

I. G. HOLLIDAY.
ATTACHMENT FOR FEEDING CARDS TO TYPE WRITERS.
APPLICATION FILED AUG. 20, 1913.

1,104,504.

Patented July 21, 1914.

2 SHEETS—SHEET 1.

Fig. 1.

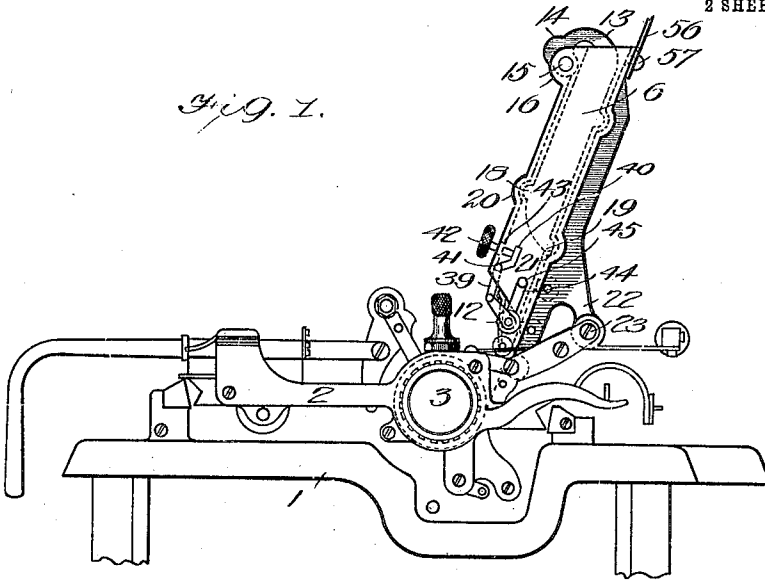


Fig. 5.

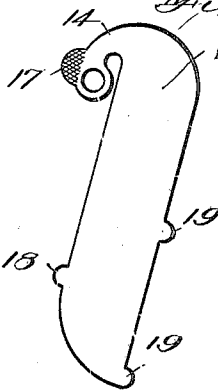


Fig. 3.

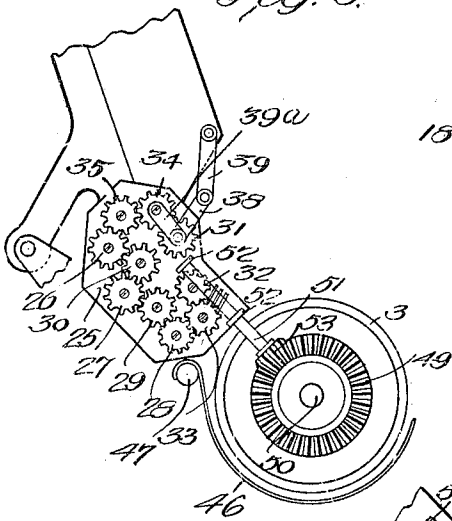


Fig. 2.

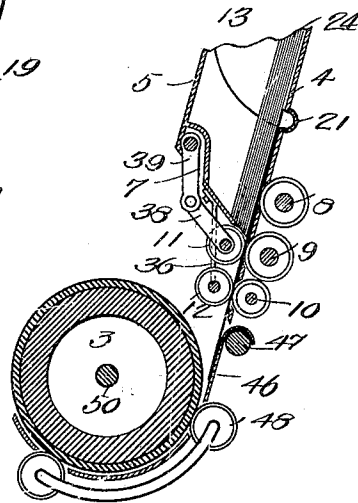
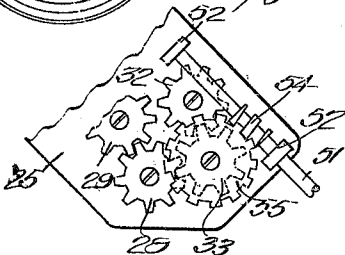


Fig. 6.



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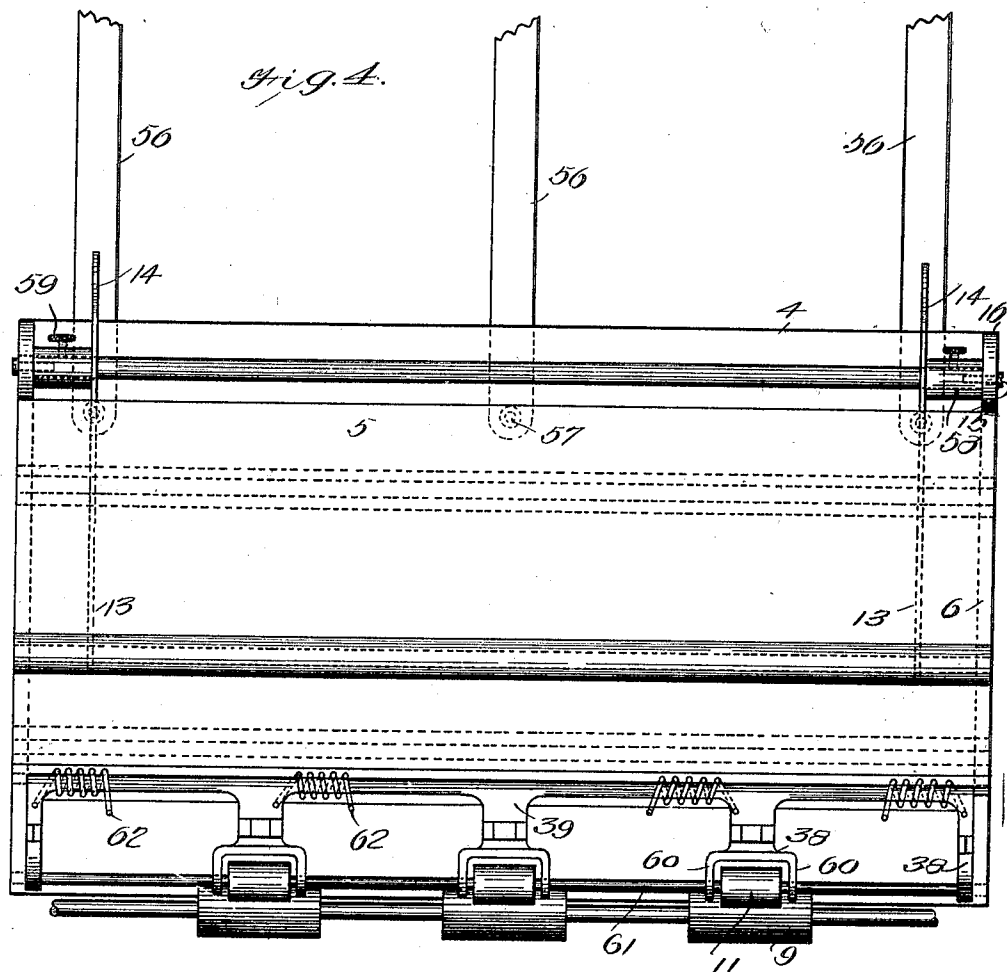
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2 SHEETS—SHEET 2.



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ATTACHMENT FOR FEEDING CARDS TO TYPE-WRITERS.

1,104,504.

Specification of Letters Patent.

Patented July 21, 1914.

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To all whom it may concern:

Be it known that I, IVAR G. HOLLIDAY, a citizen of the United States, and a resident of Boise, in the county of Ada and State of Idaho, have invented a new and useful Improvement in Attachments for Feeding Cards to Type-Writers, of which the following is a specification.

My invention is an improvement in attachments for feeding cards to typewriters, and has for its object to provide a feed for connection with typewriters, wherein a magazine is provided for containing a packet of cards or like articles, as for instance, filing cards and mechanism in connection with the magazine for feeding the cards in succession to the typewriter.

In the drawings:—Figure 1 is a view of the improved feed shown in connection with a typewriter, Fig. 2 is a vertical section through the feed, Fig. 3 is an end view showing the connection between the platen roll and the feed, Fig. 4 is a front view of the feed, Fig. 5 is a side view of one of the guide plates, and Fig. 6 is an enlarged detail of a portion of the operating mechanism for the feed rollers.

As is known, in filling out filing cards and the like on a typewriter, it is necessary to lay the cards near the machine, and the cards must be taken separately by hand, and fed into the typewriter in the usual manner of letter heads. For this reason more time is consumed in the feeding of the cards than in the filling out of the same.

The present embodiment of the invention is shown in connection with a typewriter 1, having the usual carriage 2, which carries the platen roll 3, and the roll is provided at one end with the usual knob for turning the roll. The improvement comprises a magazine or holder for the cards or other articles to be fed, the said magazine comprising a bottom plate 4, a top plate 5, side or cheek plates 6, and a front or base 7. An opening is provided between the front or base 7 and the bottom 4, and the cards are fed in succession from the bottom of the magazine. The top of the magazine is open, to permit the cards to be inserted. A plurality of series of rollers are arranged near the feed opening between the front or base and the bottom of the magazine, a rear series consisting of rollers 8, 9 and 10, and a front series consisting of rollers 11 and 12.

Guide plates 13 are provided within the hopper at each end thereof for engagement by the ends of the cards to provide for different widths of cards. Each of the guide plates 13 is provided with a forwardly and downwardly extending arm 14, and each arm has a bearing which slides upon a rod 15 supported in bearing lugs 16 on the end plates 6 of the magazine. Each of the arms 14 has a finger piece 17 in front of the rod 15, for engagement by the operator to move the guide plates 13 toward or from each other. The plates are adjusted in accordance with the width of the cards, and each plate is provided at its lower end, at its front and at its rear edge with rounded lugs 18 and 19, which move in transverse grooves 20 and 21 respectively in the top and bottom walls 5 and 4 of the magazine.

The magazine is provided at each end with a rearwardly and downwardly extending arm 22, and each arm has a bearing which is journaled on the rod 23 of the typewriter which usually supports the paper table of the typewriter. The rear wall 4 is slotted transversely at each of the rollers 8, 9 and 10, and the rollers are so arranged that a portion of the periphery of each roller extends slightly beyond the inner face of the wall 4, and into engagement with the cards in the magazine.

The shafts of the rollers 8, 9 and 10 are extended at the left hand end of the platen, through a plate 25, supported by the magazine, and extending between the same and the platen roll. The extended end of the shaft 8 is provided with a gear wheel 35; the extended end of the shaft of the roller 9 is provided with a gear wheel 30, and the extended end of the shaft of the roller 10 is provided with a gear wheel 29.

An idler 27 is journaled on a stub shaft extending laterally from the plate 25 between the gears 29 and 30, and the said idler 27 meshes with the gears 29 and 30. Another idler 26 is journaled on a stub shaft extending laterally from the plate between the gears 30 and 35, and meshes with the said gear.

The rollers 11 and 12 are arranged opposite the rollers 9 and 10, and the front wall or base 7 of the magazine is cut away at the passage through which the cards leave the magazine to permit the periphery of the roller 11 to engage a card as soon as it leaves

the magazine, and the cards are fed between the rollers 9, 11, 10 and 12.

The shaft of the roller 11 is provided with a gear wheel 31, and the shaft of the roller 12 is provided with a gear wheel 32, the said shafts extending through the plate 25, and the gear wheels being on the outer face of the said plate.

An idler gear 33 is journaled on a stub shaft extending laterally from the plate 25, adjacent to the gear wheel 32, and another idler 28 is journaled on a similar stub shaft adjacent to the gear 29. The idlers 28 and 33 mesh with each other and with the gears 29 and 32 respectively, of the rollers 10 and 12 respectively.

An idler 34 is journaled on the stub shaft adjacent to the gear wheel 35, and the said idler meshes with the gear wheel 35 of the roller 8 and with the gear wheel 31 of the roller 11.

The roller 12 is supported by resilient arms 36, the said arms being connected with the shaft of the roller at one end and with the front or base 7 of the magazine, as indicated at 37. The roller 11 has the ends of its shaft journaled in bearings in the ends of links 38, and the other ends of the said links are secured to the free ends of the arms 39 of levers, each lever consisting of the arms 39 and an arm 40. The arm 40 is offset laterally from the arm 39, (Fig. 1) and the levers are pivoted at 41 to the ends or cheek plates of the magazines. A set screw 42 is threaded through a lug 43 at each end of the magazine, and the inner end of each set screw engages the offset end of the arm 40. When the set screws are turned in either direction, the roller 12 will be moved toward or from the roller 10, according to the direction of movement of the set screw.

The roller 12 is journaled in the ends of arms 44, each of the said arms being pivoted at 45 to the adjacent cheek plate 6. The lower end of the rear wall 4 of the magazine extends to near the upper end of the guide plates 46 of the typewriter, the said guide plates being hung on a rod 47 at their upper ends, and the lower ends of the rods extend to near the rubber rollers 48 of the typewriter that cooperate with the platen roll in feeding the paper.

At the opposite end of the platen roll from the knob by which it is turned, a bevel gear wheel 49 is arranged, the said wheel being secured to the shaft 50 of the platen roll, and a shaft 51 journaled in bearing lugs 52 on the plate 25 is provided with a bevel gear 53 meshing with the gear wheel 49. The shaft 51 is provided with a worm 54, meshing with a worm wheel 55 on the extended end of the stub shaft which carries the idler 33.

In use, when the platen roll 3 is rotated by the knob, the shaft 51 is rotated, and in

turn rotates the worm wheel 54 and the idler 33. The said idler rotates the gear wheel 28 connected with the shaft 10, and through the idler 29 the gear wheel 27 of the shaft 9 is rotated in the same direction as the shaft 10. Through the idler 30 the gear wheel 26 of the shaft 8 is rotated, and through the idlers 34 and 35 the gear wheel 31 of the shaft 11 is rotated, the roller 8 in the same direction as the rollers 9 and 10, and the roller 11 in the opposite direction. The idler 33 also rotates the gear wheel 32 connected with the roller 12, and in the opposite direction to the roller 11.

In operation, the typewriter may be used in the usual manner, the paper sheets being turned back upon the front of the magazine, as they are written upon. When it is desired to feed cards or envelopes, the cards or envelopes are placed in the magazine, and the platen roll is operated to turn down the rearmost card or envelop in the place beneath the platen roll in the same manner as when feeding a sheet of paper. When the platen is turned as above mentioned, the rollers 8, 9, 10, 11 and 12 are rotated, to feed the envelop or card down between the rollers into position beneath the platen roll, and the turning of the platen roll is continued until the envelop is in the position to receive the address or other writing. As soon as the upper edge of the first envelop passes below the lower edge of the next succeeding envelop, the said next or succeeding envelop also begins to feed, and the envelops or cards are fed in succession from the magazine to a position beneath the platen roll. The rollers 11 and 12 are designed to move away from the rollers 9 and 10, only enough to permit the passage of a card or envelop. The gear wheel of the roller 11 is always held at the same radial distance from the gear wheel 34 by the links 39^a, as shown more particularly in Fig. 3. The gear wheel 32 of the roller 12, and the gear wheel 33, have teeth of greater length than usual, in order that they may be moved away from each other slightly, without moving out of mesh. That is the arrangement of the gear wheels is such that the roller 12 may be moved away from the gear wheel 33 far enough to permit the passage of a card between the feed rollers, without causing the gear wheels to disengage each other. When the platen roll is turned in a direction to feed the cards or envelopes, the worm shaft 51 rotates the gear wheel 33, which in turn rotates the shaft 10, through the gear wheels 28 and 29. The roller 9 is rotated through the gear wheel 27, and the roller 8 through the gear wheel 26. The roller 11 receives motion from the roller 8, by way of the gear wheels 31, 34 and 35.

The roller 12 may yield away from the roller 10 on account of the resiliency of the

arms 36 which carry the same. The pressure exerted by the roller 11 on the card may be varied by means of the set screws 42. Strips 56 are connected with the rear wall of the magazine, by means of rivets 57, and the rivets are arranged to permit the strips 56 to take an upright position, as indicated in Figs. 1 and 4, or to take a position against the rear of the magazine. The said strips are designed to support cards of greater length than the depth of the magazine, and it is obvious that as many of the said strips may be connected with the magazine as may be desired. The arms 14 of the guide plates 13 are spaced from the lugs 16 by means of sleeves 58, the said sleeves encircling the rod 15 between the bearings of the arms 14 and the lugs 16, and each sleeve is held in fixed position by means of a set screw 59. When the guide plates 13 are moved toward each other from the position shown in Fig. 4, the sleeves are also moved with the plates, and after the plates are in adjusted position, the set screws are tightened to hold the sleeves and the plates in position. A plurality of links 38 is arranged to connect the shaft of the roller 11 with the outer ends of the arms 39, and there is an arm 39 for each of the links. The end links 38 have a single bearing for the shaft 61 of the roller 11, while the intermediate links 38 have two bearings 60 for the said shafts.

Preferably the roller 11 is not a single roller, but several short rollers are used, the said short rollers being arranged between the bearings 60 of the links, as shown in Fig. 4. The roller 9 is also preferably composed of a series of short rollers, one for each of the rollers 11. The rollers 8, 10 and 12 may be similarly arranged. Coil springs 62 encircle the shaft 41, and act normally to press the rollers 11 toward the rollers 9.

The gear wheels 29, 30 and 35 are connected with the shafts 10, 9 and 8 respectively. The wheels 33, 28, 27, 26 and 34 are idlers journaled on stub shafts, and arranged to give the proper direction of rotation to the gear wheels 29, 30, 35, 31 and 32. The worm wheel 55 and the idler 33 are rigidly connected, and rotate as one in a clockwise direction. The gear wheels 35, 30, 29, 33 and 31 rotate also in a clockwise direction, while the idlers 34, 36, 27 and the gear wheel 32 rotate in anti-clockwise direction. The rollers 11 and 12 rotate in the opposite direction, as stated.

In practice, the sleeve 58 is preferably arranged on the outer side of the bearings of the arms 14, in order to permit the plates 13 to move the full width of the magazine, to permit the feeding of the wider cards or longer envelopes, as the case may be, for it will be understood that the feeding mechanism is equally as well adapted for feeding envelopes as for feeding cards. The rollers

8, 9, 10 and 11 rotate in anti-clockwise direction, while the roller 12 rotates in a clockwise direction.

The rollers 11 and 12 are mounted to move very slightly, just far enough from the rollers 9 and 10 to permit the passage of a card, and the teeth of the gear wheels are of sufficient length to permit this movement without disengagement. The movement is very slight, since no great amount of movement is necessary. The bearing openings for the shaft in the plate 25 are merely elongated slightly in the direction of movement of the shaft. As shown in Figs. 1 and 3, the roller 12 may yield upward, that is directly away from the roller 10. The relative position of the gear wheels 31 and 34 is not changed, however, by this movement, since there is a link 39^a (Fig. 3) which connects the shafts upon which the gear wheels 31 and 34 are mounted.

I claim:—

1. An attachment for feeding cards and the like to typewriters, comprising in combination with the carriage of the typewriter and the platen roll, of a magazine having means for engaging the carriage to hold the magazine in approximately vertical position and inclining rearwardly toward its upper end, a rod supported transversely of the magazine at the upper side of the front thereof, sleeves on the rod near each end of the magazine, a set screw for holding each sleeve in adjusted position, guide plates within the magazine at each end thereof, and adjustable toward and from each other, said magazine having a feed opening at its lower end and at its rear wall, and means for feeding cards in succession from the magazine through the feed opening.

2. An attachment for feeding cards and the like to typewriters, comprising a magazine having means for engaging the carriage of the typewriter for supporting the magazine in inclined position above and in rear of the platen roll, and guide plates within the magazine at the ends thereof, each plate having a slidable connection with the magazine, and the said plates having lugs at their front and rear edges, the magazine having transverse grooves for engagement by the lugs.

3. An attachment for feeding cards and the like to typewriters, comprising a magazine having means for engaging the typewriter carriage to support the magazine in inclined position in rear and above the platen roll, said magazine having a feed opening at its lower end and at its rear wall, said rear wall being extended below the feed opening and having transverse slots or openings above and below the feed opening, a roller supported by the magazine at each opening, a portion of the periphery of each roller extending through

the opening, a roller in front of the rear wall of the magazine adjacent to each roller below the feed opening and coöperating with the said roller to feed a card, each of the last-named rollers being mounted to yield from the adjacent first-named roller, and means in connection with that roller of the last-named series adjacent to the feed opening for varying the pressure of the said roller.

4. An attachment for feeding cards and the like to typewriters, comprising a magazine having means for engaging the typewriter carriage to support the magazine in inclined position in rear and above the platen roll, said magazine having a feed opening at its lower ends and at its rear wall, said rear wall being extended below the feed opening and having transverse slots or openings above and below the feed opening, a roller supported by the magazine at each opening, the periphery of each roller extending through the opening, a roller in front of the rear wall adjacent to each of the first-named rollers below the feed opening, and coöperating with the adjacent first-named roller to feed a card and coöperating with the rollers below the feed opening, said last-named rollers being mounted to yield away from the first-named rollers.

5. In an attachment for feeding cards and the like to typewriters, the combination with the magazine having means for engaging the carriage of a typewriter to support the magazine above and in rear of the platen roll, said magazine having a feed opening at its lower end, a feed roller journaled in rear of the magazine above the feed opening, the magazine having an opening through which the roller extends into engagement with the rearmost cards in the magazine, a plurality of pairs of rollers journaled below the feed opening, one mem-

ber of each pair being at the front of the feed opening and the other member of each pair being at the rear thereof, said rollers being adapted to engage the card as it moves from the mechanism through the opening and to feed the card to the platen roll, the members of the pairs of rollers at one side of the feed opening being mounted to yield away from the other members of the pairs, resilient means pressing the said rollers toward the other members of the pairs, means for varying the tension of the said resilient means, and a driving connection between the platen roll and the said rollers for rotating said rollers.

6. In an attachment for feeding cards and the like to typewriters, the combination with the magazine having means for engaging the carriage of a typewriter to support the magazine above and in rear of the platen roll, said magazine having a feed opening at its lower end, a feed roller journaled in rear of the magazine, the magazine having an opening through which the roller extends into engagement with the rearmost cards in the magazine, a plurality of pairs of rollers journaled below the feed opening, one member of each pair being at the front of the feed opening and the other member of each pair being at the rear thereof, said rollers being adapted to engage the card as it moves from the magazine through the opening and to feed the card to the platen roll, the members of the pairs of rollers at one side of the feed opening being mounted to yield away from the other members of the pairs, and a driving connection between the platen roll and the said rollers.

IVAR G. HOLLIDAY.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."