Nov. 29, 1938. J. F. KOCA 2,138,324

MEANS FOR REDUCING SHOCK IN THE ESCAPEMENT MECHANISMS OF TYPEWRITERS

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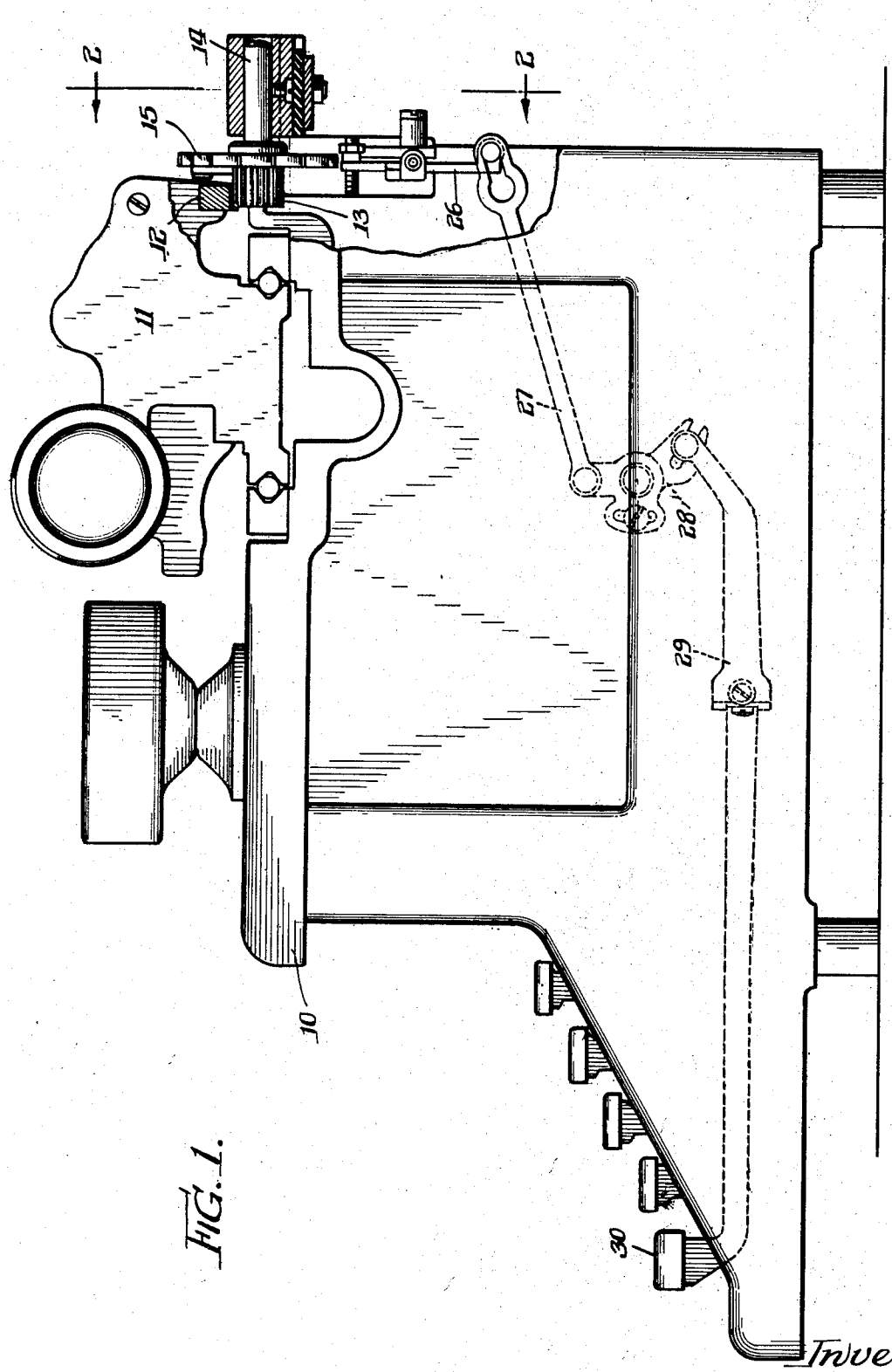


FIG. 1.

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FIG. 2.

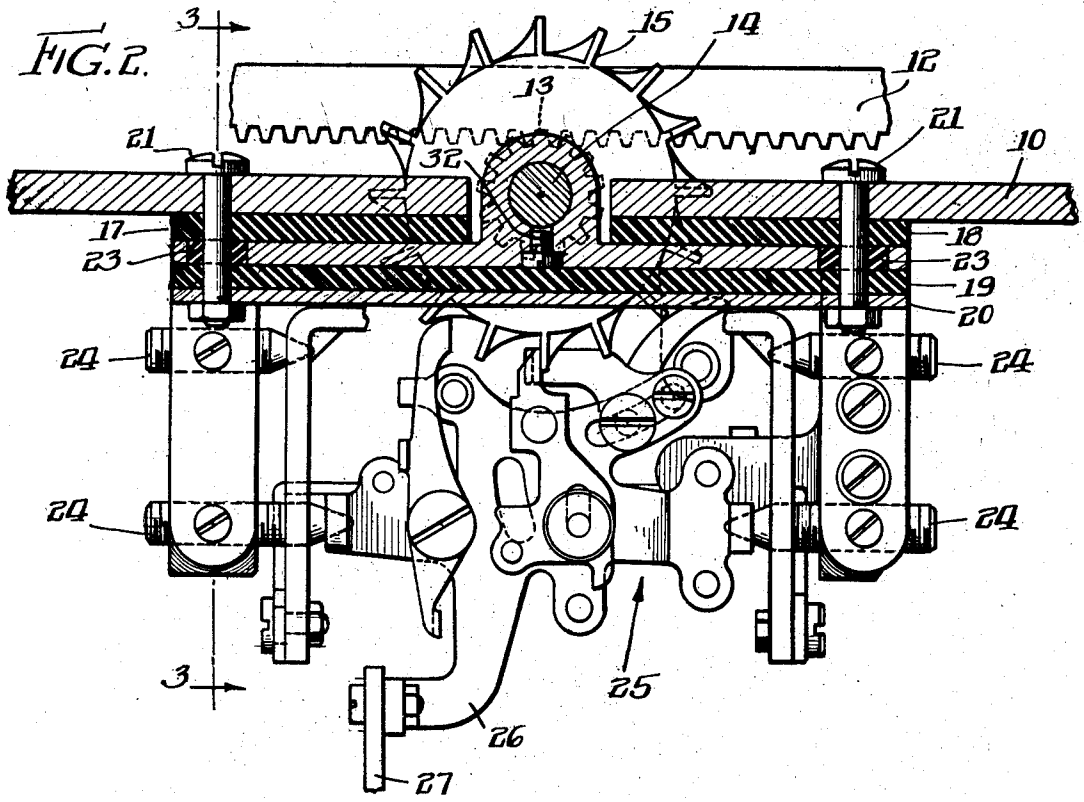


FIG. 3.

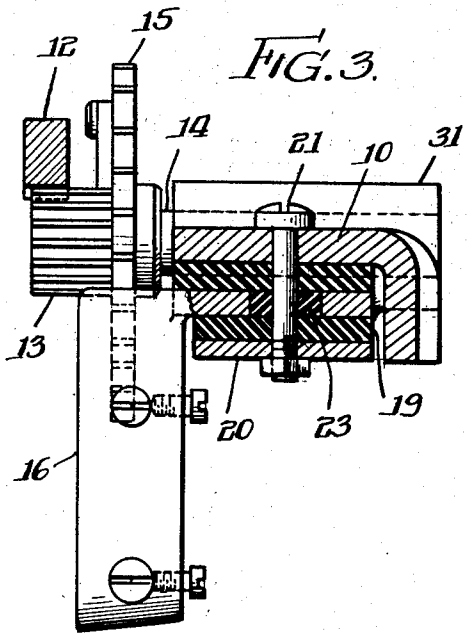
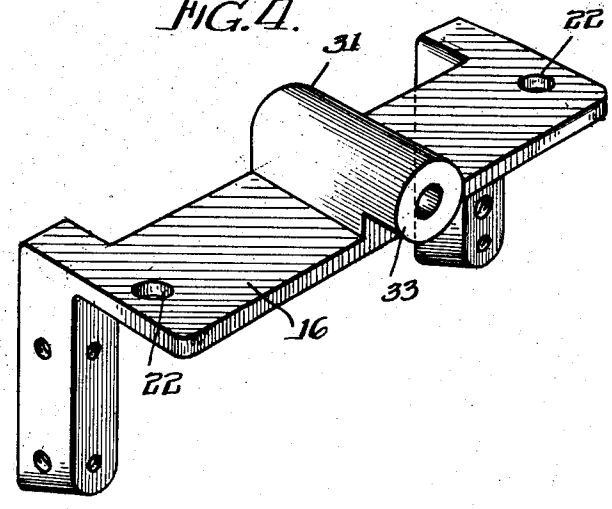


FIG. 4.



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MEANS FOR REDUCING SHOCK IN THE ESCAPEMENT MECHANISMS OF TYPEWRITERS

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Application December 8, 1936, Serial No. 114,791

5 Claims. (Cl. 197—82)

This invention relates to means for reducing shock in the escapement mechanisms of typewriters.

In ordinary typewriters now in use, the sudden stopping of the platen and escapement mechanism controlling the spacing movements of the platen causes considerable wear of the parts which interact to perform those functions, and this wear causes misspacing and inaccuracy in typing.

The sudden unyielding clash of the parts which thus interact also causes vibration in the machine and the generation of noise.

It is an object of applicant's invention to provide means for reducing the wear and noise attendant upon the stopping of the platen and escapement mechanism.

It is a further object of applicant's invention to provide means for mounting the escapement control mechanism upon the frame of the typewriter in such manner as to reduce the wear and noise attendant upon the operation of this mechanism.

Certain commercial typewriter machines mount the hanger assembly for the escapement mechanism upon a spring-urged, pivoted frame in order to reduce the wear and noise of this escapement mechanism. However, in this pivoted arrangement there will be a movement of the pivoted assembly and a recoil at each operation of the escapement mechanism. An operator often strikes a letter during the recoil period and the accuracy of the spacing is therefore destroyed. It is accordingly a further object of applicant's invention to produce a mounting for the escapement mechanism which substantially eliminates any recoil of the escapement mechanism and its mounting.

The accompanying drawings illustrate a selected embodiment of the invention and the views therein are as follows:

Fig. 1 is a side view of a typewriter showing in section applicant's invention attached thereto.

Fig. 2 is a sectional elevation taken along the line 2—2 of Fig. 1.

Fig. 3 is a section taken along the line 3—3 of Fig. 2.

Fig. 4 is a perspective view of the supporting frame of the escapement control mechanism.

As shown in Figs. 1 and 2, the numeral 10 designates the top frame of a typewriter machine, such as the "Woodstock" typewriter. Mounted upon the frame 10, in the usual manner for slidable movement transversely thereof, is the platen-carrying carriage 11, whose rear depending edge carries the usual rack bar 12. The rack bar 12 is operated by a pinion 13 which is loosely mounted upon a spindle 14 and retained against axial movement in the usual manner. An escapement wheel 15 is also loosely journaled on the spindle 14 outwardly of the pinion 13. The somewhat U-shaped frame member 16 shown in Fig. 4 is mounted upon the rear of the frame member 10 in the following manner.

Strips 17 and 18 of resilient rubber are placed above the horizontal leg of the frame member 16 and are interposed between said frame member and the frame 10. A strip 19 of resilient rubber is interposed between the frame member 16 and a bottom supporting plate 20. Bolts 21 pass through alined apertures in the frame 10, the rubber strips 17, 18, the frame member 16, the rubber strip 19 and the supporting plate 20 to resiliently mount the frame member 16 upon the frame 10 of the typewriter. The apertures 22 of the frame member 16, through which the bolts 21 pass, are of a size greater than the shank of the bolt and receive therein rubber washers 23 which surround the shank of the bolt to prevent any vibration being set up between the bolts and the frame member 16. Pointed screws 24 thread through apertures in the depending legs of the frame member 16 and support the usual escapement control mechanism designated generally by the numeral 25. The master control lever 26 of the escapement control mechanism is operated by the customary space bar 30 in the usual manner through links 27, 28 and 29.

The somewhat U-shaped frame member 16 carries at the central portion of its horizontal leg a bearing portion 31 for the spindle 14 and the frame member 10 is recessed to permit the passage of the bearing portion 31. It is to be noted that the edges of the bearing portion 31 do not come in contact with the sides of the recess of the frame member 10 through which the bearing portion passes. The spindle 14 is prevented from rotating relative to the bearing portion 31 by a screw 32, which passes through the extended end 33 of the bearing portion 31 and frictionally clamps the spindle 14 thereto.

It will be seen from the above description that all shocks attendant upon the stopping of the carriage and escapement wheel and pinion will be absorbed by the rubber strips 17, 18 and 19. Therefore the spacing operation of the typewriter will be rendered more quiet and the escapement mechanism, and the parts which interact therewith to stop the carriage at the proper spacing distance, will be subjected to less

wear. The accuracy of typing will be maintained thereby and for a considerably greater period.

What I claim is:

1. In a typewriter or the like, an upper frame member, a platen carriage movably mounted directly thereon, a rack bar carried by said carriage, a pinion meshing with said rack bar, an escapement wheel for controlling the movement of the pinion in one direction, a spindle upon which said pinion and escapement wheel are mounted, mechanism for controlling the spacing movement of the escapement wheel, a frame member having a bearing portion for receiving and supporting the spindle and having dependent legs upon which the escapement control mechanism is mounted and means for resiliently mounting said last mentioned frame member upon the upper frame member of the typewriter to thereby minimize the wear and noise attendant upon the operation of the carriage by the escapement wheel and its control mechanism.

2. In a typewriter or the like having a frame, a platen carriage movably supported directly thereon, an escapement mechanism causing the step-by-step movement of the carriage, a space bar and pivoted levers interconnecting the space bar and escapement mechanism for causing the operation thereof, means for mounting the escapement mechanism upon the frame of the typewriter, said means comprising a frame member upon which said escapement mechanism is mounted, strips of resilient material interposed between said frame member and the frame of the typewriter and means for securing the frame member and the resilient strips to the frame of the typewriter.

3. In the combination of claim 2 wherein the securing means comprises bolts, the shanks of which pass through alined apertures in the said strips and the frame member and wherein resilient washers surround the shanks of the bolts and engage in the apertures of the frame member.

4. In a typewriter or the like having a frame, a platen carriage movably supported thereon, an escapement mechanism controlling the step-by-step movement of the carriage, a space bar and pivoted levers interconnecting the space bar and escapement mechanism for causing the operation thereof, means for mounting the escapement mechanism upon the frame of the typewriter, said means comprising a frame member upon which said escapement mechanism is mounted, a supporting plate, strips of resilient material interposed between the frame member, the frame and the supporting plate, and fastening means passing through the resilient strips and the frame member and securing the supporting plate to the frame of the typewriter.

5. In a typewriter or the like, having a main frame and a platen carriage carried directly thereby, the combination of escapement mechanism comprising a carriage operated member and means for controlling the movement of said carriage operated member, and means for resiliently mounting said escapement mechanism upon said main frame of the typewriter.

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