July 9, 1935. S. I. BERGER 2,007,360

TYPEWRITING MACHINE

Filed March 29, 1934

Fig. 1

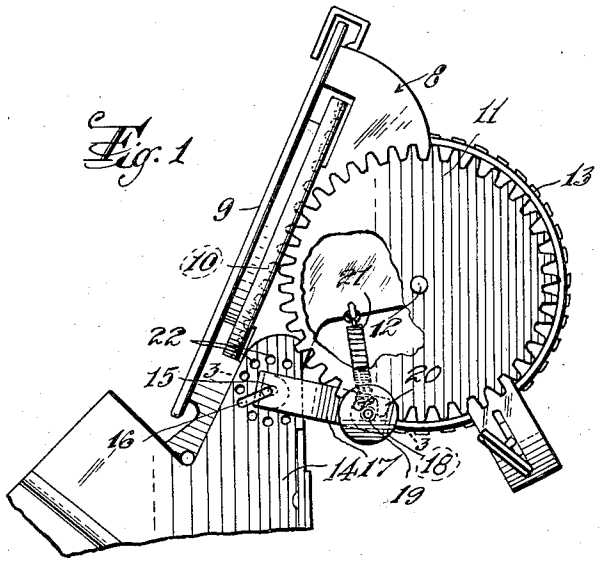


Fig. 2

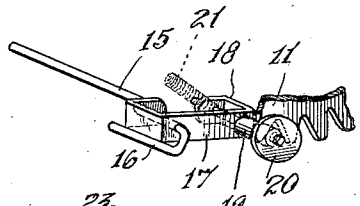


Fig. 3

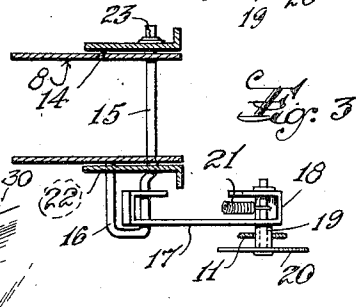


Fig. 7

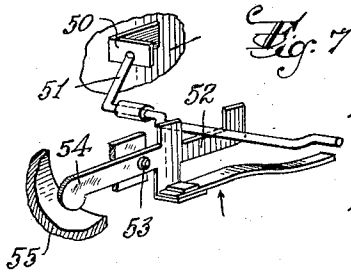


Fig. 5

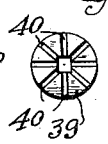


Fig. 6

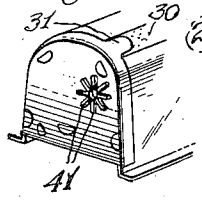
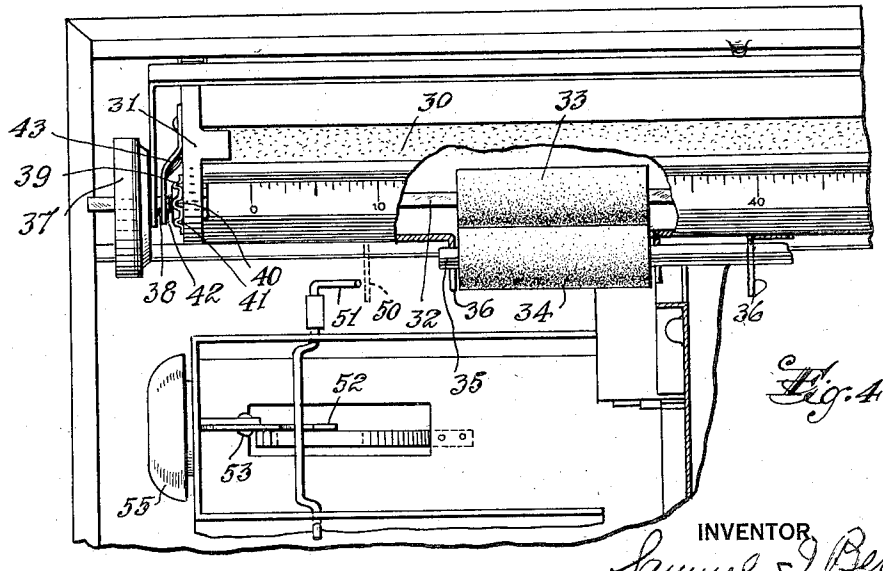


Fig. 4



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TYPEWRITING MACHINE

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3 Claims. (Cl. 197—114)

This invention relates to improvements in typewriting machines of the type adapted for use as toys by children.

In one type of toy typewriting machine, there is provided a character-bearing disc having peripheral apertures adapted to engage the teeth of a gear lying in a plane at right angles to the plane of the character-bearing disc. For proper operation, it is desirable that the gear at all times positively engage the disc, and it is therefore an object of this invention to provide means for positively and resiliently holding such a gear in engagement with the character-bearing disc.

A further object is the provision of a line spacing device for use in connection with the platen of a toy typewriting machine, which device is simple in structure and durable, at the same time adapted to be manufactured conveniently at a relatively low cost.

These and other advantageous objects, which will later appear, are accomplished by the simple and practical construction and arrangement of parts hereinafter described and exhibited in the accompanying drawing forming part hereof, and in which:

Fig. 1 is an elevational view of a portion of the typewriting machine embodying my device for maintaining a gear in positive engagement with the character-bearing disc,

Fig. 2 is a perspective view showing details of the device,

Fig. 3 is a sectional view taken on line 3—3 of Fig. 1 showing further details of the device,

Fig. 4 is a plan view of a platen having associated therewith my improved line spacing device,

Figs. 5 and 6 show elements of the line spacing device, and

Fig. 7 is a perspective view of means for striking a bell when the platen has moved to a predetermined position.

Referring to the drawing, in Fig. 1 is shown a frame 8 upon which is rotatably mounted a disc 9 having marked thereon various characters which may be desired to be printed Integral with the disc 9 is a channelled member 10 having a plurality of apertures therein to form a flat gear and to receive the teeth of a gear 11, the latter being positioned in a plane at right angles to the plane of the disc 9 and gear 10. The gear 11 is attached to a shaft 12, which also has fixed thereto a wheel 13 having mounted on the periphery thereof type characters corresponding to the markings on the disc 9.

In order to select a character on the wheel 13 to be typed, the disc 9 is rotated to a predetermined point, causing the gear 11 to rotate therewith and bring the desired character on the wheel 13 to proper position for making an impression on paper or the like.

It will be seen that for proper operation it is essential that the teeth of the gear 11 at all times properly engage the flat gear 10.

Mounted on a frame member 14 is a shaft 15 which has an offset U-shaped portion 16, one leg of which rotatably supports a bracket 17, which has a U-shaped extremity 18 through which passes a shaft 19, engaging the teeth of the gear 11 as shown in Fig. 2. The end of the shaft is provided with a washer 20 to maintain the proper relation with the gear 11. The shaft 19 is resiliently maintained in engagement with the teeth of the gear 11 by a tension spring 21 attached to the shaft 19 and to a part of the frame 8.

In order that the device can be adjusted to the proper position with relation to the gear 11, the frame member 14 is provided with a plurality of apertures 22 and the shaft 15 is inserted through the aperture which gives the best adjustment, after which one end 23 of the shaft is riveted onto the frame and the opposite U-shaped end, is rotated to insert the free end of the shaft into another one of the apertures 22 to maintain the parts in the proper position.

From the above description it will be seen that I have provided a simple device for positively maintaining the gears in engagement, this device being adapted to be readily adjusted to compensate for inaccuracies in manufacture.

In Fig. 4 is shown a platen 30, which is stationary and supported by a frame having an end member 31. Passing through and rotatably supported by the end member 31 is a shaft 32 having fixed thereto a roller 33 which cooperates with a similar roller 34 to move paper over the platen. The roller 34 is fixed to a shaft 35 which is rotatably mounted in supports 36. The shaft 32 is rotated by means of a knob 37 attached thereto. The shaft has a squared portion 38 near the knob over which is fitted a disc 39 having a plurality of radial grooves 40 which cooperate with a plurality of radial ribs 41 integral with the end member 31 and surrounding the shaft 32. The disc 39 is maintained in resilient engagement with the ribs 41 by means of a coil spring 42 which bears against the disc and an arm 43 attached to the end member 31.

When the shaft 32 is rotated, the engagement of the disc 39 with the ribs 41 causes a step by

step movement of the shaft and maintains the shaft in a definite position during the typing operation.

From the above description it will be seen that I have provided a simple and effective line spacing device for a typewriting machine, which obviously can be conveniently manufactured at a very low cost.

Mounted on the carriage which supports the platen **30** is a projection **50** which at a predetermined position of the carriage engages the crank arm **51** to rotate the latter for the purpose of depressing the arm **52** of a lever pivoted at **53** and having an arm **54** arranged to strike a bell **55**. When the projection **50** becomes disengaged from the crank arm **51**, the lever **52** is allowed to rise and the arm **54** descends and strikes the bell, thus giving a signal to indicate the end of the line of typing.

Due to its simplicity of structure my device is reliable and there is small likelihood of its getting out of order, thus making it highly desirable for use on toy typewriting machines, which are subjected to a great deal of rough use by children.

The foregoing disclosure is to be regarded as descriptive and illustrative only, and not as restrictive or limitative of the invention, of which obviously an embodiment may be constructed including many modifications without departing from the general scope herein indicated and denoted in the appended claims.

Having thus described my invention what I claim as new and desire to secure by Letters Patent, is:

1. In a typewriting machine, a stationary platen, a pair of cooperating rollers for moving paper over the platen, a shaft upon which one of the rollers is mounted, a knob for rotating the shaft, a support rotatably supporting the shaft, a plurality of radial ribs on said support surrounding the shaft, a disc having a plurality of radial grooves fixed to the shaft, and resilient means to maintain said disc in engagement with the ribs so that the shaft will be rotated step by step.

2. In a typewriting machine, a roller for moving paper over a platen, a shaft upon which the roller is mounted, a knob for rotating the shaft, a support rotatably supporting the shaft, a plurality of radial ribs on said support surrounding the shaft, and a disc having a plurality of radial grooves fixed to the shaft and engaging said ribs.

3. In a typewriting machine, a shaft, a member rotatably supporting the shaft, a plurality of radial ribs on the member and surrounding the shaft, a disc rotatable with the shaft and having a plurality of radial grooves, and means to maintain said disc resiliently in engagement with said ribs.

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