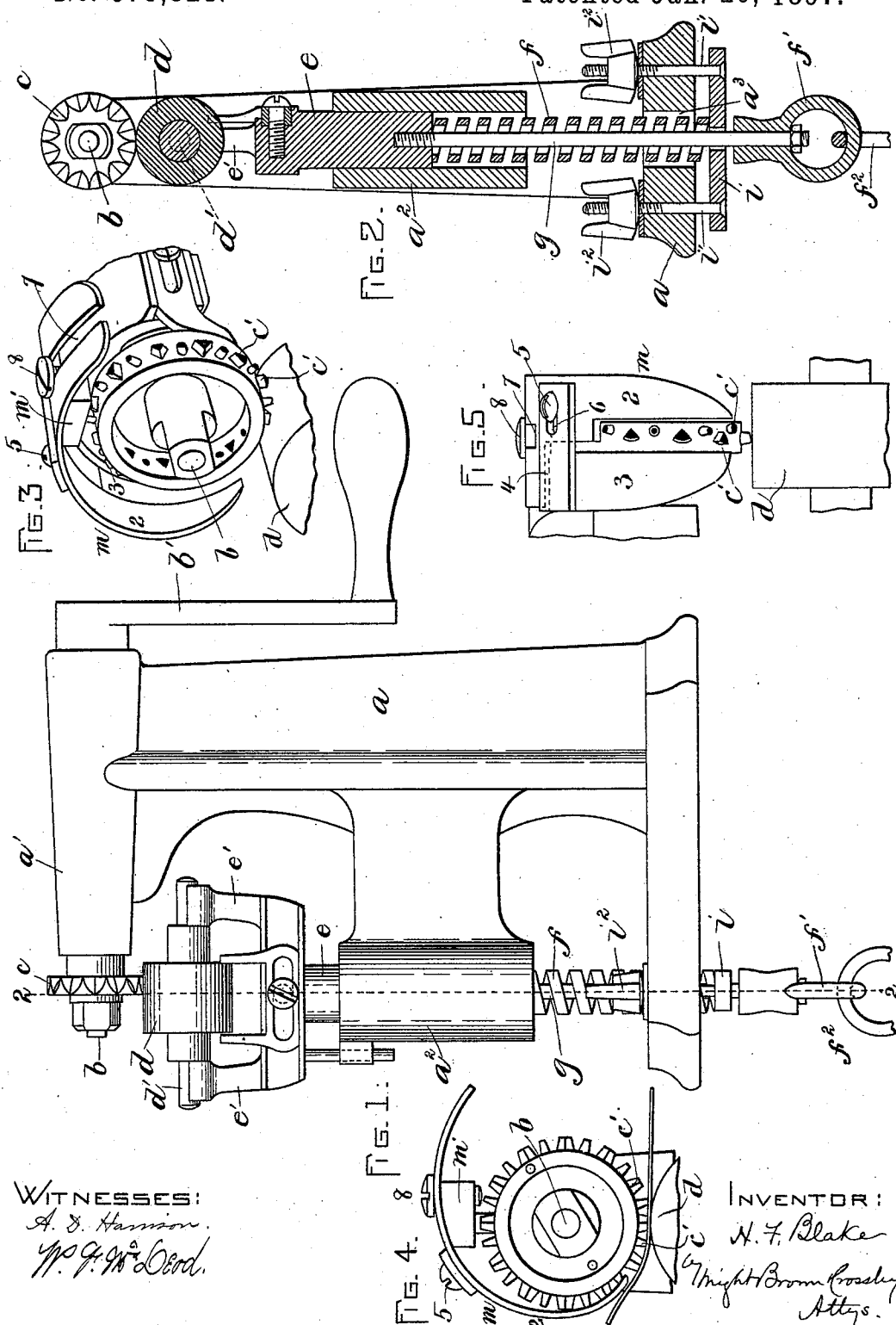


(No Model.)

H. F. BLAKE.  
PINKING MACHINE.

No. 575,821.

Patented Jan. 26, 1897.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

HAROLD F. BLAKE, OF HAVERHILL, MASSACHUSETTS.

## PINKING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 575,821, dated January 26, 1897.

Application filed December 4, 1893. Serial No. 492,712. (No model.)

*To all whom it may concern:*

Be it known that I, HAROLD F. BLAKE, of Haverhill, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Pinking-Machines, of which the following is a specification.

This invention relates to machines for ornamenting pieces of leather, such as parts of the uppers of boots and shoes, by the action of a wheel which cuts the leather in various ornamental forms, the operation being usually known as "pinking," the rotary cutter being in some cases formed to simply give the piece a serrated or pinked edge and in other cases to form the edge and also cut orifices in the leather back from the edge, while in some cases the wheel simply cuts orifices without forming the edge. The work to be ornamented or cut is supported on a bed-roll, which is usually of elastic material, such as rubber, and bears against the cutter with a pressure due to its own elasticity, the bed-roll being in vertically-adjustable bearings, so that it can be moved toward and from the cutter.

In ornamenting certain styles of boot and shoe uppers it is desirable to cut into the piece for a suitable distance and then arrest the cutting action before the piece has been cut entirely through; but with many machines as heretofore constructed it has been very inconvenient to do this, because of the time required to separate the bed-roll from the cutter.

My invention has for its object to provide a pinking-machine with efficient means whereby it may be conveniently operated in such manner as to arrest the cutting action at any point and enable the piece to be removed from the machine before it has been entirely cut through, and without loss of time.

The invention also has for its object to prevent the material from adhering to the cutter, particularly when the cutter is formed to perforate or make holes in the material.

To these ends the invention consists in the improvements which I will now proceed to describe and claim.

Of the accompanying drawings, forming part of this specification, Figure 1 represents

a side elevation. Fig. 2 represents a section on line 2-2 of Fig. 1. Fig. 3 represents a perspective view showing the pinking-wheel provided with a clearing device to prevent the adhesion of the work thereto. Figs. 4 and 5 represent end and side views of the construction shown in Fig. 3.

The same letters and figures of reference indicate the same parts in all the figures.

In the drawings, *a* represents the supporting-frame, having a fixed bearing *a'*, in which is journaled the shaft *b*, supporting the cutter *c*, said cutter being rigidly attached to the shaft, so that it may be positively rotated thereby. The shaft is or may be rotated by means of a crank *b'*. The cutter *c* may be formed, as above indicated, to pink or scallop the edge, or to form holes in the material at a distance from the edge, or to perform both operations.

*d* represents the bed-roll, which is preferably made of elastic material, such as rubber, and mounted upon a shaft *d'*, which is journaled in bearings *e' e'*, formed on a slide *e*, which is movable toward and from the cutter. The slide *e* is fitted to move in a guide *a<sup>2</sup>* on the frame *a*.

In carrying out the first part of my invention I make the slide *e* free to move in the guide *a* and provide a spring *f*, which is arranged to press said slide and the bed-roll *d* toward the cutter *c*. The upper end of said spring bears against the lower end of the slide *e* and its opposite end bears against a suitable support below the slide, the arrangement being such that the spring constantly exerts an upward pressure on the slide, which presses the roll *d* against the cutter *c*.

*g* represents a rod which is affixed to the slide *e* and projects downwardly therefrom, said rod serving as a means for retracting or depressing the slide and the roll *d*, thus separating the latter from the cutter. The rod passes in this instance through the interior of the spring *f* and through an orifice *a<sup>3</sup>* in the base of the frame *a* and has at its lower end a ring or eye *f<sup>2</sup>*, which may be connected by a rod *f<sup>2</sup>* with a treadle, (not shown,) whereby the operator may conveniently and quickly depress the slide and the roll *d*. I do not of course limit myself to the rod *g* as the device

for depressing the roll *d*, but may use any other suitable means, such as a chain connected with the slide.

*i* represents the support for the lower end of the spring *f*. Said support is preferably vertically adjustable, in order that the spring may be adjusted either to vary the pressure of the bed-roll against the cutter or to compensate for wear of the cutter caused by grinding or for differences in the sizes of cutters used interchangeably in the same machine. As here shown, the support *i* is a bar of metal having upwardly-projecting screw-threaded rods *i'* *i'* passing loosely through orifices in the frame *a*, and having their threaded upper ends provided with nuts *i<sup>2</sup>* *i<sup>2</sup>*, bearing upon the frame *a*. When said nuts are turned, the support *i* is raised or lowered, as the case may be, and the spring correspondingly adjusted.

It will be seen that the operator can readily stop the cutting operation before the piece of material has been cut entirely across from one edge to another by depressing the slide *e* and roll *d* against the pressure of the spring, said slide and roll being immediately raised to operative position after the pressure has been removed. The machine is thus enabled to ornament the work to any desired distance from its edge and then abruptly stop the ornamentation, the bed-roll being depressed to permit the work to be separated from the cutters, this provision for quickly releasing the work being particularly useful when the cutter is provided with isolated dies *c'*, formed to cut independent holes in the work.

In Figs. 3, 4, and 5 I show the cutter constructed to form holes in the material, said cutter having dies *c'*, formed to cooperate with the bed-roll in cutting out pieces and forming ornamental holes in the material.

The entrance of the dies into the piece causes them to adhere to the piece, so that the piece is liable to follow the periphery of the dies as it passes from the bed-roll. To prevent this tendency and separate the piece from the dies after the cutting operation, I provide a stripper *m*, which is preferably a curved metal plate affixed to an arm or shank *m'*, which is secured to the supporting-frame of the machine by suitable means. The stripper is preferably composed of two prongs or divisions 2 and 3, arranged at opposite sides of the dies, their lower ends being bent inwardly toward the axis of the cutter, so that they stand within the circle of the outer ends of the dies, as shown in Fig. 4, the outer portion of the stripper being outside of said circle. This arrangement enables the stripper to bear on the upper side of the piece of material at points near the meeting portions of the dies and the bed-roll, and thus separate the piece from the dies.

I prefer to make the part 3 adjustable toward and from the part 2 by means of a

shank 4, affixed to the part 3 and secured to the part 2 by a screw 5, passing through a slot 6 in the shank 4, said slot and screw permitting the part 3 to be adjusted toward or from the part 2, so that the stripper can be adjusted to different sizes of cutters and different widths of dies *c'*. The part 2 of the stripper is provided with a longitudinal slot 7, through which passes a screw 8, which secures the stripper to the shank *m'*. The slot 7 and screw 8 permit the acting lower ends of the parts of the stripper to be adjusted toward and from the meeting point of the dies and the bed-roll.

I claim—

1. In a pinking-machine, the combination of the supporting-frame having a fixed bearing *a'* and a fixed guide *a<sup>2</sup>*; a shaft *b* journaled in said bearing and provided with a rotary cutter having isolated cutting-dies formed to cut through a piece of work; a slide *e* fitted to move in said guide; a bed-roll affixed to a shaft supported by bearings on said slide; a spring *f* interposed between the slide and an adjustable support *i* on the frame of the machine and acting to press the bed-roll against the cutter; and a downwardly-projecting rod affixed to the slide, whereby the latter may be depressed to separate the bed-roll from the cutter and permit the separation of the work from the cutter.

2. In a pinking-machine, the combination with a rotary cutter having projecting dies, of a segmental adjustable stripper having its outer portion located outside the circle of the outer ends of the dies and its inner end within said circle, whereby the stripper is enabled to separate from said dies the material pinked or perforated thereby, as set forth.

3. In a pinking-machine, the combination with a rotary wheel having projecting dies, of a segmental adjustable stripper composed of two parts or prongs located at opposite sides of the dies, the outer portion of the stripper being outside of the circle of the outer end of the dies while the acting ends of said prongs are within said circle, as set forth.

4. In a pinking-machine, the combination of the pinking-wheel having projecting dies, the fixed stripper composed of the parts 2 3 adjustable toward and from each other, and means for adjusting said stripper, the outer portion of the stripper being outside the circle of the outer ends of the dies, and its inner end within said circle, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 29th day of November, A. D. 1893.

HAROLD F. BLAKE.

Witnesses:

C. F. BROWN,

A. D. HARRISON.