April 29, 1924. 1,491,924

S. ROSENTHAL ET AL

AUTOMATICALLY OPERATED COPYHOLDER ATTACHMENT FOR TYPEWRITERS

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Fig. 4.

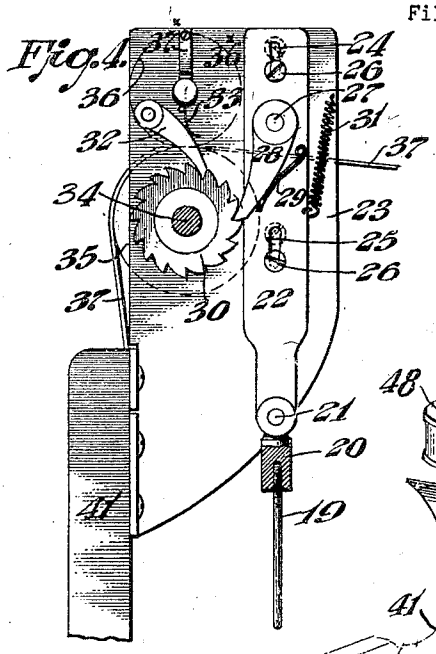


Fig. 1.

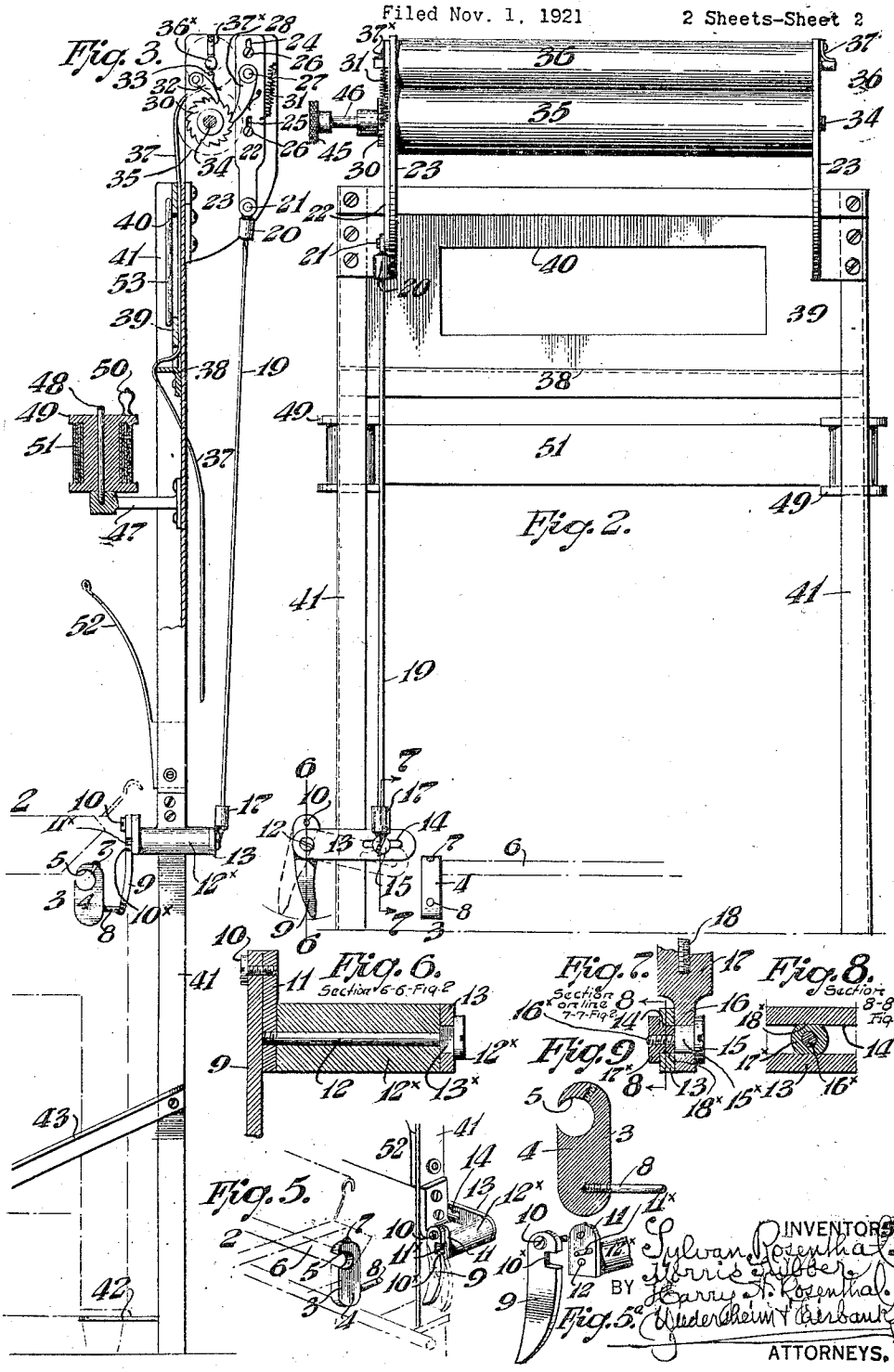
INVENTORS
Sylvan Rosenthal.
Morris Sussber.
Harry A. Rosenthal.
BY Wiederhelm & Fairbank
ATTORNEYS

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INVENTORS.
Sylvan Rosenthal.
Harris Gilbert.
BY Harry S. Rosenthal.
Wieder Sheinman & Fairbank.
ATTORNEYS.

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UNITED STATES PATENT OFFICE.

SYLVAN ROSENTHAL, MORRIS SUBBER, AND HARRY A. ROSENTHAL, OF PHILADELPHIA, PENNSYLVANIA.

AUTOMATICALLY-OPERATED COPYHOLDER ATTACHMENT FOR TYPEWRITERS.

Application filed November 1, 1921. Serial No. 511,983.

To all whom it may concern:

Be it known that we, SYLVAN ROSENTHAL, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania; MORRIS SUBBER, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania; and HARRY A. ROSENTHAL, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Automatically-Operated Copyholder Attachment for Typewriters, of which the following is a specification.

Our invention consists of a novel construction of an automatically operated copy holder attachment for typewriters, which is adapted to be readily installed upon any existing typewriter of any standard or conventional type, and comprises novel means whereby the manual shifting of the typewriter carriage of ordinary construction effects an intermittent or step by step rotation of feed rollers, between which the copy passes, whereby the copy or manuscript to be transcribed upon the typewriter is automatically propelled or caused to move upwardly to the desired extent each time the carriage is shifted, without requiring any attention on the part of the operator, so that an uncopied portion of said copy is at all times visible to the operator.

It further consists of novel tripping or actuating means common to the typewriter carriage and to the novel actuating mechanism of our invention, whereby the feed rollers through which the copy is propelled are actuated by novel pawl and ratchet mechanism during each lateral shifting of the carriage.

It further consists of a novel construction of framework adapted to be readily attached to an existing typewriter and feed rollers mounted in the upper portion thereof between which the copy passes and by which feed rolls said copy is propelled by a novel pawl and ratchet mechanism actuated by each lateral shift of the typewriter carriage.

It further consists of a novel construction of framework adapted to be attached to any existing typewriter, a pair of feed rollers mounted in the upper portion thereof, and suitable guiding and propelling devices for retaining in position and actuating the manuscript to be copied.

It further consists of other novel features of construction, all as will be hereinafter fully set forth.

For the purpose of illustrating our invention, we have shown in the accompanying drawings a form thereof which is at present preferred by us, since it will give in practice satisfactory and reliable results, although it is to be understood that the various instrumentalities of which our invention consists can be variously arranged and organized and that our invention is not limited to the precise arrangement and organization of these instrumentalities as herein shown and described.

Figure 1 represents a perspective view of the front of an automatically operated copy holder attachment for a typewriter embodying our invention, the typewriter being shown in dotted lines.

Figure 2 represents a rear view of Figure 1.

Figure 3 represents an end view of Figure 2, certain of the parts being shown in elevation.

Figure 4 represents on an enlarged scale an end view of the upper feed rollers, the pawl and ratchet mechanism and their adjuncts.

Figure 5 represents a perspective view of a dog carried by the typewriter carriage and a portion of the actuating mechanism and its frame, constituting our invention.

Figure 5ª represents on an enlarged scale a perspective view of a portion of the mechanism, seen in Figure 5.

Figure 6 represents on an enlarged scale a section on line 6—6 of Figure 2.

Figure 7 represents a section on line 7—7 of Figure 2.

Figure 8 represents a section on line 8—8 of Figure 7.

Figure 9 represents on an enlarged scale, a sectional view of the dog carried by the rod or other portion of the typewriter carriage, showing also the actuating pin thereon.

Similar numerals of reference indicate corresponding parts.

In carrying out our invention, which is

applicable to any conventional or standard make of typewriter, we have indicated the latter in dotted lines as 1 and the carriage and its adjuncts 2 are also indicated in dotted lines, said carriage being manually shifted laterally to the right in the usual manner. The parts constituting our invention are delineated in full lines and comprise the dog 3, which is composed of the body portion 4 having the eye or seat 5 in the upper portion thereof, which is adapted to be slid upon and secured to the rod 6 of the typewriter carriage 2. The dog 3 is held in position upon the rod 6 by means of a set screw 7 or other equivalent device, and at its lower portion it is provided with a projecting pin 8 which is adapted when the carriage approaches its extreme right hand position to engage the pendant arm 9, which is secured by the pin or bolt 10 to the plate 11 which is fast to one end of the rock shaft 12, having the squared end $13^{\times}$ seen in Figure 6, the latter being mounted in a suitable bearing or bracket $12^{\times}$ and having secured to its other end the bar 13, it being apparent that the parts 11, 12 and 13 operate in unison as a unit.

The pendant arm 9 can oscillate freely on the pin 10, and has at its upper right hand edge the recess $10^{\times}$, the inner wall of which engages the pin $11^{\times}$ which is fast to the plate 11, so that it will be apparent that when the arm is actuated into the position seen dotted in Figure 5, the contact of the inner wall of the recess $10^{\times}$ with the pin $11^{\times}$ will actuate the latter, the plate 11, the shaft 12, and the slotted bar 13.

The bar 13 has a slot 14 therein, through which passes the shouldered screw 15, which engages the lower end 16 of the connection or clevis 17, the upper end of the latter having the lower end 18 of the rod 19 in threaded or adjustable engagement therewith, the upper end of said rod 19 being in threaded engagement with the head 20, which is pivotally attached at 21 to the bar 22 which is in sliding contact with the upper portion 23 of the framework or housing of the device. The shouldered screw 15 has the round portion $15^{\times}$, see Figure 7, and the threaded portion $16^{\times}$, which engages the nut $17^{\times}$, which has the squared portion $18^{\times}$, which engages the slot 14.

The bar 22 has the upper and lower slots 24 and 25 therein, through which pass the guide screws 26, whereby said bar 22 is accurately and exactly guided in a vertical line in its up and down movement. The bar 22 has pivotally mounted thereon at 27, the pawl 28, which depends from its pivotal support 27 and against which bears the free end of the spring 29, whereby the lower end of the pawl is pressed into engagement with the teeth of the ratchet wheel 30. The spring 31 has its upper end attached to the framework or housing 23 and its lower end attached to the bar 22, as will be evident from Figures 3 and 4, so that it will be apparent that by reason of the two springs 29 and 31 the pawl 28 is always retained in the proper position with respect to the ratchet wheel 30.

32 designates a locking pawl, which is pivoted above the ratchet wheel 30 and is adapted to engage the ratchet teeth thereof at all times, as will be understood from Figure 4, by reason of the spring 33, which causes the free end of said locking pawl 32 to always engage said ratchet 30. The ratchet wheel 30 is fast an a shaft 34 upon which the feed roller 35 is mounted, said feed roller being juxtaposed to or in contact with the upper feed roller 36, between which feed rollers the copy or transcript 37 to be copied passes. The upper feed roller 36 has its journals $36^{\times}$ projecting beyond the frame-work 23 and provided with the tension devices or resilient means $37^{\times}$ bearing on said journals, so that the free rotation of the upper feed roll 36 is retarded.

The manuscript 37, as will be apparent from Figure 3, is inserted in the device so as to pass over the abutment 38, thence to the rear of the guide plate 39, which has the rectangular or other sight opening 40 therein, said manuscript then passing over the lower feed roll 35 and below the upper feed roll 36, so that it will be apparent that as an intermittent up and down movement is imparted to the rod 19, the bar 22 will simultaneously be given a similar up and down movement and the reciprocations of said bar will actuate the pawl 28 a distance equal to one tooth of the ratchet wheel 30, said pawl being pulled downwardly by the spring 31 so that during each lateral shift of the typewriter carriage 2, through the medium of the dog 3, pin 8, arm 9 and the connections therefrom to the rod 19, the ratchet wheel 30 will be given a rotation to the extent of one tooth, thereby propelling the manuscript or copy 37 upwardly an extent equal to one tooth each time that the typewriter carriage 2 is manually shifted to its extreme right hand position.

The rod 19 can be adjusted by means of its upper and lower threaded connections, so that the throw of the pawl 28 will equal two or more of the teeth of the ratchet wheel 30.

It will be apparent that the upper operative parts of our device comprising the upper and lower rollers 36 and 35, the pawl and ratchet mechanism and their adjuncts, can be supported with respect to any conventional or standard typewriter in any suitable manner or in any desired form of housing, and in the present instance, we have shown one form of housing which can be readily attached to existing typewriters, the same comprising the two uprights 41,

which are provided at their lower ends with the feet or lateral extensions 42, which can be conveniently attached to any suitable portion of the typewriter, said uprights 41 being braced by the inclined or diagonal bars 43, whose lower ends or feet 44 can be readily attached to any conventional part of the typewriter as shown in Figure 1, as is evident.

The upper transverse plate 39 having the opening 40 therein through which the matter to be copied is visible, is secured in any suitable manner to the two uprights 41.

It will be understood that there are two of the upper plates 23 in which the feed rollers and the pawl and ratchet mechanism are supported, and while we have shown the preferred manner of mounting and actuating our novel device, it will of course be understood that slight changes may be made therein without departing from the spirit of our invention.

In case it should be desired to manually manipulate the copy 37 forwardly or backwardly, this can be done by rotating the knob 45, which is mounted on the extension 46 from the shaft 34, so that the manual rotation of the knob or finger piece 45 will effect the rotation of the feed rolls 35 and 36 to the desired extent and the desired actuation of the copy 37 between them, so that the position of said copy can be manually adjusted at any time, according to requirements.

In Figures 1, 2 and 3, we have shown laterally extending brackets 47, which are attached to a suitable portion of the framework or housing, each of which carries the upright spindle 48 on which the spools 49 are mounted, the top of each of said spools being provided with the handle 50 and said spools having a band 51 mounted thereon, which may contain written or other desired matter for the operator, which can be positioned, as may be desired.

The housing or framework of our invention is also preferably provided with a curved guide or guard 52, whereby the sheet containing the typewritten matter is properly directed as it is fed upwardly out of the typewriter carriage 2.

It will be apparent that the various elements embodying our invention can be readily manufactured at a minimum expense and can be installed upon a standard or conventional typewriter by any person of average intelligence, and the same will not readily get out of order.

We have deemed it unnecessary to describe the construction of the typewriter and carriage shown in dotted lines, as our invention is applicable to any standard or conventional typewriter having a lateral shifting carriage of the character commonly in vogue.

It will be apparent that the dog 3 may be connected to any desired portion of the carriage 2, but for convenience, we secure the same to the rod 6, as this construction is found to be efficient and effective in practice.

It will be apparent that by loosening the nut 17× and shifting the member 15 in the slot 14 (see Figures 2, 7 and 8) the extent of travel of the rod 19 can be varied, and by adjusting the rod 19 in the heads 17 and 20, the proper adjustment of the coacting parts can be effected.

The plate 40 may be made of any suitable material as metal, cardboard, fibre or the like and is preferably dropped downwardly into the position by the guards or wires 53, as seen in Figure 1.

It will now be apparent that we have devised a novel and useful automatically operated copy holder attachment for typewriters which embodies the features of advantage enumerated as desirable in the statement of the invention and the above description, and while we have, in the present instance, shown and described a preferred embodiment thereof which will give in practice satisfactory and reliable results, it is to be understood that such embodiment is susceptible of modification in various particulars without departing from the spirit or scope of the invention or sacrificing any of its advantages.

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

1. The combination of a typewriter carriage having a dog thereon, a housing having a pendant arm pivotally supported thereon, a plate from which said arm depends, a pin projecting from said plate and engaging the walls of a slot in said arm, a rock shaft on which said plate is mounted, a bar in engagement with said rock shaft and having a slot therein, an upright actuating rod having its ends threaded and its lower threaded end mounted in a head adjustably supported in said slot, a head attached to the upper threaded end of said rod, a bar pivotally attached to said upper head, guiding devices for said bar, a pawl on said bar, a spring holding said bar and pawl in proper position, a pair of feed rollers, a ratchet wheel mounted on one of said feed rollers, and a locking pawl for said ratchet wheel.

2. In an automatic copy feeder for typewriters, the combination with a copy support having feeding means, a dog for attachment to a movable portion of a typewriter and having a pin, an arm arranged in the path of travel of said pin and operated thereby, a rock shaft having its ends provided with cranks, means pivotally connecting said arm to one of said cranks whereby

the arm is supported by said cranks, and an actuating member connecting the other crank to said feeding means.

3. In an automatic copy feeder for typewriters, the combination with a copy support having feeding means, a dog for attachment to a movable portion of a typewriter and having a pin, an arm arranged in the path of travel of said pin and operated thereby, a rock shaft having its ends provided with cranks, means pivotally connecting said arm to one of said cranks whereby the arm is supported by said cranks, and an actuating member connecting the other crank to said feeding means, the arm supporting crank being provided with a pin adapted to be engaged by said arm whereby a driving connection is established between the arm and the crank supporting the arm.

SYLVAN ROSENTHAL.
MORRIS SUBBER.
HARRY A. ROSENTHAL.

Witnesses:
JOHN A. WIEDERSHEIM,
E. HAYWARD FAIRBANKS.