H. L. FRITZE.

TYPE WRITING MACHINE.

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1,159,921.

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Fig. 1.

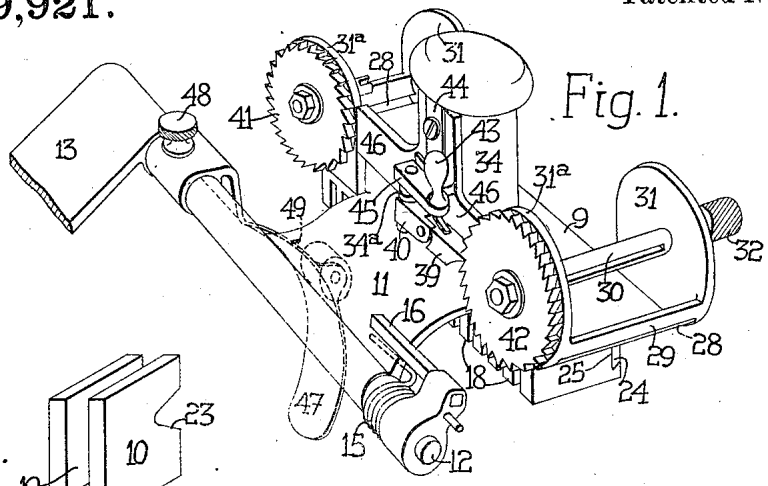


Fig. 2.

Fig. 4.

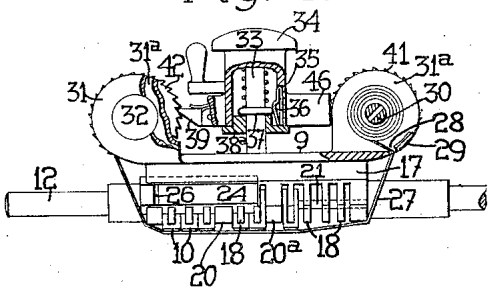


Fig. 3.

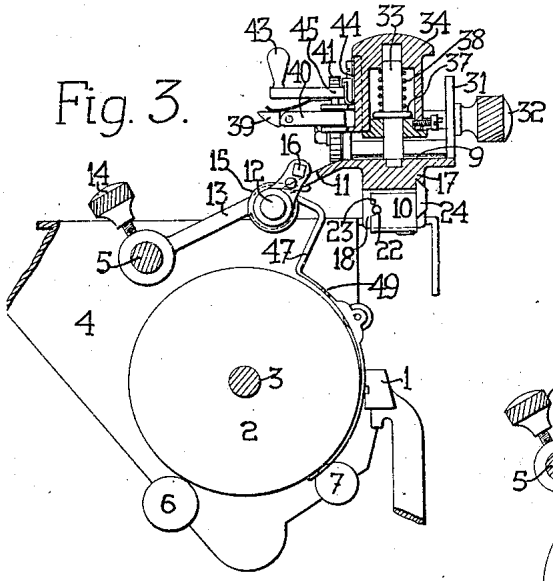


Fig. 5.

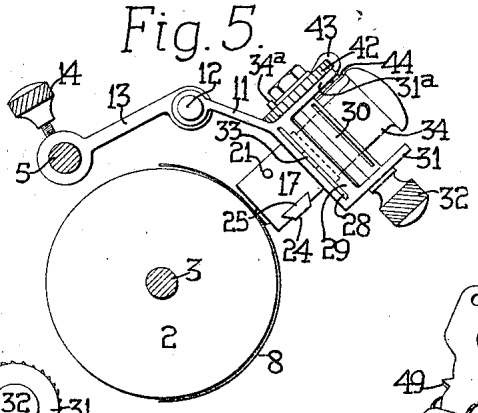


Fig. 6.

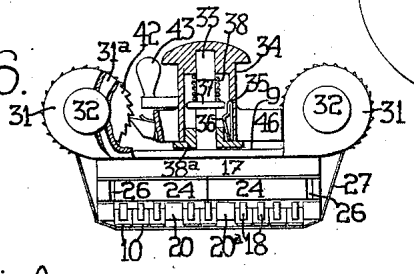
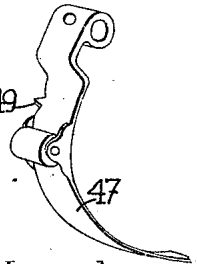


Fig. 7.



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UNITED STATES PATENT OFFICE.

HENRY L. FRITZE, OF JERSEY CITY, NEW JERSEY, ASSIGNOR TO UNDERWOOD TYPE-WRITER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

TYPE-WRITING MACHINE.

1,159,921. Specification of Letters Patent. Patented Nov. 9, 1915.

Application filed March 8, 1910. Serial No. 547,964.

To all whom it may concern:

Be it known that I, HENRY L. FRITZE, a citizen of the United States, residing in Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

An object of this invention is to provide simple and practical means to enable the operator to economize time and labor by printing a date or the like at one stroke. I aim to provide a simple, efficient and improved device for this purpose, easily and quickly operated, and readily applicable to existing machines.

To overcome the difficulty of obtaining a clear impression of a plurality of characters simultaneously upon the paper, backed by the usual hard rubber platen surface and to enable the production of several carbon duplicates, I provide an improved impression device. The type-carrier is swung downwardly until the types engages the paper, whereupon the operator presses the impression hammer or device toward the platen. Such pressure is at first resisted by a latch. Upon the failure of the hammer to move, the operator brings an increasing pressure to bear thereagainst; and when sufficient pressure is exerted, the latch suddenly gives way and allows the hammer to impinge smartly against the type-carrier. The sharp blow thus delivered causes a clear impression of the types to be made on the paper notwithstanding the hardness of the platen surface which forms a backing for the paper.

The type carrier is preferably supported above the printing line and spaced from the platen, so as not to interfere with the feeding of the work-sheets around the platen and the usual manipulation of the work-sheets, and also so that when the type carrier is swung down to the platen, the types thereof print on a line above the normal printing line of the platen. The type carrier is supported on a swinging bracket above the platen so that it may be swung down to the platen to print thereon. The bracket is mounted on a pintle carried by an adjustable bracket arm supported on a tie-rod of the platen frame, said bracket arm being slidable along the tie-rod to bring the type carrier to any desired position along the platen.

Other objects and advantages will appear hereinafter.

In the accompanying drawings, Figure 1 is a perspective view of one embodiment of the invention. Fig. 2 is a detail perspective view of one of the movable types. Fig. 3 is a cross sectional view through the device, showing its normal relation to the platen and platen frame. Fig. 4 is a side view of dating device, partly broken away to show the normal position of the impression hammer and its latch, and the reversible ribbon-feeding mechanism. Fig. 5 is an end view of the device, the impression hammer having just delivered its blow. Fig. 6 is a side view partially broken away to show the position of the impression hammer and latch, and the ribbon-feeding pawl just after the blow is delivered. Fig. 7 is a detail view of a paper-finger, showing an indicator.

Types 1 strike against the front of the usual platen 2, which by an axle 3 is journaled in the ends 4 of a platen frame, connected by a tie-rod 5. Pressure rolls 6, 7 cooperate with the platen to feed the paper 8.

To print or stamp a notice memorandum, or date upon the paper, I have provided an auxiliary type-carrier 9, supported to move to the platen to effect an imprint of movable types 10. This carrier is carried upon an arm 11, hinged by a pintle 12, to a bracket 13, secured by screws 14 onto the tie-rod 5. A spring 15 normally holds the type-carrier raised above the platen and out of the way of the paper. A stop 16 limits the return movement of the carrier.

The type-carrier comprises an inverted type-bed 17, having several depending ribs or teeth 18 spaced from each other and fitting grooves 19 in the movable types 10. I have shown the carrier arranged as a dater, there being three depending ribs to support types indicating the month, and separated by a wide spacing rim 20, from a pair of depending ribs which support types indicating the day of the month, and which in turn are separated by a thick rib 20^a, from four

depending ribs supporting types indicating the year.

The types may be removably locked by a rod 21 passing through alining apertures 22 in the ribs 18, 20, and 28ª, and fitting in recesses 23 formed in the inner ends of the types 10. The rod prevents the types from dropping. The outer ends of the types squarely abut a back stop 24 parallel with the rod, and conforming to and slidable in an undercut groove 25 formed in the side faces of the type-bed and ribs. Said back stop crowds the types against the locking rod to lock them against displacement. The back stop may be nicked or kerfed, as at 26, to facilitate its removal.

When the types are to be changed, the set screws 14, holding the swinging bracket 13 on the tie rod 5, are loosened, and the type-carrier 9 and pintle 12 are thrown backwardly around the tie rod as a center, to expose the types face upward. After manipulating the removal types, the bracket, pintle and type-carrier are swung back to normal position, shown by Fig. 3, and the set screws tightened to hold the bracket in place.

The types are set against the platen by swinging the carrier downwardly about the pintle 12 as a center, until the types rest upon the platen or the paper thereon (as in Fig. 5), after which the spring 15 returns said carrier to normal position.

The carrier is provided with an impression hammer or device 34, mounted to slide up and down on a stem 33 on the type-carcarrier. Said impression hammer is normally held out of engagement with the type-carrier by a yielding latch 35, in the form of a spring, carried by the hammer and having an inclined shoulder 36 to engage an offset 37 on stem 33. The hammer may serve as a handle whereby to set the type-carrier against the platen, as a preliminary to the delivery of the printing blow thereagainst. Pressure against the hammer toward the platen, after the types are moved down to the platen, is resisted by the engagement of the shoulder with the offset, until force is applied sufficient to overcome such resistance, whereupon the shoulder suddenly yields from and slips past the offset, and permits the upper closed end of the hammer to strike sharply against the upper end of the striking stem 33, the force of which blow is transmitted to the type-carrier and effects a clear impression of the types. A spring 38 returns the hammer to normal position, shown in Figs. 3 and 4. A disk 38ª connected with the hammer, engages the under face of the offset 37 to arrest the return of the hammer.

An inking ribbon 27 passes beneath the type faces and up through guide slots 28 formed in overhanging ledges 29 on the type-carrier. The ribbon is wound on shafts 30 journaled in cheek pieces 31, 31ª at the opposite ends of the type-carrier. At one end, each ribbon shaft has a finger piece 32 to enable the ribbon to be wound by hand. The ribbon may be automatically fed with each imprint of the types, by means of a spring-pressed pawl 39 pivoted on an arm 40, hinged on the impression hammer 34, at 34ª, to swing into engagement with either ratchet wheel 41, 42, secured to the respective ribbon shafts 30. By swinging the pawl into engagement with first one and then the other of the ratchets 41, 42, through a finger piece 43 connected to the arm 40, the ribbon feed is reversed. A spring detent 44 engaging the butt 45 of the finger piece, holds the pawl in mesh with either ratchet, or in idle position, as desired. The thrust of the impression hammer toward the type-carrier and platen, causes the pawl to move idly over the teeth of its ratchet; the return of the impression hammer to normal position under the influence of the spring 38, engaging the pawl with the ratchet to turn the ribbon shaft. The impression hammer is prevented from turning on its stem 33, and thereby disengaging the pawl from the ratchet, by guide bars 46, the free ends of which are arranged to slide up and down against the inner vertical edges of the cheeks 31ª.

A resilient paper guiding finger 47 is journaled on the pintle and adjustably held against the platen by a set screw 48. Said finger carries an index 49 (see Fig. 7), to indicate the printing line on which the types of the auxiliary printing device will print. Such printing line is above that along which the usual key-operated types 1 strike.

The type-carrier may be adjusted clear across the platen along the cross rod 5.

Variations may be resorted to within the scope of the invention and portions of the improvements may be used without others.

Having thus described my invention, I claim:

1. In a typewriting machine, the combination with a platen, of an auxiliary type-carrier having types removably mounted thereon, a fixed center about which the type-carrier turns to afford access to the types, and a pivotal center located eccentrically to the fixed center and about which the carrier normally swings toward and from the platen to effect the impression of the types on the paper.

2. In a typewriting machine, the combination with a platen and a platen frame having a tie rod, of a bracket journaled on said tie rod, locking means to hold the bracket against turning, a pintle carried by the bracket, a type-carrier mounted to turn on the pintle, the type-carrier having types

removably mounted therein, and swinging toward and from the platen to effect an impression of the types, and a spring to support the type-carrier apart from the platen.

3. In a typewriting machine, the combination with a platen and a platen frame having a tie rod, of a bracket journaled on said tie rod, locking means to hold the bracket against turning, a pintle carried by the bracket, a type-carrier mounted to turn on the pintle, the type-carrier having types removably mounted therein, and swinging toward and from the platen to effect an impression of the types, a paper finger journaled on the pintle, and a lock to hold the paper finger in contact with the platen.

4. The combination with a typewriter comprising a rotary cylindrical platen having a firm surface suitable for receiving the impressions of striking types, of a dating device with types thereon spaced from said platen to permit work-sheets to be fed around the platen, said dating device movable to and from the platen without check, an impression hammer, and means to restrain said hammer during the movement of the dating device to the platen, said hammer releasable immediately subsequent to the contact of the dating device with the paper and operable by a snap action to impart a hammer blow to the dating device, and thus effect a clear impression of the dating types on the paper notwithstanding the hardness of the platen surface.

5. The combination with a typewriter comprising a rotary cylindrical platen having a hard surface suitable to receive the impressions of the usual striking types, of a dating device with types thereon spaced from said platen to prevent interference with work-sheets fed around the platen, said dating device movable toward and from the platen without check, an impression hammer carried by the dating device to move therewith as the latter moves toward the platen, and restraining means for the impression hammer, releasable by the same stroke which sets the dating device against the paper and immediately subsequent thereto, the hammer operable when released to impart a sharp blow to the dating device and thus effect a clear impression of the dating types on the paper notwithstanding the hardness of the platen surface.

6. The combination with a typewriter comprising a rotary cylindrical platen having a hard surface suitable for receiving the impressions of striking types, of a dating device with types thereon movable toward and from the platen without check to set the types of the dating device against a work-sheet on the platen and to remove said types from the work-sheet, an impression device, and a holding latch preventing operation of the impression device during the setting stroke of the dating device and automatically released at the conclusion of said setting stroke to enable the impression device to impart a sharp blow to said dating device and thus press the types firmly against the work-sheet to effect a clear imprint.

7. The combination with a rotary typewriter platen, of a type carrier supported above and spaced from the platen, said carrier movable to and from the platen, an impression device movable into and out of operative connection with the type carrier, and a yielding latch for detaining the impression device in the path of its operative movement but adapted to yield to a pressure thereagainst sufficient to insure the delivery of a blow to firmly press the types against the paper and effect a clear imprint notwithstanding the hardness and curvature of the platen surface.

8. The combination with a typewriter comprising a rotary cylindrical platen having a hard surface adapted to receive the impressions of swinging types which strike thereagainst, of a dating device with types thereon movable toward and from the platen, an impression device movable into and out of operative connection with the dating device, and means for detaining the impression device at a point in the path of its operative movement until overcome by a pressure thereagainst sufficient to insure the delivery of a blow to firmly press the types of said dating device against the paper and insure a clear imprint thereof regardless of the hardness of the platen surface.

9. In a typewriting machine, the combination with a roller platen having a surface suitable for receiving the impact of types striking thereagainst, and of sufficient hardness to prevent indentations by the said types, of a type-carrier mounted to swing toward and from the platen, an impression device operative to strike the said type-carrier subsequent to the engagement of its types with the paper on the platen, and a latch to restrain the impression device during the movement of the type-carrier toward the platen, said latch releasable by pressure applied to said impression device sufficient to insure a quick powerful stroke of the impression device to effect a clear impression on the types notwithstanding the hardness of the platen.

10. In a typewriting machine, the combination with a platen having a hard surface to prevent type indentations, of a type carrier having types movable toward and from the platen, an impression hammer movable relatively to the type carrier to deliver a blow thereagainst, and serving as a handle whereby to swing the type carrier against

the paper on the platen, and a yielding latch to normally maintain the hammer inoperative until overcome by a pressure sufficient to cause the delivery of a hammer blow which will insure a clear impression of the types notwithstanding the hardness of the platen.

11. In a typewriting machine, the combination with a rotary platen having a hard surface to prevent type indentations, of a type carrier normally spaced from the platen to prevent interference with the work-sheets and mounted for movement toward the platen, a striking stem on the type carrier, an impression hammer sliding on the stem, and a yielding latch to hold the hammer inoperative until overcome by a pressure sufficient to deliver a sharp blow upon the outer end of the striking stem which will insure a clear impression of the types in the type carrier regardless of the hardness of the platen.

12. In a typewriting machine, the combination with a rotary platen having a surface of sufficient hardness to resist the blows of the types, of an auxiliary type carrier mounted for movement toward and from the platen, an impression hammer supported by the carrier to deliver a blow thereagainst, a stop past which the hammer moves, and a yielding latch carried by the hammer to engage the stop and hold the hammer in inoperative position until overcome by a pressure sufficient to deliver a blow which will insure a clear impression of the types in the type carrier notwithstanding the hardness of the platen surface.

13. In a typewriting machine, the combination with a platen having a substantially unyielding surface, of an auxiliary type carrier mounted for movement toward and from the platen, and normally held away from the platen, an impression hammer supported by the carrier to deliver a blow thereagainst, a stop past which the hammer moves, and a latch having a yielding shoulder to engage the stop and hold the hammer in inoperative position until overcome by sufficient pressure to deliver a blow which will insure a clear impression of the types in the type carrier, notwithstanding the unyieldingness of the platen surface.

14. In a typewriting machine, the combination with a roller platen having a hard surface suitable for receiving the impact of types striking thereagainst, of a dating device having types movable to and from the platen, a device having a snap action for effecting the impression of the types on said platen, and a yielding obstacle provided at a single point in the path of said impression device to be overcome thereby, the impression device being freely movable independently of said obstacle when said point has been passed, said obstacle offering sufficient resistance to insure the operation of the impression device with great force upon the types, and thereby secure a clear impression of the types notwithstanding the hardness of the platen surface.

15. In a typewriting machine, the combination with a rotary platen having a hard surface suitable for receiving the impact of types striking thereagainst, of a type-carrier having types movable toward and from the platen, a manipulable impression hammer with straight line action operable by the same stroke which sets the type-carrier against the paper; and means for yieldingly obstructing the movement of the impression hammer at a single point only in its path, the impression hammer being freely movable independently of said obstructing means when said point has been passed, said obstructing means offering sufficient resistance to the advance of the hammer to insure that the hammer shall deliver a firm blow against the types on said carrier.

16. In a front-strike typewriting machine, the combination with a rotary platen, and usual types to print on the front face thereof, of an auxiliary type holder located above and spaced from the platen, types on said holder, said holder movable to bring the types against the platen at a point above the printing line of the usual types, and means to apply straight line impression force to said holder.

17. In a typewriting machine, the combination with a rotary platen, of usual types to print on the front face of the platen, an auxiliary type carrier pivotally supported above the platen and spaced therefrom, types on said carrier, means to swing said carrier about its pivot and bring the types against the platen at a line above the printing line of the usual types, and means to apply straight line impression force to said carrier.

18. In a typewriting machine, the combination with a rotary platen, of usual types to print on the front face of the platen, an auxiliary type carrier pivotally supported above the platen and spaced therefrom, types on said carrier, means to swing said carrier about its pivot and bring the types against the platen at a line above the printing line of the usual types, and means to impart a straight line hammer blow to said carrier after it has been brought to the platen, and thus impart a clear impression of the types on the work-sheet.

19. A typewriting machine having a dating device with types thereon and movable about a pivot into and out of operative relation with the platen, and impression means restrained and held inoperative during the forward, manually impelled impres-

sion stroke of said dating device and released at the completion of said stroke by a manual pressure on said dating device greater than that required to move the dating device to the platen, and operable when thus released to impart a blow to the dating device thereby to accentuate the sharpness of impact of its types upon the platen.

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