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REPEAT MECHANISM FOR TYPEWRITERS

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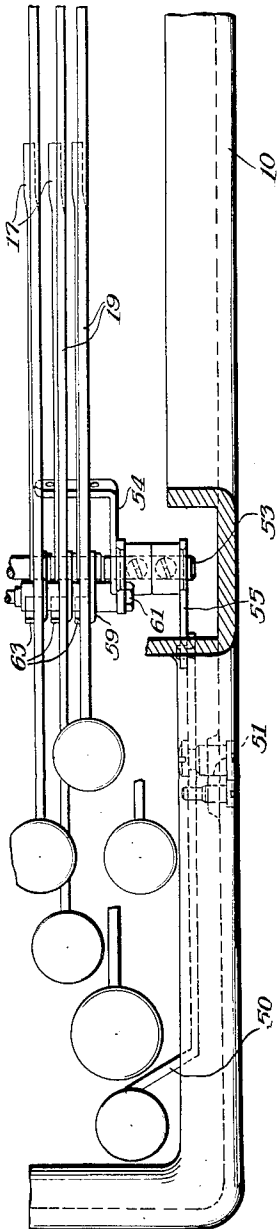


Fig. 2.

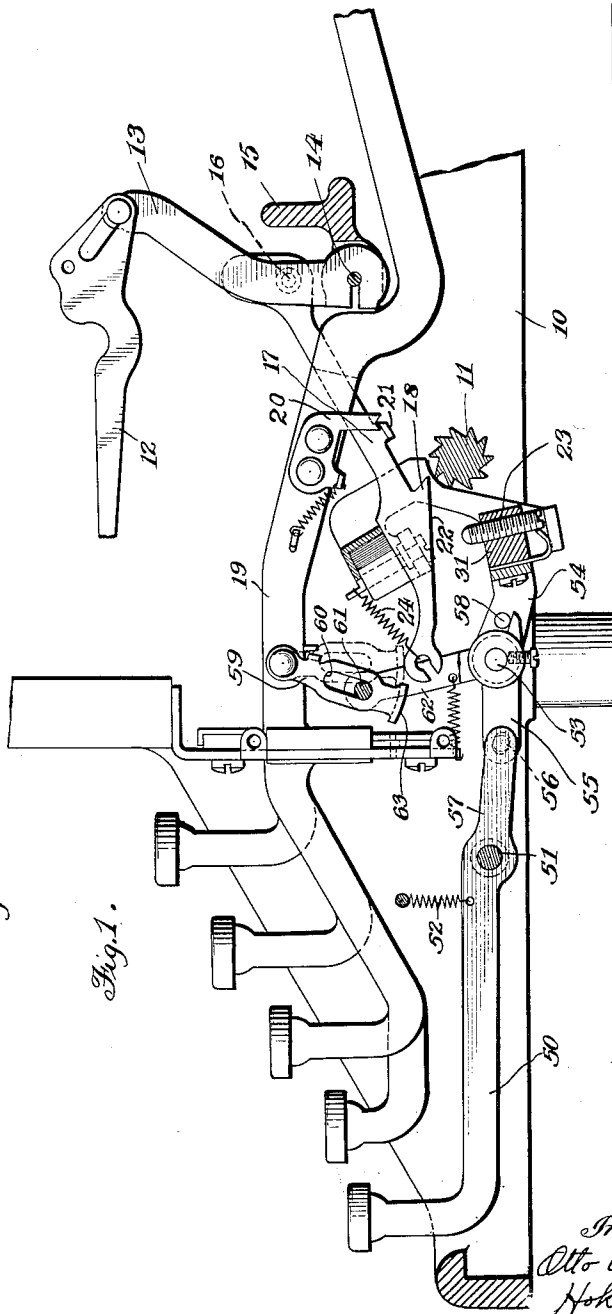


Fig. 1.

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REPEAT MECHANISM FOR TYPEWRITERS

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Original application November 23, 1925, Serial
No. 70,771. Divided and this application Feb-
ruary 18, 1927. Serial No. 169,422

11 Claims. (Cl. 197—17)

This invention relates to power driven type-
writers and has for one of its objects the pro-
vision of mechanism by which any impression
may be repeated as many times as desired with-
out the necessity of repeating the operation of
the key controlling the particular impression.

A further object of the invention is to provide
means of the class named which shall be of im-
proved construction and operation.

The invention is exemplified in the combina-
tion and arrangement of parts shown in the ac-
companying drawing and described in the fol-
lowing specification, and it is more particularly
pointed out in the appended claims.

In the drawing—

Fig. 1 is a fragmentary vertical sectional view
of a portion of a typewriter having one embod-
iment of the present invention applied thereto;
and

Fig. 2 is a fragmentary horizontal sectional
view showing a portion of the mechanism in plan.

This application is a division of my co-pend-
ing application, Serial No. 70,771, filed November
23, 1925.

Referring to Figs. 1 and 2, the numeral 10
designates a typewriter frame having a power
driven toothed cylinder 11 journaled therein
transversely of the frame. The typewriter is
provided with the usual type bars 12 having sub-
levers 13 pivotally mounted at 14 on a cross-bar
15. Pivotally connected at 16 to each of the sub-
levers 13 is an actuator 17 provided with a tooth
18 for engaging the toothed cylinder 11. A key
lever 19 is provided for each actuator having a
contact finger 20 arranged to engage a lug 21 on
the actuator and press the actuator downwardly
to cause the tooth 18 to engage the rotating cyl-
inder 11. The cylinder 11 is continuously driven
by means of a motor or other suitable power
drive. A slight depression of a key lever 19 will
connect the actuator with the power drive and
operate the corresponding type bar 12. At the
forward movement of the actuator the face 22
thereof will engage an adjustable screw 23 to dis-
connect the actuator from the power drive. The
spring 24 will return the actuator to its initial
position. In this way for each depression of the
key lever the actuator is connected to the power
drive to effect a printing movement of the type
bar. The mechanism thus far described is simi-
lar to that of my prior application, Serial No.
732,615, filed August 18, 1924, now Patent
#1,614,475, dated January 18, 1927.

It frequently happens that the operator will
wish to produce a series of successive movements

of a particular type bar. In underscoring, for
example, it is common to operate the type bar
which carries the dash for producing under-
scoring.

In the form of the invention shown in the
drawing, a single repeat key 50 is provided and
mechanism is operated by this key for effecting
repeated operation of any type bar which may be
selected by depression of the corresponding key
lever. The repeat key 50 is pivoted at 51 on the
side of the typewriter frame and is provided with
a spring 52 for holding it in its upper position.
A shaft 53 is journaled in brackets 54 secured
to the cross-bar 31. An arm 55 is pivoted at 56
to the rearwardly extending arm 57 of the repeat
key 50. A stop 58 limits the downward movement
of the arm 55 and consequently the upward move-
ment of the repeat key 50. The arm 55 is fixed
to the shaft 53. Each of the key levers 19 is pro-
vided with a swinging tappet 59 having a slot 60
for engaging a pin 61 carried by an upwardly ex-
tending arm 62 mounted on the shaft 53. The
tappets 59 are provided with contact faces 63
which are moved into position to overlie the for-
ward ends of the actuators 17 when the repeat
key is depressed to move the tappets 59 into the
broken line position shown in Fig. 1. When the
tappets are in this position the depression of any
one of the key levers 19 will depress the corre-
sponding actuator 17 and cause it to engage the
power cylinder 11. So long as the key is held de-
pressed the actuator will re-engage the power
cylinder subsequent to each release produced by
contact with the adjustable stop screw 23. With
this mechanism any type bar may be caused to
repeat by depressing the repeat key 50 and the
key lever corresponding to the particular type bar
which it is desired to operate repeatedly.

I claim:—

1. The combination with a typewriter having
type bars, key levers, a power drive, and actuators
controlled by said key levers for connecting said
type bars with said power drive, of tappets con-
nected with said key levers, and a repeat key for
moving said tappets into position to engage an
actuator when the corresponding key lever is de-
pressed to cause said actuator to re-engage said
power drive after each operation thereof.

2. The combination with a typewriter having
type bars, a power drive, actuators for connecting
said type bars with said power drive, and key
levers for moving said actuators into engagement
with said power drive, of tappets mounted on said
key levers and movable into position to engage
said actuators when the corresponding key levers

are depressed, a repeat key, and means operated by said repeat key for moving all of said tappets into operative relation with said actuators.

3. Repeat mechanism for typewriters comprising pivoted link-like devices connected to the key levers of the typewriter, arms having pins confined within slots in said link-like devices, a rotatable shaft on which said arms are mounted, a pivoted repeat key having an extension in advance of the pivot thereof, an arm pivoted at one end to said extension and with its opposite end connected to rotate said shaft, a power drive for the type bars of the typewriter, actuators for connecting the type bars with the power drive, said actuators adapted to contact with said pivoted link-like devices when said devices are moved into registry with the actuators by depression of the repeat key, whereby depression of a key lever will hold said pivoted link-like devices in a position to cause the actuators to re-engage said power drive after each operation of the type bars.

4. The combination as set forth in claim 1 and in which said tappets comprise link-like devices pivotally connected with said key levers and each having a slot, a rocker arm operably connected to said repeat key, and a pin on the end of the rocker arm in position to extend into said slot.

5. In a typewriter, the combination with a plurality of type bars, of key levers therefor, a continuously operating power drive, means controlled by each of said key levers for connecting said type bars with said power drive, means for automatically disengaging said connecting means after a single operation of a type bar, and repeating mechanism common to a plurality of type bars and pivotally connected to the key levers for effecting repeated operation of any of said plurality of bars by said power drive when the corresponding key lever has been depressed.

6. In a typewriter, the combination with a plurality of type bars, of a plurality of key levers corresponding thereto, a power drive, actuators controlled by said key levers for connecting said type bars with said power drive, a single repeat key, and mechanism including members pivoted to the key levers and operated by such single repeat key for effecting repeated operation of any type bar selected by the depression of the corresponding key lever.

7. In a typewriter, the combination with a plurality of type bars, of corresponding key levers, a

power drive, actuators connected to said type bars, means controlled by said key levers for connecting said actuators with said power drive, and means operated by a single key for effecting repeated operation of a type bar when the corresponding key lever is held depressed comprising a device pivotally connected to each key lever and suspended therefrom in position to act as an abutment for said actuator to cause the latter to be repeatedly connected to said power drive.

8. In a typewriter, the combination with a type bar, of a key lever, an actuator connected to said type bar, a power drive, means controlled by said key lever for connecting said actuator to said power drive, a tappet pivotally connected to said key lever, and means independent of said key lever for swinging said tappet into position to cause the same to act as an abutment when said key lever is depressed for engagement by said actuator to cause the same to be repeatedly connected to said power drive to effect repeated operation of said type bar.

9. In a typewriter, the combination with a type bar, a key lever therefor, a continuously operating power drive, a repeat key, a member pivotally connected to the key lever, and mechanism controlled by the repeat key and engaging said member for causing continued operation of the type bar upon depression of the key lever and the repeat key.

10. In a typewriter, the combination with a type bar, a key lever therefor, a continuously operating power drive, means controlled by the key lever for connecting said type bar with the power drive, means for disengaging said means after operation of the type bar, a member swingingly connected to the key lever for engagement with said first named means, and a key lever controlling the operation of the member.

11. In a typewriter, the combination with a type bar, a key lever therefor, a continuously operating power drive, means controlled by the key lever for connecting said type bar with the power drive, means for disengaging said means after operation of the type bar, a member swingingly connected to the key lever for engagement with said first named means, a key lever controlling the operation of the member, and means for limiting the swinging movement of said member.

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