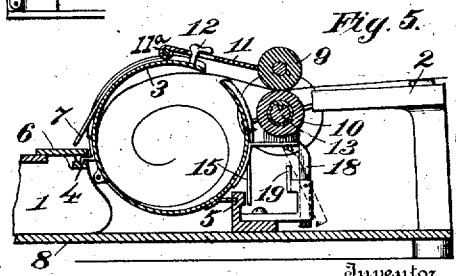
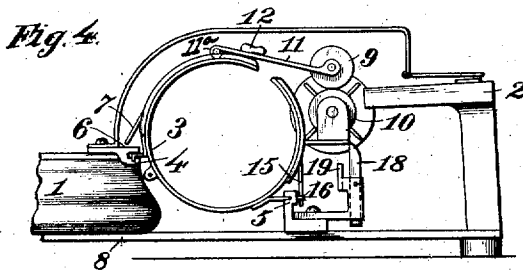
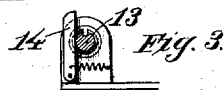
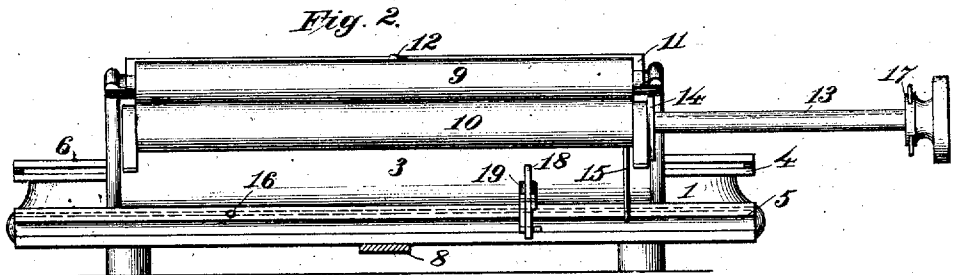
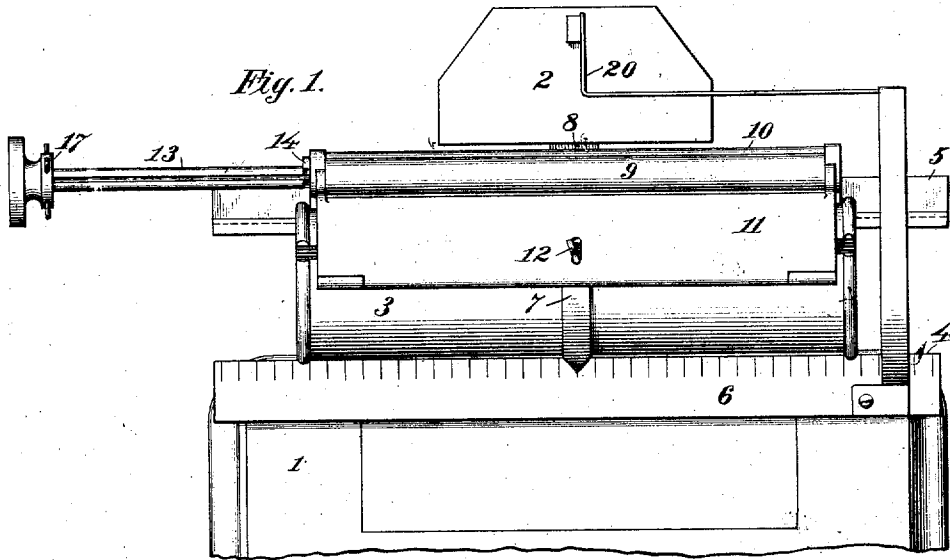


F. G. STALLMAN.
TYPE WRITER CARRIAGE.
APPLICATION FILED JAN. 19, 1904.

966,715.

Patented Aug. 9, 1910.



Witnesses

H. S. Austin
K. M. Cornelius

Ferdinand G. Stallman
By *Julian C. Dowell*
his Attorneys

UNITED STATES PATENT OFFICE.

FERDINAND G. STALLMAN, OF SAN FRANCISCO, CALIFORNIA.

TYPE-WRITER CARRIAGE.

966,715.

Specification of Letters Patent. Patented Aug. 9, 1910.

Original application filed October 22, 1903, Serial No. 178,102. Divided and this application filed January 19, 1904. Serial No. 189,725.

To all whom it may concern:

Be it known that I, FERDINAND G. STALLMAN, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Type-Writer Carriages; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

While my invention is susceptible of general application, it is particularly adapted for type-writing machines of small compass or narrow width, in which it is desirable to employ short paper-holders or carriages and yet to use wide sheets of paper; such, for example, as illustrated and described in my prior application for patent, for an improved type-writing machine, filed October 22, 1903, Serial No. 178102, of which the present application is a division. My improved carriage or paper-holder is also illustrated and described but not specifically claimed in another pending application filed by me November 23, 1903, Serial No. 182308, for improvements in feed-mechanism for type-writer carriages.

The principal object of the present invention is to provide an improved and exceedingly efficient carriage or paper-holder, with the various necessary adjuncts and adjusting devices, of small dimensions and adapted for successful use in machines of the above mentioned character, and adapted for holding comparatively wide sheets of paper and moving them across the machine so that the whole width of the paper can be printed.

The invention will first be described with reference to the accompanying drawings, which are to be taken as a part of this specification, and will then be recited concisely in the annexed claims.

In said drawings: Figure 1 is a top plan view of a portion of the base or bed-plate of a type-writing machine equipped with a carriage embodying my invention. Fig. 2 is a back view of the same. Fig. 3 is a detail view of a device for preventing an adjusting rod of the carriage from being pushed back into a hollow inclosure or paper-feed-roller after it has been pulled out therefrom. Fig. 4 is a side elevation, or

a view looking toward the right-hand end of the carriage. Fig. 5 is a vertical cross section through the carriage.

As before stated, my present invention is admirably adapted for use in a type-writer of the character illustrated and described in my pending application Serial No. 178102, and the form or embodiment selected for illustration in this case is especially suitable for such a machine; though it is to be understood fully that the invention as a whole and also various separate features thereof are capable as well of general application. For the sake of clearly understanding the functions and relations of the invention as illustrated, it may be stated here that my above-mentioned typewriting machine has an actuating mechanism mounted on a suitable base or bed-plate, such as represented in the drawings fragmentarily and designated by the numeral 1, and has a rotatory type-wheel or segment which after turning to bring the proper type for impression into place impinges or strikes upon the paper, which may rest on a suitable paper-support, such, for example, as indicated at 2, the printing space of which is shown slightly raised above the top surface of the rest of the paper-support to prevent smearing or blurring the paper by the type-wheel or inking ribbon.

My improved carriage or paper-holder, designated herein by the symbol 3, is shown in the form of a hollow roll or cylinder, suitably mounted for transverse travel or reciprocation across the machine, having in the present instance flanges supported in grooved guide-ways 4 and 5. The guide-way 4 is represented at the rear of the base 1, and it may be an integral or attached part of a scale 6 which may be a desirable adjunct in connection with a pointer 7 on the carriage. The other guide-way 5, and also the paper-support 2, are shown mounted on a T-shaped plate 8 extending from the under side of the base.

The roll or cylinder 3 has a longitudinal slot or opening, extending preferably along its entire length, so that a sheet or number of sheets of paper, although wider than the length of the roll, may be inserted and rolled therein. A sheet so inserted and rolled in the cylinder is represented in Fig. 5. The roll need not be very long, and however narrow the machine may be said

roll need be no longer; yet wide sheets may be placed therein and printed practically all the way across, since the carriage may travel considerably over half its length beyond each side of the base. Instead of a cylindrical roll, other desirable forms may be adopted; for example an elliptical or flattish shape, which is particularly desirable in a machine for type-writing cards which are too stiff for rolling.

The sheet of paper may be fed into and out of the slitted roll or cylinder by coaxing rollers 9 and 10, preferably having rubber or other gripping surfaces, mounted on and movable with the carriage. The upper roller is shown carried by a plate 11 pivoted at 11^a to the roll or cylinder; and by means of a latch 12 screwed or pivoted to the roll and projecting through a slot or opening in said plate and engaging the latter, said plate may be borne upon with more or less pressure by turning the latch to different positions, thus furnishing means for adjustment of the pressure between the rollers. The latch is simply so arranged that in turning toward the pivoted or attached end of the plate it bears harder, by reason of the relation of the inclined plate to the contact part of the latch.

One roller, here the lower one, is preferably hollow and has an operating or shift rod 13, which may be keyed or splined therein as shown in Fig. 5, or which may have its inner end split and expanded to clutch therein, and which at its outer end is provided with a knob or handle. When the machine is not in use, or when it is closed up for packing or storing, the rod 13 may be pushed all the way into the roller, so as to reduce the dimensions; but when in operation the rod may be pulled out for manipulating the rollers, to insert the paper into the roll, to feed the paper gradually out from the roll, to space from one line of typewriting to another, and also to shift the carriage. Suitable means may be provided to prevent the rod from being pushed back into the carriage, such as a spring-actuated dog or pawl 14, which may engage an annular groove in the rod when it is pulled out. After the completion of each step-by-step travel of the carriage to the left, the operator shifts or pushes it back to the other side of the machine by means of the rod 13, until its movement is limited by abutment of a lug 15 on the carriage against a pin or stop 16. He also turns said rod to space the paper or to bring a new line for writing into place, and means are preferably furnished for regulating the feed of the paper, or the spaces between the lines of writing. For instance, the rod 13 may be provided with a pin-wheel or star-wheel 17, having equidistant pins or teeth. When the operator shifts the carriage clear to the right,

the pin-wheel straddles a stationary spring-pressed dog or pawl 18, and the operator then turns the knob of the operating rod to cause one of the pins to ride against said dog, as indicated by dotted lines in Fig. 5, until this action is limited by abutment of the dog against a stop 19. On operation of the key-board, the carriage begins to move to the left again, thus carrying the pin-wheel away from the dog and allowing it to snap back into normal position in alignment with the space between the next two pins or teeth of the pin-wheel, ready for the next spacing.

By reference to the scale 6 and pointer 7, the operator may shift the carriage any desired number of spaces. To insure bringing any space or letter of the paper directly over the printing space of the paper-support, a pointer 20 may be used, carried by an arm on the base and projecting rearwardly beside said printing space.

Any suitable feed-mechanism may be used in connection with the carriage, for imparting thereto the necessary step-by-step travel across the machine. Mechanism for this purpose, especially adapted for type-writing machines of the character hereinbefore mentioned, is illustrated and described but not specifically claimed in my aforesaid application Serial No. 178102, and the same is described and claimed in my other aforesaid application Serial No. 182308. As set forth in these applications, the feed-mechanism is located in a recess in the back of the base 1, and embodies in connection with a suitable carriage-spring and escapement a tight cord or flexible connection passing around a pulley or pulleys, actuated by the spring, and crossing itself and having its opposite ends connected to opposite ends of the carriage. Such mechanism, not forming a part of the subject-matter of the present invention, and being fully disclosed in the aforesaid cases, need not be shown nor further referred to herein.

The invention is susceptible of various modifications in details of structure and arrangement, as well as, embodiment in different machines, so that I do not confine myself to the specific construction illustrated.

Having thus fully described my invention, what I claim and desire to secure by Letters Patent of the United States, is:

1. In a type-writing machine, a paper-holder consisting of a hollow or tubular body having a longitudinal slot or opening to receive the paper, a pair of coaxing feed-rollers in proper relation to said slot, a plate in which one roller is mounted pivoted to said holder, and a pressure-device engaging said holder and plate to hold the rollers together.

2. In a type-writing machine, a paper-holder consisting of a hollow or tubular

body having a longitudinal slot or opening to receive a sheet of paper, a pair of coacting rollers for feeding the paper to or from said holder, one of said rollers being mounted on a plate pivoted to the holder, and a latch pivoted to the holder and extending through an opening in said plate and bearing against the upper surface of the same, said latch being so related to the plate as to exert a varying pressure thereon as it is turned, whereby the pressure between the rollers can be adjusted.

3. In a type-writing machine, a carriage or paper-holder having a shift-rod adapted to be pushed back into a tubular inclosure therefor when the machine is not in use, and a pawl or dog on the carriage adapted to engage a transverse notch or groove on the rod when pulled out to prevent its being pushed back into the inclosure unintentionally.

4. In a type-writing machine, a carriage or paper-holder suitably mounted for reciprocation across the machine and consisting of a hollow roll or body having a longitudinal slot to receive a sheet of paper, and coacting rollers mounted on the carriage for feeding the paper to and from the roll, one of said rollers being hollow and having an operating rod fitted therein and adapted to be pulled out for manipulating the rollers and shifting the carriage.

5. In a type-writing machine, a carriage or paper-holder suitably mounted for reciprocation across the machine and consisting of a hollow roll or body having a longitudinal slot to receive a sheet of paper, co-

acting rollers mounted on the carriage for feeding the paper, a plate supporting one of said rollers pivoted to the carriage, an adjustable device bearing upon said plate by means of which the pressure between the rollers may be regulated, and an operating-rod fitted in a hollow of one roller and adapted to be pulled out for shifting the carriage and manipulating the rollers, but to be pushed back into said roller when the machine is not in use.

6. In a type-writing machine, a carriage or paper-holder carrying a pair of coacting rollers for feeding a sheet or sheets of paper, one of said rollers having a pin-wheel or star-wheel, a stationary spring-pressed dog straddled by teeth of the pin-wheel when the carriage stands at the limit of its movement in one direction, and a stop limiting the movement of said dog when the roller is turned to cause a pin to ride against said dog.

7. In a type-writing machine, a paper-holder comprising a slotted cylinder, a pair of gripping feed-rollers arranged longitudinally of said slot and carried by the cylinder, a hinged plate on the cylinder holding one of said rollers, and means carried by said cylinder for bearing upon said plate and adjusting the pressure between said rollers.

In testimony whereof I affix my signature, in presence of two witnesses.

FERDINAND G. STALLMAN.

Witnesses:

FRED E. BRIGGS,

A. M. CLARANCE.