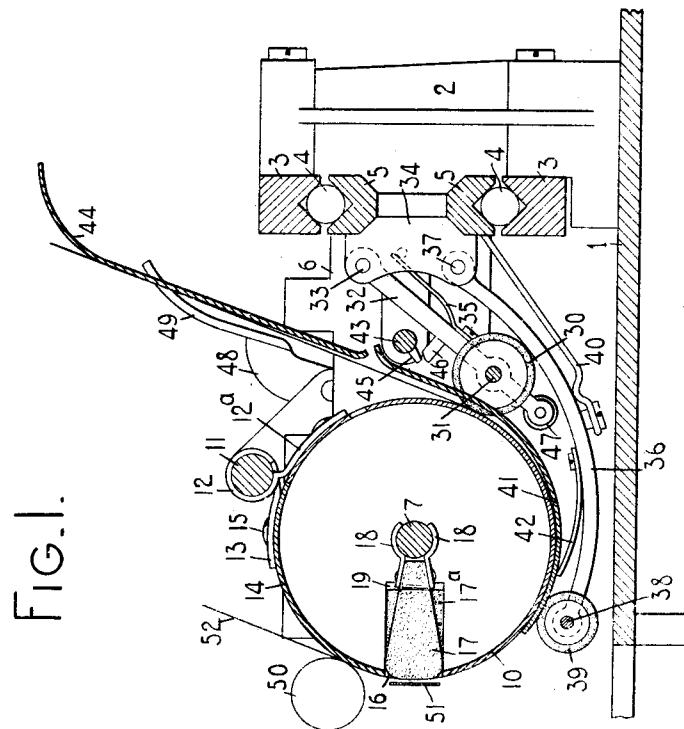


1,062,371.

H. H. STEELE.
TYPE WRITING MACHINE.
APPLICATION FILED MAY 11, 1912.

Patented May 20, 1913.

2 SHEETS—SHEET 1.



WITNESSES:

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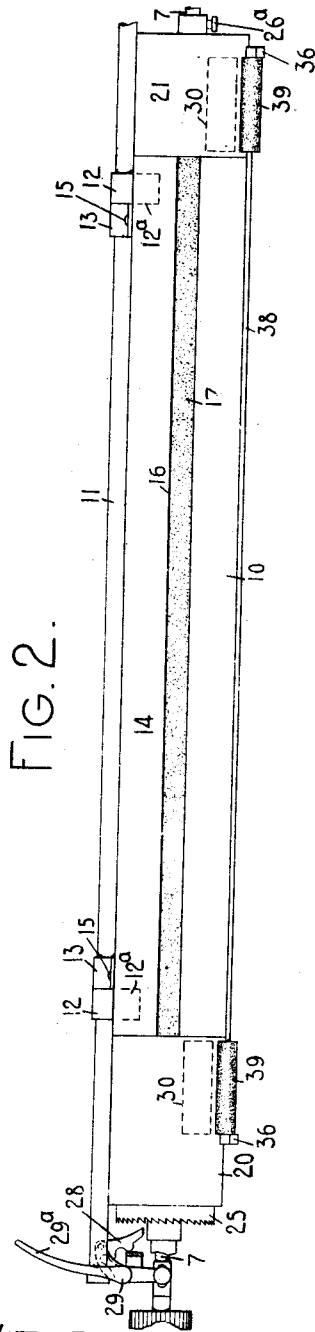


FIG. 2.

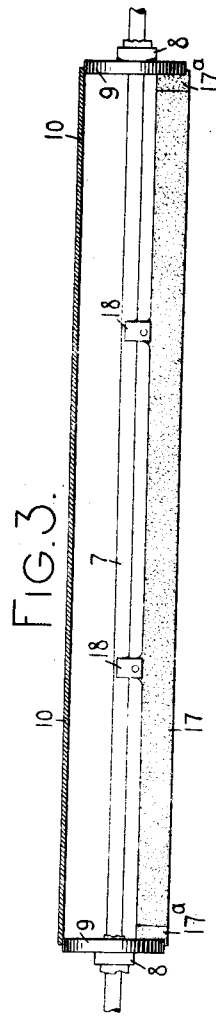


FIG. 3.

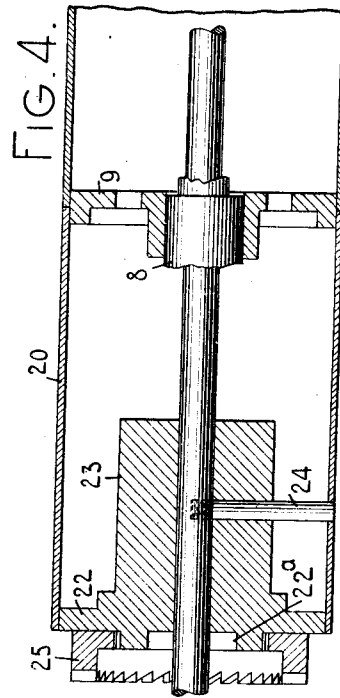
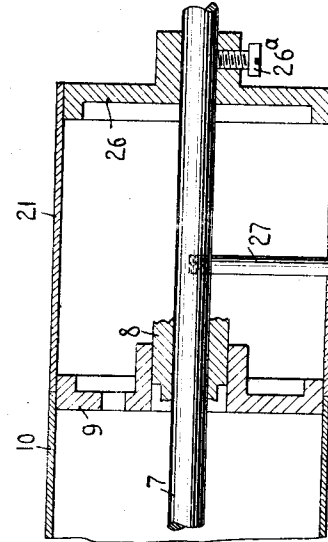


FIG. 4.

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UNITED STATES PATENT OFFICE.

HERBERT H. STEELE, OF MARCELLUS, NEW YORK, ASSIGNOR TO THE MONARCH TYPE-WRITER COMPANY, OF SYRACUSE, NEW YORK, A CORPORATION OF NEW YORK.

TYPE-WRITING MACHINE.

1,062,371.

Specification of Letters Patent.

Patented May 20, 1913.

Original application filed December 31, 1909, Serial No. 539,744. Divided and this application filed May 11, 1912. Serial No. 696,562.

To all whom it may concern:

Be it known that I, HERBERT H. STEELE, citizen of the United States, and resident of Marcellus, in the county of Onondaga and State of New York, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

My present invention is a division of my prior application Serial No. 539,744, filed December 31st, 1909, now Patent No. 1,024,157, patented April 23rd, 1912 and relates especially to the platen mechanism of typewriting machines, having for its principal object to provide improved mechanism of the character specified.

To the above and other ends my invention consists in the features of construction, combinations of devices and arrangements of parts hereinafter described and particularly pointed out in the claims.

In carrying out my invention in the present instance I have illustrated it as embodied in a machine like the Monarch typewriting machine and have shown some parts that are employed in connection with the special ribbon mechanism to which my parent application aforesaid particularly relates. It is to be understood, however, that the nature of the invention is such that it may be embodied in styles of writing machines other than that shown and that it may be employed in connection with any suitable means for inking the types whether such means be an inking ribbon mechanism or an inking pad mechanism or other type-inking device.

As herein exemplified the invention comprises a hollow casing or drum which replaces the regular cylindrical platen of the machine, said drum containing an anvil or platen element which coöperates with the types through a slit or opening extending longitudinally of the outer casing. The paper is fed around the hollow casing, which remains stationary during the paper feeding operation, by feed rollers of the usual or any suitable style which coöperate with rotary casing sections

contiguous to the ends of the main stationary casing.

The preferred construction will be described in detail in connection with the accompanying drawings, wherein—

Figure 1 is a transverse sectional view of the upper portion of a Monarch typewriting machine embodying my invention, parts of the machine being omitted. Fig. 2 is a front elevation of the hollow casing or drum and associate parts. Fig. 3 is a fragmentary horizontal sectional view taken centrally of the casing, some of the parts shown in Fig. 2 being omitted. Fig. 4 is a fragmentary vertical longitudinal sectional view taken about centrally of the casing.

As shown in Fig. 1 the top plate 1 of the machine supports standards 2 to which are secured grooved guideways 3 in which are seated anti-friction balls 4. Said balls coöperate with the grooved upper and lower faces of a slide bar 5 comprised in a platen frame or carrier of the long platen style and which further includes end bars 6. Said end bars 6 provide bearings for an axle or shaft 7 like the usual platen shaft, said shaft being provided at its ends with the ordinary finger wheels. Rotary collars 8 or other suitable devices on the shaft 7 provide bearings for two disks or heads 9 which are spaced apart a distance somewhat greater than the length of the lines of writing of the work for which the structure is intended. Secured at its ends to these disks 9 is a cylindrical hollow casing or drum 10, the diameter of which corresponds to that of the usual rotary platen whose position in the machine said casing occupies, as clearly appears from Fig. 1, which is a transverse sectional view taken about midway of the length of the casing 10. The casing proper extends from a point below the printing point at the front of the platen in a downward, rearward and upward circular curve, whose center is the shaft 7, and terminating under the usual paper finger rod 11 which is supported on the end bar 6 and provides an anchor for the casing. Stays in the form of sheet metal hooks 12 are arranged at in-

tervals along the rod 11 as shown in Fig. 2, said hooks partly surrounding said rod and having rearward and downward extending portions 12^a which are riveted or otherwise secured to the casing 10 and hold the same from turning relatively to the axle 7. The rod 11 also provides bearings for the hinges 13 of a cover plate 14, the hinges being secured to said cover plate as by rivets 15, the cover plate thereby being adapted to be swung on the rod 11 as a pivot. The rear end of the cover plate abuts against the end of the casing 10 which underlies the rod 11 and said cover plate is concentric with the casing, being practically a continuation thereof and extending downward to within a short distance of the printing line. It will be noted more especially from Figs. 1 and 2 that there is a gap or longitudinal slot-way 16 in the casing opposite the printing line, said gap extending between the bottom edge of the cover 14 and the top edge of the front of the casing proper and being of a width slightly in excess of the heights of the type carriers. Practically filling the gap 16 widthwise and extending the full length thereof, is an anvil or platen 17 of any suitable material, which tapers toward the rear and is provided with spring clips 18, said clips engaging the shaft 7 and detachably securing the platen thereto. The working face of the platen is substantially flush with the periphery of the surrounding casing and is rounded at its top and bottom edges but terminates at its ends in rectangular enlargements 17^a which are seated in slots 19 (Fig. 1) formed in the disks 9. These slots prevent rotary motion of the platen about the axle 7. The clips 18 permit the platen to be readily detached and removed from the casing when the cover thereof is lifted but when arranged as shown in Fig. 1 the platen will be stationary with respect to the casing and has only a longitudinal movement during letter feed and return movements of the platen carrier.

As clearly shown in Figs. 3 and 4 the peripheries of the disks 9 project outward beyond the ends of the fixed casing 10 and provide bearings for rotatable tubular sections or devices 20 and 21, which are of the same diameter as the casing 10. The left-hand end portion of the device 20 bears on the periphery of a head 22, said head being provided with an inwardly extending hub 23 secured to the shaft 7 by a screw pin 24, said screw pin as shown in Fig. 4 connecting the rotary tube 20, the hub 23 and the shaft 7 so that they will all three turn together. The member comprising the head 22 and hub 23 may be of the construction found in the platen releasing mechanism of the Monarch typewriting machine and such as is disclosed in the patent to Josleyn No.

945,956, granted January 11, 1910. A line spacing ratchet wheel 25 bears on the outward projections 22^a on said head 22 and is or may be normally connected with said head by releasable devices as shown in said Josleyn patent. The right-hand device 21 bears on the projecting portion of the associate head 9 at its left-hand end and at its right-hand end is supported on a head 26 suitably secured to the shaft 7 by screw 26^a. A screw pin 27 secures the rotary tube 21 in fixed relationship with the shaft 7. Line spacing devices comprising a pawl 28 operative by a lever member 29 provided with a finger piece 29^a, as found in the Monarch machine, are adapted to cooperate with the ratchet wheel 25 to turn the same step-by-step, this step-by-step movement being communicated to the shaft 7 and the devices 20 and 21. A detent (not shown) engages with the teeth of the ratchet wheel 25 to maintain the connected parts in adjusted positions. This turning of the ratchet wheel 25 and devices 20 and 21 operates to line space the paper through the cooperation of paper feeding devices which may correspond with the ordinary paper feeding devices of the Monarch machine, said devices however cooperating in the present case only with the devices 20 and 21 and not with the stationary device 10. Said paper feeding devices comprise sections 30 of a main feed roller mounted on a shaft 31 (Fig. 1), and, as appears from Fig. 2, spaced apart at the rear of the casing so as to engage with the end devices 20 and 21. The shaft 31 is supported in arms 32 pivoted at 33 to brackets 34 on the slide bar 5. Springs 35 press the feed roller constantly toward the tubes 20 and 21. Arms 36 pivoted at 37 in the brackets 34 carry a shaft 38 which supports the sections 39 of an auxiliary feed roller, said sections being spaced apart and caused by springs 40 to cooperate with the tubular devices 20 and 21. The feed roller sections project through openings in a curved paper deflector or apron 41 of the usual character, said paper apron being normally pressed upward by springs 42 on the arms 36, said apron being hung on a rock shaft 43 pivoted on the platen frame. Arranged above the deflector 41 is a paper table 44. The rock shaft 43 carries lugs 45 which are adapted to cooperate with pins 46 to swing the arms 32 downward, thus releasing the feed roller 30 and causing small rolls 47 on the extended lower ends of the arms 32 to engage with the arms 36 and effect the release of the feed roller 39, removing to a large extent the pressure of the springs 42 from the deflector 41. The shaft 43 may be rocked for this purpose by devices of the character found in the Monarch typewriting machine and disclosed in the patent to Bar-

ney No. 942,535, granted December 7, 1909, said devices being actuated by a releasing lever 48 provided with a finger piece or key 49. In addition to the paper feeding mechanism above described, paper fingers of the usual or other suitable character may be mounted on the rod 11 near the ends thereof so that the pressure rolls 50 (Fig. 1) of said paper fingers may engage with the tubular devices 20 and 21 but not with the cover plate 14.

The printing instrumentalities are not shown but they are or may be of the usual character comprising type bars which are swung upward and rearward, causing the types to act against the front face of the platen 17 through an inking ribbon 51 or other inking device. The letter space movements of the platen are controlled by the usual spring drum and escapement devices. The work sheet (shown in Fig. 1 and designated by the numeral 52) is of a width sufficient to extend the full length of the casing 10 and beyond the same so that the side margins of said sheet may be within the control of the paper feeding mechanism or devices comprising the rollers 30, 39 and 50. Prior to introducing the work sheet into the machine the paper feeding devices are preferably released so that said work sheet may be passed around the casing and the first line that is to receive writing may be brought opposite the printing point without affecting any of the other parts. After the work sheet has been thus adjusted the finger piece 49 is operated to restore the feed rollers 30 and 39 to operative position. It will probably not be necessary to release and restore the pressure rolls 50 on introducing the sheet; but if found desirable this may be done in the usual way. From Fig. 1 it will be apparent that the work sheet 52 passes upward over the printing point at the front face of the platen 17 so that when the printing instrumentalities are operated said work sheet will receive printing impressions on that portion of it which is between the platen and the actuated types, the printing line being on that portion of the paper which is opposite the front or vertical face of the platen 17. When the first line of writing has been completed the handle or finger piece 23^a may be operated, causing the pawl 28 to act on the ratchet wheel 25, turning said ratchet wheel and also turning the rotary tubes or devices 20 and 21. During this turning the paper feeding devices will cooperate with said tubes to advance the work sheet through a line space distance; and thereafter the work may be continued as described until the printing on the sheet has been completed, whereupon the printed sheet may be removed and a new one introduced.

It will be observed that by my present invention there is provided a stationary cylindrical device or hollow casing which contains a detachable platen over the printing face whereof the paper is adapted to be fed; that by reason of the fact that the face of the platen is substantially even or flush with the outer face of the casing, easy and regular feeding of the paper is promoted and wrinkling is prevented; that the device or casing occupies the space generally occupied by the regular platen of the machine; that said device is associated with other devices for feeding the paper; that the platen is detachably secured within the casing to a shaft which passes through the casing and supports the same; that the casing surrounds and incloses the platen except at the printing face thereof but that devices are provided, in the present instance a hinged cover, by which the interior of the casing is rendered accessible for the ready removal and replacement of the platen and for other purposes.

What I claim as new and desire to secure by Letters Patent, is:—

1. In a typewriting machine, the combination of a frame, a shaft thereon, a hollow casing on said shaft, and a platen within said casing and detachably secured to said shaft.
2. In a typewriting machine, the combination of a frame, a shaft thereon, a casing mounted on said shaft, said casing having a hinged cover and being provided with a longitudinal slot, and an anvil platen mounted within said casing opposite said slot, said platen being provided with clips by which it is detachably secured to said shaft.
3. In a typewriting machine, the combination of a frame, a hollow casing, a shaft on said frame supporting said casing, a platen within said casing and devices on said frame for holding said casing from turning when said shaft is turned, said platen having connections with said shaft which are independent of said casing.
4. In a typewriting machine, the combination of a frame, a hollow casing, a shaft on said frame supporting said casing, a platen in said casing, a rod on said frame and hooks on said rod connected to said casing.
5. In a typewriting machine, the combination of a traveling carriage, a hollow casing fixed thereto, means for affording access to the interior of said casing, an anvil platen within said casing, and connections between said platen and said casing for preventing movements of said platen relative to said casing.
6. In a typewriting machine, the combination of a traveling carriage, a hollow casing thereon provided with a hinged cover,

an anvil platen detachably mounted inside
said casing and cooperating at its ends with
slots in the ends of said casing which pre-
vent movements of said platen relative to
5 said casing.

7. In a typewriting machine, the combi-
nation of a frame, a shaft thereon, a hollow
casing on said shaft, and a platen within
said casing and connected to said shaft sepa-
10 rately from said casing, said platen being

stationary on said frame and remaining
motionless when said shaft is rotated.

Signed at Syracuse, in the county of On-
ondaga, and State of New York, this 6th
day of May, A. D. 1912.

HERBERT H. STEELE.

Witnesses:

BERNICE E. FOX,
HARRY BARRY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."