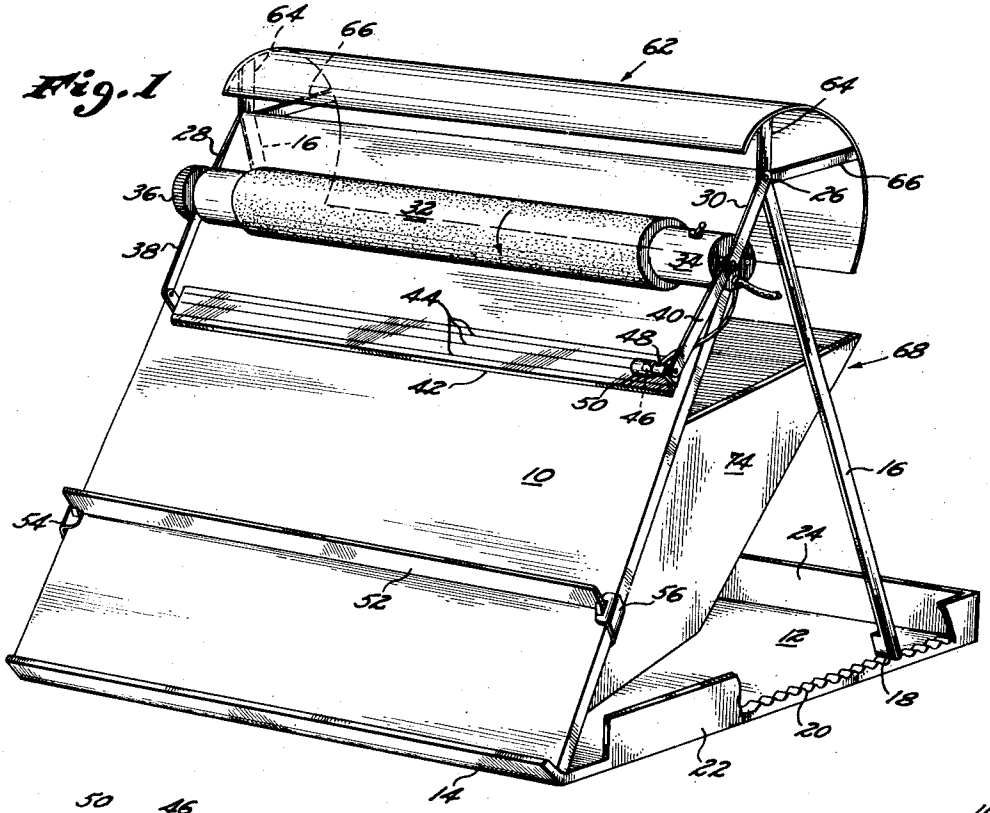
Nov. 21, 1950 H. L. JOHNSON 2,530,702

COPYHOLDER

Filed Aug. 20, 1947 2 Sheets-Sheet 1

Fig. 1



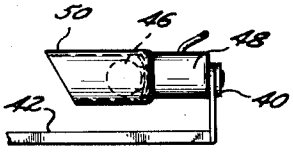


Fig. 5

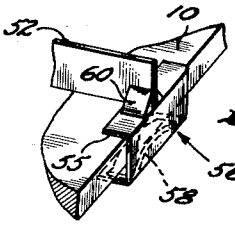


Fig. 4

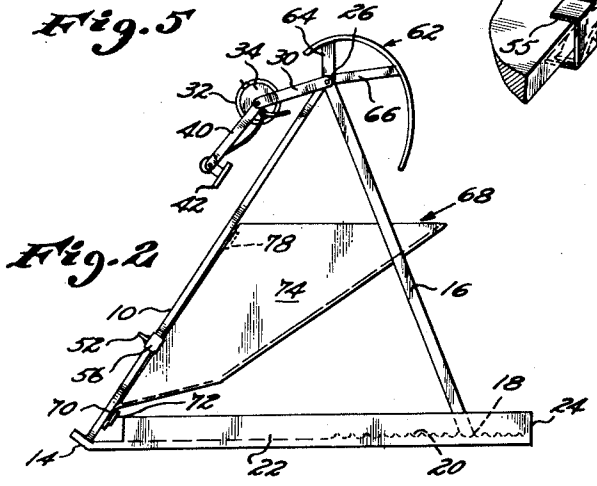


Fig. 2

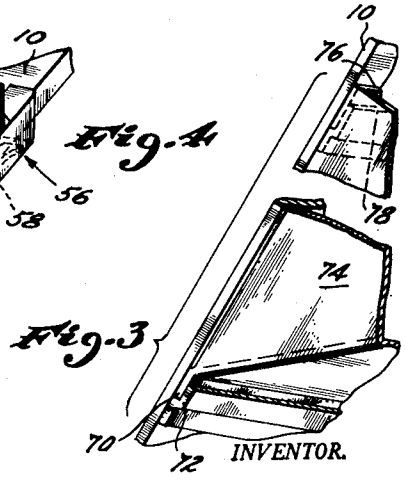


Fig. 3

INVENTOR.

Howard L. Johnson

Nov. 21, 1950 H. L. JOHNSON 2,530,702

COPYHOLDER

Filed Aug. 20, 1947 2 Sheets-Sheet 2

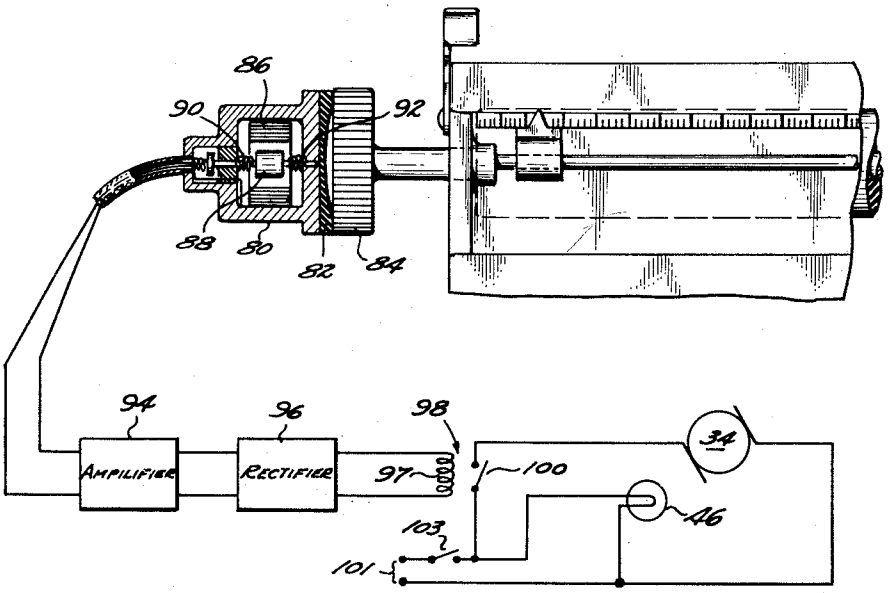


Fig. 6

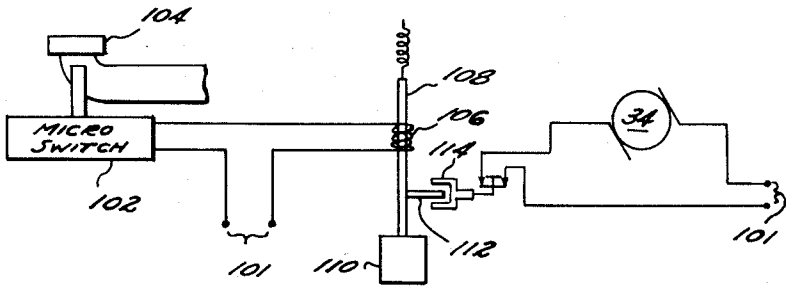


Fig. 7

INVENTOR.

Howard L. Johnson

Patented Nov. 21, 1950 2,530,702

UNITED STATES PATENT OFFICE

2,530,702

COPYHOLDER

Howard L. Johnson, Los Angeles, Calif.

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19 Claims. (Cl. 120—32)

1

This invention relates to copy holders characterized by a rotatable roller adapted to move a sheet of copy at a rate comparable to that at which it is being transcribed by a copyist.

It is an object of the invention to provide a copy holder automatically operable in response to the vibrations of the copyist's typewriter. The copyholder may be made to follow the pace or speed set by the typist in copying the manuscript or other material, or in the alternative may be used to pace the copyist or typist.

Another purpose is the provision of a copy holder adapted to slide successive top sheets off of a stack of copy as the individual sheets are transcribed and to invert the same and pile up the transcribed sheets in the same order as they were originally stacked.

Additional features of the invention include a transparent line guide suspended from said roller so as to rest on the moving copy, the provision of a line guide produced by a beam of light disposed across the moving copy, and an adjustable bottom rest for the copy which is adapted to be mounted at different positions of elevation so that longer or shorter copy may be engaged alike by the roller.

Other objects and advantages of the invention will be apparent from the following description and claims, the novelty consisting in the features of construction, combination of parts, the unique relations of the members and the relative proportioning, disposition, and operation thereof, all as more completely outlined herein and pointed out in the appended claims.

In the drawings, which form part of the present specification:

Figure 1 is a perspective view of my copy holder with a portion of the side of the lower tray broken away;

Figure 2 is a side elevational view of the copy holder showing the roller and guide member in outswung position;

Figure 3 is a fragmental perspective view showing the attachment of the detachable tray to the rear of the front panel;

Figure 4 is a perspective view showing the attachment of the adjustable supporting ledge to the side edge of the front panel;

Figure 5 is an elevational view of the lighting element of the line guide;

Figure 6 is a medial, longitudinal, sectional view of a vibration pick-up device shown attached to the platen knob of a typewriter, together with the electrical circuit for operating my copy holder in response thereto; and

2

Figure 7 is a side elevational view of a typewriter space bar showing a microswitch disposed to be contacted thereby, together with the electrical circuit for operating my copy holder in response thereto.

In the embodiment of the invention illustrated in the drawings, my copy holder is constructed of a rearwardly inclined panel 10 detachably and adjustably supported on a horizontal tray 12 by reason of lodging of its lower edge along the inner face of an upturned supporting ledge 14 formed along the forward margin of the tray 12, and by an opposite pair of lateral struts 16 pivotally attached at their top extremity to the side of the front panel and bearing at their lower end a terminally curved shoe 18 adapted to be inserted in transverse grooves of a corrugated strip 20 disposed along the side of the tray, insertion of the struts 16 in corresponding grooves of the opposite strips serving to support the panel 10 at a corresponding elevation. The tray 12 is provided with opposite side 22 and rear walls 24 so as to serve as a receptacle for stacks of copy accumulated therein.

Swingingly mounted on the upper pivot pins 26 are a pair of forwardly extending arms 28 and 30 disposed on opposite sides of the panel and adapted to suspend between their outer ends a roller assembly composed of an intermediate, elongated, rotary member 32 adapted to be driven by a motor 34 which may be of a spring or electric, constant or variable speed type. The opposite end of the assembly carries an operating knob 36 for manual manipulation of the roller. Extending downward from the two ends of the roller assembly is a second pair of swinging arms 38 and 40 suspending between their free ends a transverse, transparent line guide 42 inscribed with longitudinal reference lines 44. At the guide end of the swinging arm 40 there is also disposed a lighting element 46 mounted in a housing 48 and provided with a shield 50 disposed to project its beam along a band generally corresponding to the dimensions of the line guide.

An adjustable, transverse, outwardly projecting, supporting ledge 52 is suspended across the face of the panel 10 by an oppositely disposed pair of gripping members 54 and 56. Each member is constructed of a generally U-shaped frame 55 of somewhat greater thickness than that of the panel and having a longitudinal spring 58 attached by one end to the inner face of the under arm of the U and thus disposed to bear against the under face of the panel which is inserted between the arms of the U. The ledge 52 is sup-

ported in projecting position by an angular brace 60 extending against its lower face from the respective sliding frames 55. It will thus be seen that the ledge may be moved up or down along the front face of the panel by simply sliding the pair of gripping frames 55 which will remain at any desired position along the inclined face of the panel by reason of their resilient engagement with the panel formed by the upwardly bowed spring 58.

Spaced above the upper edge of the panel 10 is a concave shield 62 mounted by a pair of fixed braces 64 and 66 on each side of the panel so that the forward edge of the shield curves down a short distance over the upper margin of the panel while remaining spaced thereabove, (Figure 2), while the rear portion of the bowed shield curves in at its lower part toward the back face of the panel. Along the rear of the panel there is mounted a detachable tray 68 by means of a transverse, lower terminal lip 70 inserted within a corresponding open-topped slot 72 provided across the rear of the panel adjacent the bottom thereof. The side walls 74 of the tray are each provided with an inturned finger 76 adapted to be inserted within the corresponding slot of a mounting bracket 78. By this means, the tray 68 can be quickly mounted and dismounted on the rear of the panel to be employed alternately or in place of the lower stationary tray 12.

In operation, the copy to be transcribed is stacked against the front of panel 10 so that its upper edge rests beneath the roller 32. If of sufficient length, the copy may be rested on the stationary ledge 14, or if not long enough to extend beneath the roller from this position, it is supported on the movable ledge 52 which is located at the appropriate elevation. The roller 32 is provided with a roughened external surface such as sponge rubber so that upon its being set in motion it will draw upward the top sheet of copy upon which it is resting, at the rate desired by the typist or copyist. As the moving sheet passes beneath it, the upper edge of the sheet contacts and conforms to the under surface of the shield 62, so that it is progressively inverted and then dropped in the tray behind, successive sheets in this manner piling up in the tray in the same order in which they were stacked upon the panel for copying. In addition to providing a reference line for following the moving copy, the line guide 42 may, if desired, be weighted so as to straighten out folds in the stack of sheets prior to their passage beneath the roller.

The copy holder may be provided with means responsive to operation of typewriter, for activating the electric motor 34 of the copy holder so that the copy is moved by the roller 32 only during the time in which the typewriter is being used by the copyist.

As illustrated in Figure 6, there is provided a hollow cylindrical housing unit 80 provided with a rubber suction cup or disk 82 on the bottom so that it can be attached to a typewriter in a position to pick up vibrations therefrom, such as on the platen operating knob 84. Within the housing 80, there is fixedly mounted a permanent magnet 86. Between the poles of the magnet, there is suspended a wire coil 88 between oppositely disposed springs 90 and 92 so that vibration of the typewriter platen is transmitted to the coil 88 which vibrates within the field of the magnet 86, thus creating an alternating electrical current in the coil. This current is then conveyed successively thru an amplifier 94 and rectifier 96, and thence to the coil 97 of a slow-to-release, normally open, relay 98. The latter operates a circuit switch 100, which when closed serves to complete an electrical circuit from a line 101 thru the motor 34 and guide light 46. A manually operable switch 103 is provided in the circuit to permit turning off the copy holder.

Another arrangement for operating the copy holder motor in response to a typewriter is shown in Figure 7. A microswitch 102 is disposed beneath the typewriter space bar 104 so as to be operated upon each depression of the space bar. The microswitch serves to close an electrical circuit from the line 101 thru a solenoid 106, within which is disposed an armature 108 mounted in a five-second dash pot 110. Upon upward movement of the armature, a laterally extending arm 112 thereon throws a toggle switch or lost motion linkage 114 positioned in the electrical circuit of the copyholder motor 34. When current thru the solenoid is discontinued, the arm 112 slowly drops and again throws the switch 114 off near the end of its descent.

A dash pot corresponding to any desired time interval may of course be used, five seconds being specified as a practical period during which the typist is almost certain to strike the space bar at least once. Again, the speed of operation of the motor may be adjusted to any desired rate so that as long as the typewriter is being operated, the movement of the copy holder serves to pace the typist; or the copyholder may be operated to run faster with increase electrical impulses from the typewriter so that the speed of the typist sets the pace of the copyholder.

The copyholder can of course be used without a vibration pick-up or other connection with a typewriter. It is of particular utility, for example, in tabulating a group of statements or other data, as well as transcribing manuscripts, scenarios, etc.

While I have shown and described in some detail a presently preferred embodiment of my copy holder it is to be understood that various modifications may be made in the construction and operation thereof within the spirit and scope of the subsequently claimed invention which is to be construed broadly and limited only by the prior art.

I claim:

1. A copy holder including: a surface adapted to retain thereon a stack of unconnected copy sheets; a roller adjustably mounted adjacent said surface so as to rest upon the uppermost of said sheets and upon rotation to slidingly withdraw beyond an end of the surface, successive sheets by frictional engagement therewith so as to progressively expose the next lower sheet; and a curved shield spaced above said end of the surface and extending downward in the rear so as to invert said moving sheet by contact of the latter with the under surface of said shield, whereby successive unconnected sheets upon withdrawal from said surface are piled up beyond the surface in the same order in which they were stacked on the surface.

2. A copy holder including: an inclined surface adapted to retain thereon a stack of unconnected copy sheets; a roller rotatably mounted between a pair of arms pivotally attached adjacent opposite sides of said surface so that the roller rests against the uppermost of said copy sheets; rotating means adapted to drive said roller so as to slidingly move upward successive sheets by frictional engagement of the roller therewith;

and a curved shield disposed above the upper edge of said surface and extending downward in the rear whereby said upwardly moving sheet is inverted and dropped behind said supporting surface by contact with the under surface of said shield so that the unconnected sheets pile up behind the surface in the same order as they were stacked on the front.

3. The copy holder of claim 1 which additionally contains a pair of lateral arms, pivotally attached at one end adjacent opposite ends of the roller and holding suspended between their other ends a transversely disposed, line guide adapted to rest upon the moving sheet of copy.

4. In a copy holder operable by an electric motor, the improvement comprising: means adapted to be attached to a typewriter and adapted to deliver a substantially continuous current impulse responsive to operation of the typewriter; and an electrical switch adapted to be actuated by said current and operable to keep a circuit to said motor closed during operation of the typewriter.

5. The copy holder of claim 4 wherein said attachment means comprises a micro switch located for contact by the typewriter space bar, and said switch comprises a solenoid adapted to operate a lost motion linkage in the motor circuit.

6. The copy holder of claim 4 wherein said attachment means comprises a permanent magnet having a wire coil oscillatably suspended in its magnetic field, said coil being operable to generate an electrical current by reason of its movement in the magnetic field, and said switch being adapted to respond to said current.

7. The copy holder of the preceding claim wherein said magnet is secured to a suction cup adapted to be attached to the typewriter.

8. A copy holder including: a surface adapted to retain thereon a stack of unconnected copy sheets; a roller adjustably mounted adjacent said surface so as to rest upon the uppermost of said sheets and upon rotation to slidingly withdraw successive sheets by frictional engagement therewith so as to progressively expose the next lower sheet; an electric motor operatively connected to said roller; means adapted to be attached to a typewriter and adapted to deliver a substantially continuous current impulse responsive to operation of the typewriter; and an electrical switch adapted to be actuated by said current and operable to keep a circuit thru said motor closed during operation of the typewriter.

9. The copy holder of claim 8 wherein said attachment means comprises a micro switch located for contact by the typewriter space bar, and said switch comprises a solenoid adapted to operate a lost motion linkage in the motor circuit.

10. The copy holder of claim 8 wherein said attachment means comprises a permanent magnet having a wire coil resiliently suspended in its magnetic field, said coil being operable to generate an electrical current by reason of its movement in the magnetic field, and said switch being adapted to respond to said current.

11. A copy holder including: a surface adapted to retain thereon a stack of unconnected copy sheets; a roller swingingly mounted adjacent said surface so as to rest upon the uppermost of said sheets and upon rotation to slidingly withdraw beyond an end of the surface, successive sheets by frictional engagement therewith so as to progressively expose the next lower sheet; an electric motor operatively connected to said roller; a curved shield spaced above said end of the surface and extending downward in the rear so as to invert said moving sheet by contact of the latter with the under surface of said shield, whereby successive unconnected sheets upon withdrawal from said surface are piled up behind the surface in the same order in which they were stacked on the surface.

12. In a copyholder, the improvement comprising the combination of electrically driven roller means for continuously moving successive sheets of a stack of unconnected copy sheets, mechanical guide means for inverting and stacking the successive sheets as they are moved off said stack, and other electric means for continuously activating said first means in response to operation of a typewriter.

13. In a copyholder, the improvement comprising the combination of means for continuously moving successive sheets of a stack of unconnected copy sheets, and guide means for inverting and stacking the successive sheets as they are moved off said stack.

14. In a copyholder, the improvement comprising the combination of electrically driven roller means for moving successive sheets of a stack of copy sheets, and other electric means for continuously activating said first means in response to operation of a typewriter.

15. In a copyholder, the improvement comprising an electrically operated copy moving element and electric means adapted automatically to substantially continuously activate said element in response to substantially continuous operational vibration of a typewriter.

16. The combination with an upwardly and rearwardly inclined sheet supporting member adapted to receive thereon a stack of independent sheets, means for moving said sheets upwardly and rearwardly over the upper end of the inclined member, a sheet receiving receptacle to the rear of the inclined member and having its upper side open for the reception of sheets in a stacked condition, of means carried by the upper end of the inclined member for deflecting the sheets in a curved arc rearwardly, downwardly and inwardly into the receptacle with their outer sides downwardly disposed in the receptacle in stacked relation, said means comprising a transverse elongated member arching the upper end of the inclined member in spaced relation thereto and curving rearwardly, downwardly and inwardly from the front of the inclined member to the rear of the inclined member above the receptacle.

17. A device as set forth in claim 16 wherein the receptacle is detachably supported by the rear side of the inclined member and the bottom of the receptacle inclining downwardly and forwardly towards the rear side of the inclined member.

18. The combination with a typewriter roller, a copy holder, a feed roller carried by said copy holder, a motor carried by said feed roller, of means for operating said feed roller through the motor upon vibrations of the typewriter roller, said means comprising a vibratory motor connected to the typewriter roller, said vibratory motor being actuated by vibrations incident to the movement and stopping of the typewriter roller, said vibratory motor actuating a relay controlled switch, said switch controlling a circuit from a source of power to the feed roller.

19. A device as set forth in claim 18 wherein

the vibratory motor is in axial relation to the typewriter roller, said vibratory motor having a suction cup support connection to the typewriter roller.

HOWARD L. JOHNSON.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
415,550	McIntire	Nov. 19, 1889
1,009,455	Utsch	Nov. 21, 1911
1,160,211	Swabb	Nov. 16, 1915
1,438,268	Searle	Dec. 12, 1922
1,439,250	MacDowell	Dec. 19, 1922
1,491,924	Rosenthal et al.	Apr. 29, 1924
1,825,521	Harnsberger	Sept. 29, 1931
1,919,399	Sperling	July 25, 1933
1,919,429	Harper et al.	July 25, 1933
2,062,964	Blakeman	Dec. 1, 1936
2,068,894	Talley	Jan. 26, 1937
2,153,103	Stevens	Apr. 4, 1939
2,206,961	Israel	July 9, 1940
2,370,338	White	Feb. 27, 1945
2,462,273	Metcalf	Feb. 22, 1949