W. J. MAGUIRE.

ADDRESS MATCHER.

APPLICATION FILED MAR. 3, 1919.

1,328,534.

Patented Jan. 20, 1920.

2 SHEETS—SHEET 1.

FIG 3

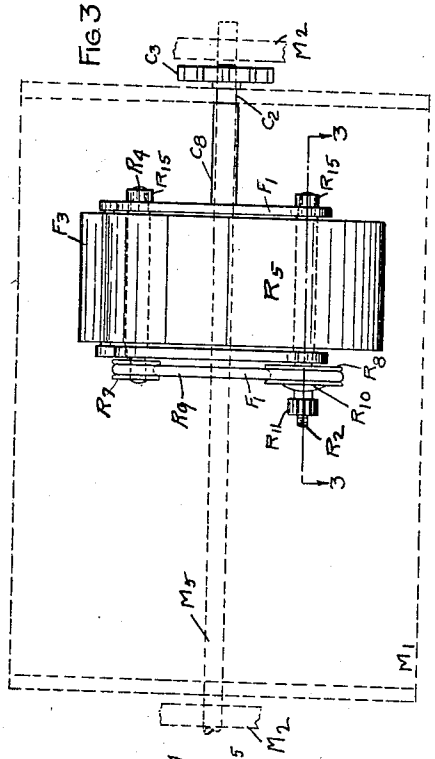
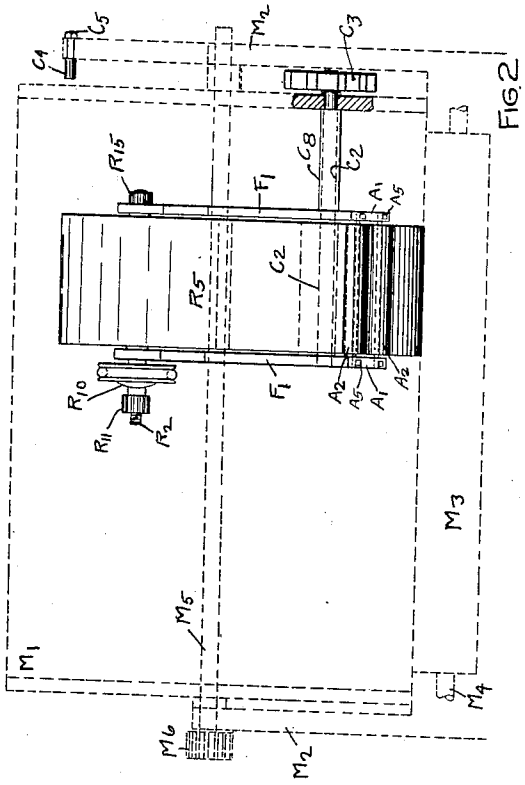


FIG 2



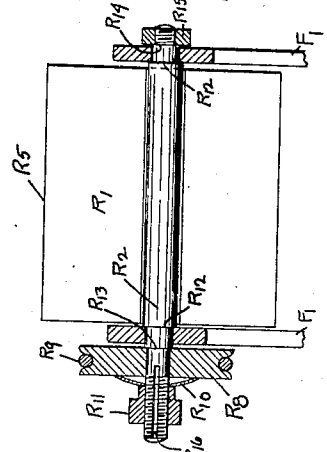


FIG 4

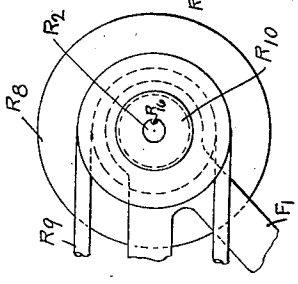


FIG 5

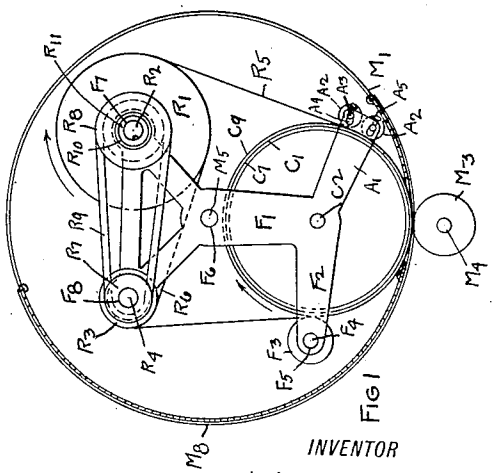


FIG 1

INVENTOR

WALTER J. MAGUIRE

BY

C. B. Birkenbeuel

ATTORNEY

W. J. MAGUIRE.

ADDRESS MATCHER.

APPLICATION FILED MAR. 3, 1919.

1,328,534.

Patented Jan. 20, 1920.

2 SHEETS—SHEET 2.

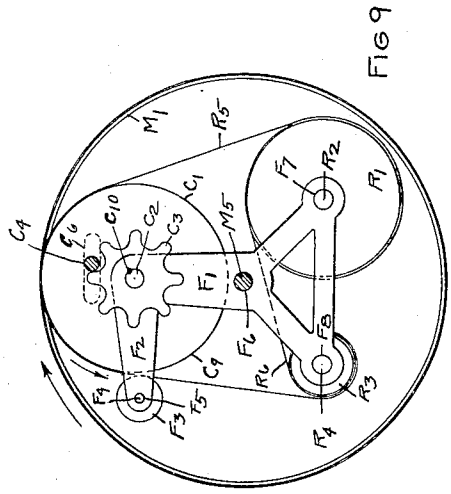


FIG 9

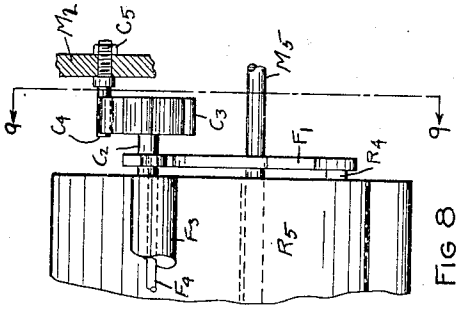


FIG 8

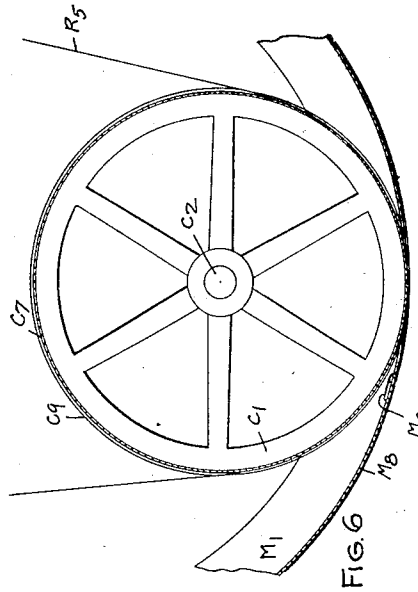


FIG. 6

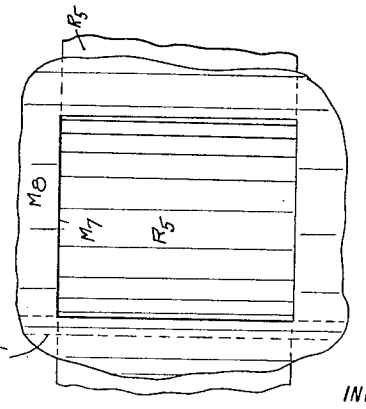


FIG. 7

INVENTOR

WALTER J. MAGUIRE

BY

E. B. Birkenbeuel.

ATTORNEY

UNITED STATES PATENT OFFICE.

WALTER J. MAGUIRE, OF PORTLAND, OREGON.

ADDRESS-MATCHER.

1,328,534. Specification of Letters Patent. Patented Jan. 20, 1920.

Application filed March 3, 1919. Serial No. 280,316.

To all whom it may concern:

Be it known that I, WALTER J. MAGUIRE, a citizen of the United States, residing in the city of Portland, county of Multnomah, State of Oregon, have invented a new and useful Address-Matcher, of which the following is a specification.

My device relates more particularly to that class of duplicating machines known as mimeographs, and pertains to a means for supplying a succession of addresses to stock letters, although it will be apparent that it is applicable to many other branches of the art, as will be explained later.

The object of my invention is to enable the operator of a mimeograph machine to supply each copy turned out by the machine with an individual address without any more labor than is at present expended in the process of producing a stock letter, and at the same time match the quality of the printing in the address and the body of the letter so perfectly that there will be no noticeable difference in the finished work.

To accomplish these results I have arranged the elements of my invention as illustrated in the drawings and described in the specifications following.

Referring to the drawings. Figure 1 is an end elevation of my device contained within the cylinder of a mimeograph; Fig. 2 is a front elevation of Fig. 1; Fig. 3 is a plan of Fig. 2; Fig. 4 is an enlarged detail shown as a section through 3—3; Fig. 5 is a side elevation of Fig. 4 with the adjusting nut removed; Fig. 6 is an enlarged detail showing the relation of my device with the mimeograph cylinder at the point where the printing of the address takes place; Fig. 7 is a bottom view of Fig. 6; and shows the manner in which the mimeograph cylinder must be cut away in order to expose the portion of my device which carries the addresses; Fig. 8 is an elevation showing the relation of the driving mechanism with the parts of my device and the frame of the mimeograph; Fig. 9 is an end elevation opposite to that shown in Fig. 1.

Similar letters and numbers of reference refer to the same or similar parts throughout the several views.

Referring in detail to the drawings: M^1 is a cylinder of the ordinary mimeograph of which M^2 are the standards and M^3 the rubber roller underneath the cylinder M^1. M^4 is a shaft which carries M^3. M^5 is the inking shaft which ordinarily carries the inking device which is placed on the shaft M^5 only during the inking operation and then removed to make room for my device which occupies a similar position on the shaft M^5. M^6 is the usual drive pinion for the cylinder M^1. M^7 is an opening in the curved surface of the cylinder M^1 which is large enough to permit the protruding of the necessary parts of my device. Ink is supplied to the cylinder M^1 by the pad M^8, and the mimeograph paper is prevented from tearing on the backward end of the opening M^7 by the guard M^9 which may be in any form capable of securing the edge of the paper.

Referring particularly to my device. C^1 is the driving cylinder which is constructed on the same principle as the cylinder M^1, except that it is continuous and mounted on the shaft C^2 upon which is mounted the star wheel C^3, which in turn is operated by the star wheel pin C^4 which is held by the nut C^5 at a desired position in the slot C^6, which is formed in one of the standards M^2. C^7 is the perforated curved surface of the driving cylinder C^1 and C^8 is the spacer collar on the driving shaft C^2 which determines the location of my device from the end of the cylinder M^1 whenever the device is slipped on to the shaft M^5. The driving cylinder C^1 is covered about its entire circumference by the ink pad C^9 to which ink is supplied in the same manner as it is to the larger cylinder, or it may be supplied with a brush as is common on the smaller sizes of the mimeograph machine. C^{10} is a key between the shaft C^2 and the star wheel C^3.

My device is contained principally within the side frames F^1 which have the arms F^2 for carrying a felt cleaner roll F^3 which is arranged to ride upon the surface of the strip of paper which will be driven and inked by the cylinder C^1. The shaft F^4 carries the cleaner roll F^3 and journals in the holes F^5 which are located in the arms F^2. F^6 is a hole in each frame F^1 to receive the inking shaft M^5 which carries my device. F^7 are holes for the reel shaft R^2, and F^8 are the holes for the reel shaft R^4.

The unwinding reel R^1 is mounted on the shaft R^2 which journals in the holes F^7,

while the winding reel R^3 is carried by the shaft R^4 which journals in the holes F^8. A tape of mimeograph paper R^5 slightly narrower than the width of the opening M^7 is put into the device on the reel R^1 and the end of it is carried around the cylinder C^1 and wound upon the reel R^3. A strip of smut preventing tape R^6 of the same width as the tape R^5 is wound on the reel R^1 with the tape R^5, but in unwinding same it does not pass over the cylinder C^1 but upon the reel R^3 for the purpose of preventing smutting of the tape after it is rewound. R^7 is a grooved pulley on the shaft R^4, and R^8 is a grooved pulley on the shaft R^2, the pulleys being joined by the belt R^9. On the shaft R^2 and against the pulley R^8 which is shouldered on the shaft R^2 is placed the friction washer R^{10}, which has a small internal lug fitting into the key-way R^{16} to prevent the turning of the washer. Pressure on the washer R^{10} is regulated by the adjusting nut R^{11}. R^{12} are shoulders on the shaft R^2 which act as spacers for the frames F^1, while the shoulder R^{13} receives the thrust exerted on the pulley R^8 by the friction washer R^{10}. The shoulder R^{14} prevents the nut R^{15} from binding the shaft R^2 to the frame R^1.

The operation of my device is as follows: The desired addresses are written on a tape of mimeograph paper R^5 and wound with a similar size tape R^6 which prevents smutting, upon the reel R^1 which fits snugly upon the shaft R^2. The loose end of the tape R^5 is carried over the driving cylinder C^9 and secured to the empty winding reel R^3. The end of the smut preventing tape R^6 is also secured to the reel R^3 but does not pass over the driving cylinder C^9. Frame F^1 is now slipped into place and the nuts R^{15} screwed up to secure the frame F^1. The device is now inserted into the mimeograph cylinder M^1 as shown in Fig. 1 and the inking shaft M^5 from which the inking device has previously been removed is now inserted into the holes F^6 and journals in the farther frame M^2. The spacer C^8 is now placed on the projecting shaft C^2 and the entire device moved along the shaft M^5 until the shaft C^2 enters the hole in the side wall of the cylinder M^1 as shown in Fig. 2. The star wheel C^3 is now put in place and secured to the shaft by the key C^{10}.

It is to be understood that with each complete revolution of the cylinder M^1 a letter is printed without the address. The opening M^7 is formed at the place where the address should be and the cylinder C^1 with its address bearing tape occupies this opening. Immediately after the completion of the printing portion of its revolution, the star wheel C^3 is brought into engagement with the pin C^4 which is adjustably mounted on the standard M^2, and in passing said pin the star wheel is rotated sufficiently to drive the cylinder C^1 a distance equal to the distance between the center of two adjacent addresses.

The direction of rotation being such as to unwind the tape from reel R^1, which in being driven by the unwinding operation, drives the friction pulley R^8 which through the belt R^9 drives the pulley R^7 which is secured to the shaft of the empty reel R^3 and drives same in the proper direction to take up the tapes which are being unwound from the reel R^1.

It will be seen that inasmuch as the speed of rotation of the two reels must vary as their diameter changes that the ratio of the pulleys must be such as to always drive the winding reel fast enough to receive the tapes. Any excess motion is taken care of by the slippage in the belt R^9 and the washer R^{10}. It will be seen that the tension on the tapes R^5 and R^6 is entirely controlled by the adjustment of the nut R^{11}.

The felt roller F^3 serves to free the tape R^5 from any surplus of ink or foreign matter before it is wound on the reel R^3.

It will be seen that the opening M^8 must exist not only in the cylinder M^1 but in the pad M^8 and the mimeograph form, and that the cutting of this opening in the form will leave an exposed edge of the paper. This edge is turned inside of the cylinder M^1 and held by any convenient clamp, which I have indicated at M^9.

When not engaged with the pin C^4 the star wheel C^3 may be rotated in either direction. To correct any error in position of the address upon the printed sheet it is only necessary to change the position of the pin C^4 in the slot C^6 and secure same with the nut C^5.

It is evident that while I have illustrated my device in connection with a mimeograph machine, that same can be used to an equal or greater advantage when attached to printing presses, wrapping machines, or any of the multitudinous uses to which it may readily be adapted, without the use of the mimeograph machine, without departing from the spirit of my invention.

In Figs. 1 and 2 I have illustrated an ink feed regulator which insures a sufficient quantity of ink being supplied to the tape R^5. It consists of the auxiliary frame A^1 upon which are mounted the felt rollers A^2 on the shafts A^3. These may be removed for cleansing by the separation of the frame F^1 by the removal of the nuts R^{15}. The shafts A^3 rotating in slots A^4 which are radial with the shaft M^5 and can be adjusted by the screws A^5 to vary the pressure of the rollers A^2 on the tape R^5.

While I have thus described my invention it is not my desire to limit myself to this precise form of construction or method of application of my device, but intend that

it shall cover all forms and modifications that fall fairly within the appended claims.

What I claim as new and desire to protect by Letters Patent of the United States, is:

1. In an addressing machine, the combination of an address bearing tape, reels for delivering and receiving said tape, a pad arranged to supply ink to the under side of said tape between the two reels, inking rollers arranged to press said tape against the pad, a perforated cylinder arranged to carry said pad and hold said tape against the printing surface, a means for actuating said cylinder intermittently and a reel compensating means consisting of a frictional connection between said tape carrying reels.

2. The combination of a mimeograph machine and an address matching device having an address bearing tape, a perforated cylinder for driving said tape, an inking pad covering the driving surface of said cylinder, a star wheel for actuating said cylinder intermittently, reels for carrying said tape and a means for compensating changes in the reel diameters.

3. The combination of a mimeograph and an address matching device consisting of a frame member which is carried by the inking shaft of the mimeograph, a cylinder rotatably mounted on said frame member in a manner that a portion of same having an area equal to the area of a single address may be exposed by a suitable opening in said mimeograph cylinder surface, an unwinding reel member mounted on said frame member, a shaft for carrying said unwinding reel, a pulley mounted on said unwinding shaft member, a winding reel mounted on said frame member, a shaft for carrying said reel, a pulley mounted on said shaft, a belt passing over said winding reel pulley and unwinding reel pulley, a shaft for carrying said rotatable cylinder and arranged to project past the operating parts of the mimeograph, a star wheel secured to the projecting end of said shaft, an adjustable pin for operating said star wheel, a tape cleaning roller, a mimeograph tape, and a smut preventing tape, substantially as illustrated and described.

4. The combination of a mimeograph machine consisting of a rotatable cylinder having a removable central shaft with an address matching device consisting of a frame member mounted on said removable central shaft, a perforated driving cylinder mounted on said frame means, an ink pad encircling said driving cylinder, an opening in said mimeograph cylinder large enough to expose an area equal to the address to be printed, winding and unwinding reels mounted on said frame member, a flexible drive means between said reels constituting a friction washer arranged to bear against the drive means, a tension adjusting nut arranged to bear against said washer, a tape consisting of mimeograph paper arranged to pass from said unwinding reel over said driving cylinder and thence to said winding reel, a smut preventing tape arranged to pass from said unwinding reel to said winding reel, an elongated shaft for carrying said driving cylinder, a spacer mounted on said elongated shaft, an opening in side wall of said mimeograph cylinder to receive said elongated shaft, a star wheel mounted on the end of said elongated shaft which projects through the mimeograph cylinder, a means for securing said star wheel to said shaft, a means for actuating said star wheel consisting of a pin projecting from the standard of said mimeograph, and a means for adjusting the position of the address on the printed sheet consisting of a slot in said standard in which said actuating pin can be secured, substantially as illustrated and described.

5. An addressing machine consisting of an address bearing tape, a cylinder for driving said tape, a means for supplying ink to the underside of said tape consisting of an ink pad, an ink feed regulating means consisting of a plurality of rollers arranged to ride upon said tape and having a means for regulating the pressure of the rolls against the tape consisting of screws arranged to bear against the shafts of said rollers, a means for supplying rotary motion to said cylinder consisting of a star wheel mounted on said cylinder shaft, a pin for operating said star wheel adjustably mounted on a stationary part of the machine, and reels for carrying said tape and a means for compensating the changes in the reel diameter consisting of a frictional power connection between the two reels.

WALTER J. MAGUIRE.