

(No Model.)

2 Sheets—Sheet 1.

J. M. LOWE.

MACHINE FOR REINKING TYPE WRITER RIBBONS.

No. 506,126.

Patented Oct. 3, 1893.

FIG. 1.

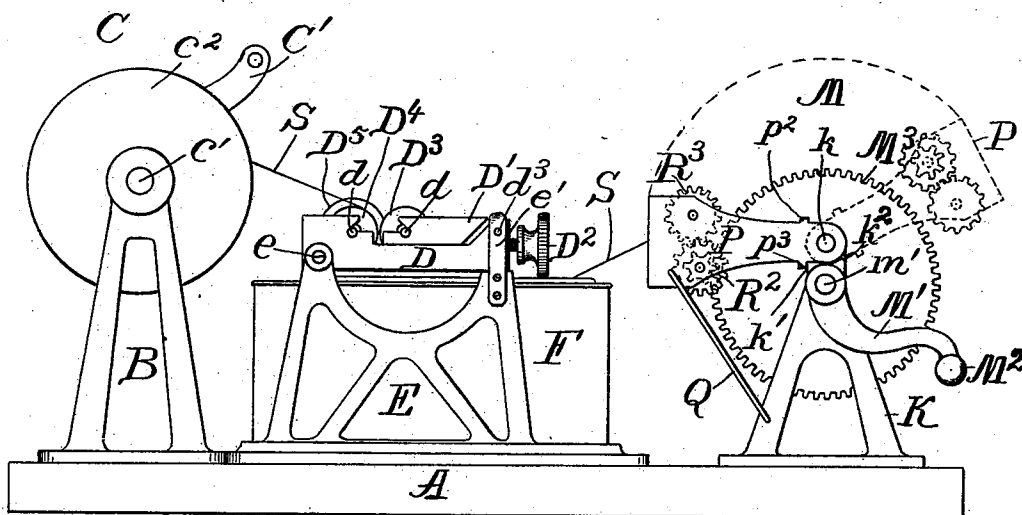
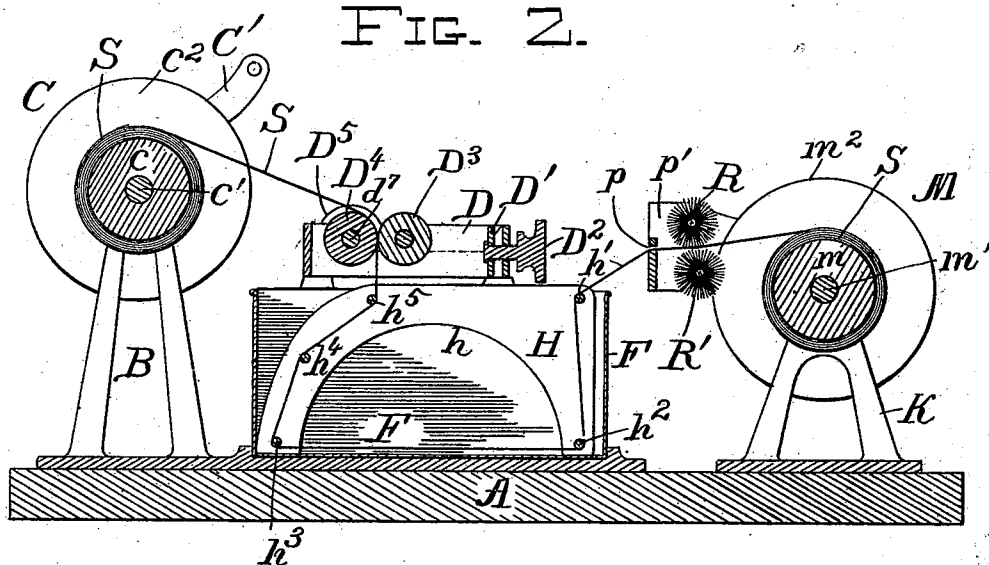


FIG. 2.



Witnesses

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FIG. 4.

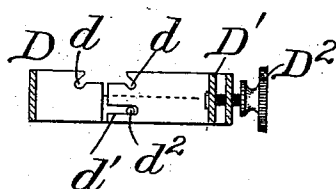


FIG. 3.

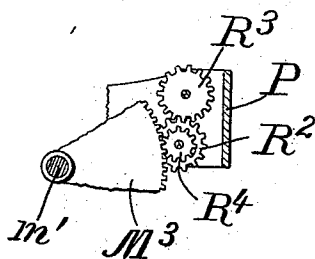
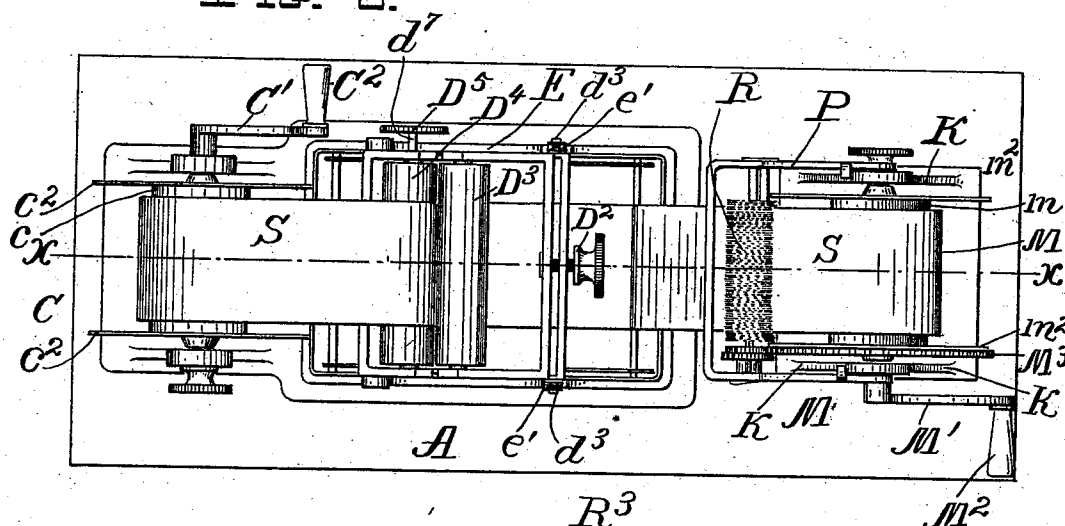


FIG. 5.

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UNITED STATES PATENT OFFICE.

JOHN M. LOWE, OF OMAHA, NEBRASKA.

MACHINE FOR REINKING TYPE-WRITER RIBBONS.

SPECIFICATION forming part of Letters Patent No. 506,126, dated October 3, 1893.

Application filed July 5, 1893. Serial No. 479,651. (No model.)

To all whom it may concern:

Be it known that I, JOHN M. LOWE, a citizen of the United States, residing at Omaha, in the county of Douglas and State of Nebraska, have invented certain new and useful Improvements in Machines for Reinking Type-Writer Ribbons; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in machines for re-inking typewriter ribbons, and it is especially intended for the purpose of cleaning and re-inking typewriter ribbons, from which the ink has been worn off by continued use.

It consists of certain novel features herein-after described and claimed, reference being had to the accompanying drawings, in which the same parts are indicated by the same letters, throughout the several views.

Figure 1 represents a side elevation of the machine when in use. Fig. 2 represents a section along the line $x x$ of Fig. 3 and looking toward the top of the sheet on which the said Fig. 3 is placed. Fig. 3 represents a plan view of the machine in use. Fig. 4 represents a section through the roller frame, along the line $x x$ of Fig. 3, and Fig. 5 represents a detail view of the gearing by which the brushes are operated.

A represents the platform on which the machine is secured. B represents a frame attached to the said platform A, and provided with journal bearings, in which the shaft c' of the spool C is journaled. This spool is provided with a drum c , side flanges c^2 , a crank C' , and a handle C^2 , for turning the same.

D represents the roller frame, which is provided with a sliding piece D' , which is adjusted by means of the thumb-screw B^2 . The rollers D^3 and D^4 are journaled in the bearings d in the fixed part of the frame, and in the sliding piece D' respectively, and one of these rollers D^4 is provided with a thumb screw D^5 on the end of its shaft d' for the purpose of turning the said roller by hand when desired. The sliding piece D' is provided with a slot d' in the inner side thereof,

through which the guide stud d^2 projects, and thus the said sliding piece D' is held against vertical motion.

The roller frame D is mounted on a frame E attached to the platform A, and is pivoted at one end to the frame, as at e , and has a stud d^2 at the other end adapted to engage the spring catch e' . Thus the roller frame may be readily turned backward toward the spool C, and then may be turned down in place and held between the catches e' .

Beneath the roller frame D a pan or ink well F is provided, held in a suitable support on the platform A. A ribbon stretcher is placed in the said ink well, which stretcher preferably consists of two side plates H cut away as at h in order to allow the free inflow of ink, with smooth rods h' , h^2 , h^3 , h^4 , and h^5 , connecting the two side plates together.

K represents a frame secured to the platform A, and supporting the spool M. This spool is provided with a central shaft m' , a drum m , and guide flanges m^2 between which the ribbon is wound. The spool is revolved by the crank M' and handle M^2 . Attached to one of the said guide flanges, I provide a spur wheel M^3 gearing into the pinion R^4 which is mounted on the same shaft with the gear wheel R^2 , and brush R' , and the said gear wheel R^2 revolves the gear wheel R^3 , and brush R. These brushes R and R' are journaled in the frame P, which frame is pivotally connected to the frame K as at k , and is provided with shoulders p^2 and p^3 adapted to engage against the faces k^2 and k' respectively. The shoulder p^3 bears against the face k' when the pinion R^4 meshes with the spur wheel M^3 , and the said frame is further supported by the strut Q. The shoulder p^2 is adapted to strike the face k^2 before the spur wheel M^3 comes in contact with the shaft of the gear wheel R^3 ; and thus it will be seen that when the brush frame P is turned to the left as shown in Fig. 1, the brushes will be caused to revolve by turning the crank M' ; while if the brush frame be turned over to the right, as shown in dotted lines in Fig. 1 the brushes will be thrown out of operation. The said brush frame is preferably provided with a slot p adapted to receive and to guide the ribbon, and is left open as at p' so that

any particles of solid matter swept off by the brush R may be thrown out through the front of the said frame.

S represents the ribbon to be re-inked.

5 The operation of the device is as follows:—
The end of the ribbon to be re-inked is passed through the slot *p*, and between the brushes R and R', and is then attached to the drum
10 *m*, as to a piece of cloth already wound thereon. The end of the ribbon being attached to the drum, is wound on the spool M, passing its entire length between the rapidly revolving brushes R and R' which remove most of the dust, dirt, and other solid foreign parti-
15 cles. When the ribbon has been wound upon the spool M the pivoted roller frame D is turned up to the left, the stretcher frame is taken out of the well F, and the ribbon is passed over the rod *h'*, under the rods *h*² and *h*³, over the rod *h*⁴, and under the rod *h*⁵.
20 Thence it is passed between the rollers *b*³ and *b*⁴, which is readily done by turning the thumb screw D⁵, and thence it is led to the spool C, to which it is attached in any convenient way. The stretcher frame may be re-
25 placed in the well F at any time after the ribbon has been passed around the connecting rods as explained above, when the free end of the ribbon can be passed through the
30 presser rollers, and the roller frame lowered to its position on the frame E after the ink has been poured in the well F, if not already in. The process of winding the ribbon upon
35 the spool C causes it to pass around the various rods *h'* to *h*⁵, stretching it and at the same time the ribbon becomes thoroughly saturated with the ink; and when it reaches the spool C it is in the proper condition for re-use.
40 The ribbon may be passed a second time between the brushes R R' as shown in Fig. 2, or the brush frame may be thrown back out of the way before passing the ribbon through the ink. The requisite pressure on the rolls
45 is imparted by means of the thumb screw D². The stretcher frame should fit closely enough in the ink well F so as not to have much lateral play, and the ribbon should lead
50 nearly vertically upward from the rod *h*⁵ in order that the excess of ink may run down freely. This passing the ribbon around these
55 various smooth rods, produces the requisite amount of friction not only to stretch the ribbon, and to admit the free access of the ink to the various parts thereof, but also tends
60 to remedy the fault known as "cupping," the centers of typewriter ribbons, after having been used, becoming much more stretched than the sides thereof. When the friction on these rods becomes sufficient the stretcher
65 frame is lifted up for a short distance, but striking against the bottom of the roller frame, can not be lifted far.

The ribbon in passing around the various rods, will be for some time immersed in the
65 ink, and will become thoroughly saturated; the length of time the ribbon remains in the ink will depend upon the speed with which

the spool C is revolved, and if this be done slowly the ink will have ample time to penetrate the interstices and pores of the ribbon. 70

It will be seen that if a ribbon is kept at all times on each of the spools, and also on the stretcher frame, a new ribbon may be readily attached to the end connected to the
75 spool M, and then wound on said spool, being brushed during the process of winding; and then the end of this ribbon just brushed may be attached to the ribbon passing around the stretcher frame, and may be drawn
80 through the ink well, and wound on the spool C, by simply turning the crank C'. By having the presser rolls D³ and D⁴ provided with open journal bearings such as *d*, these rollers may be readily removed and cleaned, and
85 then replaced.

By the use of the herein described apparatus, a worn typewriter ribbon may be quickly and thoroughly re-inked, with little, if any, necessity for soiling the fingers, or for spill-
90 ing ink over surrounding objects. It will be seen that the apparatus is made in very compact form. These and various other advantages of the herein described device would readily suggest themselves to any one skilled
95 in the art.

It will be obvious that the herein described invention may be used for painting or inking cloth or other similar fabric, other than typewriter ribbons.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is— 100

1. In a machine of the character described, the combination with means for stretching the cloth and ribbon and for passing it through
105 the bath, of the frame E, the roller frame D pivoted at *e* on the said frame E and provided with the sliding part D', and adjusting screw D²; and the rollers D³ and D⁴ journaled in the fixed and sliding parts of said roller
110 frame, substantially as and for the purposes described.

2. In a machine of the character described, the combination with means for stretching the cloth or ribbon and for passing it through
115 the bath, of the frame E, the roller frame D pivoted at *e* on said frame E and provided with studs *d*², the spring catches *e'* adapted to engage said studs, the sliding part D', and adjusting screw D², and the rollers D³ and D⁴
120 journaled in the fixed and sliding parts of said roller frame, substantially as and for the purposes described.

3. In a machine of the character described, the combination with a spool for winding up
125 the material to be treated, of a brush frame mounted on the axle of said spool, revolving brushes mounted in said frame, and gear wheels connecting said spool to said brushes, whereby said brushes are revolved when said
130 spool is turned, substantially as and for the purposes described.

4. In a machine of the character described, the combination with a frame K provided

with faces k' and k^2 , of a spool journaled in
said frame, the brush frame P pivotally con-
nected to said frame K between said faces k'
and k^2 , and provided with shoulders p^2 and p^3
5 adapted to strike said faces, the brushes R'
and R^2 journaled in said frame P; the gear
wheels R^2 and R^3 mounted on the same shafts
with the said brushes, the pinion R^4 con-
nected to and revolving with one of said

brushes, and the spur wheel M^3 attached to 10
and revolving with said spool, substantially
as and for the purposes described.

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

JOHN M. LOWE.

Witnesses:

E. J. DAVIS,

GEORGE M. WRIGHT.