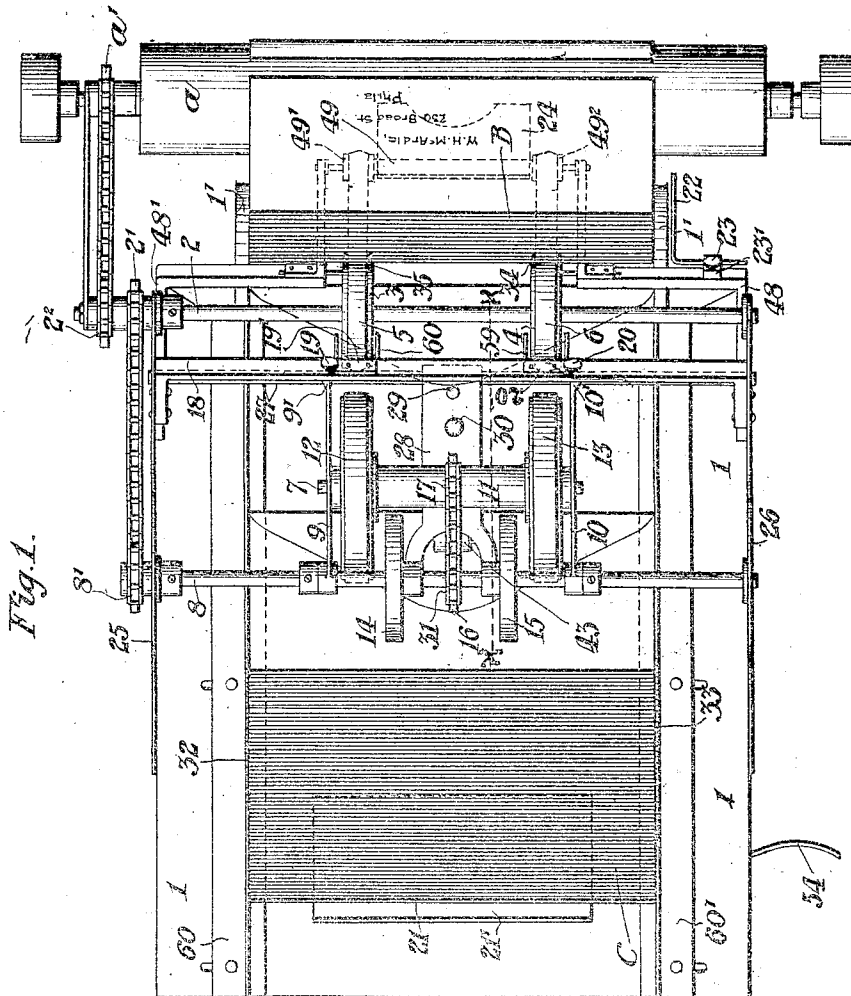


W. H. & R. B. McARDLE.  
 ENVELOP, CARD, AND SHEET FEEDER FOR TYPE WRITERS.  
 APPLICATION FILED APR. 6, 1911.

1,038,406.

Patented Sept. 10, 1912.

2 SHEETS—SHEET 1.



WITNESSES

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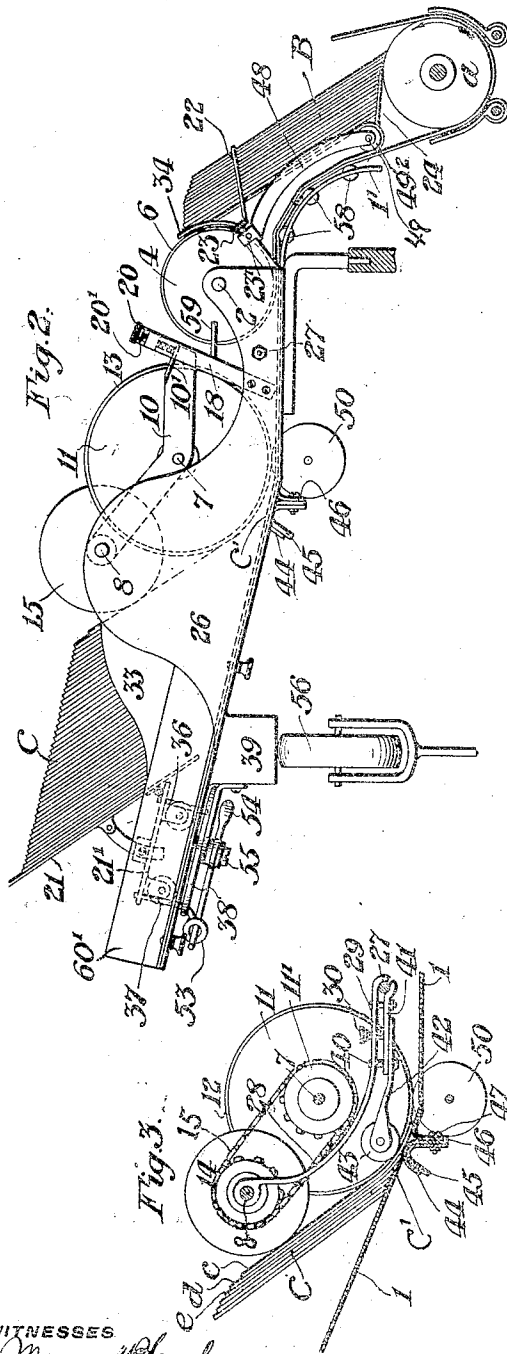


Fig. 2.

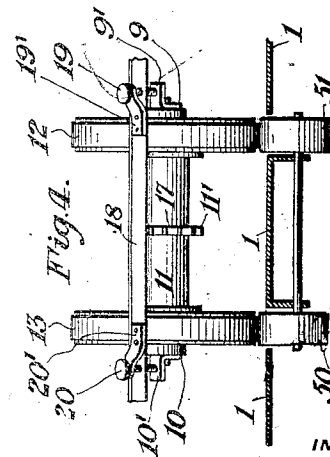
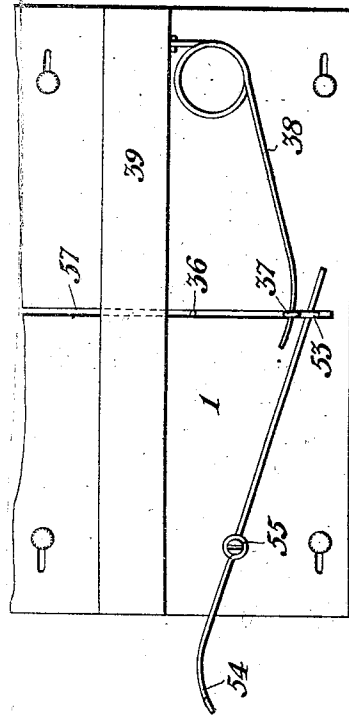


Fig. 3.

Fig. 4.

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# UNITED STATES PATENT OFFICE.

WILLIAM H. McARDLE AND ROBERT B. McARDLE, OF CAMDEN, NEW JERSEY.

ENVELOP, CARD, AND SHEET FEEDER FOR TYPE-WRITERS.

1,038,406.

Specification of Letters Patent.

Patented Sept. 10, 1912.

Application filed April 6, 1911. Serial No. 619,381.

*To all whom it may concern:*

Be it known that we, WILLIAM H. McARDLE and ROBERT B. McARDLE, citizens of the United States, both residing at Camden, in the county of Camden and State of New Jersey, have jointly invented certain new and useful Improvements in Envelop, Card, and Sheet Feeders for Type-Writers, of which the following is a specification.

Our invention has relation to certain improvements in a class of automatic envelop and card feeders for typewriters of the type illustrated in United States Letters Patent, No. 985,429, granted to us under date of February 28th 1911, and in which is described a frame for carrying a pack of envelops or cards held in an inclined position and so connected as to travel with the carriage of a typewriter, the other end of said frame being supported by means independent of said typewriter carriage and from which the envelops or cards are consecutively propelled to the typewriter by rotary frictional members in contact with the nearest envelop or card; and it further relates to certain improvements in that class of sheet and envelop feeding mechanisms, as illustrated in United States Letters Patent No. 987,097, granted to us under date of March 14th 1911, in which as described therein, an approximately horizontal paper carrying frame has its discharge end so constructed as to guide the paper downwardly to the typewriter, according to a peculiar constructive arrangement of paper receiving mechanism unfitted to receive sheets or envelops in a horizontal position, but with the same provided with bands or tapes stretched around the bend formed, and bearing on idler rolls carried by the bend of such frame.

The principal objects of our said invention are first: to provide simpler means to transmit motion to various mechanisms of the frame; second, to the provision of suitable mechanism to separate envelops, cards or sheets standing or lying in an inclined position, while feeding; third, to the provision of the machine with means to protect the envelops, cards or sheets after being acted upon by the typewriter; fourth, to the provision of means to mount flexibly feeding mechanism so as to allow the same to bear at all points of contact uniformly against the envelops, cards or sheets while

feeding; fifth, to the provision of means so arranged as to adjust pressure of feeding mechanism against envelops, cards or sheets to be fed; and sixth, to the provision of means so arranged as to maintain the envelops, cards or sheets at a proper angle while in bearing contact with feeding mechanism.

With these and other objects in view, as will be hereinafter more fully described, our said invention generally stated, consists in certain novel features of constructive arrangement, as illustrated in the accompanying drawings and as, particularly pointed out in the claims.

It is to be understood that various modifications in form, proportions and minor details in the constructive arrangement as illustrated of the feeding device, may be made without departing from the scope of our said invention or sacrificing any of the advantages of the same.

In the accompanying drawings:—Figure 1, is a top or plan view of the said feeder, embodying main features thereof. Fig. 2, is a side elevation, looking from the left. Fig. 3, is a sectional elevation of the feeding and separating mechanism, longitudinally along the line X—X of Fig. 1. Fig. 4, is a front elevation of the feeding roller, showing adjustment of the pressure of same against a pile or pack of envelops, cards or sheets to be fed; and Fig. 5, is a view of part of the bottom frame of the device, showing a spring for maintaining the envelop supporting plate carriage against feeding mechanism and also convenient means for backing the carriage from said feeding mechanism so as to permit of the inserting of a fresh supply of envelops, cards or sheets.

In all the views of the drawings, similar numerals of reference are used to indicate corresponding parts.

Referring now to the drawings, 1, is an envelop, card or sheet carrying frame supported and connected to a typewriter, in a manner similar to what is shown in our United States Letters Patent No. 987,097, dated March 14, 1911.

*a*, is the platen of a typewriter.

*a'*, is a sprocket secured to the spindle of the platen and connected to the sprocket 2<sup>2</sup>, by means of a link belt. The sprocket 2<sup>2</sup>, is secured to the shaft 2, carrying a sprocket

2<sup>1</sup>, and which in turn transmits motion to a sprocket 8<sup>1</sup>, by means of a link belt. The sprocket 8<sup>1</sup>, is secured to and rotates with the shaft 8, carrying the sprocket 16. The sprocket 16, transmits motion by means of a link belt to a sprocket 17, on the hub of a spool-like feed roller or wheel 11. The feed roller or wheel 11, is carried by and rotates on a shaft 7, which is supported at its ends by means of arms or members 9 and 10. The members 9 and 10, are pivotally mounted on the said shaft 8.

12 and 13, are rubber bands or the like forming frictional means arranged around the enlarged ends of the feed roller or wheel 11. This feed roller or wheel 11, as shown in Figs. 2, 3 and 4, rests on the idler rolls 50 and 51, which are mounted on the underside of the frame 1, and extend up through openings in said frame. The members 9 and 10, at one end are movably mounted on the shaft 8, and fulcrumed thereto is the feed roller or wheel 11, and the opposite free ends are beveled or inclined respectively, at 9<sup>1</sup> and 10<sup>1</sup>, as shown in Figs. 1, 2 and 4, and engaged by thumb-screws 19 and 20, extending through a bar 18, which latter is held in place by ears 25 and 26, secured to the frame 1; and these thumb-screws when operated are brought into engagement with the free ends of said members 9 and 10, to permit of adjustment of the feed roller or wheel 11, to or from the rollers 50 and 51, beneath. In Fig. 4, the springs 19<sup>1</sup> and 20<sup>1</sup>, bear respectively, on the thumb-screws 19 and 20, with a pressure sufficient to automatically lock the same at whatever point turned. The above referred adjustment for movably supporting the feed roller or wheel 11, serves a two-fold purpose of first keeping the said feed roller or wheel 11, from being lifted by the weight of the envelopes, cards or sheets at C, pressing down the incline; and second, of adjusting the distance of the said feed roller or wheel 11 from the stack of envelopes, cards or sheets C, at C<sup>1</sup>. The springs 19<sup>1</sup> and 20<sup>1</sup>, as shown in Fig. 4, bear respectively, on the screws 19 and 20, and by a pressure sufficiently to automatically lock the screws at whatever point turned.

14 and 15, are two members carried by the shaft 8, to maintain the envelopes or other articles at the proper angle, while being advanced to the feed roller or wheel 11.

28, is a supporting member for carrying the separating mechanism, as shown in Figs. 1 and 3, and which may be supported at one end by the shaft 8, and at the other by the shaft 27. The shaft 27, is supported at its ends by means of said ears 25 and 26, as fully shown in Fig. 1. The spring member 41, as illustrated in Fig. 3, may be secured to the shaft 27, by a screw bolt 29, or other suitable means, to hold the spring member

41, under a pressure in contact with an adjustable thumb-screw 30.

40, is a pin or projection on the member 41, passing through an opening in the supporting member 28, to keep the connected members 41 and 42, from swinging out of alinement.

46, is a portion of the frame 1, bent at an angle. 45, is a member screwed or bolted to a piece 46, and projecting into a small opening in the frame 1.

44, is a frictional surface embracing the top of the member 45. The member 43, is rotatably or otherwise mounted on the end of the member 42, and adjusted to or from the surface 44, by means of the thumb-screw 30, so as to accommodate the same to the thickness of an envelop, card or sheet; the two members 43 and 44, engaging the envelopes, cards or sheets at their middle portion only thus to allow of the free passage of the same at the corners thereof.

The pile or pack of envelopes or other articles C, are pressed by a spring or by gravity bear against the frictional peripheries of the feed roller or wheel 11, and are kept at the proper angle for feeding by means of the members 14 and 15. The first envelop *c*, of the pack or pile is shown passing through the opening between the member 43 and surface 44. The end of the second envelop *d*, being pressed downward so as to come in contact with the frictional surface 44, and held back until the envelop *c*, has passed through the said opening. To the shaft 2, is secured two pulleys 3 and 4, as illustrated in Figs. 1 and 2, and over which pulleys pass the endless bands, tapes or belts 5 and 6, and around and over rollers 58 to pulleys 49<sup>1</sup> and 49<sup>2</sup>, and back again to the pulleys 3 and 4.

48 and 48<sup>1</sup>, are brackets bent around and over the curved end of the frame 1 at 1<sup>1</sup>, as illustrated in Figs. 1 and 2, and supporting at the outer ends the shaft 49, on which are rotatably mounted, the pulleys 49<sup>1</sup> and 49<sup>2</sup>. The forks 34 and 35, as illustrated in Figs. 1 and 2, are provided with prongs on either side of the bands 5 and 6, and in front of the pulleys 3 and 4, and which in conjunction with the forks 59 and 60, at the back of the said pulleys, are provided so as to prevent the bands, tapes or belts from working off of said pulleys. To the rear of the feeding mechanism is an inclined envelop plate 21, adjustable to different angles, as shown in Fig. 2; and on the carriage 21<sup>1</sup>, which is mounted upon wheels or rollers to follow the envelopes or other articles C, down the inclined portion of the frame 1, so as to support and hold the same at the proper angle, to be engaged by the feed roller or wheel 11.

36, as illustrated in Figs. 2 and 5, is a pin or projection carried by the under portion

of the front end of the carriage 21<sup>1</sup>, and passing down through the slot 57, in the frame 1, so as to guide the carriage and hold the angle or envelop supporting plate at right angles to the travel of the carriage. The other end of the carriage is held in line with the slot 57, by a pin or projection 37, connected with the said carriage. The said pin or projection passes through said slot 57, as shown in Fig. 5, and engages a spring 38, attached to the bottom of the frame 1. The said spring 38, tends to push the carriage 21<sup>1</sup>, toward the feeding mechanism. At the end of the member 37, it is arranged ring or hook-shaped and through which passes a lever 54, pivoted at 55, to the bottom of said frame 1; The lever 54, extends outward beyond the side of said frame 1, to provide a finger-hold for backing the carriage 21<sup>1</sup>, away from the feeding mechanism so as to insert a fresh supply of envelopes or other articles for being fed to the typewriter.

39, as illustrated in Figs. 2 and 5, is a member carried by the frame 1, and bearing and traveling back and forth on the rollers 56. The rollers 56, are carried and supported by the typewriter, in a manner as shown in our United States Letters Patent No. 987,097, dated March 14th 1911, aforesaid.

60 and 60<sup>1</sup>, are guides arranged so as to be adjusted to various sized envelopes, cards or sheets and adapted to be released from said frame 1, by means of ordinary clamps or the like.

Most typewriters more particularly the "visible" type, have guides in front of the platen to hold the sheet or other article until freed from the writing point, and which causes a sheet or other similar article to lean backward, and in many cases to again enter the receiving roller of the typewriter, if not restrained. We have provided a member 24, as illustrated in Figs. 1 and 2, which provides for such conditions and which is pivoted to the shaft 49, and rests on the platen immediately in rear of the top thereof, and on which envelopes, or other similar articles pile or collect after passing through the typewriter platen-mechanism, each envelop or article being pushed upward by the rotation of the platen, aided by the next succeeding envelop or other similar article, still in the grip of the said platen-mechanism.

As the pile or pack of envelopes or other similar articles have a tendency to shuffle sidewise from concussions of the typewriter, while resting on the member 24, hence the member 22, is so arranged and mounted in the block 23<sup>1</sup>, as to prevent such action. The block 23<sup>1</sup>, may be carried by the said bracket 48. Also the said member 22, is made so as to be adjustable to or from the end of the pile or pack of envelopes or other

similar articles so as to accommodate different lengths thereof, and the said member 22, is locked to position, by means of a screw 23. The said arrangement may be placed on either or both sides of the envelops or other similar articles as may be preferred in practice.

Having thus described the nature and objects of our invention, what we claim as new and desire to secure by Letters Patent is:—

1. The combination with a typewriter, of a support for carrying a pile of envelopes or other similar articles to be fed to the typewriter, a rotatable transverse shaft carried by said support, members movably mounted at one of their ends on said shaft, a feed roller or wheel pivotally supported by said members, the latter at their opposite ends free, adjusting devices adapted to engage the free ends of said members on each side of said roller or wheel, means to actuate said feed roller or wheel and means to prevent more than a single envelop or other article to be fed at a time to the typewriter.

2. The combination with a typewriter, of a support for carrying a pile of envelopes or other articles to be fed to the typewriter, a rotatable transverse shaft carried by said support, means independently movable on said shaft and carrying a feed roller or wheel rotatably supported therefrom, said means having free ends arranged inclined or beveled and an adjusting device adapted to engage the inclined or beveled free ends of said means on both sides of said feed roller or wheel, actuating means for said feed roller or wheel and means to prevent more than a single envelop or other similar article at a time being fed to the typewriter.

3. The combination with a typewriter, of a support for carrying a pile of envelopes or other articles to be fed to the typewriter, a rotatable shaft carried by said support, arms independently movable on said shaft, a feed roller or wheel rotatably connected therewith, the opposite ends of said arms free, devices adapted to be brought into engagement with the free ends of said arms for adjusting the position of said arms, actuating means for said feed roller or wheel and means to prevent more than a single envelop or other article at a time to be presented to the typewriter to be acted upon thereby and delivered.

4. The combination with a typewriter, of a support for carrying a pile of envelopes or other articles, means to feed the same to the typewriter, means to advance the same to the feeding mechanism, a lever pivoted to said support and having a finger grip at one end, said lever engaging at the other end a member carried by said advancing means to conveniently back the advancing means from said feeding mechanism to thereby enable the envelopes or other arti-

cles to be supplied to said support and means to maintain said envelopes or other articles in proper position while being fed singly to said typewriter.

5 5. The combination with a typewriter, of a support for carrying a pile of envelopes or other articles, means to feed the same to the typewriter, said means consisting of a shaft  
10 connected with said support, arms independently rotatable on said shaft, a feed roller or wheel movably connected to said arms, the latter having free ends, devices provided with springs and arranged to en-  
15 gage the ends of said arms, means to actuate said feed roller or wheel and means to maintain said envelopes or other articles against said feed roller or wheel while being singly fed to the typewriter to be acted upon there-  
20 by and delivered.

20 6. The combination with a typewriter, of a support for a pile of envelopes or other articles, a transverse rotatable shaft, mem-  
25 bers mounted at one of their ends on said shaft, a feeding mechanism rotatably connected with said members, the latter at their opposite ends free, means arranged to

engage the free ends of said members and means to maintain said envelopes or other articles in contact with said mechanism 30 during the feeding singly to said typewriter.

7. The combination with a typewriter, of a support for carrying a pile of envelopes or other articles, a rotatable transverse shaft, arms in movable connection at one end with 35 said shaft, feeding mechanism connected with said arms, the latter at the opposite ends being free, means adapted to engage the free ends of said arms for adjusting the same, rollers located beneath said feeding 40 mechanism, means to actuate said feeding mechanism so as to advance singly said envelopes or other articles between said feeding mechanism and rollers to said type-  
45 writer.

In witness whereof, we have hereunto af-  
fixed our signatures in the presence of two witnesses.

WILLIAM H. McARDLE.  
ROBERT B. McARDLE.

Witnesses:

JESSIE A. R. McARDLE,  
FLORENCE M. SAWYER.