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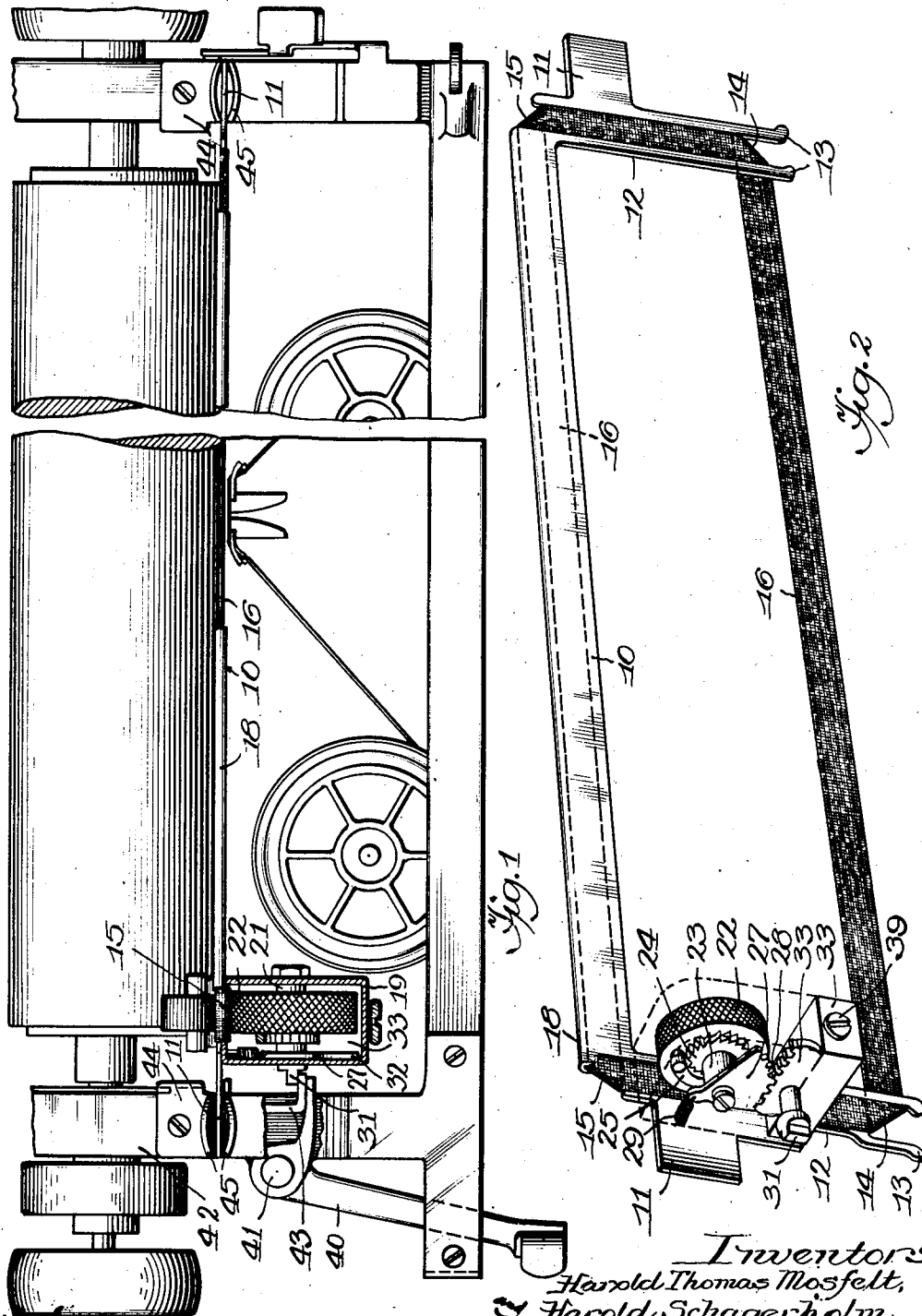
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ATTACHABLE AND DETACHABLE MANIFOLDING ATTACHMENT FOR TYPEWRITERS

Filed June 9, 1932

2 Sheets-Sheet 1



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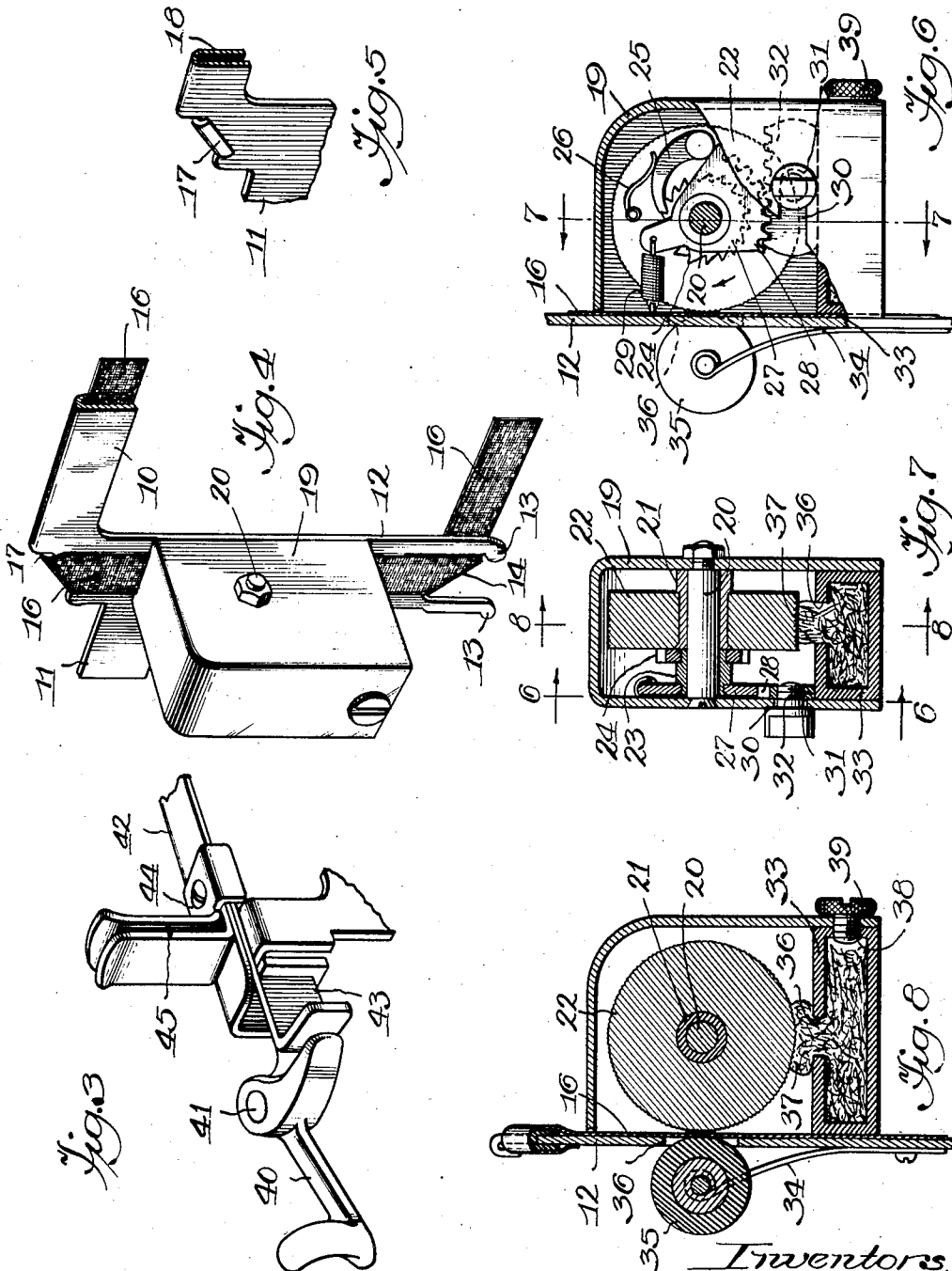
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UNITED STATES PATENT OFFICE

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ATTACHABLE AND DETACHABLE MANIFOLDING ATTACHMENT FOR TYPEWRITERS

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4 Claims. (Cl. 197—153)

Our present invention relates to the provision of an attachable and detachable manifold attachment for typewriters. We had for our objects in the provision of this apparatus the production of a structure which would be dependable in operation and extremely simple and therefore economical in production and which could be readily assembled with a typewriter when it was desired to secure manifold copies and which could be equally readily disengaged from the typewriter when its use was not required.

We also had in mind the provision of facilities for both shifting and inking the ribbon employed for producing manifolded copies in extremely simple form which would secure both the inking of the ribbon and ribbon feeding in the normal operation of the typewriter without the necessity of devoting special attention to these operations.

We have attained the foregoing objects by means of the structure illustrated in the accompanying drawings, in which—

Fig. 1 is a fragmental plan of the top of a typewriter with our invention applied thereto, the casing of the ribbon inking and feeding mechanism being broken away to disclose the apparatus on the interior thereof.

Fig. 2 is a perspective of our apparatus detached from the typewriter, the casing for the ribbon inking and feeding apparatus being shown in dotted lines.

Fig. 3 is a fragmental perspective view of the end rail of the platen carriage of a typewriter which carries the platen rotating lever with the bracket for receiving our apparatus upon one side assembled with said end rail.

Fig. 4 is a fragmental perspective of the end of our apparatus which assembles with the bracket shown in Fig. 3.

Fig. 5 is a fragmental perspective detail of an upper corner of our apparatus with the ribbon omitted.

Fig. 6 is a vertical end elevation of the ribbon inking and feeding mechanism on line 6—6 of Fig. 7.

Fig. 7 is a vertical section on line 7—7 of Fig. 6; and

Fig. 8 is a vertical section on line 8—8 of Fig. 7. Similar reference characters refer to similar parts throughout the respective views.

The main element of our device, as appears most plainly in Fig. 2, is a U-shaped frame or bow 10 from the lateral arms of which extend the ears or plates 11 for assembly with brackets, hereafter to be described, mounted upon the end rails of the platen carriage of the typewriter. The free ends

of the lateral arms 12 of the frame or bow 10 are cut back to provide the longitudinally aligning slightly enlarged heads 13 and the cut out portions are shaped to provide recesses with angular bottoms or ends 14 sloping from the sides of the recesses at angles of about 45° toward the vertical center produced of the structure. The top corners, as at 15, are likewise angled but in an opposite direction to the angles 14. An endless ribbon 16 extends between the angled portions 14 and up the front faces of the lateral arms 12 over the angled portions 15 at the upper corners of the bow or frame and behind the top or connecting bar of the frame or bow 10. The part of the frame at the location of the angles 15 is turned over and rounded, as at 17, to facilitate the travel of the ribbon and the top of the connecting bar is turned over, as at 18, to protect the ribbon, as most clearly shown in Fig. 5.

Secured in a suitable manner to the front face of the right hand lateral arm 12 of the bow or frame is a casing 19. The central portions of the top and bottom ends of the casing 19 are spaced from the arm 12 so as to permit the ribbon 16 to pass through the casing, as most clearly shown in Fig. 4. Secured between the side walls of the casing 19 is an arbor 20 upon which is rotatably mounted a hub or bushing 21 to which is fixed an inking roller 22 which registers with and is of sufficient diameter to extend to a tangential relation with the path of the ribbon 16, as shown most clearly in Figs. 7 and 8. Also rotatably mounted upon the arbor 20 is a hub or bushing 23 which aligns with the hub or bushing 21. The hub or bushing 23 is capable of independent rotation with respect to the hub or bushing 21 and fixed to the hub or bushing 23 adjacent the face of the inking roller 22 is a ratchet wheel 24, as shown most clearly in Figs. 7 and 6. A pawl 25 is secured to the face of the inking roller 22 which co-operates with the ratchet wheel 24 and there is also secured to the face of the inking roller 22 a spring 26 to press the pawl 25 yieldingly into co-action with said ratchet wheel 24. This arrangement is best shown in Fig. 6.

Also fixedly secured to the hub or bushing 23 is an actuating lever 27, the lower end of which is given an arcuate form and provided with the gear teeth 28. A spring 29 extends between the top of the lever 27 and the adjacent vertical edge of the casing to hold the lever arm yieldingly in the position shown in Fig. 6.

Cut into the outer or left side wall of the casing is a horizontal slot 30 and secured in

co-operative relation with the teeth 28 upon the lever arm 27 by a headed screw 31 is a rack 32. The bottom of the rack 32 travels on the upper wall of an ink and wick well 33 provided in the bottom of the casing 19, all as most clearly shown in Figs. 6 and 7.

Fastened to the face of the lateral arm 12 of the bow or frame 10 opposite to the location of the casing 19 is a spring 34, upon the top of which is carried a presser roller 35 which co-operates with the feeding and inking roller 22 through a window 36 in the arm 12 in feeding and inking the ribbon 16.

The ink and wick well 33 has provided in the top thereof a slot 36 through which a portion of the wick 37 projects to contact the roller 22 and in the front of the ink and wick well is a port 38 for the introduction of ink, which port is closed by a headed plug 39.

We have shown our apparatus in association with a standard make of typewriting machine in which the platen is rotated through the instrumentality of a bell crank lever 40 pivotally mounted at 41 on the left hand end rail 42 of the platen carriage of the typewriter, which bell crank lever co-operates with a link 43 mounted upon and to reciprocate longitudinally with respect to the end rail of the platen carriage for the purpose of rotating the platen when the forwardly extending end of the bell crank lever 40 is thrown to the right.

Upon the top of the end rail of the platen carriage adjacent the location of the link 43 and aligning therewith upon the opposite end rail of the platen carriage we provide the brackets 44 having the vertical slots 45 into which the ears or plates 11 of the frame or bow 10 descend. The parts of the mechanism are so proportioned that when the ears or plates 11 of the frame or bow 10 are in assembly with the slots 45 in the brackets 44 the head of the screw 31 will be engaged by the laterally extending front end of the link or slide 43 so that when the platen of the typewriter is rotated in the normal operating of the typewriter to begin a new line the inking and feeding roller 22 will be rotated through the instrumentalities of the rack 32, lever arm 27, ratchet wheel 24 and pawl 25 in the direction shown in Fig. 8, thereby bringing a fresh area of the ribbon 16 under the type of the typewriter.

To employ our apparatus the original and one or two manifolding sheets are fed sufficiently far into the typewriter to secure the extension of their upper ends upwardly in front of the platen. If two manifolding sheets are employed these are separated and the frame or bow 10 is dropped into the slots 45 of the brackets 44 with the lower strand of the ribbon 16, as shown in Fig. 2, between the manifolding sheets. If but a single manifolded copy is required a ribbon shield is extended between the points 13 in front of the ribbon 16 and the ribbon 16 is inserted between the sheet for the original and the sheet for the

manifolded copy. In making two manifolded copies with our apparatus it is desirable to make the first copy upon a style of paper now generally known as "onion skin" which is tough and occupies but little room in a file and permits the printing to be readily read through the tissue. Manifolded copies produced with our apparatus have all the clearness and permanency of an original.

Having described our invention what we claim as new and desire to secure by Letters Patent is:

1. In combination with a typewriter having a movable platen carriage, a rotatable platen carried thereby and means for rotating said platen, a manifolding attachment consisting of a frame having laterally extending members providing an endless ribbon path longitudinally of the members of said frame and between the extended ends of its said lateral members, means actuated by said platen rotating means for feeding a ribbon over said ribbon path and brackets mounted upon the platen carriage of said typewriter for removably receiving said frame.

2. In combination with a typewriter having a movable platen carriage, a rotatable platen carried thereby and means for rotating said platen, a manifolding attachment consisting of a frame having laterally extending members providing an endless ribbon path longitudinally of the members of said frame and between the extended ends of its said lateral members, means actuated by said platen rotating means for feeding and inking a ribbon and brackets mounted upon the platen carriage of said typewriter for removably receiving said frame.

3. In combination with a typewriter having a movable platen carriage, a rotatable platen carried thereby and means for rotating said platen, a manifolding attachment comprising a frame providing an endless ribbon path, a ribbon co-operating with the path in said frame, means for feeding said ribbon longitudinally of its path including a driven and a presser roller disposed respectively upon opposite sides and tangentially of said ribbon path and brackets mounted upon said platen carriage of said typewriter for detachably receiving said frame, and holding said platen rotating means and said ribbon feeding means in co-active relation.

4. In combination with a typewriter having a movable platen carriage, a rotatable platen carried thereby and means for rotating said platen, a manifolding attachment comprising a frame providing an endless ribbon path, a ribbon co-operating with the path in said frame, means for feeding said ribbon longitudinally of its path including a driven and a presser roller disposed respectively upon opposite sides and tangentially of said ribbon path and means for detachably assembling said platen carriage and said frame and holding said platen rotating means and ribbon feeding means in co-active relation.

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