(No Model.)

G. A. SPOONER.

MAILING MACHINE.

No. 579,902. Patented Mar. 30, 1897.

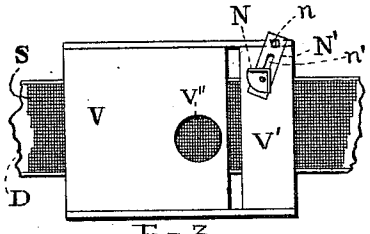

Fig. 3.

Fig. 1

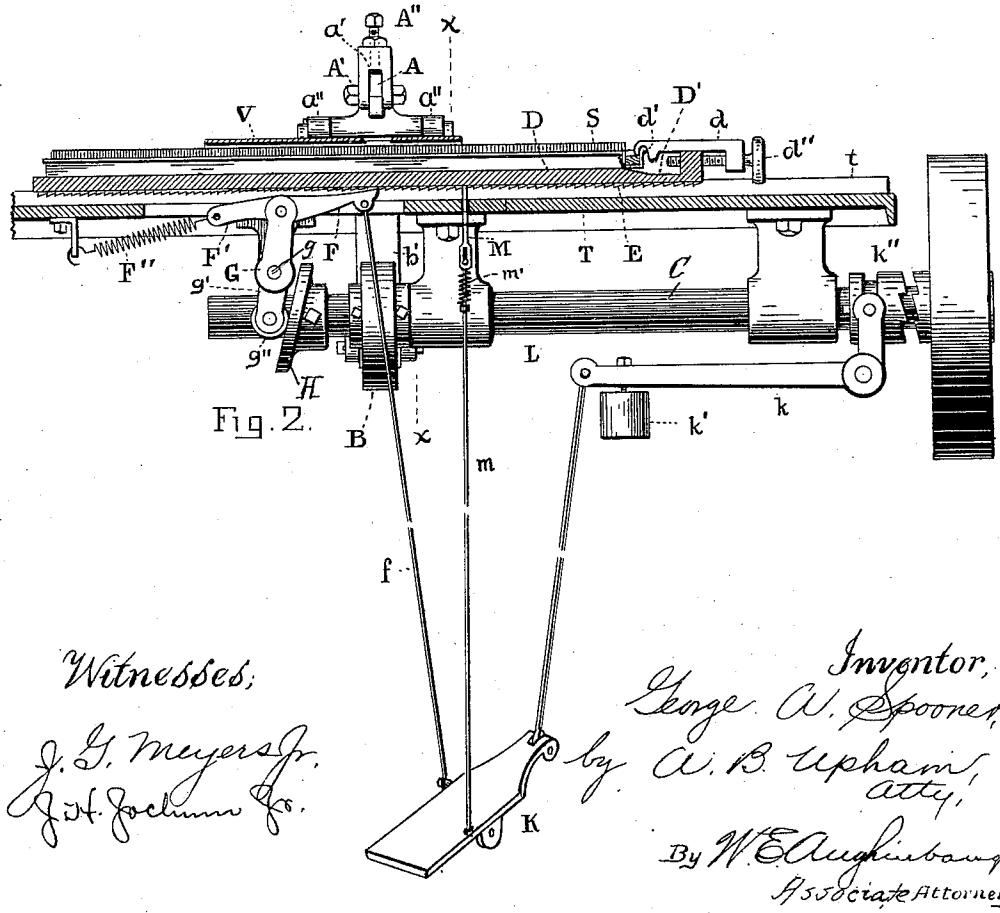

Fig. 2.

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UNITED STATES PATENT OFFICE.

GEORGE A. SPOONER, OF BOSTON, MASSACHUSETTS.

MAILING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 579,902, dated March 30, 1897.

Application filed August 1, 1896. Serial No. 601,299. (No model.)

To all whom it may concern:

Be it known that I, GEORGE A. SPOONER, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Mailing-Machine, of which the following is a full, clear, and exact description.

This invention is in the line of newspaper-mailing machines of that form in which a plunger is arranged to press the margin of the paper itself or its wrapper upon a galley of addresses set in type, such galley being moved a line or two at a time in order to bring a fresh name beneath the plunger at each stroke.

My invention has for its object the construction of an improved means for actuating the plunger, of intermittently moving the galley-carriage, and of effecting other improvements both in detail and in general arrangement.

In the drawings forming part of this specification, Figure 1 is a transverse vertical section of my machine through x x in Fig. 2. Fig. 2 is a longitudinal section of the same through y y in Fig. 1, and Fig. 3 is a plan view of my improved type-protecting plate.

The plunger-block A, by which the direct impression is made, is held in the split end a' of the pivoted arm a, and the adjustment of said block, both vertical and angular, is provided for by means of the two bolts A′ A″. The hole in said block through which passes the bolt A′ is made larger than said bolt, and the bolt A″ abuts against the upper face of said block. Hence by loosening the bolt A′ and turning the bolt A″ the desired vertical adjustment of the plunger A is easily effected.

To adjust the block A true with the face of the type S in the galley R, the bolt is again slightly unloosened and the arm a brought down until said block presses flat upon the type. The bolt A′ being then tightened no further adjustment is needed. Of course the face of the block A is covered with a strip of rubber for equalizing the pressure on the type-faces, but this being well understood in the art no showing of the same is made.

The plunger-arm a is actuated by the engagement of the cam B with the friction-roll b at the extremity of the prolonged arm b' of said arm a. The tension-spring b'' keeps the friction-roll in contact with the cam B and thereby raises the plunger-arm. The bearings a'' for the plunger-arm are bolted directly to the rear edge of the table-top T.

The carriage D, which supports the galley and its contained type, slides upon the track-rails t, cast integral with the table-top T. The means for moving this carriage comprises the pawl F, engaging with the rack-bar E, secured to the under side of the carriage D, the rocker-arm G, rocker-shaft g, rocker-arm g', having friction-roll g'', and the cam H. Said pawl is kept in engagement with the rack-bar by means of the tension-spring F″, attached to its tail F′. This spring being anchored below the level of the pawl-tail F′ gives the desired upper pressure to the pawl, and also, by its position to the rear of the same, retracts the pawl and keeps the friction-roll g'' in contact with the cam H.

In order that each line of type shall come exactly beneath the plunger A in changing from galley to galley, it is necessary to adjust the position of the galleys with respect to the carriage D. In the first place I would explain that the galley for which I have especially designed my machine is made of sheet metal in an elongated pan-like form, reinforced at its edges with wire. To hold and adjust the galleys, the upper edge of the end of the galley is adapted to be held by the hand d, longitudinally adjusted by the thumb-screw d'', and the edge of the galley is made to enter the notch d' of said hand by means of the depression D′ in the carriage D just below said notch. By raising the left-hand end of the galley its right-hand end is depressed sufficiently to pass beneath the hand d and enter the notch d'. Of course when this is done the carriage D is at the extreme left-hand end of the mailer and no longer beneath the type-protecting plate V. This is a most natural motion on the part of the men running the mailers, for the reason that they always lower the right-hand end of the galley upon the carriage first, slide it along to the proper place, and then let the other end down.

In starting and stopping this machine I employ a simple clutch k'', normally held from engagement by the weight k' on the clutch-arm k and thrown into clutch by the pressure of the operator's foot. I effect a further improvement by connecting the pawl F to the treadle K by means of the slender rod f. This accomplishes two things. First, when the machine is not running the position of the treadle K, acting through the

rod *f*, depresses the pawl F out from engagement with the rack-bar E. Consequently the operator can move the carriage back and forth to any desired point without hindrance. In all other mailing-machines with which I am acquainted it is necessary to disengage the feed-pawl with one hand and move the galley-carriage with the other alone. These being very heavy, the amount of strength required is considerable. Furthermore, when the operator, having made some error in printing and stopped the machine, he needs to pay no attention to the feed-pawl, but can at once move the carriage back a line or two and print again.

The paper, as is customary, rests upon the plates V V′ while being imprinted with the address and is pressed by the plunger A through the space between said plates upon the type. This is, of course, to protect the paper from the remainder of the inked type. The great trouble with this plate V, however, is that it prevents the operator from watching the approaching addresses and so being ready for a sudden change from a single line to a double line or from a double to a triple or to see when the last line of the galley is at hand. To obviate this, some inventors have made the plate V of heavy glass; but this was liable to fracture under the heavy pressure required. Light was often reflected from it at such an angle as to render sight through it quite difficult, or it became too dirty, and thereby semiopaque. In my construction this plate is of sheet-steel, thin, but strong, and is provided with the aperture V″, made large enough to permit of the vision required, but not large enough to let the paper touch the type beneath.

In reviewing the general construction of my mailing-machine it will be noticed that the plunger A rises to a sufficient height to give ample room for the insertion of the papers beneath; that the arm *a*, being pivoted and with wide bearings, swings freely and yet wholly without tendency to binding; that the carriage-feeding devices being beneath the table leaves the top entirely clean and free, and that the whole construction is convenient, simple, strong, and not liable to get out of repair or adjustment.

Among other improvements which I have effected in my mailing-machine is the carriage-stop M, which rises through the top T into the path of the carriage D. This stop is so arranged that when the carriage and a contained galley is slid along from the left, where the galleys are always put on and removed, the end of the carriage comes against this stop and is held in exactly the point for the first line of addresses in the galley to come beneath the plunger A. Now when the operator presses the treadle K to start the machine, the slender rod *m*, extending from the treadle to said stop M, lowers the latter and so permits the carriage D to begin its forward motion. In case the machine is stopped while the carriage D is in an intermediate position the stop M will simply come up against the smooth under surface of the carriage and not affect it in any way, a suitable spring *m′* permitting the required relative yielding of the stop M and the rod *m*.

This improvement is in reality quite an important one in this machine for the reason that much time is lost in the aggregate in adjusting the carriage in position for the initial stroke of the plunger.

What I claim as my invention, and desire to secure by Letters Patent, is as follows, to wit:

1. In a mailing-machine, the combination of the carriage having a short terminal portion of its bed depressed, an adjusting member located near said depressed bed, and a type-carrying chase or galley adapted to be engaged by said adjusting member when its end sinks into said depressed portion of the bed, for the purpose set forth.

2. The combination with the carriage, D, having depression, D′, of the adjusting member consisting of the hand *d*, having notch, *d′*, and the type-carrying galley having a rim adapted to enter said notch, substantially as and for the purpose set forth.

3. The combination with the carriage, D, having depression, D′, of the hand, *d*, movably held over said depression and having the notch, *d′*, and the adjusting-screw, *d″*, substantially as and for the purpose set forth.

4. In a mailing-machine, the combination with the carriage, D, the operative mechanism of the machine, the clutch member and the clutch-actuating treadle, of the stop adapted to enter the path of said carriage and so connected with said treadle that the clutch-actuating motion of said treadle shall remove said stop from the path of the carriage, for the purpose specified.

5. In a mailing-machine, the table-top, T, having the ways, *t*, near the center thereof and a limited slot extending longitudinally between said ways, the plunger-arm, *a*, pivoted to the rear edge of the table-top, the actuating-shaft, C, extending parallel with and close beneath said rear edge and adapted to oscillate said plunger-arm, in combination with the side cam, H, the rocker-arm, *g′*, contacting with said cam, the extended rock-shaft, *g*, and the pawl, F, adapted to reach through the slot hereinbefore described and engage the notched under side of said carriage, whereby the entire table-top and almost the entire ends thereof are made free from interfering mechanism and the operator's movements thereby unimpeded,

In testimony that I claim the foregoing invention I have hereunto set my hand this 25th day of July, in the year 1896.

GEORGE A. SPOONER.

Witnesses:
JOHN O. BLANCHARD,
A. B. UPHAM.