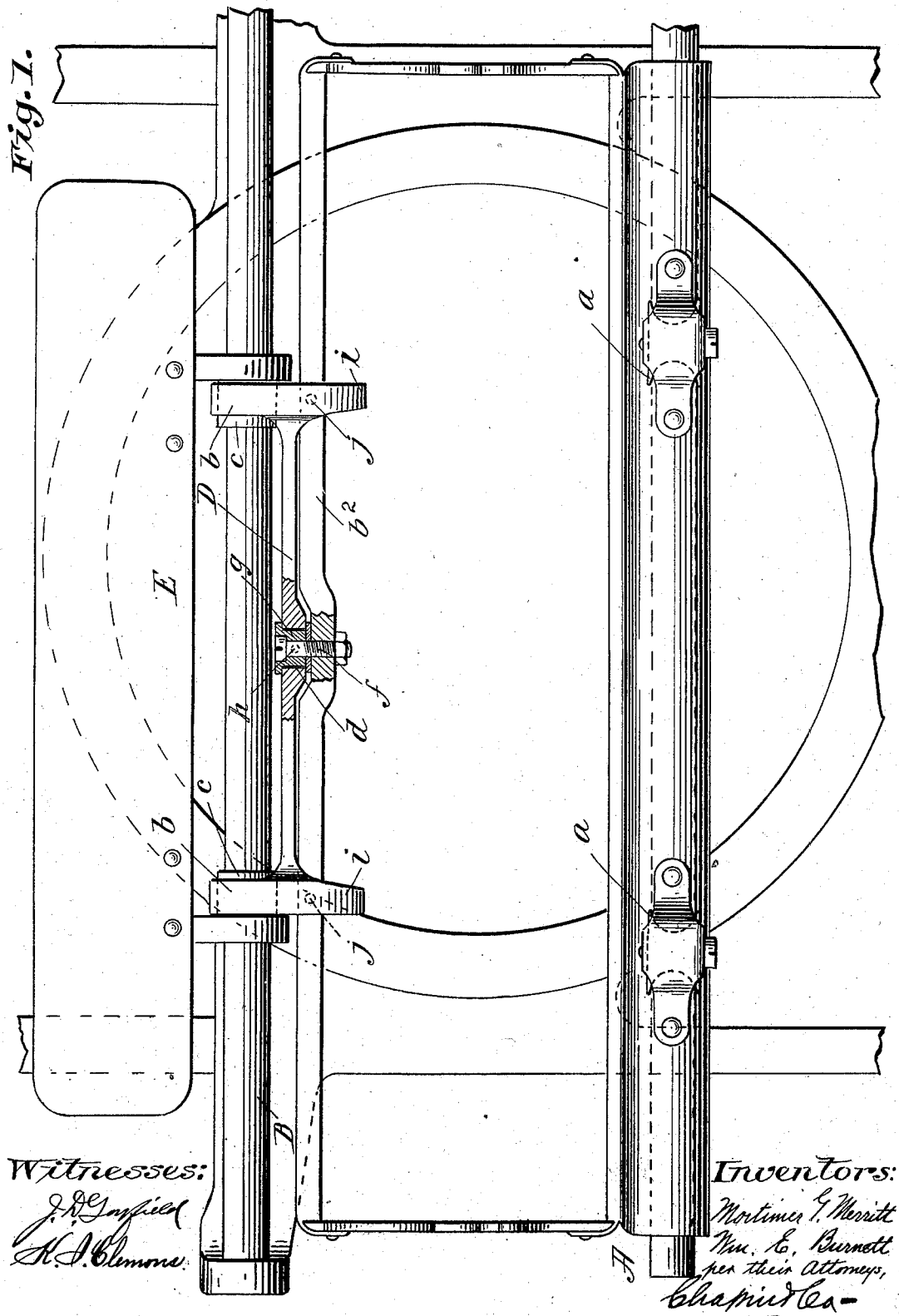
(No Model.) 2 Sheets—Sheet 1.

M. G. MERRITT & W. E. BURNETT.

TYPE WRITING MACHINE.

No. 505,059. Patented Sept. 12, 1893.

Fig. 1.



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

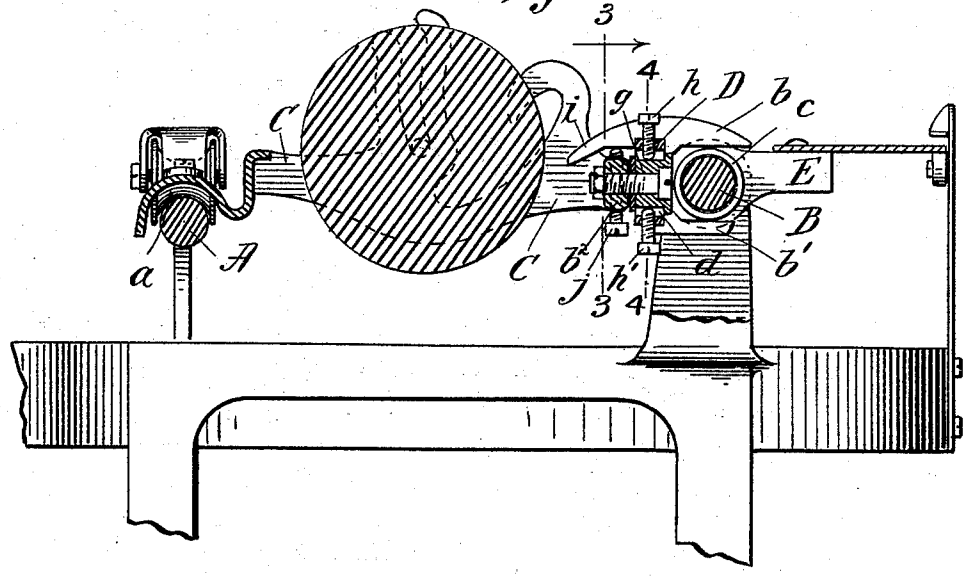


Fig. 3.

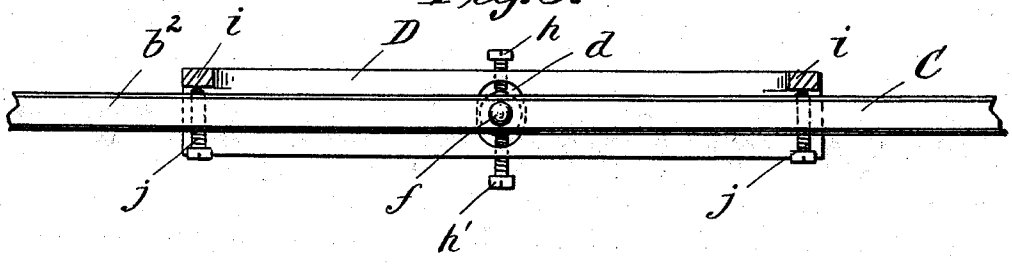
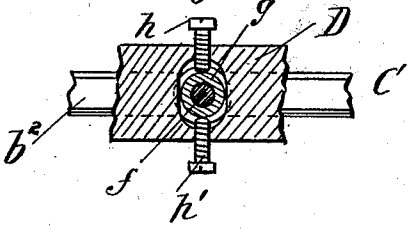


Fig. 4.



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UNITED STATES PATENT OFFICE.

MORTIMER G. MERRITT AND WILLIAM E. BURNETT, OF SPRINGFIELD, MASSACHUSETTS, ASSIGNORS TO THE MERRITT MANUFACTURING COMPANY, OF SAME PLACE.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 505,059, dated September 12, 1893.

Application filed October 17, 1892. Serial No. 449,111. (No model.)

To all whom it may concern:

Be it known that we, MORTIMER G. MERRITT and WILLIAM E. BURNETT, citizens of the United States, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Type-Writing Machines, of which the following is a specification.

These improvements pertain to typewriting machines of the class exemplified by such as the well known Remington or Densmore machine wherein the carriage, on which the platen is mounted, has an endwise step by step movement for letter spacing, and is also capable of having an endwise movement for the whole or any portion of its limit of run according as it is forced endwise to click past the escapement in a direction the reverse of its letter space-movement, or forced endwise in the direction of such space movement by releasing the engagement of the escapement devices.

The invention more particularly relates to improvements in the platen support and especially to means combined with the carriage for supporting it from the rear horizontal slide rod or rail which is provided at the top of the stationary frame.

The object of the invention is to insure, through the medium of a novel appliance, the leveling of the carriage, that is the positive support of the carriage at two points upon the rear rail in addition to its points of support at the front rail notwithstanding any warp, wind or twist which there may be in the carriage, so that the utmost stability of the platen will be insured for properly receiving and resisting the printing impact of the type-bars.

Another object of the invention is to provide for the carriage frame and its medium of rear support, certain adjustable and stop devices for bringing the under face of the platen in exactly the desired plane to receive the printing impact of the type-bars, and for preventing any unnecessary degree of oscillatory or tilting movement of the carriage as it is grasped by the hand to run it from end to end of the machine.

To this end the invention primarily consists in the combination with a carriage for the platen of a typewriting machine, and front and rear supports therefor, of a bar or part having at a suitable point between its ends, preferably its middle, a pivotal engagement with one side portion of the carriage at a suitable point between the ends of the latter, whereby said bar or part may have swinging movements vertically relative to the carriage, and said swinging part having portions, which are located in opposite directions from said point of pivotal engagement, that are sustained from the adjacent carriage support, for the purpose set forth.

The invention consists in further constructions and combinations of parts all substantially as will hereinafter fully appear and be set forth in the claims.

In the drawings the present improvements are illustrated.

Figure 1 is a plan view of the platen carriage as mounted on the top of the frame of the machine and comprising the present improved appliances, the platen being understood as removed from the carriage. Fig. 2 is substantially an end elevation,—some parts being in vertical cross section,—of a part of the stationary frame of the typewriting machine, the carriage and platen and the present novel devices. Fig. 3 is in part a rear elevation, and in part a vertical sectional view taken on the plane indicated by the line 3—3, Fig. 2. Fig. 4 is a vertical sectional view taken on the plane indicated by line 4—4, Fig. 2.

In the drawings A and B represent the front and rear supports which are parallel with each other and on which the carriage, C, for the platen has a manner of support which permits of its endwise movement. As shown the supports are in the form of parallel horizontal rails or rods somewhat elevated above the plane of the top of the frame of the machine.

The carriage is in the form of a substantially rectangular frame having suitable bearings for the support of the platen and its conjunctive parts and this carriage at its forward part is provided with the rolls, a, a, suitably located near its ends. The rear longitudinal member, b^2, of this carriage frame has

at or about midway of its length a supplemental bar or member, D, which latter between the ends thereof, preferably at its middle, has, substantially, a pivotal connection with the bar of the carriage frame proper. This bar, D, at its ends, has the rearwardly extended lugs, *b* and *b'*, in pairs, the upper, *b*, of each extended over the top of the rear support-rail while the under one, *b'*, of each extends under said support-rail and serves to assist in the prevention of accidental displacement of the carriage from the machine. As particularly shown these lugs have engagements with the extended hollow hubs of the part seen at E, which hubs loosely surround the said rear support-rail, B. The said part which is indicated at E is understood as the medium of connection or engagement through which the propelling device of or for the carriage having an engagement therewith, said part E receiving its movements from the propelling device which comprises a spring applied for imparting its force thereto as usual, or as may become desirable; and such movements, as also common and well understood, are controlled by escapement devices, none of which are necessary to here illustrate. Of course instead of the lugs, *b* and *b'*, embracing said hollow hubs they might be formed to have sliding bearings directly upon the support rail; for whichever arrangement may be preferred, the said intermediately pivoted bar, D, to all intents and purposes has supporting engagements with the adjacent support-rail at portions thereof which are in opposite directions from the point of pivotal engagement with the carriage.

We will now describe the particular manner of making the pivotal connection between the bar, D, and the rear of the carriage frame; the said bar, D, is provided with the vertically elongated aperture or slot, *d*, through which is passed the screw, *f*, which also passes through and beyond the rear bar of the carriage frame proper, receiving the confining nut thereon. A tubular bushing, *g*, surrounds the portion of the screw which is within the thickness of said bar, D, this bushing being outwardly flanged at its rear end, the flange overlying the rear face of the bar D, and serves to retain the proximity of the relations between the said bar and the carriage frame. The screws, *h*, *h'*, are passed vertically through the portions of the bar which constitute the upper and lower boundaries of said slot, *d*, they having bearings by their inner ends against what substantially amounts to the pivot-stud, that constitutes the medium of connection between the carriage frame proper and its oscillatory bar, D. By turning both of these screws to adjust them upwardly or downwardly the bar, D, may have bodily a changed normal or set position slightly and vertically relative to the frame of the carriage. This capability is advantageous especially to the constructor or person assembling the parts of the machine, as it enables him to have the lower impact face of the platen roll mounted to exactly the desired plane for the reception of the imprinting stroke by the type-bars. The bushing is a preferred and advantageous provision for the screw-stud, but is not an absolute necessity.

In addition to the pair of lugs, *b*, *b'*, rearwardly extended from each of the ends of the bar, D, said bar has the lugs, *i*, *i*, which are forwardly extended to overlie the rear member of the carriage at a short distance thereabove. The adjustable stop-screws, *j*, *j*, are provided in conjunction with said lugs, *i*, *i*, for limitation of the oscillatory movement of the carriage relative to the bar, D. These screws are to be so adjusted that while there will be ample freedom of movement to insure the self-leveling of the carriage there will not be an excessive one which will be regarded as objectionable especially at the time of moving the carriage endwise by the hand through longer distances than that of letter spacing; as well known the operator often grasps the carriage at the end to run it lengthwise and it will be clearly seen that any downward force upon the end of the carriage to swing it excessively will be resisted by the said stop-screws, *j*, *j*.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In a typewriting machine the combination with a carriage for the platen, and front and rear supports therefor, of a bar or part having between its ends a pivotal engagement with one side portion of the carriage intermediate between the ends of the latter whereby said bar or part may have swinging movements vertically relative to the carriage and said swinging part having portions which are located in opposite directions from said point of pivotal engagement that are sustained from the adjacent carriage support, all whereby said portions are rendered automatically adjustable in a vertical plane parallel to the front of the machine, for the purpose set forth.

2. In a typewriting machine, the combination with a carriage for the platen, and front and rear supports therefor, of a bar or part having between its ends a pivotal engagement with one side portion of the carriage intermediate between the ends of the latter whereby said bar or part may have swinging movement vertically relative to the carriage and said swinging part having portions which are located in opposite directions from said point of pivotal engagement that are sustained from the adjacent carriage support, all whereby said portions are rendered automatically adjustable in a vertical plane parallel to the front of the machine and a stop device for limiting the degree of swinging movement of said bar relative to the carriage, for the purpose set forth.

3. The combination, in a typewriting machine, with a front support, rear support-rail, and carriage, of the bar or part intermedi-

ately pivoted on a middle rear part of the carriage and having the rest or support lugs, *b*, *b'*, and the lugs, *i*, and the stop devices, arranged for conjoint action, substantially as described.

4. In a typewriting machine the combination with the carriage and front and rear longitudinally extended supports therefor, of a bar or part having slide bearings on one of said supports and means between it and the carriage for constituting a vertically adjustable pivotal connection, for the purpose set forth.

5. In a typewriting machine the combination with a front support and a rear rail, of the carriage having the bar intermediately of its length pivotally connected to the middle rear part of the frame and having near each of its ends the upper and lower lugs, *b*, *b'*, rearwardly extended to embrace said rear support-rail, substantially as described.

6. In a typewriting machine the combination with a front support and a rear rail, of the carriage having the bar intermediately of its length pivotally connected on the middle rear part of the frame and having near each of its ends the upper and lower lugs rearwardly extended to embrace the rear support-rail and having the forwardly extended lugs to overlie the rear parts of the carriage, and the stop-screws, *j*, *j*, substantially as described.

7. In a typewriting machine the combination with a front support and rear-rail, of the carriage and the bar intermediately of its length provided with a vertical slot and having portions to bear on the rear rail, a stud passed through the slot and having an engagement with the carriage and the adjusting screws passed through the portions of the bar which constitute the upper and lower boundaries of the slot for a bearing on the stud, substantially as described.

8. In a typewriting machine the combination with a front support and a rear-rail, of the carriage and the bar intermediately of its length provided with a vertical slot, and having portions for bearing on the rear-rail, a screw passed through the slot and carriage and having the sleeve, flanged at its outer end, surrounding the screw and the adjusting screws, *h*, *h'*, passed through the portions of the bar which constitute the upper and lower boundaries of the slot, substantially as and for the purpose set forth.

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