

J. H. BARR.
TYPE WRITING MACHINE.
APPLICATION FILED SEPT. 20, 1909.

942,853.

Patented Dec. 7, 1909.

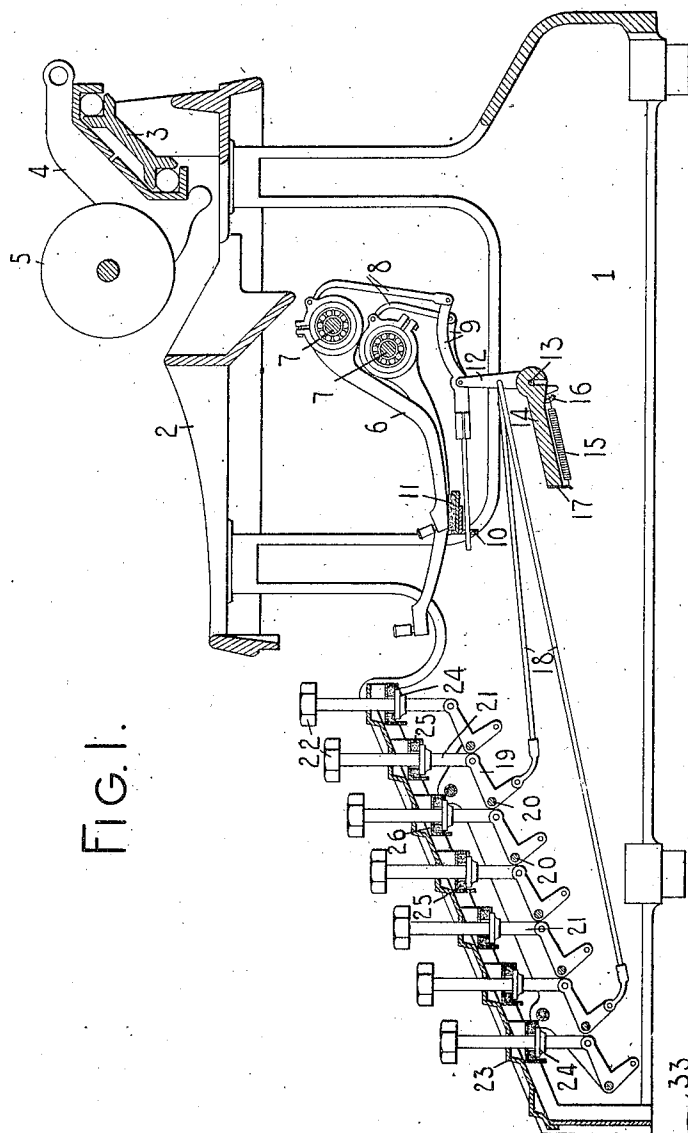


FIG. 1.

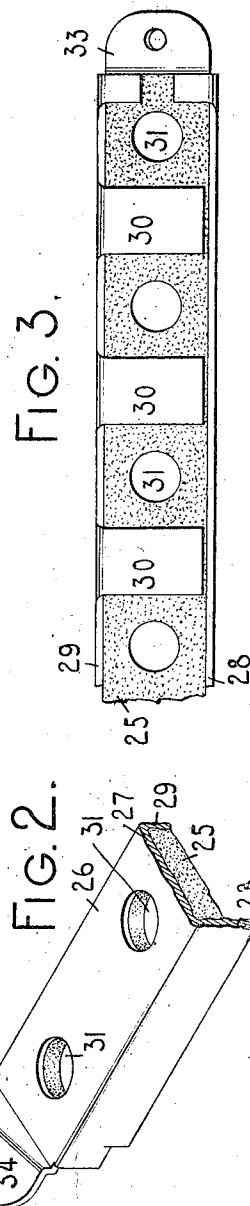


FIG. 3.

WITNESSES:

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UNITED STATES PATENT OFFICE.

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TYPE-WRITING MACHINE.

942,853.

Specification of Letters Patent.

Patented Dec. 7, 1909.

Original application filed September 27, 1907, Serial No. 394,854. Divided and this application filed September 20, 1909. Serial No. 518,619.

To all whom it may concern:

Be it known that I, JOHN H. BARR, citizen of the United States, and resident of Syracuse, in the county of Onondaga and State of New York, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

My invention relates to typewriting machines and it has for its principal object to provide a noiseless pad to arrest the keys on their return strokes.

My invention consists in certain features of construction and combinations and arrangements of parts, all of which will be fully set forth herein and particularly pointed out in the claims.

This application is a division of my prior application filed September 27th, 1907, Serial No. 394,854.

In the accompanying drawings, Figure 1 is a front to rear vertical sectional view of a typewriting machine having my invention embodied therein. Fig. 2 is a perspective view on an enlarged scale of one end of one of the arresting pads. Fig. 3 is a bottom view on an enlarged scale of one end of one of said pads.

My invention is applicable to typewriting machines generally, but I have here shown it applied to a front-strike typewriter having a full keyboard and a separate type bar for each type. The main frame of this machine comprises a base part 1 which supports a top plate 2. A stationary rail 3, mounted on said top plate, supports a carriage 4 having a platen 5 thereon. The type bars 6 are mounted in two sets on segmental rods 7 which are supported at their ends by the top plate 2, these rods being round in cross section and formed with grooves constituting race-ways for ball bearings for the several type bars. Each of the type bars has pivoted to the heel thereof at the rear, the upper end of a link 8; and at their lower ends said links are connected to a series of sliding rods or levers 9, each of said sliding rods being pivoted at its rear end to one of the links 8 and at its forward end sliding through a hole in the fulcrum plate 10, said fulcrum plate being supported on a segmental type rest 11. Between its ends each of the levers 9 is pivoted to the end of a sub-lever 12, the

series of sub-levers being pivoted on a wire 13 lying in a suitable groove in a sub-lever segment 14 which is secured at its ends in the top plate 2. The links 8 and levers 12 are radially disposed throughout the type bar system. The type bars are returned to normal position by springs 15 each connected at its rear end to an arm 16 of one of the levers 12 and at its forward end to a plate 17 secured to the forward edge of the sub-lever segment 14. The levers 12 are operated by forwardly extending links 18 pivoted at their rear ends to the levers 12 and at their forward ends to bell crank key levers 19 which are pivoted on pivot wires 20 arranged cross-wise of the machine beneath the keyboard. The bell cranks 19 have key stems 21 pivoted thereto, said key stems carrying the printing keys 22. The key stems 21 are guided by passing through suitable perforations in a stepped keyboard plate 23 which is fastened at its right and left-hand sides to the cast iron base part 1 of the main frame of the machine. It will be understood that the keys 22 are arranged in rows transversely and longitudinally of the machine.

Heretofore the upward motion of the key stems has been limited by some device which cooperated with the keyboard plate 23. For example, in one instance the key stems were provided with collars below the keyboard plate and a felt washer surrounded the key stem above the collar, this washer striking against the under side of the plate when the key returned to normal position. It was found that this arresting device made a certain amount of noise and it is the principal object of the present invention to eliminate this thumping noise made by the return motion of the keys. According to the present invention each of the key stems is provided with a collar 24 at some distance below the keyboard plate 23, and these collars strike against strips of felt 25, there being one such strip of felt for each transverse row of keys. The strip of felt 25 is mounted as shown in Figs. 2 and 3 in a sort of casing made of a strip of sheet metal having a horizontal part 27 (Fig. 2) lying above the strip of felt and a stiffening flange 28 bent downward from the forward edge of the part 27. A second flange 29 is bent downward from

the rear edge of the horizontal part 27 and said flange 29 is formed with a series of ears 30 situated between the several key stems and folded back beneath the felt 25 to retain the latter in place. It will, of course, be understood that any other suitable cushioning material than felt may be employed and that other means may be employed to retain it in place than the precise ears 30 here shown. The part 27 of the casing 26 and the strip of felt are perforated as shown at 31 for the passage of the key stems, and the perforations are made large enough to permit the key stems to work freely therein. The metal strip and the felt strip may be perforated separately, or the perforations may be made through both the felt and metal together after the parts are assembled, as preferred. The perforations are between the ears 30, so that the collars 24 do not strike said ears but strike only the felt. At each of its ends the casing 26 is bent upward as shown at 32 and an ear 33 is bent off transversely from this upstanding part of the casing. This ear as here shown stands at an inclination to the horizontal equal to that of the general inclination of the keyboard. Each of the ears 33 is perforated at 34 for a retaining screw or rivet or other device. The casing 26 is not in contact with the keyboard plate except at these ears 33, so that no vibrations are communicated from the casing to the keyboard plate. It will be seen that this sheet metal casing, formed as it is with the flanges 28 and 29, is stiff and having the strip of felt clamped to it at numerous points in its length, probably also assists in making said casing non-resonant. Whatever the reason may be it is found that the collars 24 striking against this pad do not make a perceptible noise. It will be perceived that these pads are very inexpensive to make and it is found in practice that they are efficient in deadening or destroying the objectionable sound.

Various modifications may be made without departing from my invention.

The type bar system herein shown, is claimed in my pending application filed May 26, 1905, Serial No. 262,395. The devices for actuating the type bars shown herein, are claimed in my application Serial No. 394,854 of which the present case is a division.

What I claim as new and desire to secure by Letters Patent, is:—

1. In a typewriting machine, the combination with printing keys and parts actuated thereby, of a pad for arresting said keys in normal position, said pad comprising a metal casing and sound deadening material such as felt, said casing having parts thereof bent into engagement with the felt to hold said felt in place.

2. In a typewriting machine, the combination of a series of keys and key stems having stops thereon, and an arresting device having perforations for said key stems, said arresting device comprising a sheet metal casing and a strip of sound deadening material such as felt, said casing having ears bent up between the key stems to retain the felt.

3. In a typewriting machine, the combination of a series of keys arranged in rows and mounted on key stems, and a series of arresting devices for said key stems comprising a bar for each row of keys having sound deadening material such as felt secured thereto and stops on the key stems to engage said sound deadening material, said bars being supported only at their ends.

4. In a typewriting machine, the combination with a series of keys, of a pad for arresting said keys, said pad comprising a casing composed of a strip of sheet metal with a stiffening flange, a strip of sound deadening material, means for clamping said sound deadening material to said casing at numerous points in its length, and means for supporting said casing at its ends.

5. In a typewriting machine, the combination with a series of keys having stems, of a keyboard plate for guiding said stems, and pads for said key stems comprising strips of sheet metal supported at their ends and strips of sound deadening material clamped to said strips of sheet metal, and said strips of metal and sound-deadening material being perforated for the passage of said key stems.

Signed at Syracuse, in the county of Onondaga and State of New York this 11th day of September A. D. 1909.

JOHN H. BARR.

Witnesses:

E. E. CORY,
E. L. SNYDER.