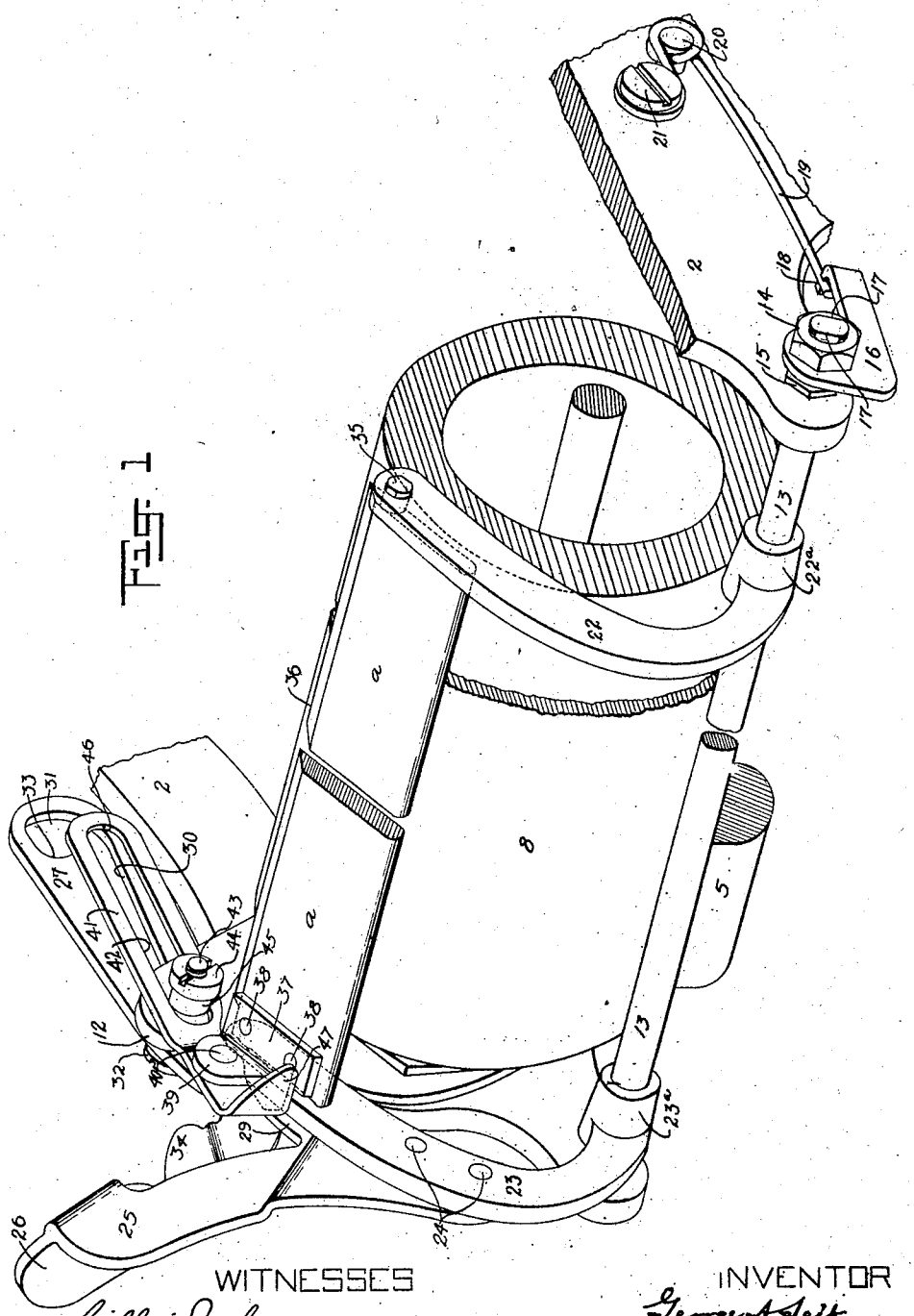
July 6, 1926. 1,591,442

G. A. SEIB

TYPEWRITING MACHINE

Filed Sept. 12, 1923 2 Sheets-Sheet 1

FIG. 1



WITNESSES

Lillian Jackson.

Charles E. Smith

INVENTOR

George A. Seib

By Jacob Tolbert

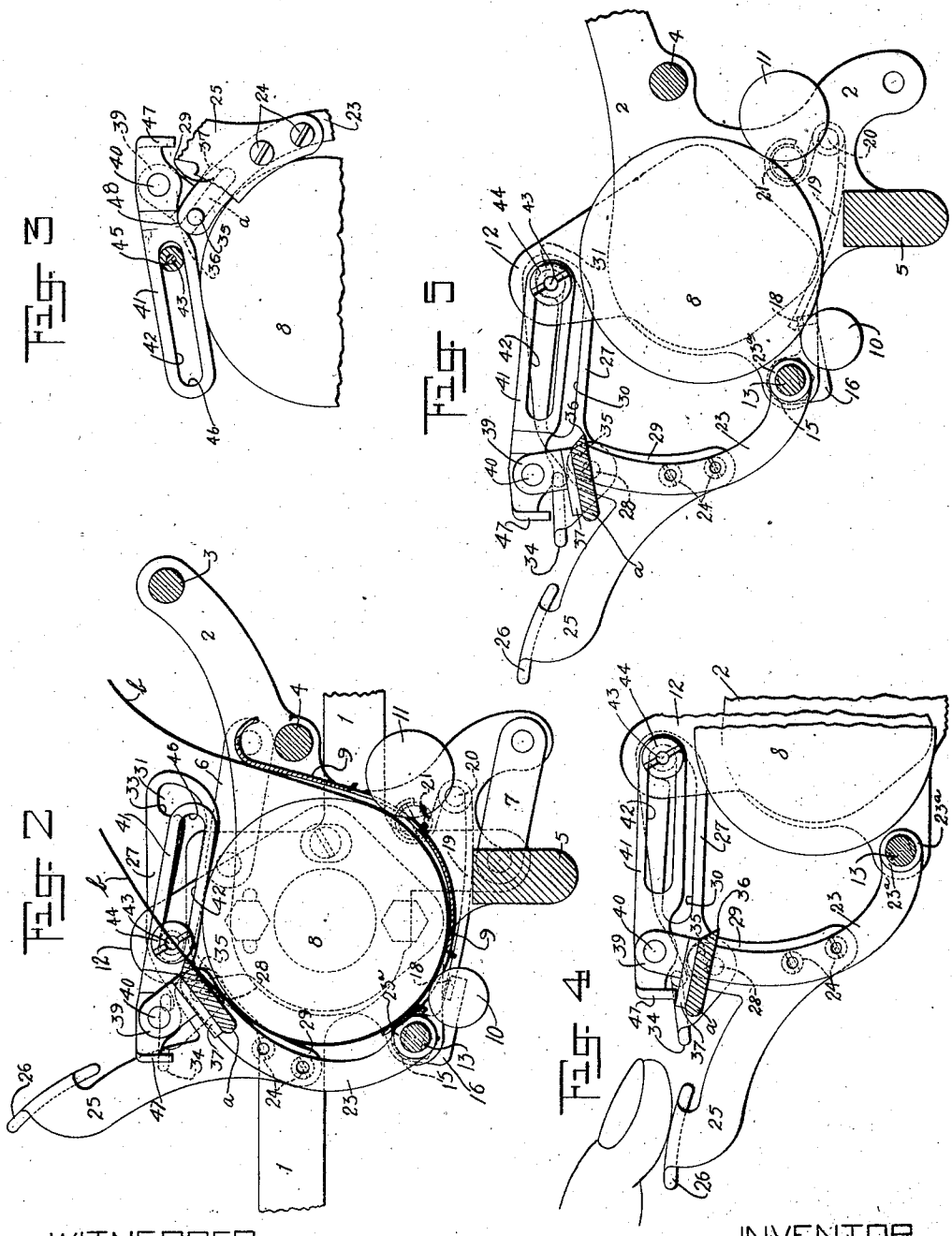
HIS ATTORNEY

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G. A. SEIB

TYPEWRITING MACHINE

Filed Sept. 12, 1923 2 Sheets-Sheet 2



WITNESSES

Lillian Jackson

Wesley E. Smith

INVENTOR

George A. Seib

By Jacob Felbel

HIS ATTORNEY

Patented July 6, 1926. 1,591,442

UNITED STATES PATENT OFFICE.

GEORGE A. SEIB, OF ILION, NEW YORK, ASSIGNOR TO REMINGTON TYPEWRITER COMPANY, OF ILION, NEW YORK, A CORPORATION OF NEW YORK.

TYPEWRITING MACHINE.

Application filed September 12, 1923. Serial No. 662,164.

My invention relates to typewriting and like machines, and more particularly to paper cutting means for cutting sheets from continuous webs fed through the machine.

The main object of my invention, generally stated, is to provide a simple and highly efficient means of the character specified.

A further object of my invention is to provide paper cutting means which, when desired, may be readily incorporated in existing typewriting machines such as the numbers 10, 11 and 12 Remington machines, without modifying or materially modifying the structural features of said machines as they now exist except by the ready addition or substitution of a few parts.

To the above and other ends which will hereinafter appear, my invention consists in the features of construction, arrangements of parts and combinations of devices set forth in the following specification and particularly pointed out in the appended claims.

In the accompanying drawings, wherein like reference characters indicate corresponding parts in the different views,

Figure 1 is an enlarged detail fragmentary perspective view of the platen frame of a standard Remington machine equipped with the paper cutting devices of my invention.

Figure 2 is a fragmentary fore-and-aft vertical sectional view of the same mounted on a carriage and showing the cutting blade in its normal position for use.

Figure 3 is a fragmentary end view partly in section showing some of the parts illustrated in Figs. 1 and 2 but as they are seen from the opposite side.

Figure 4 is a view corresponding in part to Fig. 2 but showing the parts as they appear when the operator has depressed the finger piece to move the cutting blade to ineffective position.

Figure 5 is a similar view showing the cutting blade locked off in the ineffective position.

I have shown my invention in the present instance embodied in a standard Remington machine, but it should be understood that the invention is not restricted to use in that machine but may be employed in typewriting and like machines generally, wherever found available.

The carriage shown in the present instance is of the usual construction, embodying a carriage truck or frame 1 in which is mounted the platen frame. This platen frame comprises end plates 2 united by cross bars 3, 4 and 5. Parallel links 6 and 7 connect the platen frame to the truck to enable the platen frame to receive a case shifting movement. A platen 8 is mounted in the usual manner in the platen frame, as also are the paper apron 9 and feed rollers 10 and 11, diagrammatically shown in Fig. 2. To the left-hand end plate 2 of the platen frame is adjustably secured the usual plate 12 which supports the platen at one end on the platen frame.

A paper cutter, blade, or knife *a* is preferably mounted on a platen frame to shift therewith and maintain the same relation to the platen irrespective of the case position to which the latter may be shifted. The cutting blade *a* is also mounted so that it may be moved bodily towards and away from the platen or into and out of effective position. Preferably the blade extends throughout, or substantially throughout, the length of the platen, and in the normal or effective position is adjacent to the platen and acts on the paper *b* above the printing line to guide the paper as it is fed through the machine and hold it snugly against the front face of the platen where the types strike. When the blade is moved away from the platen it creates an enlarged space between the blade and platen through which the work sheet or sheets may be introduced.

From certain aspects of my invention various means may be employed for mounting and controlling the movement of the blade into and out of effective position. However, I prefer to employ in part for this purpose devices disclosed in my co-pending application, Sr. No. 590,081 filed September 23, 1922, by which ordinarily, auxiliary feed rollers arranged above the printing line are mounted and controlled. This mechanism is now employed in the standard Remington machines and aside from its effectiveness for my present purpose enables the paper cutter to be readily incorporated in such machines, when desired, without modification or material modification of the existing structure except by the ready substitution and addition of devices, as will hereinafter appear.

A rock shaft 13 extends across the platen frame, being mounted eccentrically of the axis of the platen and in front of the platen

and below the printing line at the front face thereof. The ends of the shaft are received and supported in bearing openings in the end plates 2 of the platen frame. Each end of the shaft 13 projects outwardly beyond the associated end plate 2, where it is threaded to receive two nuts 14 and 15. These nuts are arranged on opposite sides of a sheet metal crank arm 16 apertured to fit the cross section of the associated end portion of the shaft 13 with its slabbed-off sides, indicated at 17. Each arm 16 is thus fixedly connected to turn with the rock shaft 13 and projects rearwardly therefrom. The inwardlly bent end of each arm 16 is notched at 18 to receive the free downwardly pressing end of a wire spring 19. The opposite end portion of each spring is coiled around a pin 20 and is anchored to a headed screw 21 threaded into the associated end plate 2. Two arms 22 and 23 have hubs 22^a and 23^a respectively at the lower ends thereof secured to the rock shaft 13, the arms being curved and projecting upwardly from the rock shaft near opposite ends of the platen and terminating near the top of the platen above the printing line. The arms are thus rigidly connected through the shaft 13, such parts in effect constituting a pivoted frame. The springs 19 are effective to turn the rock shaft 13 and force the arms 22 and 23 towards the platen. In order that the arms may be readily moved away from the platen, the arm 23 has secured thereto, as by screws 24, a forwardly projecting arm 25 that terminates in a laterally projecting finger piece 26. Downward pressure exerted on this finger piece moves the arm 23 and the parts controlled thereby against the force of the springs 19 from the Fig. 2 to the Fig. 4 position. In order that the parts may be locked in their last mentioned position, a gravity lock, latch, catch or detent 27 is pivoted at 28 (see Fig. 4) on the outer side of an arm 29 formed integral with the arm 25. The catch extends rearwardly from its pivot 28 and is slotted longitudinally at 30 and terminates at the rear end of the slot in a cross slot 31. The stem of a headed pin 32 (see Fig. 4) is fixed to and projects outwardly from an upward extension on the fixed plate 2 and extends through the slot 30. When the parts reach the Fig. 4 position and the cross slot 31 registers with the pin 32, the latch will turn on its pivot 28; the rear end of the latch dropping to the Fig. 5 position. This brings the wall 33 of the slot 31 against the pin 32 and prevents a return of the parts to normal position. The latch is extended forward of its pivot 28 where it is provided with an outwardly bent finger piece 34. In order to release the latch and enable the parts to return to normal from the Fig. 5 position, it is merely necessary to depress the finger piece 34. The effect of this is to turn the latch on its pivot 28, elevating the rear end thereof and releasing it from engagement with the pin 32. When the longitudinal slot 30 registers with the pin 32 the parts are free to be returned to normal position, shown in Fig. 2, under the action of the springs 19.

So far as has been described, the construction is similar to that disclosed in my hereinbefore mentioned application. In that construction, however, the upper ends of the arms 22 and 23 are provided with bearing openings to receive the supporting shaft or spindle of the auxiliary paper feed rollers. In the present construction, I utilize these bearing openings to receive trunnion-like pivots 35 which project from the ends of the blade *a* near the cutting edge 36 thereof. By slightly springing the arm 22 outwardly, the feed roller shaft may be removed with the feed rollers thereon, and the cutting blade *a* substituted therefore.

While the mounting of the cutting blade rigidly on the arms 22 and 23 might suffice for some purposes, it should be understood that if the blade was fixedly held on the arms in the position shown in Fig. 2, a movement of the arms away from the platen to the ineffective position shown in Figs. 4 and 5 would present the sharp cutting edge 36 of a knife or blade uppermost. In such position the hands of the operator would be liable to be cut by the knife in handling the work sheets or introducing them into or withdrawing them from the machine. Therefore, I prefer to pivot the cutting blade on the arms 22 and 23, and automatically turn or shift the blade on such pivots to a so-called safety position when the blade is moved bodily to the ineffective position, shown in Figs. 4 and 5. It will be seen that in these last mentioned positions, a flat side of the blade is presented uppermost with the sharp edge of the blade facing the platen. In this position, the operator is not apt to be cut by the knife in handling the work sheets.

The means I employ for thus shifting the blade to safety position will now be described. The left-hand end of the cutting blade has a sheet metal bracket 37 riveted thereto at 38. An upwardly extending ear 39 on this bracket carries a pin 40 on which is pivoted a link 41. This link is slotted longitudinally at 42 and extends rearwardly along the inner side of the upward extension on the relatively fixed plate 12. Secured to and extending from the right-hand face of this extension of the plate 12 is a threaded pin 43 which may be formed as a continuation of the pin 32. A nut 44 with a reduced shank 45 is threaded onto the pin 43. The reduced part 45 of the nut passes through the slot in the link 41 and con-

stitutes a stop pin or member that co-acts with the rear end wall 46 of the closed slot 42 in the link, as will hereinafter appear. The link 41 also is extended forwardly of its pivot 40 and terminates in a finger or stop 47 bent to the right and overlapping the bracket 37 on the cutting blade. This stop 47 co-acts with said bracket to limit the turning movement of the blade in one direction on its pivots 35 when the parts are moved to the Fig. 4 position. This prevents the blade from accidentally turning completely over on its pivots 35 from the Fig. 4 position, presenting the sharp edge of the blade foremost. On the other hand, the blade is prevented from turning in the opposite direction on its pivots beyond the Fig. 5 position by the link 41 which at this time has the end wall 46 of its slot bearing against the stop 45.

Referring particularly to Fig. 3, it will be seen that in the normal position of the parts, the bottom edge of the link 41 co-acts at 48 with the upper end of the arm 23. Therefore any tendency of the blade *a* at this time to turn on its pivots 35, so that the cutting edge of the blade will move away from the platen, is prevented. This is due to the fact that the forward end of the link 41 is at this time prevented from moving down by the arm 23, and the rear end of the link is prevented from moving up by the stop member 45. This positively holds the plate against turning up out of its cutting position on the pivots 35 under the action of the paper as it is being severed along the line of the sharp edge of the blade.

In the operation of the mechanism, with the paper *b* in the machine and the parts disposed as shown in Fig. 2, the operator may at any time cut off that portion of the work sheet which has been advanced beyond the blade by merely drawing the sheet from one side edge to the other over the sharp cutting edge of the blade. It will be seen that, as the parts appear in this figure, the blade *a* in a measure acts as a substitute for the feed rollers ordinarily carried by the arms 22 and 23; guiding the paper above the printing line and retaining it snug against the front face of the platen at the printing line.

When it is desired to introduce a new work sheet, it is merely necessary to depress the finger piece 26 to the Fig. 4 position. When the operator's finger is removed from the key the parts will be locked in the Fig. 5 position. In depressing the key 26, the arms 22 and 23 moved forward, but before their arrest the lost motion of the link 41 relatively to the fixed part 45 ceased; the end wall 46 of the slot in the link reaching the stop 45. The result of this was to hold the pivot 40 against further advance while the pivots 35 continued to advance with the arms 22 and 23. This effected a turning of the blade *a* on its pivots 35 to present the sharp edge 36 of the blade toward the platen in the "safety" position, instead of presenting it uppermost where it might injure the operator. The parts being locked in the position shown in Fig. 5, the operator may advance the work sheet or sheets through the enlarged space between the blade and platen until the leading end portions of the sheets are within the range of the blade. The finger piece 34 may now be released, returning the parts to the Fig. 2 position with the cutting blade in the effective position ready at any time to sever that portion of the work sheet or sheets extending beyond its cutting edge.

From the foregoing description it will be understood that I have provided simple, safe and effective paper cutting means which may be readily embodied in existing machines when desired.

Various changes may be made without departing from my invention as it is defined in the accompanying claims.

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

1. In a typewriting or like machine, the combination of a carriage, a platen, a paper cutting blade, means for mounting said blade for bodily movement from its position of use adjacent to the platen away from the platen to create an enlarged space between the blade and platen through which the work sheet or sheets may be readily introduced, the blade when in cutting position also acting as a guide above the printing line to hold the work sheet or sheets against the platen, automatically operating means for holding said paper cutting blade against movement away from the platen under the action of a work sheet when it is being severed by said blade, and automatically operating means for locking the blade in its thrown-off position away from the platen.

2. In a typewriting or like machine, the combination of a carriage, a platen, a paper cutting blade, means for mounting said blade for bodily movement from its position of use adjacent to the platen away therefrom to create an enlarged space between the blade and platen through which the work sheet or sheets may be introduced, the blade when in cutting position also acting as a guide above the printing line to hold the work sheet or sheets against the platen, and means for automatically turning the blade when it is moved away from the platen to present the cutting edge of the blade in safety position where the operator is not apt to be cut thereby.

3. In a typewriting or like machine, the combination of a carriage, a platen, a paper cutting blade, means for mounting said

blade for a double pivotal movement around different centers from its position of use adjacent to the platen away from the platen to create an enlarged space between the blade and platen through which the work sheet or sheets may be readily introduced and to a safety position, the blade when in cutting position also acting as a guide above the printing line to hold the work sheet or sheets against the platen, and automatically acting means for locking the blade in its thrown-off and safety position away from the platen.

4. In a typewriting or like machine, the combination of a carriage, a platen, a paper cutting blade, means for mounting said blade for bodily movement from its position of use adjacent to the platen away therefrom to create an enlarged space between the blade and platen through which the work sheet or sheets may be introduced, the blade when in cutting position also acting as a guide above the printing line to hold the work sheet or sheets against the platen, means for automatically turning the blade when it is moved away from the platen to present the cutting edge of the blade in safety position where the operator is not apt to be cut thereby, and automatically acting means for locking the blade in thrown-off and safety position.

5. In a typewriting or like machine, the combination of a platen frame mounted for case shifting movement, a platen carried thereby, a paper cutting blade, rigidly connected arms pivoted on the platen frame and carrying said blade from its position of use adjacent to the platen away therefrom to create an enlarged space between the blade and platen through which the work sheet or sheets may be introduced, a finger piece for shifting said arms away from the platen, and a spring for moving said arms towards the platen.

6. In a typewriting or like machine, the combination of a platen frame mounted for case shifting movement, a platen carried thereby, a paper cutting blade, rigidly connected arms pivoted on the platen frame and carrying said blade from its position of use adjacent to the platen away therefrom to create an enlarged space between the blade and platen through which the work sheet or sheets may be introduced, a finger piece for shifting said arms away from the platen, a spring for moving said arms towards the platen, and means for locking said arms against the force of said spring away from the platen.

7. In a typewriting or like machine, the combination of a platen frame mounted for case shifting movement, a platen carried thereby, a paper cutting blade, rigidly connected arms pivoted on the platen frame and carrying said blade from its position of use adjacent to the platen away therefrom to create an enlarged space between the blade and platen through which the work sheet or sheets may be introduced, a finger piece for shifting said arms away from the platen, and automatically operating means for turning the blade on said arms to present the cutting edge of the blade in a safety position when the arms are moved away from the platen.

8. In a typewriting or like machine, the combination of a platen frame mounted for case shifting movement, a platen carried thereby, a paper cutting blade, rigidly connected arms pivoted on the platen frame and carrying said blade from its position of use adjacent to the platen away therefrom to create an enlarged space between the blade and platen through which the work sheet or sheets may be introduced, a finger piece for shifting said arms away from the platen, a gravity catch for positively locking the arms and blade away from the platen, and a finger piece for releasing said gravity catch.

9. In a typewriting or like machine, the combination of a carriage, a platen, a paper cutting blade, a pivoted frame for supporting said blade for bodily movement from its position of use adjacent to the platen away therefrom to create an enlarged space between the blade and platen through which the work sheet or sheets may be introduced, the blade when adjacent to the platen being operative as a cutter and also acting to hold the work sheet or sheets against the platen, a pivotal connection between said blade and frame, and automatically operating means for turning the blade on the frame to a safety position where the operator is not apt to be cut thereby.

10. In a typewriting or like machine, the combination of a carriage, a platen, a paper cutting blade, a pivoted frame for supporting said blade for bodily movement from its position of use adjacent to the platen away therefrom to create an enlarged space between the blade and platen through which the work sheet or sheets may be introduced, the blade when adjacent to the platen being operative as a cutter and also acting to hold the work sheet or sheets against the platen, a pivotal connection between said blade and frame, and automatically operating means for turning the blade on the frame to a safety position where the operator is not apt to be cut thereby, said last mentioned means acting for the purpose stated when said frame moves the blade away from the platen and comprising a link between said blade and a relatively fixed point.

11. In a typewriting or like machine, the combination of a carriage, a platen, a paper cutting blade, a pivoted frame for supporting said blade for bodily movement from

its position of use adjacent to the platen away therefrom to create an enlarged space between the blade and platen through which the work sheet or sheets may be introduced, the blade when adjacent to the platen being operative as a cutter and also acting to hold the work sheet or sheets against the platen, a pivotal connection between said blade and frame, automatically operating means for turning the blade on the frame to a safety position where the operator is not apt to be cut thereby, said last mentioned means acting for the purpose stated when said frame moves the blade away from the platen, an automatically operating gravity catch for locking the frame against return movement from said last mentioned position, and a finger piece for releasing said catch.

12. In a typewriting or like machine, the combination of a platen, pivoted arms movable towards and away from the platen, a paper cutting blade pivoted on said arms and movable bodily therewith towards and from the platen, means for turning said blade on the arms, and means for limiting the extent of such turning movement.

13. In a typewriting or like machine, the combination of a platen, a rock shaft mounted eccentrically of the axis of the platen, arms fixed to said rock shaft, a finger piece for moving said arms away from the platen, a spring for moving the arms towards the platen, and a paper cutting blade carried by said arms and movable therewith towards and away from the platen.

14. In a typewriting or like machine, the combination of a platen, a rock shaft, arms carried by said rock shaft, a finger piece for moving said arms away from the platen, a spring for moving the arms towards the platen, a paper cutting blade carried by and pivotally supported on said arms, and automatically operating means controlled by the movement of the arms away from the platen for turning said blade on the arms so as to present the cutting edge of the blade in a safety position where the operator is not apt to be cut thereby.

15. In a typewriting or like machine, the combination of a platen, a rock shaft, arms carried by said rock shaft, a finger piece for moving said arms away from the platen, a spring for moving the arms towards the platen, a paper cutting blade carried by and pivotally supported on said arms, automatically operating means controlled by the movement of the arms away from the platen for turning said blade on the arms so as to present the cutting edge of the blade in a safety position where the operator is not apt to be cut thereby, means for limiting the turning movement of said blade, and automatically operating means for locking the arms and blade away from the platen when moved to such position by said finger piece.

16. In a typewriting or like machine, the combination of a platen, a rock shaft, arms carried by said rock shaft, a finger piece for moving said arms away from the platen, a spring for moving the arms towards the platen, a paper cutting blade pivotally supported on said arms, and a link connected to said blade and having a lost motion connection with a relatively fixed part to automatically turn the blade on said arms as they are moved away from the platen.

17. In a typewriting or like machine, the combination of a platen, a rock shaft, arms carried by said rock shaft, a finger piece for moving said arms away from the platen, a spring for moving the arms towards the platen, a paper cutting blade pivotally supported on said arms, a link connected to said blade and having a lost motion connection with a relatively fixed part to automatically turn the blade on said arms as they are moved away from the platen, an automatically operative latch for positively locking the arms in the position to which they are moved by said finger piece and against return movement by said spring, and a finger piece for releasing said latch.

Signed at Ilion, in the county of Herkimer and State of New York, this 7th day of September A. D. 1923.

GEORGE A. SEIB.