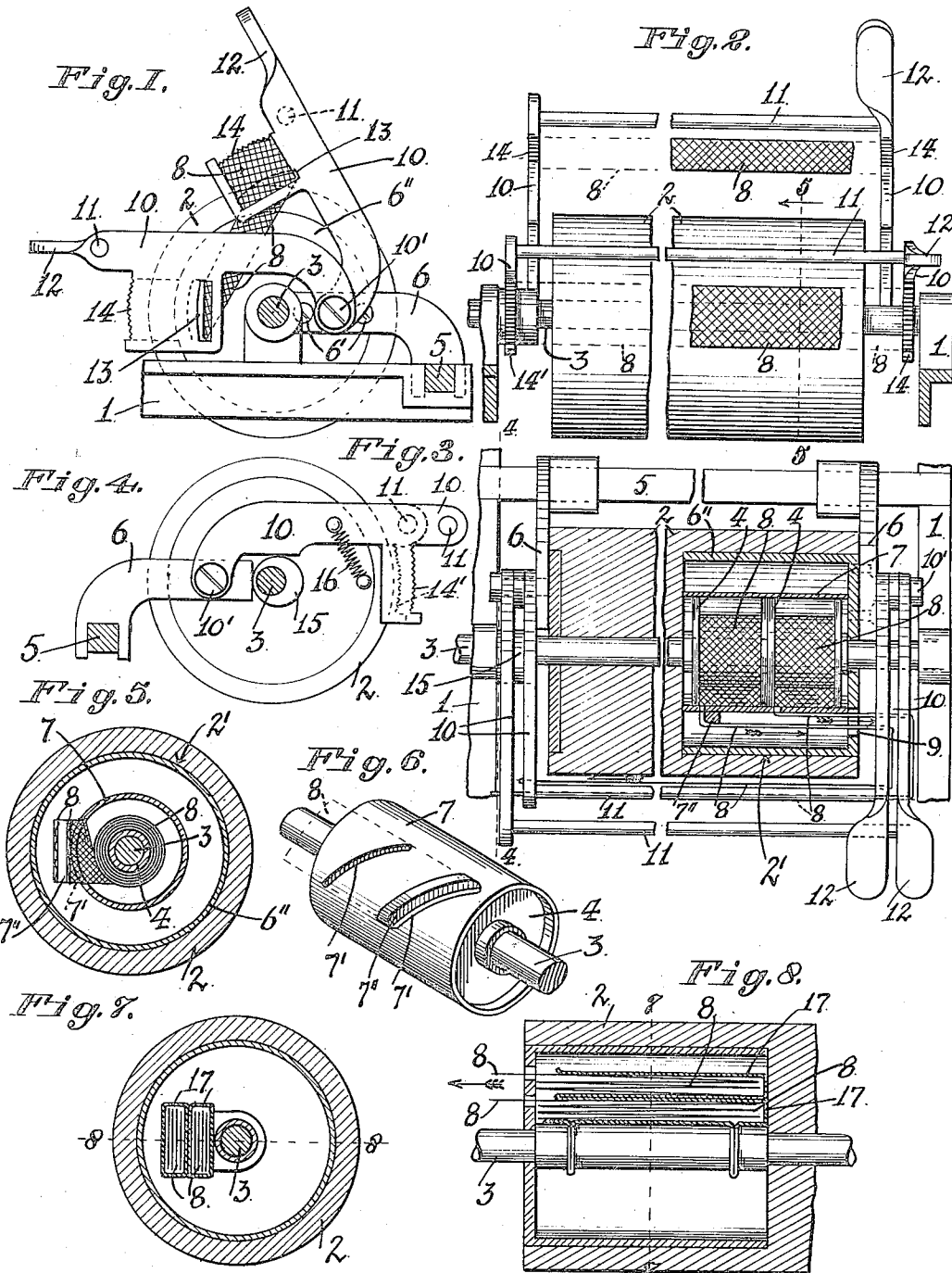


M. L. COSSITT.
 MANIFOLDING ATTACHMENT FOR TYPEWRITERS.
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UNITED STATES PATENT OFFICE.

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MANIFOLDING ATTACHMENT FOR TYPEWRITERS.

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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 Manifold-
 5 ing Attachments for Typewriters, of which the following is a specification.

My invention relates to the class of mani-
 10 folding attachments for typewriters and like type-impact machines, in which one or more manifold- ing members, associated with suit-
 15 able carrying devices on the platen-carriage of the machine, are adapted to be moved into and out of functional position in the line of type-impact.

My present invention comprises means for storing or housing said manifold- ing mem-
 20 bers within the typewriter platen, and adapt- ing them to be drawn out therefrom to their association with their carrying devices, in
 25 order to present successive sections for use, so that each exhausted section may be torn off and replaced by drawing out its succes-
 30 sor. It also comprises novel means for auto- matically changing the position of the mani-
 35 folding section in use with respect to its width, at each line-spacing of the platen, so that it may be used over practically its
 40 entire width. It also comprises novel de- tails of construction and arrangement, all of
 45 which will hereinafter fully appear, by refer- ence to the accompanying drawings, in which—

Fig. 1 is an end view of my manifold-
 50 ing attachment, showing one of the manifold- ing-ribbon carrying-arms down in functional position and another elevated out of use.

Fig. 2 is a front elevation, broken, of the
 55 same.

Fig. 3 is a plan-view, broken, of the same, the platen being in section to show its hous-
 60 ing chamber, and the mounting of the rib- bon-spools therein.

Fig. 4 is an end sectional view taken on
 65 the line 4—4 of Fig. 3.

Fig. 5 is a section of the platen through its
 70 chamber, on the line 5—5 of Fig. 2.

Fig. 6 is a perspective view of the ribbon-
 75 guide which lies within the platen chamber.

Fig. 7 is a cross section on the line 7—7 of
 80 Fig. 8 showing a modification in storing the manifold- ing ribbons.

Fig. 8 is a section of the same on the line
 85 8—8 of Fig. 7.

1 indicates the platen-carriage of a type-
 90 writer and 2 the platen, having a shaft 3 to to rotate it for line spacing in the usual manner.

In one end of the platen 2 is made a cham-
 95 ber 2' and within this chamber is housed a spool 4 freely rotatable upon the platen-
 100 shaft 3, Figs. 3 and 5. There may be a plu- rality of these spools, here shown as two,
 105 each being independent of the other. Mount- ed upon a fixed bar 5 of the platen-carriage
 110 is a bracket 6, one near each end, as shown in Fig. 3. The free end of one of these brackets
 115 is secured as by screws 6', Fig. 1, to the head of a sleeve 6'' lying within the chamber 2'
 120 of the platen. Within the sleeve and secured thereto is a hollow guide-member 7 which
 125 surrounds the spools 4. This guide member is provided with a peripheral slit 7' at an
 130 angle to its axis. Fig. 6. In this case there are two such slits, as shown. The sleeve 6''
 135 and guide member 7, because of their con- nection with the bracket 6 mounted on the
 140 fixed bar 5, are non-rotatable, and the platen has therefore its usual line-spacing rotation
 145 on its own shaft axis without any interfe- rence offered by said sleeve and guide-mem-
 150 ber, though all parts being mounted on the platen-carriage, move together from side to
 155 side of the machine as usual.

Upon each spool 4 is wound a manifold-
 160 ing ribbon 8 of any suitable nature. One of these ribbons is drawn from its spool and
 165 passes through one of the slits 7' of the guide member 7, by which it is diverted 90
 170 into a course parallel with the platen axis, as seen in Fig. 3, and thence out through an
 175 opening 9 in the head of the sleeve 6''. The other ribbon has a similar course through
 180 the other slit 7' which is guarded by a cleat 95
 185 7'' to carry the ribbon to a different plane in order to avoid interference with the first
 190 ribbon. Upon the brackets 6 at each end are pivoted at 10' the carrying arms 10, two
 195 being here shown at each end. These arms, 100
 200 one at each end, are connected in pairs by the rods 11 to effect their movement in uni-
 205 son. The arms at one end are shown as formed with handles 12 to conveniently
 210 move them about their pivots at 10', and 105
 215 said arms are provided with guide slots 13 and impaling lugs 14. The opposite arms
 220 have similar impaling lugs 14', as seen in Figs. 2 and 4. The manifold- ing ribbons
 225 drawn out from their housed spools are first 110

carried through the guide slots 13 of the handled arms 10, and thence in front of the impaling lugs 14 and thence over to the impaling lugs 14' of the other arms, and by being temporarily impaled upon said lugs are held under proper tension parallel with the platen. By simply disengaging them from the impaling teeth they may be drawn out repeatedly, in order to present successive sections in functional position, as preceding sections become exhausted through use, said worn out sections being cut or torn off at or beyond the farther arm.

In operating the attachment, the arms 10 are normally elevated to hold the ribbon out of the way. If but one carbon copy be desired, a pair of arms are turned down, as shown in Figs. 1 and 2, to carry their ribbon into functional position in the line of type-impact. The slack of the ribbon between its place of emergence from the platen and the adjacent arm as indicated in Fig. 1, permits the movement of the arms. When the section of the ribbon between the arms is used up, the operator releases it from the impaling lugs and then draws the ribbon forward until a fresh section, paid off from the spool housed within the platen chamber, is brought between the arms and is again impaled. The used section is now cut or torn off and discarded. If two carbon copies are required, both pairs of arms, with their corresponding ribbons, are moved into functional position, as shown in Fig. 3.

In order to provide for an adjustment of the ribbon in the direction of its width, at each line spacing of the platen, so that when in use it may be presented to the blows of the type over several longitudinal lines, I have provided a cam 15 on the platen shaft 3, as shown in Fig. 4. The ribbon carrying arms 10 rest, when down in functional position, on this cam which thus also serves as a stop to limit the arms and define the proper position of their ribbons.

Springs 16 serve to yieldingly hold the arms on the cams. When the shaft 3 is rotated to turn the platen for a line space, the cam 15 will cause or permit the arms 10 to move, up or down as the case may be, thus slightly changing the width relation of the ribbon to the line of type impact; and, according to the contour of the cam, this change may be in successive slight steps up and down, whereby the ribbon may be utilized over practically its whole width. In Figs. 7 and 8 is shown a modification in the storing of the ribbons within the chamber of the platen. In this form, apertured casings 17 are supported within the platen, and in these casings the ribbons are stored in fan-fold shape, and are adapted to be drawn out therefrom.

It will now be seen that my manifolding attachment when assembled is a simple,

compact and self-contained structure in which all the parts are carried by the specially adapted platen. In applying the device for use with existing machines, all that is necessary is to remove the old platen of the machine, and substitute my platen therefor, with its associated manifolding parts.

I claim:—

1. A manifold attachment for typewriters comprising a chambered platen; and a manifolding member housed within the chamber of the platen and adapted to be drawn therefrom for presentment in functional position in the line of type-impact.

2. A manifolding attachment for typewriters comprising a chambered platen; a manifolding member housed within the chamber of the platen and adapted to be drawn therefrom for presentment in functional position in the line of type impact; and means associated with the platen-carriage of the machine for holding said withdrawn member.

3. A manifolding attachment for typewriters comprising a chambered platen; a manifolding member housed within the chamber of the platen and adapted to be drawn therefrom for presentment in functional position in the line of type impact; and means associated with the platen-carriage of the machine for holding said withdrawn member, and moving it into and out of said position.

4. A manifolding attachment for typewriters comprising a chambered platen; a manifolding member housed within the chamber of the platen and adapted to be drawn therefrom for presentment in functional position in the line of type impact; and a pair of movable, spaced arms associated with the platen carriage of the machine to receive and hold said withdrawn member and move into and out of said position.

5. A manifolding attachment for typewriters comprising a chambered platen; a manifolding member housed within the chamber of the platen and adapted to be drawn therefrom for presentment in functional position in the line of type-impact; and a pair of movable, spaced arms associated with the platen carriage of the machine, each of said arms having a guide with impaling teeth to releasably hold said withdrawn member under tension and move it into and out of said position.

6. A manifolding attachment for typewriters, comprising a chambered platen; a fixed bracket carried by the platen-carriage of the machine and having a guide-member housed within the chamber of the platen; a manifolding ribbon within and guided by said member to adapt it to be drawn out from the chamber of the platen for presentment in functional position in the line of type-impact; and means carried by the

platen-carriage of the machine for holding said withdrawn ribbon.

7. A manifolding attachment for typewriters, comprising a chambered platen; a fixed bracket carried by the platen-carriage of the machine and having a guide-member housed within the chamber of the platen; a manifolding ribbon within and guided by said member to adapt it to be drawn out from the chamber of the platen for presentment in functional position in the line of type-impact; and means carried by the platen-carriage of the machine for holding said withdrawn ribbon, and moving it into and out of said position.

8. A manifolding attachment for typewriters comprising a chambered platen, a fixed bracket carried by the platen-carriage of the machine and having a guide-member housed within the chamber of the platen; a manifolding ribbon within and guided by said member to adapt it to be drawn out from the chamber of the platen for presentment in functional position in the line of type-impact; and a pair of spaced arms movably connected with the bracket to receive and hold said withdrawn ribbon and move it into and out of said position.

9. A manifolding attachment for typewriters comprising a chambered platen having a shaft for turning it; a spool mounted for independent rotation upon said shaft within the chamber of the platen; and a manifolding ribbon mounted upon the spool and adapted to be drawn out from the platen chamber for presentment in functional position in the line of type impact.

10. A manifolding attachment for typewriters comprising a chambered platen having a shaft for turning it; a spool mounted for independent rotation upon said shaft within the chamber of the platen; a non-rotatable guide member within said chamber; and a manifolding ribbon mounted upon the spool and adapted to be drawn through said guide member and out from the platen-chamber for presentment in functional position in the line of type impact.

11. A manifolding attachment for typewriters comprising a chambered platen having a shaft for turning it; a spool mounted for independent rotation upon said shaft within the chamber of the platen; a non-rotatable guide member within said chamber;

a manifolding ribbon mounted upon the spool and adapted to be drawn through said guide member and out from the platen-chamber for presentment in functional position in the line of type impact; and a pair of movable spaced arms associated with the platen-carriage of the machine for holding said withdrawn ribbon and moving it into and out of said position.

12. In a manifolding attachment for typewriters, and in combination with a platen having a shaft for turning it for line spacing; a manifolding member; means for carrying said member into and out of functional position in the line of type-impact; and a cam on the platen-shaft upon which said carrying means freely rest and adapted at each line spacing of the platen, to move said carrying means to vary the width relation of said manifolding member to the line of type impact.

13. In a manifolding attachment for typewriters, and in combination with a platen having a shaft for turning it for line spacing; a manifolding member; a pair of pivotally mounted, spaced arms adapted to carry the manifolding member into and out of functional position in the line of type-impact; and a cam on the platen-shaft upon which said arms freely rest when the manifolding member is in functional position for moving said arms at each line spacing of the platen, to vary the width relation of said member to the line of type impact.

14. In a manifolding attachment for typewriters, a pair of spaced arms carried by the platen carriage of the machine, said arms being provided with teeth for releasably impaling a length of manifolding ribbon carried between said arms under tension.

15. In a manifolding attachment for typewriters, a manifolding ribbon; means for carrying said ribbon on the platen-carriage of the machine, adapting it to be drawn out for presentment in the line of type impact; and a pair of spaced arms carried by the platen carriage for holding said drawn out ribbon between them, said arms having teeth for releasably impaling the ribbon to hold it under tension.

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

MALCOLM L. COSSITT.