Dec. 17, 1940. H. A. AVERY 2,225,093

MACHINE SUPPORT

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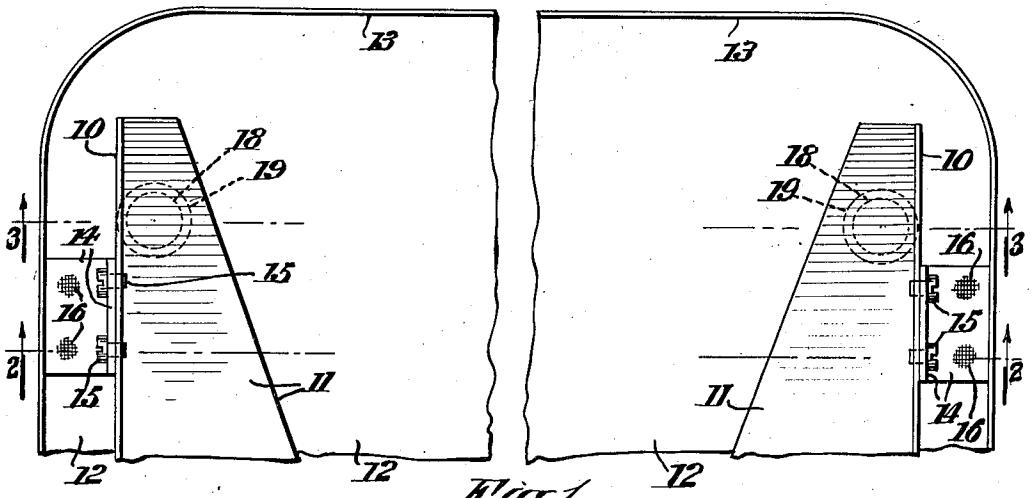


Fig. 1.

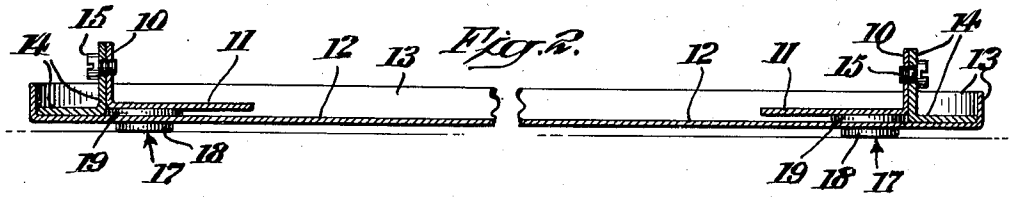
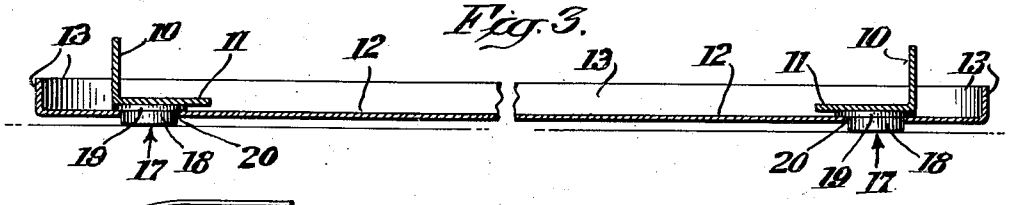


Fig. 2.

Fig. 3.



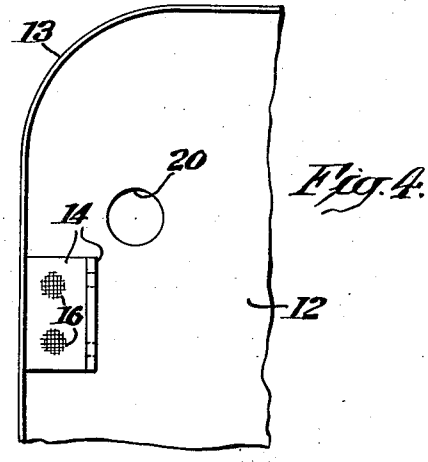
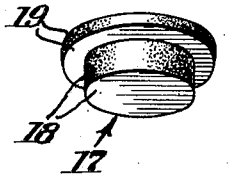


Fig. 4.

Fig. 5.



INVENTOR
Henry Allen Avery
BY
Wm. R. Davis
ATTORNEY

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MACHINE SUPPORT

Henry Allen Avery, Groton, N. Y., assignor to L C Smith & Corona Typewriters, Inc., Syracuse, N. Y., a corporation of New York

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5 Claims. (Cl. 248—24)

The invention relates to improvements in machine supports, and has for its principal object to provide an improved, simple and inexpensive supporting means of the cushion foot type for machines, and particularly for portable typewriting machines, for reducing operation noises, absorbing shocks, and preventing sliding of the machine upon a desk top or other supporting surface. The invention provides a simple, inexpensive and effective assembly of machine frame and rubber supporting feet, and one wherein high cushioning efficiency is attained with substantially no tendency of the machine to wobble laterally while in operation.

To the foregoing and other ends which will hereinafter appear, the invention consists in the features of construction, arrangements of parts, and combinations of devices hereinafter described and particularly pointed out in the appended claims.

In the drawing illustrating, in connection with a portable typewriting machine, the preferred embodiment of the invention,

Fig. 1 is a fragmentary top plan view of the rear end of the machine showing two rubber feet and their mountings located at opposite sides of the machine;

Fig. 2 is a vertical transverse sectional view on the line 2—2 of Fig. 1;

Fig. 3 is a vertical transverse sectional view on the line 3—3 of Fig. 1;

Fig. 4 is a detail top plan view showing the left hand corner of the base plate of the machine and a bracket welded thereto; and

Fig. 5 is a perspective view showing, on an enlarged scale, one of the rubber supporting feet.

Only so much of the machine as is necessary to an understanding of the present invention is shown in the drawing and will be described.

The rear end portions of the two vertical sheet metal side walls or side plates of the main frame of the portable typewriting machine are designated 10 in the drawing, each said side wall portion being formed with an integral horizontal flange 11 extending inward from the lower edge thereof. Beneath the main frame is a thin sheet metal base plate 12 formed around its outer edge with a low upstanding flange 13. The main frame and base plate are detachably connected in vertically and slightly spaced relation. The two connections shown at the rear of the machine each comprises a sheet metal angle bracket 14 having a vertical portion detachably held to the outer face of the adjacent wall portion 10 by suitable fastening means such as screws 15, and having a horizontal portion extending outward from said wall portion 10 and spot welded at 16 to the upper face of base plate 12.

The assembled main frame and base plate are supported at the rear of the machine by two rubber feet 17 molded of soft live rubber. These feet are of very small size and very low height, the several parts hereinbefore described being shown full size in Figs. 1 to 4 of the drawing, and one of the feet being shown on an enlarged scale in Fig. 5.

Each rubber foot 17 is a solid body or mass of the soft live rubber, that is, the foot is not formed with a bore therethrough nor is it formed with a central cavity in its lower face. Each foot consist of a lower stem portion 18 of cylindrical cross section and an integral upper head portion 19 of cylindrical cross section and of larger diameter than the stem portion. The stem portion is of greater height than the thickness of the thin sheet metal base plate 12, preferably about three times as high as the thickness of said plate. The small vertical spacing of flanges 11 above plate 12 is preferably substantially less than the height of foot stem portion 18, and the height of the head portion 19 preferably equals the said small vertical spacing.

Beneath each flange 11 of the main frame the plate 12 is formed with a circular aperture 20 the diameter of which corresponds with the diameter of the foot stem portion 18. The stems of the rubber feet are passed downwardly through apertures 20, and the machine frame and base plate are fastened together by screws 15 with the flanges 11 seated on the heads 19 of the rubber feet 17 and with said heads confined between flanges 11 and base plate 12.

It will be observed that the construction described permits lateral expansion of the foot, under downward shocks, substantially from top to bottom of the foot, and that the foot takes the load at the upper face of the foot, thereby utilizing the full length of the foot as a cushion substantially free from end to end to expand laterally under downward thrusts or shocks. It is thus possible to use a small foot of very low height which nevertheless has high resilience and shock absorbing capacity but which, by reason of its extremely low height has substantially no tendency to bend laterally and cause the machine to wobble or vibrate laterally while in use. At the same time a relatively broad gripping area is provided at the bottom face of the foot, thereby providing ample anti-skid capacity. It will also be observed that the foot is held in

place by the assembled machine frame and the base plate, thus saving provision of special foot securing means.

What I claim is:

1. In a portable typewriting machine, in combination, a main frame, a sheet metal base plate underlying said frame and formed with an aperture near one side edge, an upstanding flange carried by the base near its side edge and adjacent said aperture, an upstanding flange at the side of the main frame and adapted to contact the inner side of the upstanding flange on the base plate to position the main frame on the base, an inwardly extending horizontal flange on the main frame overlying the aperture in said base plate, a soft rubber supporting foot for said aperture, having a head portion confined between the horizontal flange on the main frame and the base plate and a reduced stem portion extending through the aperture in said base plate and forming a yielding friction gripping foot to support the machine, the said horizontal flange being seated on the said head portion, and means detachably securing the upstanding flange of the base plate to the upstanding flange of the main frame to lock the foot in the apertures in the base plate.

2. In a portable typewriting machine, in combination, a main frame, a sheet metal base plate underlying said frame and formed with apertures near each side edge, upstanding flanges carried by the base near each side edge thereof and adjacent said apertures, upstanding flanges at opposite sides of the main frame and adapted to contact the inner sides of the upstanding flanges on the base plate to position the main frame on the base, inwardly extending horizontal flanges on the main frame overlying the apertures in said base plate, a soft rubber supporting foot for each of said apertures, each having a head portion confined between one of the horizontal flanges on the main frame and the base plate and a reduced stem portion extending through the aperture in said base plate and forming a yielding friction gripping foot to support the machine, the said horizontal flange being seated on the said head portion, and means detachably securing the upstanding flanges of the base plate to the upstanding flanges of the main frame to lock the feet in the apertures in the base plate.

3. In a portable typewriting machine having a main frame and a sheet metal base plate attached to and underlying said frame, said frame including a sheet metal side wall formed with a horizontally disposed base flange spaced above said plate, a soft rubber supporting foot for said machine having a head portion confined between said flange and plate and having a reduced stem portion extending below said plate, said flange being seated on said head portion of the foot and said plate being provided with an aperture through which the stem portion of the foot extends, rigid guide means carried by the said base plate and engaged by said side wall of the main frame to position said horizontally disposed base flange on the head portion of said rubber foot, and means detachably securing the said guide means to the main frame.

4. The combination with a machine frame, a sheet metal base plate underlying the machine frame and formed with apertures, soft rubber feet extending through said apertures in the base plate and formed with enlarged heads resting on the upper surface of said plate, their lower ends forming yielding feet for the machine, rigid horizontal plates carried by the main frame and overlying the said apertures and seated on the upper surfaces of said enlarged heads of the rubber feet, means carried by the base near one side edge and adapted to be engaged by the main frame to position said horizontal plates on the enlarged heads of said rubber feet, and means detachably securing the main frame to the base plate to lock the said feet in the apertures in the base plate.

5. The combination with a machine frame, a sheet metal base plate underlying the machine frame and formed with apertures, soft rubber feet extending through said apertures in the base plate and formed with enlarged heads resting on the upper surface of said plate, their lower ends forming yielding feet for the machine, rigid horizontal plates carried by the main frame and overlying the said apertures and seated on the upper surfaces of said enlarged heads of the rubber feet, rigid stop means carried by the base plate near each side edge and adapted to be engaged by the outer sides of the main frame to position said horizontal plates on the heads of said rubber feet and hold the main frame against sidewise shifting on the base, and means detachably securing the main frame to the base plate to lock the said feet in the apertures in the base plate.

HENRY ALLEN AVERY.