

Aug. 20, 1957

C. FINGER
WRITING DEVICE

2,803,472

Filed Oct. 21, 1953

2 Sheets-Sheet 1

Fig. 1

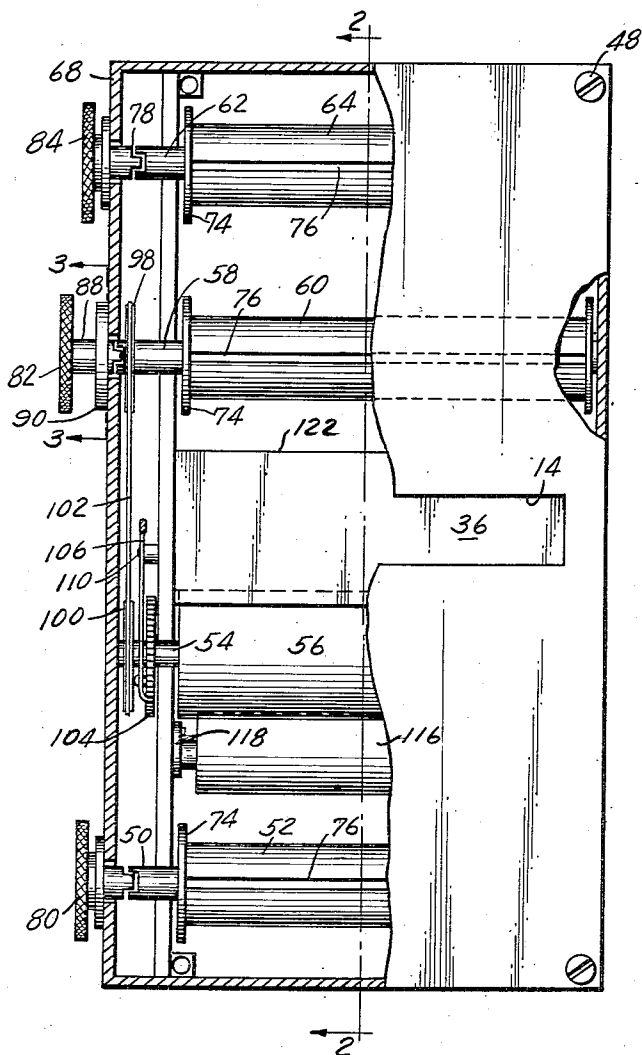


Fig. 2

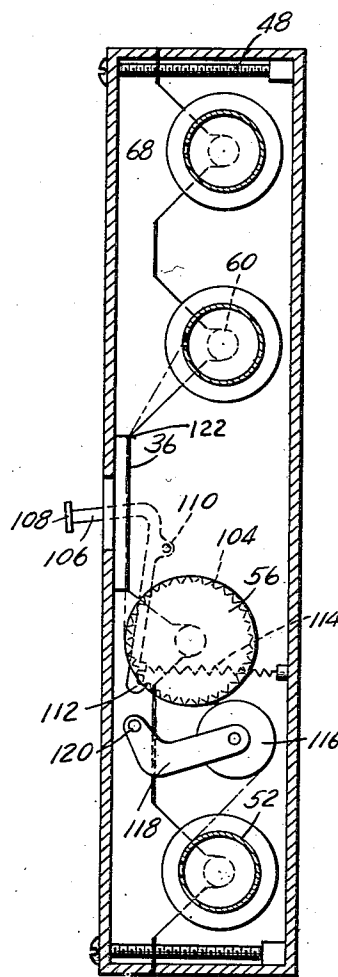
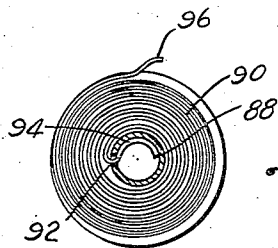


Fig. 3

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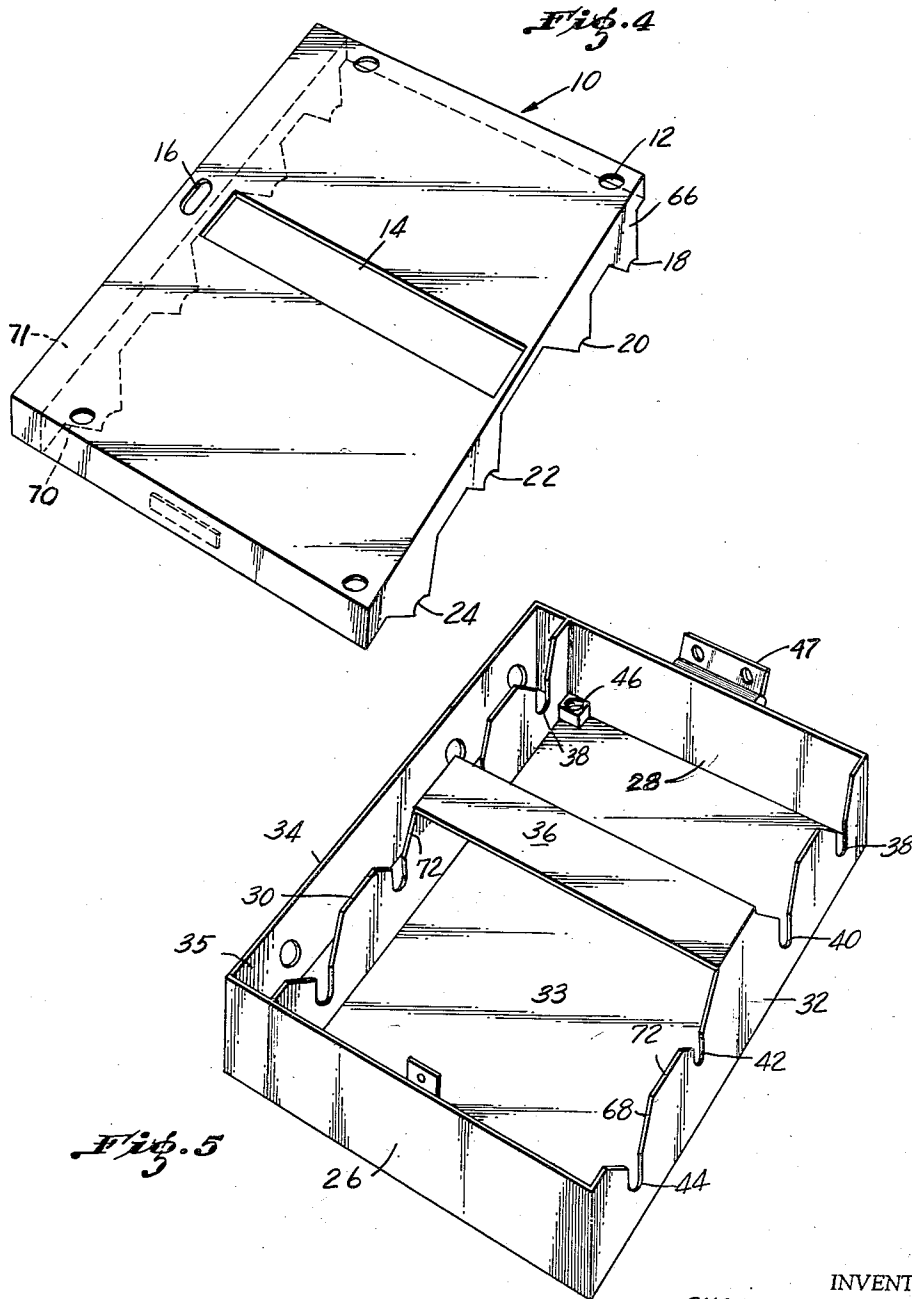
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2 Sheets-Sheet 2



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2,803,472

WRITING DEVICE

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2 Claims. (Cl. 281—8)

This invention is a continuation-in-part of application Serial No. 278,210, filed March 24, 1952, now abandoned, entitled Recording Apparatus.

This invention relates to a writing device. It is an object of this invention to provide a simple efficient writing machine that can be easily carried by such persons as authors, newspaper writers, salesmen and others, and utilized to jot down notes, etc. whenever necessary.

Newspaper men who attend sport contests, accidents, fires, etc. must have means for jotting down notes which can be utilized to later prepare a story of the event witnessed. Also, authors need to carry pads, etc. for similar purposes. Others who find it necessary to carry some recording means include salesmen, delivery men, etc.

The need for writing paper is usually presently satisfied by carrying pads, note books, etc. These are subject to rapid deterioration, due to the handling or exposure to the weather and pages thereof are apt to be blown away or otherwise lost. It is obvious that it would be most desirable to have a recording device or means having an ample supply of paper for jotting notes, etc. yet in which the paper is protected from damage or loss.

It is, therefore, a further object of this invention to provide a writing machine having paper or similar substances upon which inscriptions may be made, as desired, without exposure of the writing paper to the elements.

In writing down notes concerning rapidly happening events, it is difficult to maintain an even line spacing without taking one's eyes from the view of the events, and looking at the pad from time to time. It is apparent that a writing device which could be used for writing a number of lines of notes, without the necessity of removing the observer's eyes from the scene being viewed, would result in a more accurate recording of events. It is accordingly also an object of this invention to provide a writing machine with which accurate line spacing, facilitating legibility can be maintained without glancing at the writing machine or the paper upon which notes are being made.

Experience teaches that a successful writing machine must be capable of using light comparatively thin paper instead of heavy bulky paper. If the latter is used the supply would be less than with thin paper or in order to have a reasonable supply of paper, the recorder would have to be unreasonably increased in size to accommodate larger rolls. Due to their construction previously known recording machines are not designed to use with thin paper. The paper advancing arrangement will not uniformly advance thin paper, but instead tend to bunch it in the writing opening, furthermore, there is the danger of tearing if thin paper is used. Therefore, stock of relatively heavy weight is needed for prior known devices, unless costly positive drive arrangements are used. Not only do positive drive arrangements comprising advancing and retarding ratchets, etc. add to the cost, they are also subject to break-down. It is accordingly a further object of this invention to provide a recorder with which

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relatively thin paper can be used, yet which employs a simple spring drive.

Further objects of this invention are to provide a writing machine having a roll-fed paper means on which notes can be made which can be advanced by manipulation of a simple lever, in which an adequate supply of paper is housed, and also to provide a housing construction of unique character which facilitates the use of the device, lowers the cost and improves the performance.

These and other objects and advantages will become apparent from the following description and the accompanying drawings, in which:

Figure 1 is a plan view of a recorder constructed in accordance with the invention with some elements broken away and in section.

Figure 2 is a side elevational view partly in section of the recorder of Fig. 1.

Figure 3 is a sectional view taken along line 3—3 of Fig. 1, and illustrating a spring forming a part of the invention.

Figure 4 is a perspective view of the top of the box or housing for the recording device shown in Fig. 1, and

Figure 5 is a perspective view of the bottom of the box or housing shown in Fig. 1.

Like reference characters in the several figures indicate the same parts.

Referring now particularly to the drawings, reference character 10 designates the cover which can be formed of a piece of sheet metal bent in the shape shown and cut out as hereinafter described. On its upper surface holes 12 are provided for receiving the shanks of screws. These holes can be countersunk to seat flat head screws, if desired. A laterally extending opening 14 is provided intermediate the longitudinally opposite ends of the cover and, aligned laterally therewith, a second opening 16 is provided. Each longitudinal side of the cover is cut out to provide depending upper bearing halves 18, 20, 22 and 24.

Figure 5 illustrates the bottom of the housing. Similar to the cover the bottom can be formed of metal bent and cut as shown. Obviously, plastic or other materials may be utilized. The bottom comprises spaced end members 26, 28 and side members 30 and 32, all of which are connected to a bottom element 33. A third side member 34 is used to provide a compartment 35 (see Figs. 1 and 5).

A writing platform or support 36 interconnects the two side members 30 and 32 at their upper surfaces intermediate their ends. The platform is formed so as to underlie the opening 14 when the cover is assembled with the bottom. Both sides 30 and 32 are cut out to provide lower bearing halves 38, 40, 42, 44. The lower bearing halves are positioned so as to be laterally aligned with the upper bearing halves when the top and bottom are in normal position. Nuts such as 46, or other screw-threaded means, can be secured in each corner of the bottom for cooperation with screws 48, shown in Figs. 1 and 2. It will be seen that the screws will maintain the cover and the bottom of the box in a fixed position.

Hinge 47 connects the cover and bottom. Screws 48 can thus be dispensed with and a spring catch (indicated in Fig. 5) attached to member 26 for cooperation with cover 10, if desired. As shown in Figs. 1 and 2, shafts 50 of spindle 52 are supported intermediate bearing halves 24 and 44. Shafts 54 of roller 56 are supported in bearing halves 22 and 42. Shafts 58 of spindle 60 are supported between bearing halves 20 and 40 and shafts 62 of spindle 64 are supported by bearing halves 18 and 38.

It should be noted that side 66 of cover 10 is cut so as to rest upon cooperating complementary formed surfaces such as 68, of side 32. Flange 70 of cover 10 overlies side 30 and is formed complementary thereto.

An additional side member such as indicated at 71, co-operates with side 34, thus forming a chamber for enclosing operating elements to be hereinafter described. The spindles and rollers can freely revolve in their respective bearings. The rollers and spindles extend substantially the entire distance between the two sides 30, 32, of the bottom member of the housing. The spindles are provided with the usual flanges 74 and have slots 76 formed therein for engagement with an end of a roll of paper or similar material.

The shafts of the spindles are of sufficient length to prevent their dropping from a bearing during normal use of the recording device. As shown in Fig. 1, the left-hand ends of the shafts 50, 58 and 62 are provided with a dog-type connection 78 which serves to connect these spindles to knobs 80, 82 and 84. Knobs 80, 82 and 84 are slidably and rotatably mounted in left side 71 of cover 10 and can be engaged with shafts 50, 58 and 62 by sliding movement with respect thereto. Such a sliding dog-type connection is familiar with all users of box cameras and will not be further described.

Knob 82, in addition to being slidably mounted in side 68, has an extended shaft 88 which is slidably connected to a spring 90 by means of a slot 92 and the bent-over end 94 of spring 90. The other end of spring 90, labeled 96, is fixedly connected to side 34. Shaft 58 has a pulley 98 adjacent its outer end. A similar pulley 100 is mounted on the end of shaft 54. The two pulleys are interconnected by a belt 102 of any suitable material.

Shaft 54 is also provided with a ratchet gear 104, which is fixedly attached thereto. A lever 106 having a button 108 is pivotally connected as at 110, to the side member 30. The lever has a pawl 112 attached thereto and formed complementary to the teeth of ratchet 104. A spring 114 connected to the lever and the base urges the pawl normally down into engagement with the ratchet gear.

Roller 116 is pivotally mounted in a pair of spaced levers 118 affixed to the cover by pivot pins 120. As shown in Fig. 2, the roll of paper on spindle 52 is fed over the top of roller 56 over the top of paper support 36, and on to spindle 60. When the cover is positioned on the bottom roller 116 depresses the paper downwardly intermediate roller 56 and spindle 52. A spring can be used for this purpose, if desired. This gives a greater frictional contact with roller 56.

It is seen that by withdrawing knob 82 and winding spring 90, and subsequently pushing knob 82 back into engagement with shaft 58, the spindle 60 is tensioned to wind the paper.

Since pulley 98 is attached to shaft 58, and belt 102 connects to pulley 100 and shaft 54, little tension is placed on the paper. The paper is only tensioned sufficiently to write on. This tension is provided by initial adjustment of spindle 60. A spring can be used for forcing roller 116 against 114.

To advance the paper it is necessary to depress button 108, thus withdrawing pawl 112 from engagement with ratchet 104. As soon as the pawl is depressed the paper will advance over plate 36 and beneath opening 14. Spindle 60 and roller 56 are both driven by the spring. Thus there is little strain placed on the paper and no chance of bunching. Also when button 108 is released the paper stops without tearing or bunching. After a slight amount of experimentation, a user can learn when

to release button 108 to stop the forward movement of the paper.

The spindles can be readily removed and replaced in the recorder. Spindle 64 can be used to hold a reserve supply of paper when the paper originally on spindle 76 has been wound on the spindle 60. Spindle 60 can be placed where spindle 64 is shown, spindle 64 can be placed where spindle 76 is shown and spindle 76 can be placed where spindle 60 was originally positioned. It is obvious that spindle 64 and associated knob 84 can be deleted and the recorder itself decreased in size. The edge of platform 36 can be sharpened as at 122, thus providing a cutting edge for cutting the record paper to remove roller 60 after a series of events have been recorded. A transparent plastic cover can be provided.

The uniquely constructed casing or box of simple metal stampings provides bearing for free rotation of the rollers and spindles without the necessity of special pivot pins or bearing elements. It is obvious that such construction contributes greatly to the production of an inexpensive yet efficient recording device.

While I have shown and described a preferred form of my invention, it will be understood that variations in details of form may be made without departure from the invention as defined in the appended claims.

I claim:

1. In a writing device, a cover member and a base member, said cover member being adapted to cooperate with said base member to form a housing, said base member including spaced side elements and a bottom, said side elements being cut out to provide aligned bearing halves, said cover member being provided with aligned bearing halves formed therein, said cover member being connected to said bottom member with the aligned bearing halves of said cover member in alignment with the aligned bearing halves of said base member to form aligned bearing pairs, a takeup spindle, a feed spindle, each of said spindles being journaled in one of said pairs, drive means for driving said takeup spindle, said spindles being adapted to cooperate with a roll of paper stock, a platform over which said stock is adapted to be passed in moving between said feed spindle and said takeup spindle, said platform being attached to said housing, each of said cover and base members having a third side element spaced from one of the first mentioned side elements and forming a separate compartment in said housing with the latter one of the side elements said base member and said cover member, drive means interconnecting said takeup spindle and said feed spindle, said drive means being mounted in said separate compartment, said cover member having an opening aligned with said platform.

2. The apparatus of claim 1 wherein said platform is connected to and extends between the first two mentioned side elements in spaced relation to said bottom member and forms a stiffening means for said base member.

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