

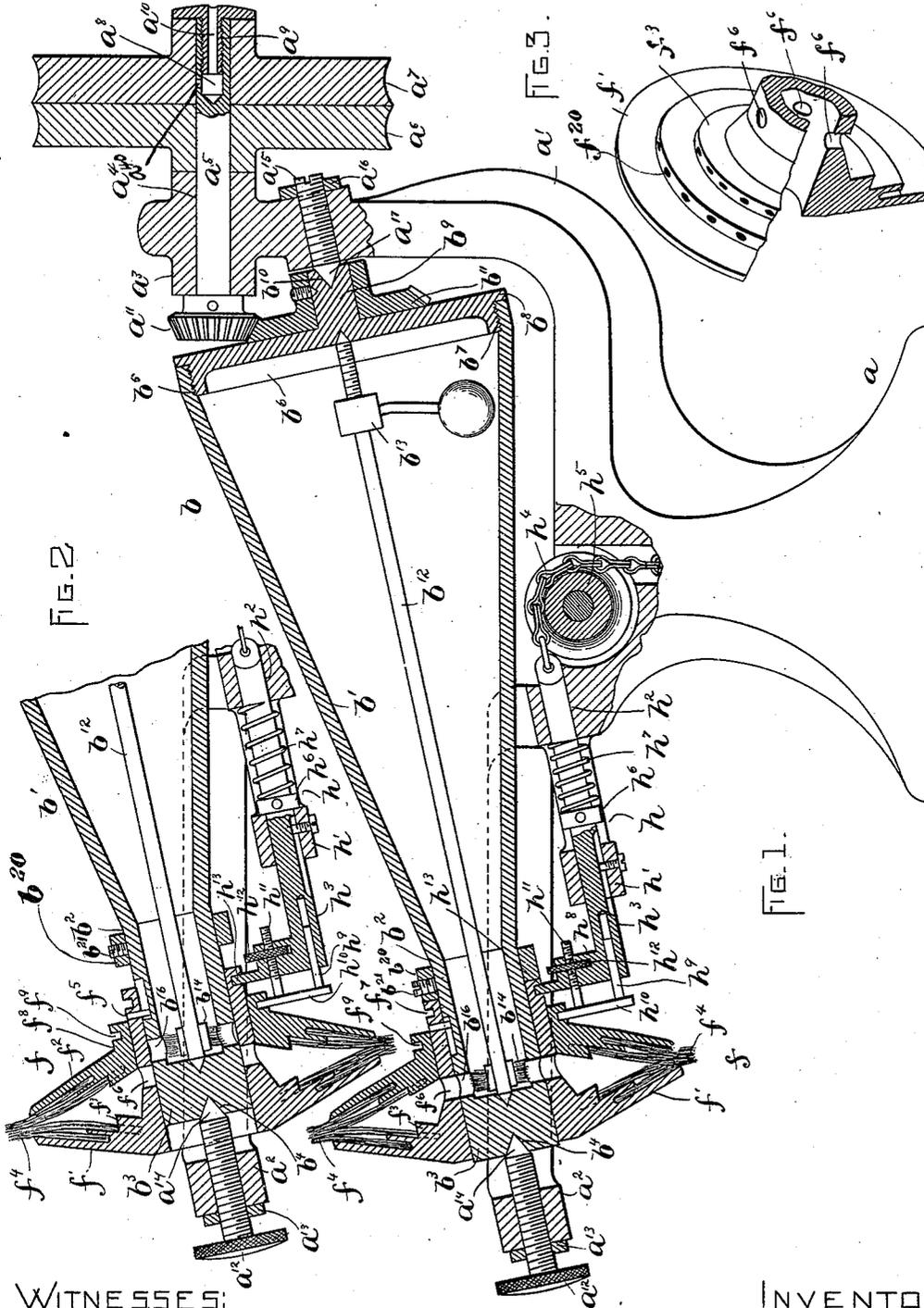
No. 613,446.

Patented Nov. 1, 1898.

G. S. HILL & D. A. HITCHCOCK.
SOLE INKING MACHINE.

(Application filed Mar. 6, 1896. Renewed Dec. 29, 1897.)

(No Model.)



WITNESSES:
E. Buchler
A. D. Harmon

INVENTORS
George S. Hill and
Daniel A. Hitchcock
by Wright Brown & Lively
Attys

UNITED STATES PATENT OFFICE.

GEORGE S. HILL AND DANIEL A. HITCHCOCK, OF BRADFORD, MASSACHUSETTS, ASSIGNORS TO GEORGE W. PALMER, OF HAVERHILL, MASSACHUSETTS.

SOLE-INKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 613,446, dated November 1, 1898.

Application filed March 6, 1896. Renewed December 29, 1897. Serial No. 664,433. (No model.)

To all whom it may concern:

Be it known that we, GEORGE S. HILL and DANIEL A. HITCHCOCK, of Bradford, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Sole-Inking Machines, of which the following is a specification.

This invention relates to a new and improved sole-inking machine; and it consists in the novel features of construction and relative arrangement of parts hereinafter fully described in the specification, clearly illustrated in the drawings, and particularly pointed out in the claims.

Reference is to be had to the accompanying sheet of drawings, forming a part of this specification, in which like characters are used to indicate like parts wherever they occur.

Figure 1 represents in longitudinal section a machine constructed in accordance with our invention, the brush being shown in operative position, with the ports in said brush and reservoir in communication. Fig. 2 is a view similar to Fig. 1, showing the end only of the machine, with the brush moved into its inoperative position to close communication between said brush and reservoir. Fig. 3 is a detailed view of one of the disks that form the brush.

Referring to the drawings, in the embodiment of our invention therein shown and selected by us for the purpose of illustrating our invention, a represents a suitable standard upon which are mounted the several parts of our machine. This standard may be supported upon the usual bench or post. (Not shown.)

a' represents an arm extending up from one side of the standard a .

a^2 represents an arm extending in a substantially horizontal plane from the side of the standard a opposite that from which the arm a' extends. The arm a' is formed with an extension a^3 , which is apertured, as at a^4 , to constitute a bearing and in which is mounted a counter-shaft a^5 .

$a^6 a^7$ represent fast and loose pulleys of ordinary construction mounted upon the outer end of the counter-shaft a^5 . The outer end of the shaft a^5 may be apertured, as at a^8 , and

the mouth of the aperture closed by a screw-threaded plug a^9 , having a central bore a^{10} , through which the aperture a^8 may be filled with oil. Openings a^{10} in the counter-shaft a^5 establish communication between this reservoir a^8 and the surface of said shaft, upon which the pulleys $a^6 a^7$ run. The construction thus described constitutes a self-oiling means. The opposite end of the shaft a^5 carries a bevel-gear a^{11} .

a^{12} represents a screw arranged in the end of the arm a^2 . a^{13} represents a check-nut arranged on this screw in order to hold the latter in adjusted position. This screw is formed with a pointed end a^{14} . a^{15} represents a similar screw arranged in the upper part of the arm a' , and upon this screw is a check-nut a^{16} . The screw a^{15} is formed with a pointed end a^{17} , and the axes of the screws $a^{12} a^{15}$ are arranged in the same plane, so that their pointed ends can serve as bearings upon which the reservoir b can rotate. This reservoir is composed of a conical shell b' , formed in its lower end with a cylindrical extension b^2 , having a solid head b^3 , which closes this end of the reservoir. The head b^3 is formed with a depression b^4 at a point corresponding with the axis of rotation of the reservoir, and in this depression the end a^{14} of the screw a^{12} is arranged. The opposite end of the shell b' is formed with interior screw-threads b^5 . These screw-threads are adapted to engage the screw-threads b^7 on a cap b^6 , that closes the open end of the reservoir. This cap is formed with a flange b^8 to fit tightly against the rim of the shell b' . The cap b^6 is formed with an outwardly-extending hub b^9 , that has at its end a depression b^{10} , and in this depression is arranged the pointed end a^{17} of the screw a^{15} .

b^{11} represents a bevel-gear secured upon the extension b^9 and adapted to engage with and be driven by the gear a^{11} .

b^{12} represents a shaft having pointed ends that are arranged in complementary depressions on the interior faces of the cap b^6 and head b^3 . This shaft is designed to be loosely arranged in its bearings and carries a weighted collar b^{13} , whereby said shaft can be held stationary while the reservoir rotates about it. At its lower end this shaft carries a brush b^{14} , 100

adapted to engage the mouth of apertures b^{16} , formed in the cylindrical extension b^2 , in order to keep these apertures free from dirt or sediment.

5 f represents a brush slidingly mounted upon the tubular extension b^2 of the shell. This brush is composed of two opposing disks $f' f^2$, formed upon their opposing faces with two concentric rings f^3 , arranged one below
10 the other, apertured, as at f^{20} , to hold the bristles f^4 , the ends of which project beyond the periphery of the disks $f' f^2$ and which engage the edge of the sole to ink the same. The disk f' is carried by a sleeve f^5 , that is
15 arranged upon and in engagement with the extension b^2 and adapted to be slid thereon by means hereinafter described, although any other movement might be employed for this purpose. The sleeve f^5 is formed with one or
20 more apertures f^6 , adapted to communicate with the apertures b^{16} , in order to permit the blacking material contained in the reservoir to run down on the brush when these apertures are in communication. The disk f^2 is
25 formed with a central bore of a size to fit snugly upon the sleeve f^5 , the apertures f^6 being arranged between the disks $f' f^2$. The disk f^2 has a sliding engagement with the sleeve f^5 , whereby the space between the disks
30 $f' f^2$ may be contracted or enlarged at pleasure, in order to provide for a small or a large quantity of bristles. The sleeve f^5 at its extremity is formed with an annular groove f^7 , while the disk f^2 is formed with an extended
35 part f^8 , in which there is an annular groove f^9 . The construction of the several parts of the brush is such that the latter can be slid back and forth on the extension b^2 , but is sufficiently tight upon said extension to rotate
40 therewith. Instead of being arranged to be connected to the extension by friction, the opposing faces of the extension and sleeve b^5 may be polygonal.

h represents an arm projecting from the
45 standard a below the arm a^2 . The outer end of this arm is apertured, as at h' , the axis of this aperture being in the same plane as a similar aperture h^2 in the base of the arm a^2 , and in these apertures is arranged a bar h^3 .
50 At its inner end this bar is connected to a chain h^4 , arranged on a pulley h^5 , mounted in the standard, the lower end of this chain being connected to a suitable treadle. (Not shown.)

55 h^6 represents a collar arranged upon the bar h^3 between the end of the arm h and the base of the arm a^2 . h^7 represents a spiral spring mounted on said bar between the said collar and the base of said arm a^2 , so that when said
60 bar is drawn to the right by means of the chain and treadle from the position shown in Fig. 2 to that shown in Fig. 1 the said spring will be put under tension and will when released from control of the chain throw said
65 bar to the left from the position shown in Fig. 1 to that shown in Fig. 2, the latter being the normal position of parts when the machine is

not in use. The bar h is formed with an upwardly-extending finger h^8 . A pin h^9 is arranged to slide in a suitable aperture in the
70 end of the bar h^3 and carries a plate h^{10} , whose free end is arranged in the groove f^3 in the hub of the disk f^2 . A set-screw h^{11} , one end of which is affixed to the plate h^{10} , extends through the finger h^8 and is manipulated by
75 a suitable nut h^{12} , by which said plate and the disk f^2 may be moved back and forth away from and toward the disk f' . The finger h^8 is formed with a projection or plate h^{13} , whose free end is arranged in the groove f^7 .
80 It follows from this construction that as the bar h^3 is moved from the position shown in Fig. 2 to that shown in Fig. 1 the apertures f^6 and b^{16} will be made to register and the liquid blacking in the reservoir b will flow to the
85 bristles f^4 , the sole of the shoe being held to the lower side of the brush. When the strain upon the chain is removed and the spring a^7 permitted to act, the bar will be moved to the left, throwing the brush to the position shown
90 in Fig. 2 and slide the brush f along the sleeve f^5 , so that the aperture f^6 will not register with the aperture b^{16} . By this construction the communication between the brush and reservoir is cut off automatically as soon
95 as the operator removes his foot from the treadle. Otherwise the blacking would continue to drip from the brush during the absence or inattention of the operator. By means of the screw h^{11} and its associated
100 parts, as already stated, the distance between the two disks can be adjusted at will. The reservoir is filled with liquid blacking by removing it from the screws $a^{12} a^{15}$ and taking off the cap b^5 . A sufficient amount of blacking
105 having been put into the reservoir the cap b^5 is screwed in place, the reservoir placed in position, as shown in Fig. 1, and the screws a^{12} and a^{15} made to engage with the bearings formed in the ends of the reservoir.
110

b^{20} represents a collar adjustably secured to the extension b^2 by means of a screw b^{21} in order to limit the distance to which the brush can travel. The amount of travel of the
115 brush toward the reservoir can be limited at pleasure, so as to limit the degree to which the apertures f^6 register with the apertures b^{16} , in order to admit a small or large amount of the blacking to the action of the brush.

Having thus explained the nature of our invention and described a way of constructing
120 and using the same, although without attempting to set forth all the forms in which it may be made or all the modes of its use, what we claim as new, and desire to secure by
125 Letters Patent, is—

1. In a sole-inking machine, in combination, a rotary reservoir, a brush slidingly arranged on one part thereof, communications
130 between said brush and reservoir, and means for moving said brush to open or close the said communications.

2. In a sole-inking machine, in combination, a rotary reservoir, a brush slidingly

mounted on one part thereof and adapted to be rotated thereby, communications between said reservoir and brush, and means for sliding said brush to open or close said communications.

3. In a sole-inking machine, in combination, a reservoir, a brush slidingly mounted on one part thereof, communications between said brush and reservoir, and means including a spring-pressed bar having a tongue-and-groove connection with said brush for sliding the latter on said part.

4. In a sole-inking machine, in combination, a rotary reservoir, a brush slidingly mounted on one part thereof and adapted to be driven thereby, said part being formed with apertures communicating with apertures in said brush, means for sliding said brush on said part, and a stationary brush within said reservoir adapted to engage the sides of the openings in said part.

5. A brush comprising in its construction a disk formed with a sleeve, a second disk arranged on said sleeve, and means on the opposing faces of said disks for holding bristles arranged therein.

6. A brush comprising in its construction a disk formed with a sleeve, a second disk arranged on said sleeve, and means on the opposing faces of said disks for holding bristles arranged therein, combined with means for varying the distance between said disks.

7. In a sole-inking machine, in combination, a rotary reservoir, a brush arranged thereon and adapted to be driven thereby, said reservoir being formed with apertures adapted to communicate with apertures in said brush, and means in said reservoir arranged to scrape across the sides of the apertures in said reservoir.

8. In a sole-inking machine, in combination, a rotary reservoir, a brush arranged thereon and adapted to be driven thereby, said reservoir being formed with apertures adapted to communicate with apertures in said brush, a stationary shaft arranged in said reservoir, and a brush carried by said shaft and adapted to engage the sides of the apertures in said reservoir.

9. In a sole-inking machine, in combination, a rotary reservoir, a brush arranged thereon and adapted to be driven thereby, said reservoir being formed with apertures adapted to communicate with apertures in said brush, a stationary shaft arranged in said reservoir, means for holding said shaft stationary, and a brush carried by said shaft and

adapted to engage the sides of the apertures in said reservoir.

10. In a sole-inking machine, in combination, a rotary reservoir, a brush slidingly mounted on a part of said reservoir and adapted to be rotated thereby, a movable jaw or disk on said brush, means for sliding said brush on said part, and an adjusting device carried by said means and arranged to engage said disk.

11. In a sole-inking device, in combination, a rotary reservoir formed with an apertured extension, a brush slidingly mounted on said extension and adapted to be driven thereby, said brush comprising a disk formed with an apertured sleeve, a second disk slidingly arranged on said sleeve, bristle-gripping members formed on the opposing faces of said disks, means for sliding said brush on said extension, and an adjusting device carried by said means and adapted to engage said second disk to move the latter.

12. In a sole-inking machine, in combination, a rotary reservoir, a brush slidingly arranged on one part thereof, communications between said brush and reservoir, means for moving said brush to open and close the said communications, combined with means for limiting the amount of sliding movement of said brush.

13. In a sole-inking machine in combination, a reservoir, a disk-shaped rotary brush, communications between said brush and reservoir, and means for regulating the flow of material through said communications.

14. In a sole-inking machine in combination, a reservoir, a rotary brush, communication between said brush and reservoir, and means operated by a treadle for regulating the flow of material through said communication.

15. In a sole-inking machine in combination, a reservoir, a brush movably arranged on one part thereof, communications between said brush and reservoir, means for moving said brush, to open and close said communications and holding it after adjustment.

In testimony whereof we have signed our names to this specification, in the presence of two subscribing witnesses, this 29th day of February, A. D. 1896.

GEORGE S. HILL.
DANIEL A. HITCHCOCK.

Witnesses:

WILLIAM QUINBY,
EDITH BATCHELDER.