July 10, 1923. 1,461,599

M. L. COSSITT

MANIFOLDING ATTACHMENT FOR TYPEWRITERS

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Fig. 1.

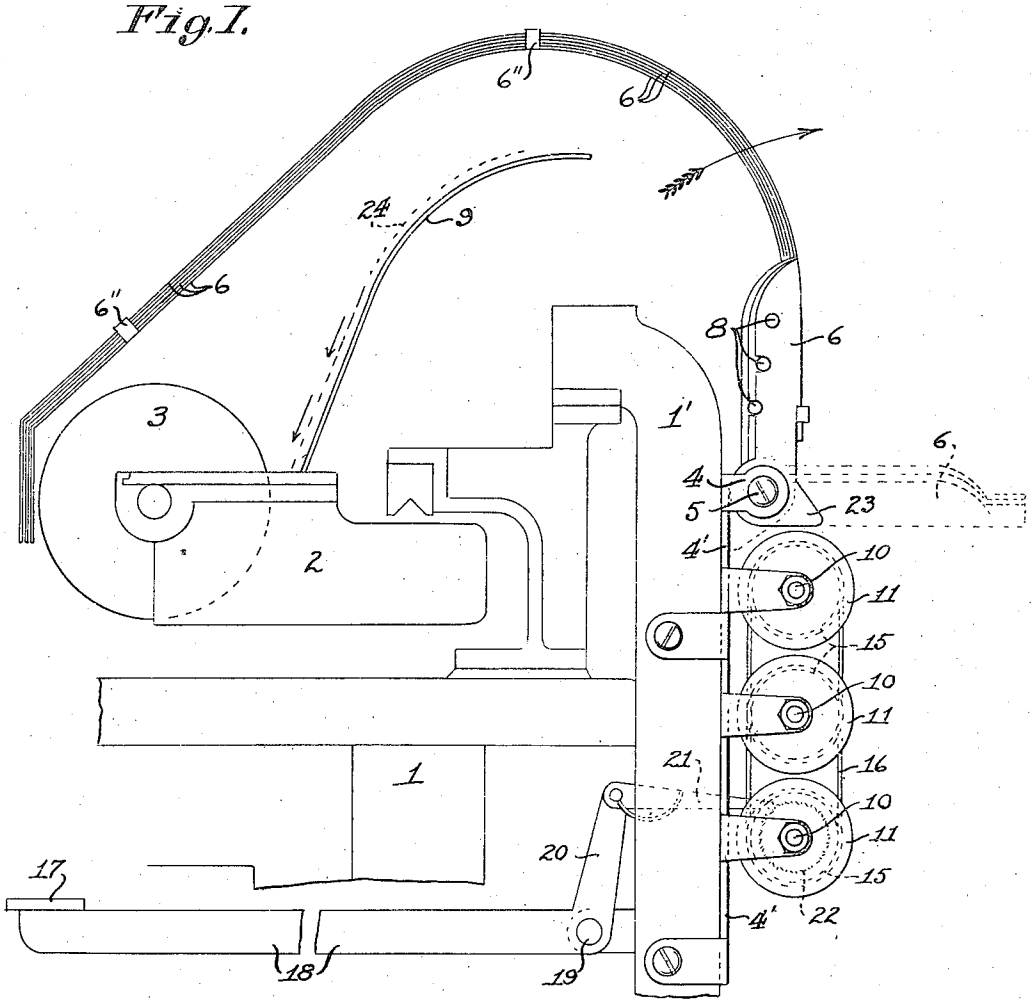
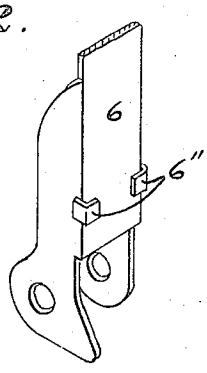


Fig. 2.



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Fig. 3.

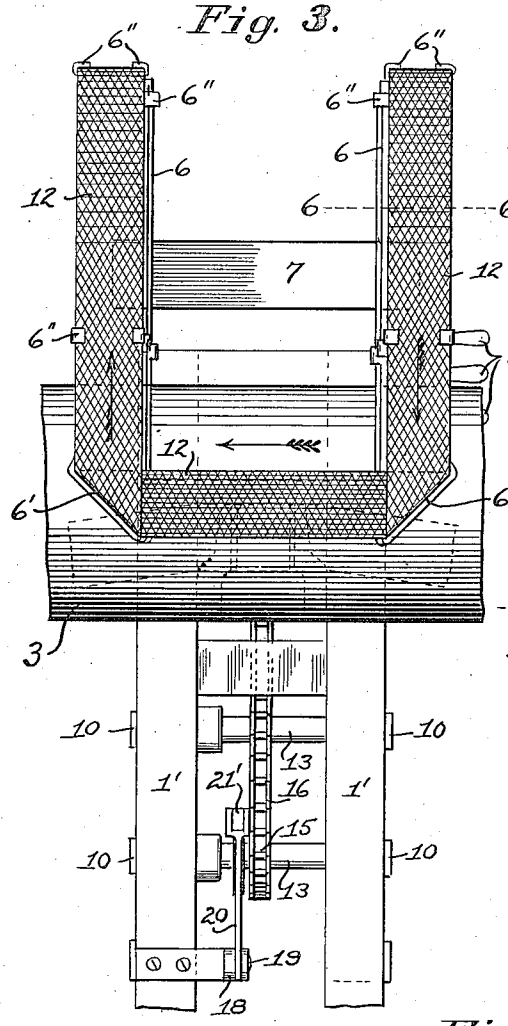


Fig. 4.

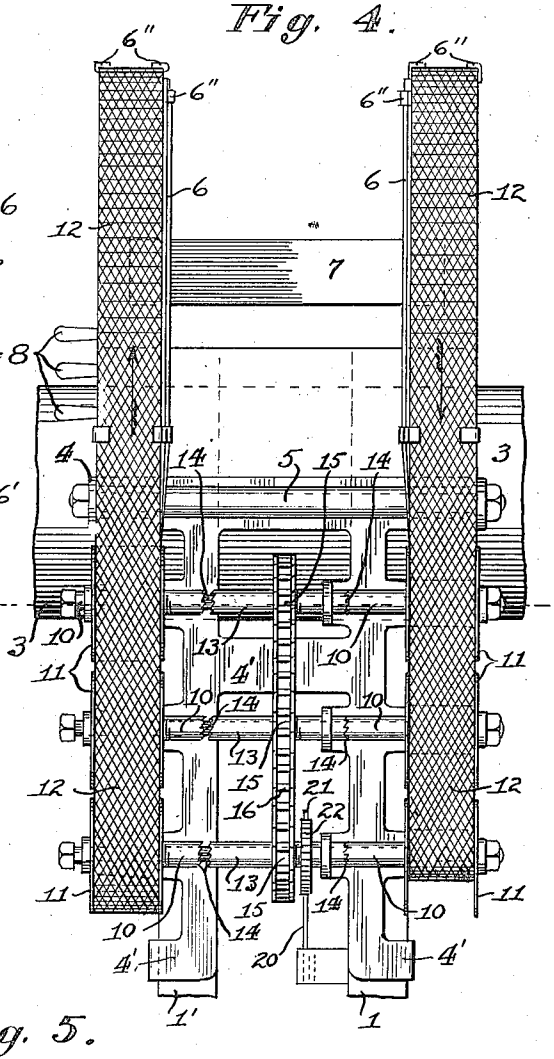


Fig. 5.

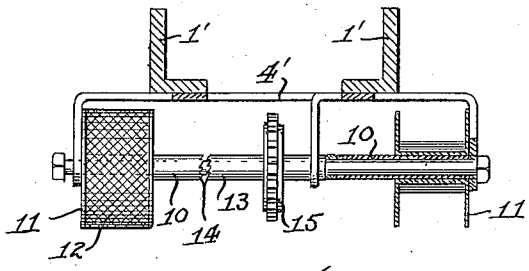
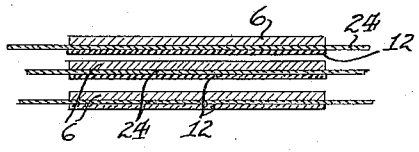


Fig. 6.



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Patented July 10, 1923. 1,461,599

UNITED STATES PATENT OFFICE.

MALCOLM L. COSSITT, OF ALAMEDA, CALIFORNIA, ASSIGNOR TO MANIFOLD IMPRESSIONS CORPORATION, OF CARSON CITY, NEVADA, A CORPORATION OF NEVADA.

MANIFOLDING ATTACHMENT FOR TYPEWRITERS.

Application filed July 3, 1922. Serial No. 572,683.

To all whom it may concern:

Be it known that I, MALCOLM L. COSSITT, a citizen of the United States, residing at Alameda, in the county of Alameda and State of California, have invented certain new and useful Improvements in Manifolding Attachments for Typewriters, of which the following is a specification.

My invention relates to that class of manifolding attachments for typewriters in which the manifolding element is mounted upon a stationary part of the machine and is adapted to be moved into and out of functional position in the line of type impact, said manifolding element and its support lying between the sheets of paper and separating them during the operation of manifolding.

In the more common forms of manifolding attachments, the manifolding element is mounted upon and moves with the platen-carriage of the machine, so that it presents fresh surfaces to the striking type; and, frequently, to vary its position either lengthwise or widthwise or both, provision is made for moving it at each line spacing movement of the platen. But, in the type of manifold attachments, to which my present invention relates and in which the manifold element is not mounted on the platen carriage, but upon a fixed portion of the machine frame it becomes necessary to otherwise provide for a change of impact surface of said element in order to avoid too great frequency of type impact in one spot, just as in the case of the main or primary inking ribbon, which has a travel wholly independent of the movement of the platen carriage, and is in fact advanced at each type impact and by the word-spacing bar.

Although this independent surface variation of the manifolding element in this stationary form of attachments may be made effective automatically as frequently as the step by step travel of the main inking ribbon, it will be found, in practice, that such variation will be sufficient if accomplished after each word, and for this purpose my invention contemplates using the word-spacing bar.

The arrangement for attaining this object and the general construction of the attachment by which a simple and effective device of this class is provided. will be fully understood from the following description, reference being made to the accompanying drawings, in which—

Fig. 1 is an end elevation showing my manifold attachment applied to a typewriter.

Fig. 2 is a perspective detail of the rear extremity of one of the ribbon carrying arms.

Fig. 3 is a front elevation of the attachment, showing the manifolding ribbons in the line of type impact.

Fig. 4 is a rear elevation of the attachment.

Fig. 5 is a detail view showing the assemblage of one pair of ribbon carrying reels.

Fig. 6 is a section, enlarged, on the line 6—6 of Fig. 3, showing the paper sheets and the manifolding ribbons between the arms.

1, in Fig. 1, is the frame of a typewriter, 2 is the platen carriage, and 3 is the platen.

In bearings 4 carried by a plate 4′ secured to the back of a stationary portion 1′ of the frame 1 of the machine is fitted a shaft 5 upon which, near each end, are pivotally mounted the arms 6, which are here shown in two sets, each set comprising three arms, lying one above the other in spaced relation, the corresponding arms of each set being connected by a cross bar 7—Figs. 3 and 4, so that each pair operates in unison, and one set of arms having near their rear ends, the studs 8 which indicate a means by which each pair may be independently operated. These arms 6, rise from their pivotal axis at 5 and thence curve upwardly and forwardly above the paper guide apron 9 of the machine and over the platen 3 to the front thereof, as seen in Fig. 1. The ends of the arms are formed with guides 6′, Fig. 3, for directing the manifolding ribbons, presently described, and each arm has along its length side guides 6″ to properly receive the ribbons, said side guides serving also to maintain the spaced relation of the nested arms, so that the sheets of paper, as well as the manifolding members may pass between them, as in Fig. 6.

In suitable bearings carried by the plate 4′ secured to the back of the stationary portion 1′ of the machine frame are mounted the shafts 10, upon which are carried the reels 11. One vertical series of these shafts

and reels lies below one assembly of arms 6 and another vertical series lies below the other assembly of arms. Figs. 1 and 4.

A manifolding member in the form of a ribbon 12 is carried upon each reel of one series. Each ribbon thence passes up to and is guided by the side guides 6'' of its respective arm 6 of the assembly on that side, and along said arm to and through the guide 6' at the extremity of the arm; thence to and through the guide 6' at the extremity of its respective arm in the opposite assembly, as seen in Fig. 3; thence back along said arm in its side guides 6'' and down to its respective reel on that side, all as indicated by arrows in Figs. 3 and 4.

Between each pair of opposing reel shafts, is mounted on the plate 4' secured to the back of the stationary portion 1' of the machine frame, a driving shaft 13—Figs. 4 and 5, so related to the reel shafts as to be thrown alternately into and out of operative engagement with either member of the pair of reel sheets, a suitable clutch mechanism being provided.

For simple illustration, I have here indicated the adjacent ends of the reel shafts and the driving shafts as having ratchet clutches at 14, so that either reel shaft may be slid into and out of engagement.

Each driving shaft 13 carries a sprocket 15, and connecting these is a sprocket chain 16.

17, in Fig. 1, indicates the word-spacing bar of the typewriter. Its connections with the escapement mechanism of the platen carriage are not here shown as they form no part of my invention, but its connections with my manifolding attachment are as follows. The word-spacing bar has side arms 18 which are pivoted at 19. The rear end of one of these arms carries an extension 20 to which is pivoted a spring controlled pawl 21, which engages a ratchet 22 on the lowermost reel driving shaft 13.

The operation of my attachment is as follows:—

All the ribbon carrying arms are adapted to be thrown back wholly out of the way, by turning about their pivotal centers at 5, as shown by the dotted lines in Fig. 1. In this position, they may be supported by a contact lug 23 adapted to bear against the back of the machine frame. The sheets of paper 24, Figs. 1 and 6 may then be entered on the apron guide 9 and turned around the platen 3 in usual manner. When their top edges reach the proper exposed position in front of the platen and well above the line of type impact, the arms 6 are then thrown forwardly, and their extremities with their crossing ribbon sections entered between the paper sheets, the manifolding ribbon functional sections then lying in the line of type impact, behind the main inking ribbon assembly indicated by the dotted lines in Fig. 1.

The machine is then operated in the usual manner, and manifold copies produced. At each word-spacing, due to the operation of the bar 17, the manifolding ribbon traveling mechanism is actuated, and the ribbons are step by step wound up on the reels on one side and unwound from those on the other side, thus frequently varying their functional surface. By operating the clutches of the ribbon traveling mechanism, the direction of travel of the ribbons is changed as required and all may travel in one direction or one in one direction and another in the opposite direction according to the position of the clutches.

As the typing operation proceeds the paper sheets travel upwardly between the arms 6, as in Fig. 6, and these arms are of sufficient length to accommodate the normal length of such paper sheets. When the sheets are fully typed, and released from the platen, the arms may be thrown back, and the printed sheets withdrawn from between them by pulling them back.

I claim:—

1. A manifolding attachment for typewriters comprising a movable arm mounted upon a stationary portion of the machine frame and thence extending above and clear of the platen carriage to the region of type impact; a manifolding member carried by said arm and adapted to be moved thereby into and out of functional position in the line of type impact, between the sheets of paper to be typed; and means dependent upon the operation of the machine in typing, for varying the surface point of the manifolding member exposed to the type impact.

2. A manifolding attachment for typewriters comprising a movable arm mounted upon a stationary portion of the machine frame and thence extending above and clear of the platen carriage to the region of type impact; a manifolding member carried by said arm and adapted to be moved thereby into and out of functional position in the line of type impact, between the sheets of paper to be typed; and means actuated by the word-spacing bar of the machine for varying the surface point of the manifolding member exposed to the type impact.

3. A manifolding attachment for typewriters comprising a pair of spaced-carrying members secured to the back of the machine frame and thence extending above and clear of the platen carriage to the region of type impact; a manifolding ribbon disposed at the back of said frame, said ribbon being guided upon said members and extending between their free extremities parallel with the platen and in the line of type impact between the sheets of paper to be typed, and adapted for linear movement to vary its sur-

face with relation to the point of type impact.

4. A manifolding attachment for typewriters comprising a pair of spaced-carrying members secured to the back of the machine frame and thence extending above and clear of the platen carriage to the region of the type impact; a manifolding ribbon disposed at the back of said frame, said ribbon being guided upon said members and extending between their free extremities parallel with the platen and in the line of type impact between the sheets of paper to be typed, and means dependent upon the operation of the machine in typing for effecting the linear travel of said ribbon to vary its surface with relation to the point of type impact.

5. A manifolding attachment for typewriters comprising a pair of spaced-carrying members secured to the back of the machine frame and thence extending above and clear of the platen carriage to the region of the type impact; a manifolding ribbon disposed at the back of said frame, said ribbon being guided upon said members and extending between their free extremities parallel with the platen and in the line of type impact between the sheets of paper to be typed, and means actuated by the word-spacing bar of the machine for effecting the linear travel of said ribbon to vary its surface with relation to the point of type impact.

6. A manifolding attachment for typewriters comprising a pair of spaced carrying members secured to the back of the machine frame and thence extending above and clear of the platen carriage to the region of type impact; a manifolding ribbon carried by said members and extending between their free extremities, parallel with the platen and in the line of type impact between the sheets of paper to be typed; reels mounted on the back of said frame, and upon which the ends of the manifolding ribbon wind and unwind to effect its linear travel in order to expose fresh surfaces to the type impact; and means for actuating said reels.

7. A manifolding attachment for typewriters comprising a pair of spaced carrying members secured to the back of the machine frame and thence extending above and clear of the platen carriage to the region of type impact; a manifolding ribbon carried by said members and extending between their free extremities, parallel with the platen and in the line of type impact between the sheets of paper to be typed; reels mounted on the back of said frame, and upon which the ends of the manifolding ribbon wind and unwind to effect its linear travel in order to expose fresh surfaces to the type impact; and means dependent upon the operation of the machine in typing for actuating said reels.

8. A manifolding attachment for typewriters comprising a pair of spaced carrying members secured to the back of the machine frame and thence extending above and clear of the platen carriage to the region of type impact; a manifolding ribbon carried by said members and extending between their free extremities, parallel with the platen and in the line of type impact between the sheets of paper to be typed; reels mounted upon the back of said frame, and upon which the ends of the manifolding ribbon wind and unwind to effect its linear travel in order to expose fresh surfaces to the type impact; and means actuated by the word-spacing bar of the machine for actuating said reels.

In testimony whereof I have signed my name to this specification.

MALCOLM L. COSSITT.