PUBLISHED
MAY 18, 1943.
BY A. P. C.

F. WUNDERLICH
TYPEWRITING MACHINE WITH COVERING HOOD ADAPTED TO BE FOLDED UP
Filed Jan. 28, 1941

Serial No.
376,398

4 Sheets-Sheet 1

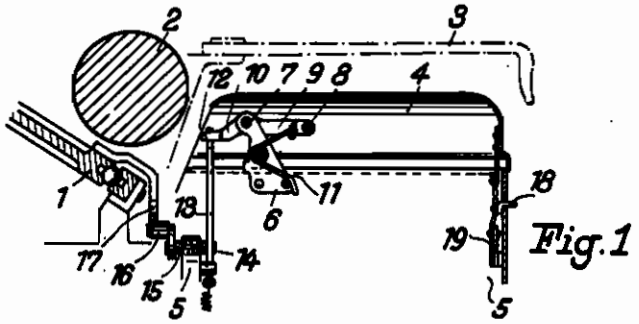

Fig. 1

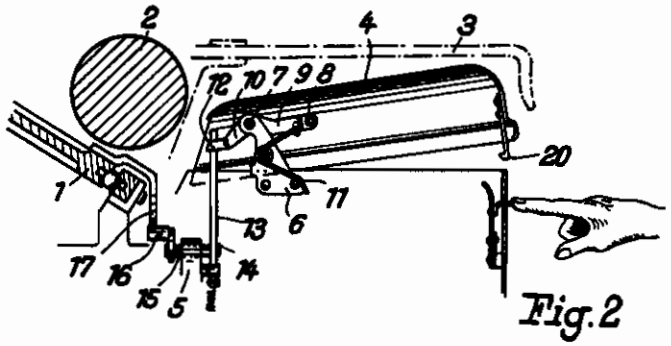

Fig. 2

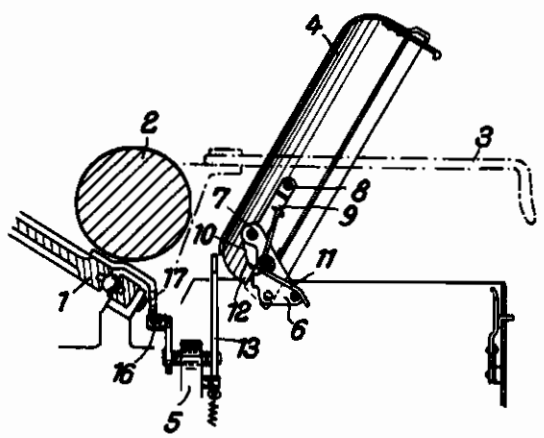

Fig. 3

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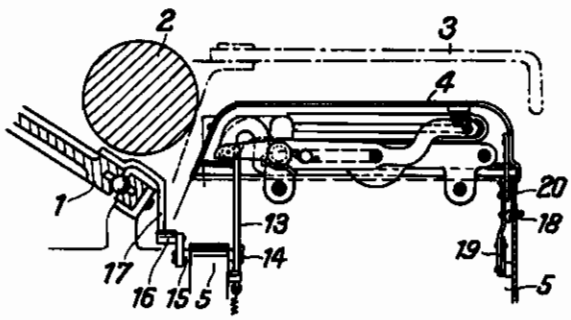

Fig. 4

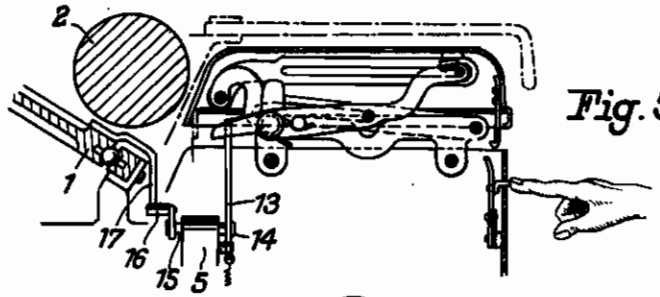

Fig. 5

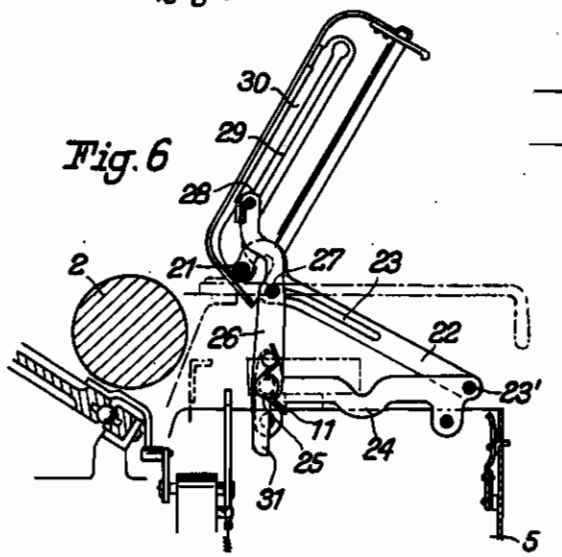

Fig. 6

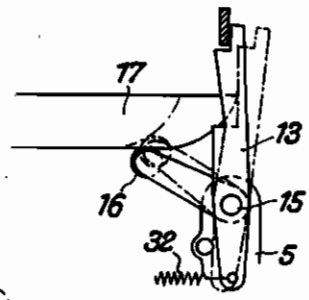

Fig. 9

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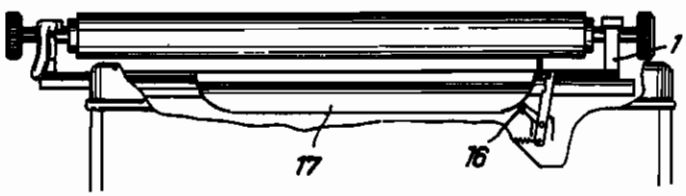

Fig. 7

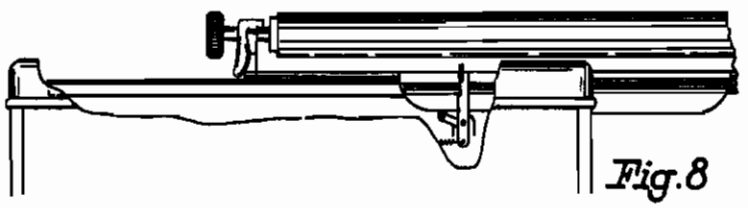

Fig. 8

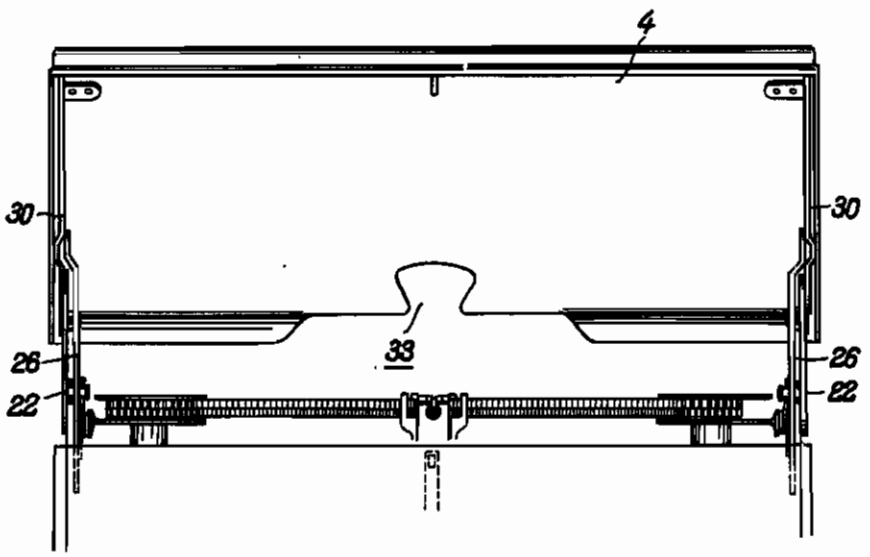

Fig. 10

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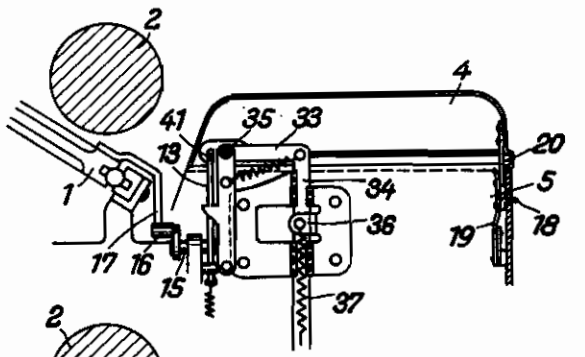

Fig.11

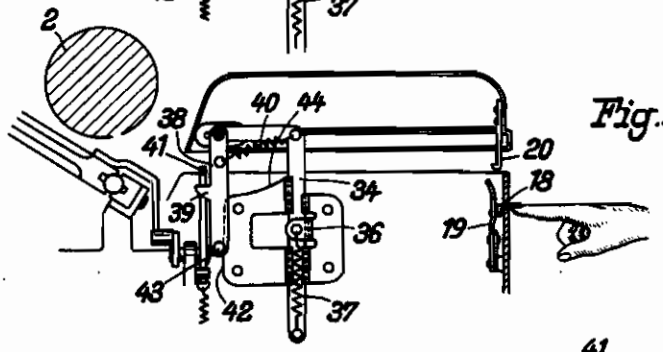

Fig.12

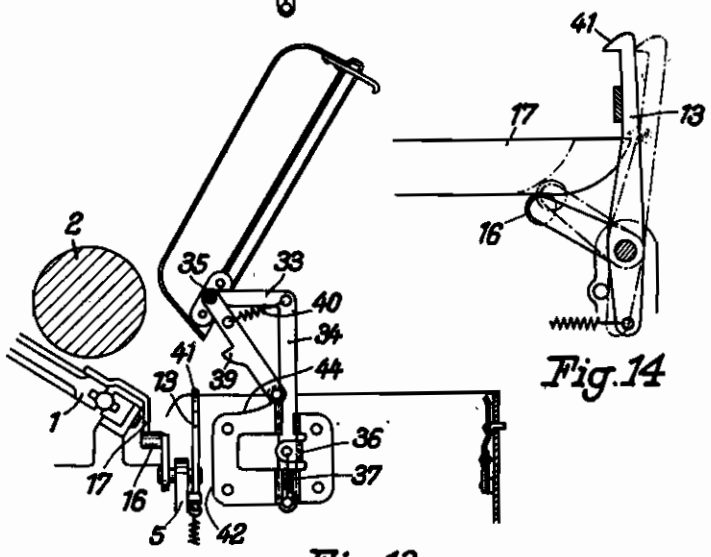

Fig.14

Fig.13

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ALIEN PROPERTY CUSTODIAN

TYPEWRITING MACHINE WITH COVERING HOOD ADAPTED TO BE FOLDED UP

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Application filed January 28, 1941

It has already become known in typewriting machines to cover by a hood the driving mechanism and the ink ribbon spools. The hood is oscillatably mounted on the machine frame so that it can be folded up in order to render accessible the elements of the typewriting machine which are covered by the hood. The covering hood can be folded up in the direction of the platen. The inconvenience consists, however, that at the folding up of the covering hood it strikes, when the carriage is in certain positions, against projecting elements of the carriage, for instance against the return lever, whereby these elements and also the hood are damaged. It has therefore been proposed, to prevent folding up of the covering hood by a locking device as long as projecting parts of the carriage are above the hood.

This known arrangement possesses, however, the inconvenience that several manipulations are required for its attendance. If the locking device is in the locking position and if the locking bolt holding the covering hood in the locked position is unlocked by the actuation of a push-knob, the hood remains closed and, for instance after the carriage has been pulled out towards the left, the locking bolt has to be pulled back again. This is comparatively complicated and does not allow quick typing.

Further the known arrangements have the inconvenience that the hoods can be opened only by a limited angle which is almost always below 90°. The accessibility to the elements under the hood is thereby rendered more difficult. The small opening formed by the folding up of the hood according to the known arrangements is almost too narrow for hanging the ink ribbon into the ink ribbon fork or for removing the same. In such coverings it is therefore necessary, to provide in the upper part of the hood a very deep recess, whereby evidently protection against getting dirty or dusty of the inner machine elements and especially of the type lever segment is not ensured.

All these inconveniences are overcome by the invention, in that the locking device impedes the folding up of the hood only if this hood has already been somewhat opened after the pulling back of the locking device. As the opening of the hood is effected by the action of a spring, the hood folds up in the device according to the invention without any further manipulation directly after the push-knob locking has been released, if the carriage is in a position in which the projecting elements of the carriage no longer prevent folding up of the hood.

This is attained according to the invention in that the locking lever controlled by the carriage in known manner is pulled back only when an unimpeded folding up of the hood is ensured.

In order to obtain in this arrangement a free access to the inner machine elements and to make as small as possible the recess for the passage of the type levers, the covering hood is oscillatably mounted on a lever hinged on the frame of the typewriting machine and having a slot-guiding, in which a lever engages which is mounted on the typewriting machine frame and also guided in the slot guiding fixed on the hood.

When the locking device which holds the covering hood in the closed position is unlocked, first a parallel movement of the hood takes place until the locking device prevents a further folding up of the hood. This movement is only so great, that in spite of the partly folding up of the hood the free movement of the carriage is not impeded. If the locking device is automatically unlocked after the carriage has been pushed back, the hood opens completely, in that it carries out in the first portion of its further travel a parallel movement and in the last portion an oscillating movement. The hood can be closed by a simple pressure. The lever hinged on the frame of the typewriting machine and guided in the two slot guides is under the action of a spring which effects the folding up, whereas the locking device engages behind a projection of this lever. By this invention a very good accessibility of the elements below the hood is attained. This is possible even if the hood is opened by a smaller angle than has become known up to the present. A separate recess for the insertion and removal of the ink ribbon is also no longer necessary, so that the recesses in the hood need only be very small. In this manner the screening of the inner elements, especially of the type lever segment, against getting dusty and dirty is attained almost completely. The provision of the slot guides permits further the obtention of any desired form of movement. For instance the hood can be lifted and at the same time oscillated, or the hood is first oscillated and then lifted.

The invention is illustrated by way of example in the accompanying drawings, in which

Fig. 1 shows the hood in section and in closed state,

Fig. 2 is a similar section as in Fig. 1 showing the hood in the position after the unlocking of the locking device but in locked state,

Fig. 3 is a similar section as in Fig. 1 the hood being open,

Fig. 4 shows in section a hood in closed state with slot guiding,

Fig. 5 is a section similar to that shown in Fig. 4 and shows the hood after the unlocking of the locking device but in still locked state,

Fig. 6 is a similar section as in Fig. 4 the hood being open,

Fig. 7 shows in elevation the locking lever controlled by the carriage in unlocked position,

Fig. 8 is a similar view as Fig. 7 but shows the locking lever in locking position,

Fig. 9 shows a detail of Figs. 7 and 8,

Fig. 10 shows the folded up hood in front elevation,

Fig. 11 shows in section the hood with sliding guide in closed state,

Fig. 12 is a similar section as Fig. 11 and shows the hood in the position after unlocking of the locking device but in still locked state,

Fig. 13 is a similar section as Fig. 11 the hood being folded up,

Fig. 14 shows the locking device according to Figs. 11 to 13.

In the several figures the carriage is designated by 1, the platen by 2, the return lever for the carriage by 3, and the covering hood by 4.

As shown in Figs. 1 to 3, the covering hood 4 is mounted on bearing brackets 6 and 7 fixed by screws on either side of frame 5 of the typewriting machine. A two-armed lever 9, 10 is fixed at 9 on the hood 4, and controlled by a spring 11. The arm 10 of this lever has a projection 12 under which a locking lever 13 can engage. The shaft 15 of the locking lever 13 is journalled at 14 in the machine frame 5. A roller 16 is eccentrically mounted on shaft 15 and adapted to roll on a bar 17 mounted on the carriage 1.

A push knob 18 is provided in the machine frame 5 and acted upon by a spring 19 and engages behind a hook 20 (Fig. 2) fixed on hood 4.

The device operates as follows:

The covering hood 4 is held in the closed position shown in Fig. 1 by the locking device 18, 19, 20. If then a pressure is exerted upon the push knob 16, the locking 19, 20 is unlocked. As long as the return lever 3 of the carriage or other projecting elements of the carriage are above the hood 4 and would prevent folding up of the hood, the roller 16 has run up the bar 17, as shown in Figs. 7 and 8, so that the locking lever 13 is below the projection 12 of lever 10, as shown in Fig. 2, and thereby prevents a further folding up of hood 4 under the action of spring 11. If the carriage is brought into the position shown in Fig. 7, in Fig. 9 in dash dot lines, the locking lever 13 liberates the projection 12 and the spring 11 effects the complete folding up of hood 3, as shown in Fig. 3.

In the device illustrated in Figs. 4 to 6 and 10, the covering hood 4 is mounted at 21 on the outer hinge levers 22 which are pivotally mounted in bearing bodies 24 fixed on either side of the machine frame 5. The outer hinge levers 22 have slots 23. The inner hinge levers 26 are oscillatably mounted at 25 on the bearing bodies 24 and controlled by opening springs 11. Each hinge lever 26 has a pin 27 which engages in the slot 23 of the corresponding outer hinge lever 22 and can slide in this slot. The inner hinge levers 26 have further each a pin 28 at its end which can slide in a corresponding longitudinal slot 29 of a control bar 30 fixed on the hood. One of the inner hinge levers 26 has a projection 31 under which the locking lever 13 engages in the locking position, said lever being controlled by the action of a spring 32, as shown in Fig. 9.

This device operates as follows:

When the push knob 18 (Fig. 4) is depressed, the hood 4 is raised by the action of spring 11 into the position shown in Fig. 5, as the locking lever 13 which bears against the projection 31 of lever 26 prevents further opening of the hood 4 until the roller 18 has run off the control bar 17 of the carriage 1. As can be seen from Fig. 5, the movement is at first a parallel movement owing to the slot guiding of the individual levers. As soon as the roller 16 has run off the control bar 17, the locking 13, 31 is unlocked and the hood can open completely. The hood then carries out in the form of construction shown at first a further parallel movement and finally folds up at the end of this movement.

Figs. 6 and 10 show clearly that by this folding up an absolutely free access is ensured to the elements of the machine which are otherwise covered by the hood. Consequently, the hood 4 need have only a small recess 33a (Fig. 10) so that an extensive covering of the inner mechanism of the typewriting machine is attained.

If another curved shape is given to the slot guides 23, 29, any desired movements of the covering hood can be obtained. It is evidently immaterial, whether the locking lever 13 engages on one of the moving elements or on the hood itself.

In the device illustrated in Figs. 11 to 14, the covering hood 4 is mounted on the arm 33 of a slidable piece 34 and 35. The slidable piece 34 is guided on frame 6 of the typewriting machine in a guide 36 and controlled by a pull spring 37. A lever 38 is further pivotally connected with the hood and has a locking projection 39. This lever 38 is controlled by the action of a pull spring 40. In the locked state a nose 41 of the locking lever 13 engages over the projection 39, said locking lever being otherwise constructed in a similar manner as shown in the above described Figures. The lever 38 is conducted in the first portion of its movement by means of a pin 43 on a plate 42 against which it is pressed by the action of the spring 40. The plate 42 has on its upper portion a curved path 44 along which the pin 43 slides after the lever 38 has been sufficiently lifted.

The device operates as follows:

After unlocking the locking device 18, 19, 20, the hood 4 is lifted by the action of spring 37 until nose 41 of the locking lever 13 strikes against nose 39 of the oscillatable lever 13, as shown in Fig. 12. If then in accordance with the position of the carriage 1 the roller 16 runs off bar 17, the nose 41 of lever 13 slips off the nose 39 of lever 38, and by the action of spring 37 the pivot pin 35 of the hood 4 is raised until pin 43 has reached the upper end of the guide plate 42 and then carries out an oscillating movement along the curved path 44 by the action of spring 40. Owing to the rigid connection with the hood 4, this hood is folded up.

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