

UNITED STATES PATENT OFFICE.

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PAPER-CARRIAGE FOR TYPE-WRITING MACHINES.

SPECIFICATION forming part of Letters Patent No. 763,165, dated June 21, 1904.

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To all whom it may concern:

Be it known that I, JOHN H. DORMAN, a citizen of the United States, residing at New York, State of New York, have invented certain new and useful Improvements in Paper-Carriages for Type-Writing Machines, of which the following is a specification.

My invention relates to that form of type-writing machines known as the "Hammond," and particularly to the paper-carriage of said machines, my object being to provide an extended form of carriage adapted to permit special work to be done requiring wide paper—such, for instance, as insurance-tables or the tables and statements made up in railroad-offices.

My invention includes a paper-carriage of extended form having a paper-roll of elongated form, together with supporting means for the said roll arranged intermediate the ends of the paper-carriage, said medial supporting means serving to hold the intermediate portion of the roll in proper position, so that the paper will be properly fed at all points along the roll and whereby also narrow sheets of paper may be used in the machine, as well as sheets which reach from end to end. I have provided a special form of the intermediate support adapted to permit the accurate adjustment of the paper-roll at its middle portion, so that at this point the feed of the paper will be as accurate and certain as that taking place at the ends of the roll where it is held in its bearings.

One feature of my invention relates to means by which the extended form of paper-carriage may be adapted to existing forms of the Hammond machine.

While I show and describe my invention as applied to the Hammond machine, I do not wish to be understood as limiting myself to the application of my invention to this type of machine.

In the accompanying drawings, Figure 1 is a rear view of so much of the paper-carriage of the Hammond type-writer as is necessary to a clear understanding of my invention. Fig. 2 is a cross-section on the line 2 2 of Fig. 1. Fig. 3 is a detail sectional view of the ad-

justable bracket or support for the intermediate part of the paper-roll. Fig. 4 is a bottom plan view of the supplemental frame for forming an extension of the main frame to provide a support for the extended carriage. Fig. 5 is a detail plan view. Fig. 6 is a detail view showing how the two sections of the large roll are connected. Fig. 7 is a similar view of the small rolls.

In the drawings, *a* represents the carriage-frame, and *b* and *c* the paper-rolls. The rear roll *b* is carried by arms *d*, supported on the back bar *e* of the frame, the arrangement being such that the arms *d* can have a swinging movement to move the roll *b* toward and from the roll *a*. This paper-roll *b* is of elongated or extended form, having intermediate of its length a space in which is located a medial support *f*. This support comprises an arm held by the back bar *e* and having a bearing for the intermediate portion of the elongated or extended roll. The back bar at this point is also supported by a medial supporting-piece, and this is in the form of a curved frame or bracket of a shape substantially that of the end frame—that is, being curved to conform to the cross-sectional shape of the paper-receptacle and having a bearing on its front side for the paper-roll *e*. By means of this intermediate arm and bracket the roll of extended form is supported intermediate of its length, so that the action of the roll at this point will be as certain and as accurate as that taking place at the ends of the roll in feeding the paper. In order to provide means for adjusting the roll at this intermediate position, I provide a special construction of the medial supporting-arm. In Fig. 3 it will be seen that this arm is formed in sections. One section, *g*, is pinned rigidly to the back bar and the other section, *h*, has a concave seat at its lower end fitted to the said back bar. Section *h* is carried by the section *g* by means of a screw *i*, and at its upper end it is provided with a bearing *k* for the journal of the paper-roll. This bearing is formed between the section *h* and a block *l*, carried thereon, by means of a screw *m*. A forcing-screw *n* passes through the section *g* and has its conical point

resting in a cavity of the section *h*. It will now be seen that by loosening the screw *i* and setting up the forcing-screw *n* the whole section *h* will be moved away from the section *g*, and as this section is rigidly held upon the fixed back bar *e* the section *h*, together with the intermediate bearing for the paper-roller, will be adjusted forwardly, and when the desired position is attained the screw *i* may be set to lock the parts firmly together. I do not wish to limit myself to the form of roll. This may be of separate sections or it may be of one section provided with an intermediate space, it being understood that in any case the action of this roll is uniform and accurate throughout its whole length. The supporting-arm, it will be noticed, is arranged on the back bar intermediate of the ears *o* of the medial supporting-bracket.

I have shown for convenience only one medial support; but it will be understood that I do not limit myself in this respect, as any number may be used as circumstances may require.

This extended carriage may be used on any of the machines of the Hammond type already constructed, and for this purpose I have provided a supplemental base-frame *p*, adapted for connection with the ordinary base-frame of the machine, such as I have represented at *q* in a general way. This supplemental frame is adapted to be attached by screws *r* to the under side of the rear portion of the ordinary frame, and it has laterally-extending arms *s*, which carry at their ends supporting means for the ends of the elongated or extended carriage. These supporting means, in the present instance, I have shown as composed of rollers; but I do not limit myself in this respect.

As shown in Fig. 6, the large roll-sections are connected by pins *t* to move in unison, thus making this roll practically one body from end to end. The sections of the small roll shown in Fig. 7 need not be connected, as these sections are driven from the sections of the large roll.

I claim as my invention—

1. In combination in a paper-carriage for a type-writer, a paper-roll, swinging arms at the ends of the same for supporting the roll and an adjustable swinging arm intermediate of the ends of the roll for supporting the same, said arm being adjustable in relation to the swinging arms at the ends whereby the middle portion of the roller may be adjusted in relation to the end portions, substantially as described.

2. In combination in a paper-carriage for type-writers, a pair of rolls for feeding the paper between them and supporting means for said rolls arranged intermediate of the ends thereof, substantially as described.

3. In combination in a paper-carriage for a type-writer, a pair of rolls for feeding the

paper between them, supporting means for said rolls arranged intermediate of the ends of the same, said supporting means including a device by which one roll may be adjusted toward and from the other, substantially as described.

4. In combination in a paper-carriage for type-writers, a paper-roll, the swinging arms at the ends of said roll, the bar upon which said arms are supported, an arm intermediate of the ends of the roll supported by said bar and arranged to swing and support the said roll, a second roll and a bracket supporting said roll intermediate of its length said bracket being connected with the said bar, substantially as described.

5. In combination with a pair of paper-rolls, a bracket arranged intermediate of the ends of the rolls and having a bearing for supporting one roll intermediate of its length and an arm in pivotal connection with the said bracket for supporting the intermediate portion of the other roll, substantially as described.

6. In combination with a paper-carriage, paper-rolls, a bar forming part of the carriage, the arms connected with the bar and supporting one roll at its ends, a bracket connected with the bar and having a bearing for the other one of the paper-rolls intermediate of its length and an arm arranged intermediate of the ends of the first roll for supporting the same, substantially as described.

7. In combination with a paper-carriage having a paper-holding space, of two rolls and an intermediate support for the same comprising a bracket conforming in shape to the cross-sectional shape of the paper-holding space and having a bearing for one of the rolls and an arm in adjustable connection with the said bracket for supporting the other paper-roll, substantially as described.

8. In combination with a paper-roll, the supporting-arm comprising the two sections, one section carrying the bearing for the roll, the screw for forcing the sections apart and the screw for holding the sections when adjusted, substantially as described.

9. In combination, a paper-roll, a supporting-arm, a bar upon which the arm is supported, said arm being formed in sections embracing the bar and one of which is secured rigidly to the bar and means for connecting the other section adjustably with the rigid section, said other section carrying the bearing for the paper-roll, substantially as described.

10. In combination, a paper-roll, an arm for supporting the same comprising the two sections, a bar upon which one section is rigidly fixed and upon which the other section may have pivotal adjustment, and means for adjusting the relation between the sections, substantially as described.

11. In combination with a paper-roll, a supporting-arm formed in sections, a bar upon

which one section is rigidly secured and upon which the other section may have pivotal adjustment, a forcing-screw to separate the sections and the screw for holding the sections in
5 adjusted position, substantially as described.

12. In combination, the paper-roll, a frame-bar, the arms held by said frame-bar for supporting the ends of the paper-rolls, the intermediate supporting-arm formed in sections
10 one being rigidly fixed to the bar and the other carrying the bearing for the paper-roller and being capable of adjustment in relation to the first section, and means for effecting such adjustment, substantially as described.
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13. In combination with a type-writer carriage of extended form, a supplemental frame attached to the main frame and having two in-

tegral extensions one for each side of the machine for supporting said carriage at its ends, 20 substantially as described.

14. In combination in a carriage having a paper-holding space, the pair of rolls for feeding the paper between them and a support intermediate the ends of said rolls, said support 25 conforming substantially to the cross-sectional shape of the paper-holding space, one of the rolls being supported therein rigidly and one adjustably, substantially as described.

In testimony whereof I affix my signature in 30 presence of two witnesses.

JOHN H. DORMAN.

Witnesses:

THOMAS F. HAMMOND,
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