Feb. 27, 1945. J. C. WHITE 2,370,338

NOTEBOOK LEAF ELEVATING AND TURNING DEVICE

Filed May 11, 1944 5 Sheets-Sheet 1

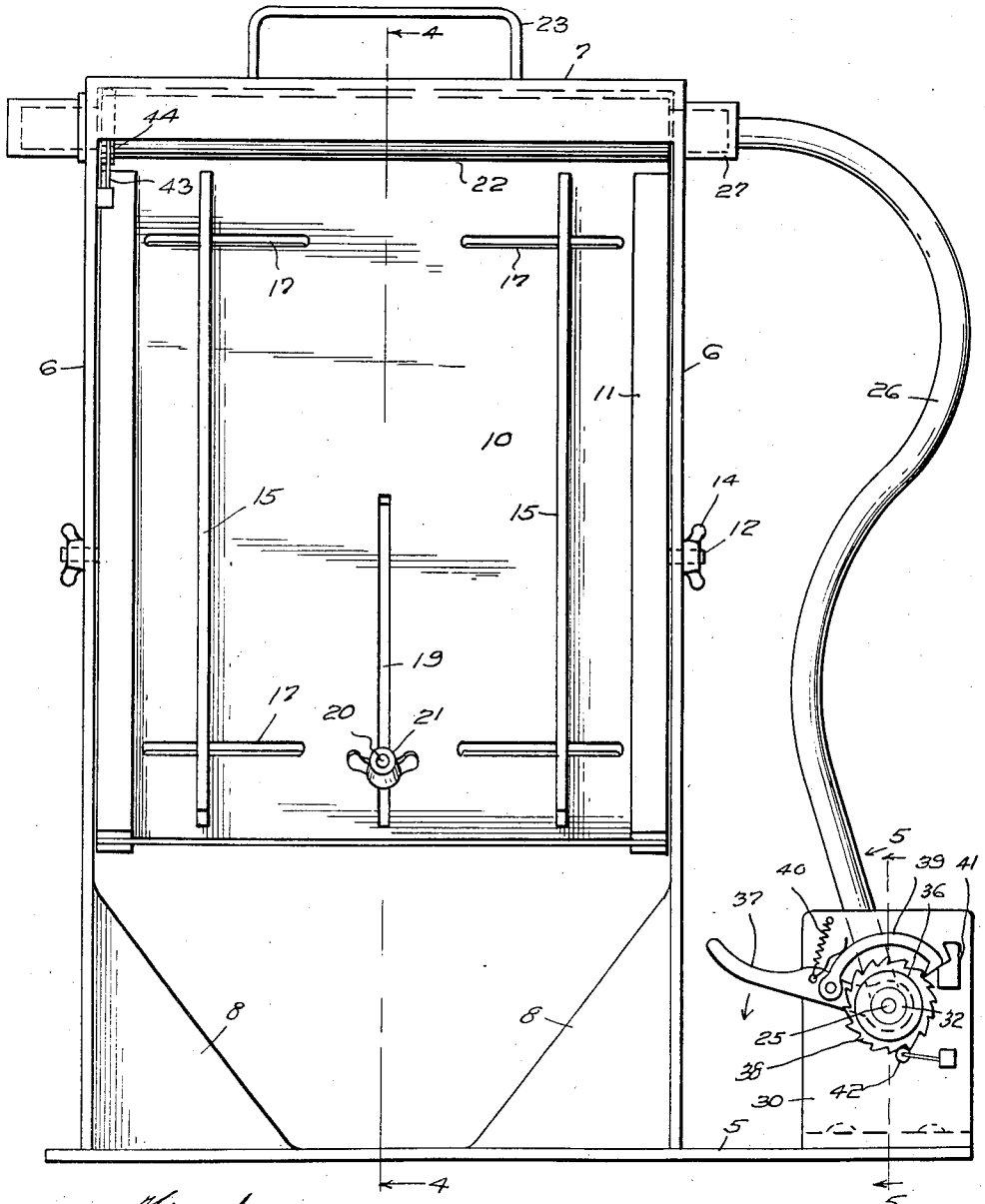


Fig. 1.

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Filed May 11, 1944 5 Sheets-Sheet 2

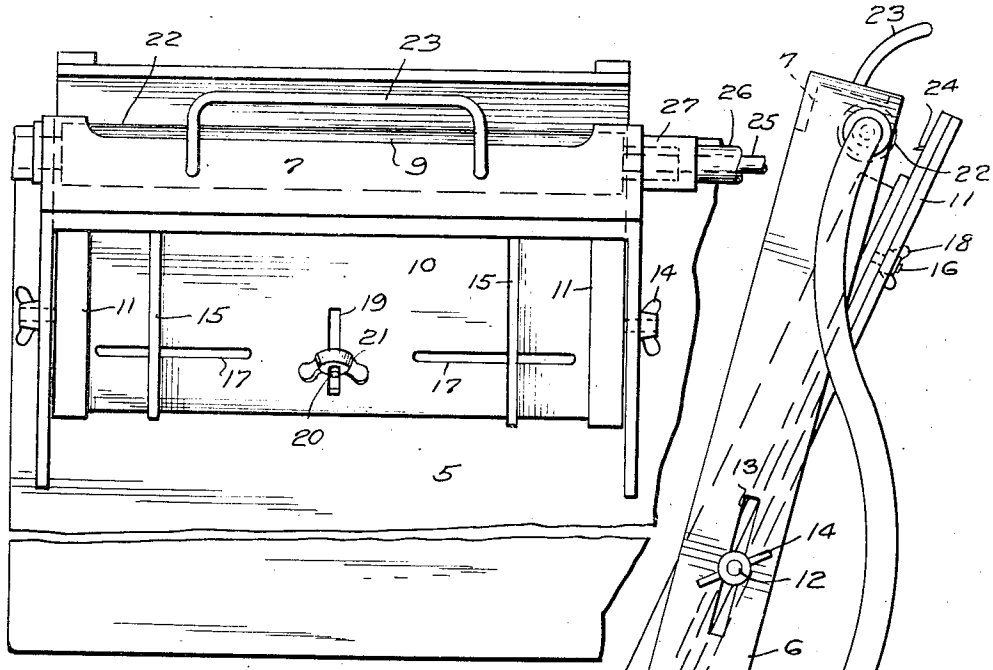


Fig. 3.

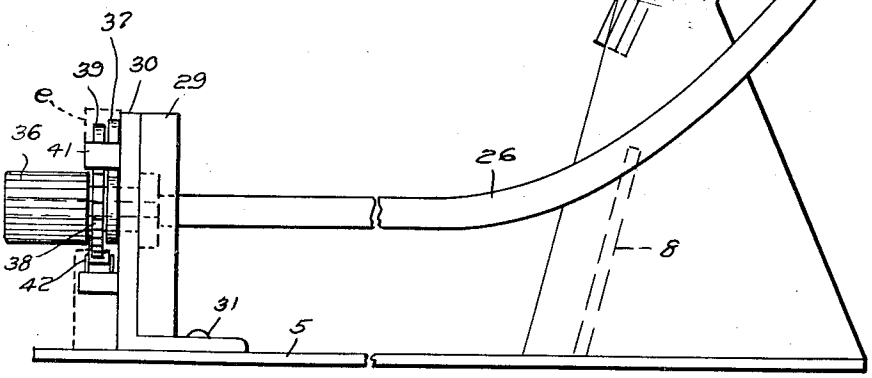


Fig. 2.

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NOTEBOOK LEAF ELEVATING AND TURNING DEVICE

Filed May 11, 1944 5 Sheets-Sheet 3

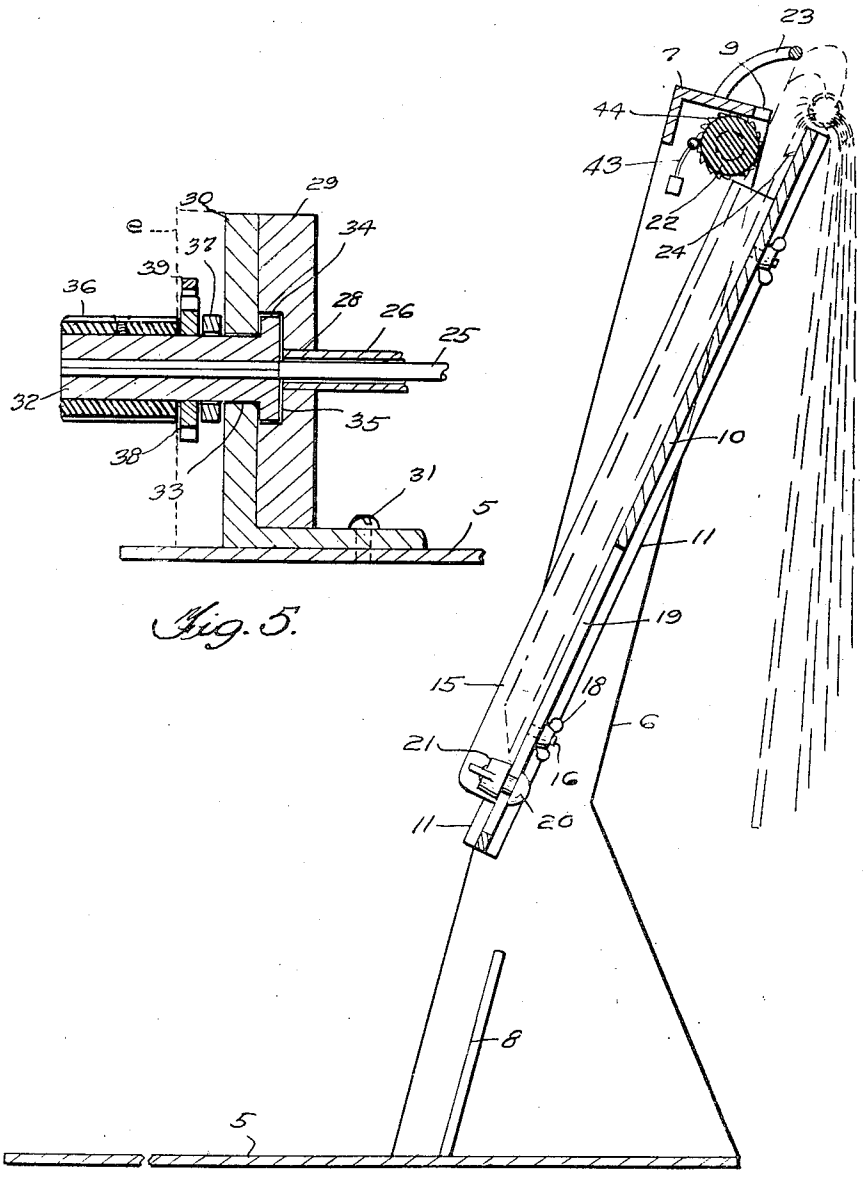


Fig. 5.

Fig. 4.

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NOTEBOOK LEAF ELEVATING AND TURNING DEVICE

Filed May 11, 1944 5 Sheets-Sheet 4

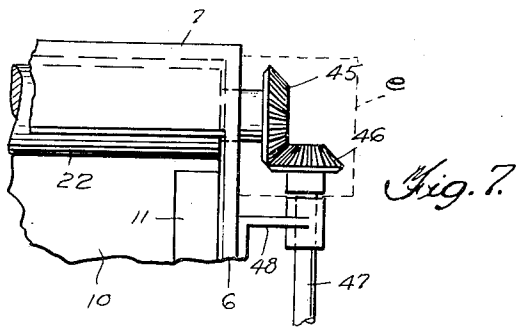


Fig. 7.

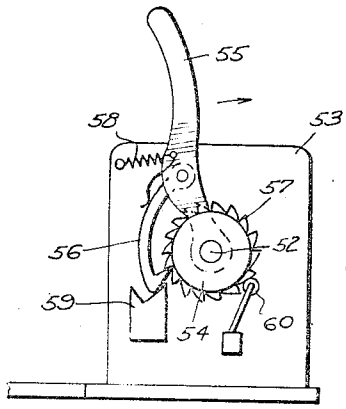
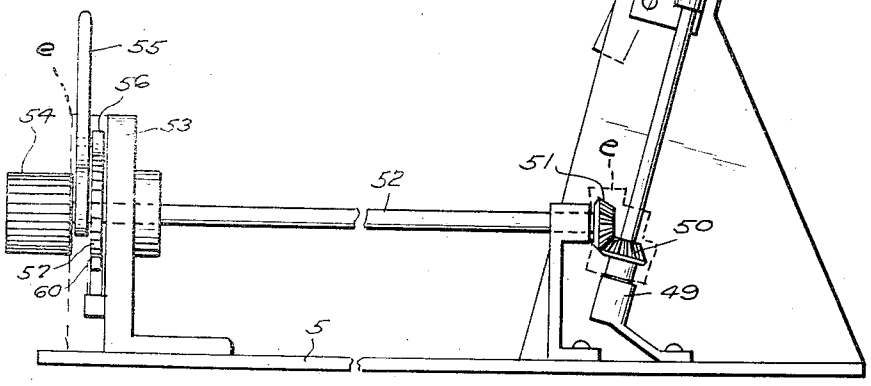


Fig. 8.



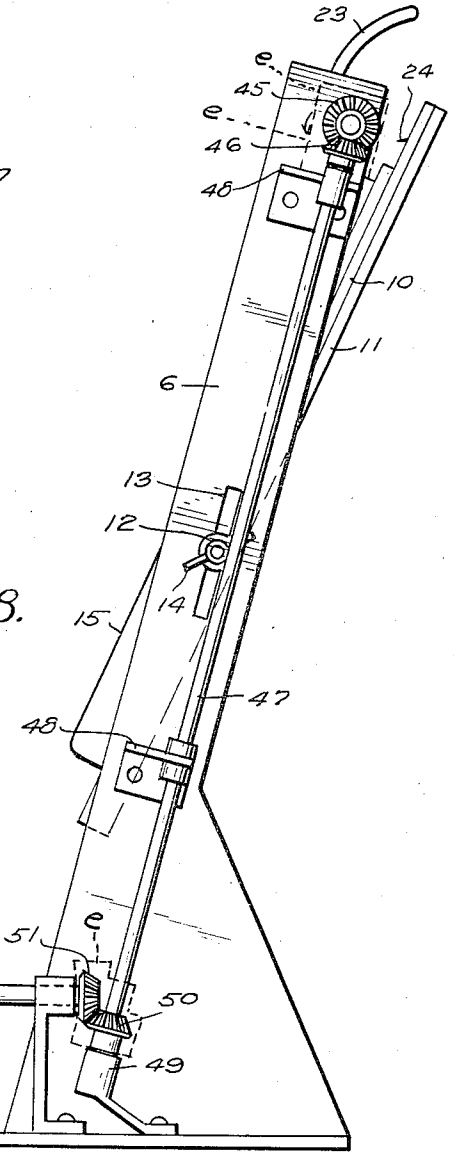


Fig. 6.

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Filed May 11, 1944 5 Sheets-Sheet 5

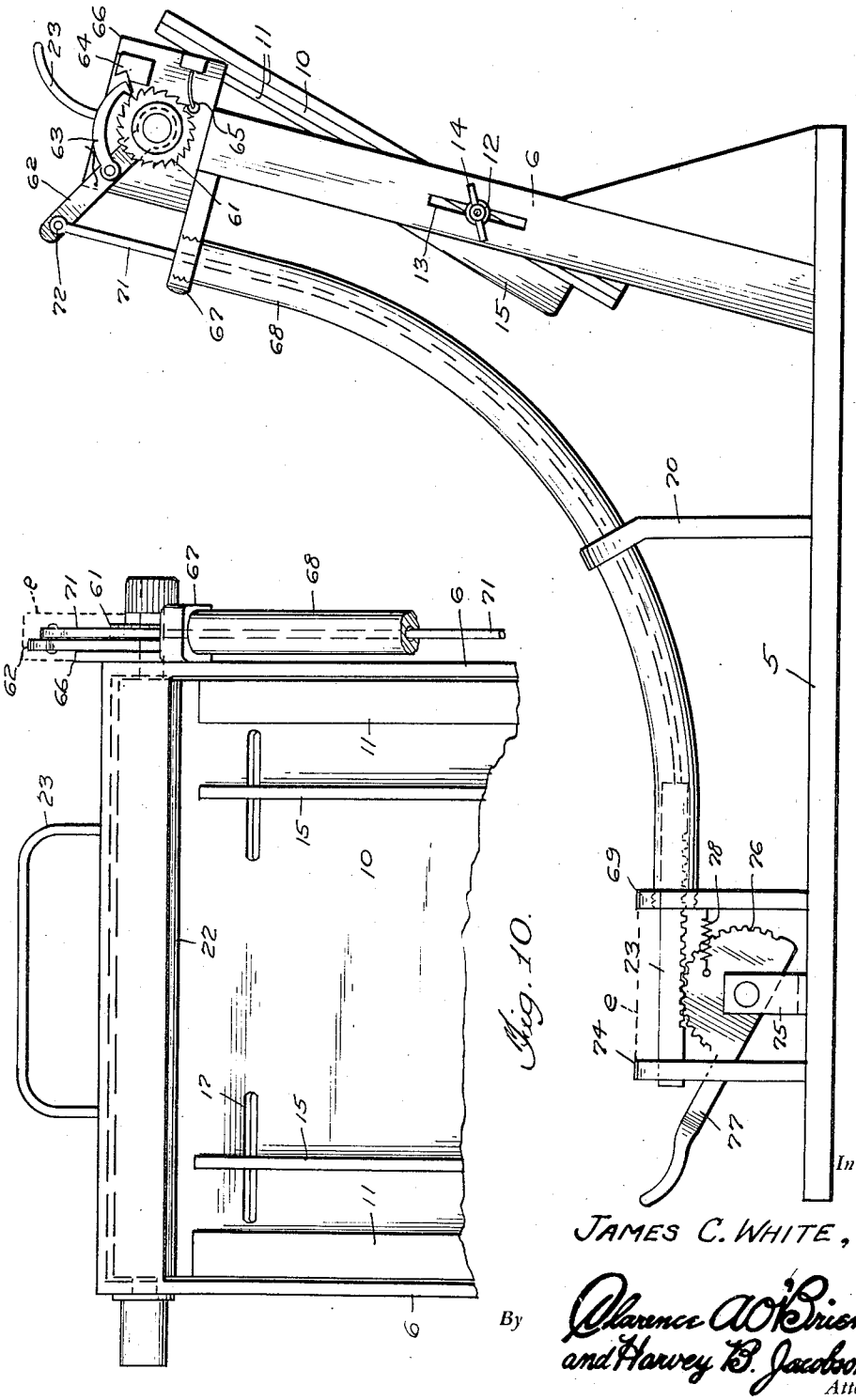


Fig. 9.

Fig. 10.

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Patented Feb. 27, 1945

2,370,338

UNITED STATES PATENT OFFICE

2,370,338

NOTEBOOK LEAF ELEVATING AND TURNING DEVICE

James C. White, Amarillo, Tex.

Application May 11, 1944, Serial No. 535,188

10 Claims. (Cl. 120—32)

This invention relates to a device for supporting a stenographer's notebook at the rear of a typewriter so that the operator can readily follow and transcribe the notes on the leaves of the notebook.

More particularly, the present invention relates to a device of the above kind wherein manually operable means is provided for elevating the leaves of the notebook in a step-by-step fashion so that the lines of notes may be most conveniently followed as transcription proceeds, and for turning the leaves as transcription of the lines of notes thereon is completed.

An important object of the present invention is to provide a device of the above kind in which the leaf elevating and turning means is conveniently operable at a point remote from the notebook and adjacent the keyboard of the typewriter, so that use of the device entails a minimum loss of time and effort on the part of the operator of the typewriter.

Another object of the present invention is to provide an actuating means for the leaf elevating and turning device by means of which intermittent elevation of the leaves of the notebook may be conveniently effected for variable distances in accordance with the variable line spacing of notes as commonly taken on a stenographer's notebook.

A further object is to provide a device of the above kind which will effectively accommodate notebooks of various widths and lengths.

Still another object of the invention is to provide a device of the above kind which is comparatively simple and compact in construction, highly efficient in use, and otherwise well adapted to meet with the requirements for a successful commercial use.

Other objects and features of the invention will become apparent from the following description when considered in connection with the accompanying drawings, and the invention consists in the novel form, combination and arrangement of parts hereinafter more fully described, shown in the drawings and claimed.

In the drawings, wherein the same reference characters indicate the same parts throughout the several views:

Figure 1 is a front elevational view of a leaf elevating and turning device constructed in accordance with the present invention.

Figure 2 is a side elevational view thereof, partly broken away, as seen looking to the left of Figure 1.

Figure 3 is a fragmentary top plan view of the device shown in Figure 1.

Figure 4 is a vertical section taken on line 4—4 of Figure 1.

Figure 5 is an enlarged fragmentary vertical section taken on line 5—5 of Figure 1.

Figure 6 is a view similar to Figure 2 illustrating a modification of the invention.

Figure 7 is a fragmentary front elevational view illustrating details of the operating means for the leaf elevating and turning roller of the device shown in Figure 6.

Figure 8 is a fragmentary front elevational view showing details of the ratchet mechanism for operating the forwardly extending drive shaft forming part of the means for operating the leaf elevating and turning roller of the device shown in Figure 6.

Figure 9 is a view similar to Figure 2 of still another modification of the invention.

Figure 10 is a fragmentary front elevational view illustrating details of the device shown in Figure 9.

Referring in detail to the drawings, the present device includes a base plate 5 on the forward portion of which the typewriter may be placed. Rigid with and rising from the rear portion of baseplate 5 is the frame of a notebook holder including spaced uprights 6 that preferably incline slightly rearwardly and upwardly and that are rigidly connected at their upper ends by an angular cross piece 7. The uprights 6 are preferably braced at their lower ends, as at 8, and the cross piece 7 has an upper rearwardly projecting flange that is cut away slightly at its rear edge, as indicated at 9, and for the major portion of its length.

Disposed in the upper portion of the frame 6, 7, 8 is a notebook rest including a plate 10 of a width slightly less than the distance between the uprights 6 and preferably reinforced at 11 along its side edges. The notebook rest is supported so that it may be adjusted vertically and adjustably tilted forwardly or rearwardly, and for this purpose the plate 10 is provided at opposite sides and at a point between the top and bottom thereof with laterally projecting pivot bolts 12 that extend outwardly through elongated slots 13 provided in and longitudinally of the uprights 6, and that have wing nuts 14 threaded on the projecting ends thereof. By this means, the rest may be vertically adjusted and also adjustably tilted to the desired inclination relative to the frame, the adjustment being effectively secured by tightening the nuts 14. The notebook is adapted to be

supported on the rest 10, 11 by placing the book so that it is preferably hung over the upper edge of the plate 10, as shown by dotted lines in Figure 4, the front cover of the notebook being disposed at the back of the plate 10, and the rear cover of the notebook being disposed flatly against the front face of the plate 10, together with the leaves on which the notes to be transcribed have been written. In order to hold the leaves of the book even and to accommodate books of various widths, spaced guide strips 15 are provided on the front of the plate 10 near opposite sides of the latter and in position to engage the side edges of the leaves of the book, said guide plates 15 being adjustable toward or away from each other. For effecting the latter adjustment, the guide plates 15 have rearwardly projecting bolts 16 that extend through transverse elongated slots 17 in the plate 10 near the ends of said guide strips 15, nuts 18 being threaded on the rear projecting ends of the bolts 16. By tightening nuts 18, the guide strips 15 may be effectively secured in adjusted position. The plate 10 is further provided with a longitudinal elongated slot 19 intermediate the side edges thereof and in the lower portion of the same. Adjustable in the slot 19 is a bolt 20 having a nut 21 threaded on the forward projecting end thereof. By tightening the nut 21, the bolt 20 may be secured in any vertically adjusted position, and when so tightened, the nut 21 forms an abutment for the lower end edge of the rear cover of the notebook so that the latter is effectively sustained against lowering at the front of the plate 10. The vertical adjustment of bolt 20 and nut 21 provides for the accommodation of notebooks of varying lengths.

Journaled in the upper portion of the frame 6, 7, 8, directly beneath the upper flange of the cross piece 7, is a horizontal leaf elevating and turning roller 22 suitably constructed to have an effective friction surface and arranged to engage the front or foremost page of the notebook near the top of said page or leaf. The cut-out or notch 9 exposes the rear portion of roller 22 for effective engagement with the leaves of the notebook and provides clearance whereby the ends of the leaves may readily pass as they are elevated and turned rearwardly. This turning of the leaves is facilitated by means of an upwardly and rearwardly curved guide 23 mounted upon the cross piece 7 so as to positively direct the leaves rearwardly and prevent them from falling forwardly over the cross piece 7. By adjustably tilting the book rest, its leaves may be maintained in frictional engagement with the roller 22, the upper end of the book rest being adjustable toward or from said roller 22. Further, in order to guard against upward slipping of the notebook at the front of the plate 10, the latter is preferably provided near its upper end with forwardly projecting inclined pins 24 arranged to penetrate the rear cover of the notebook and thereby aid in securing it against shifting relative to the plate 10. It will be apparent that by rotating the roller 22 in an anti-clockwise direction as viewed in Figure 4, the front leaf of the notebook may be elevated in a step-by-step fashion for any required distance to accord with the line spacing of the lines of notes on the notebook. Also, the line being read may be maintained directly below the roller 22 so that the latter will act as a guide to facilitate reading of the line. When the last line on the page has been transcribed, rotation of roller 22 will effect completion of elevation of the leaf and rearward turning thereof so that the next page of the notebook is exposed for use.

Thus far described, the construction of all illustrated forms of the invention is similar, and like elements of all forms are indicated by similar reference characters.

The invention also provides manually operable means for turning the roller 22 so as to cause the step-by-step elevation of the leaves of the notebook and turning of such leaves. Such means for rotating roller 22 is operable at a point remote from said roller 22 and adjacent one side of the keyboard of the typewriter disposed on the base 5. In the embodiment of Figures 1 to 5, inclusive, the operating means for roller 22 consists of a flexible shaft 25 coupled at one end to an end of the shaft of roller 22 and extending through a tubular housing 26 which is also flexible. One end of tubular housing 26 is coupled at 27 to the adjacent frame member 6, the other end of housing 26 being fixed at 28 (see Fig. 5) in an opening of a vertical plate 29 secured to the rear face of the vertical flange of an angle bracket 30 whose lower horizontal flange is secured at 31 upon the forward portion of base plate 5 near one side of the latter. A spindle 32 is journaled in an opening 33 of the bracket 30 near its rear end, and said spindle is provided at its rear end with an enlarged circular head 34 rotatable in a circular recess 35 provided in the front face of the plate 29. The spindle 32 is secured on the adjacent projecting end of flexible shaft 25, and it will be apparent that it is journaled and held in position by the plate 29 and bracket 30. The forward end of spindle 32 is provided with a knurled knob 36 to facilitate manual turning of shaft 25 whenever this means is desired to be used for effecting rotation of roller 22. However, means is provided for effecting step-by-step rotation of shaft 25 and similar rotation of roller 22 by reason thereof. For this purpose, a finger lever 37 is pivoted at one end upon the spindle 32 behind a ratchet wheel 38 secured on said spindle 32, the lever 37 and ratchet wheel 38 being mounted between the knob 36 and the bracket 30. Pivoted on lever 37 is a spring-pressed pawl 39 arranged to engage the teeth of ratchet wheel 38, and lever 37 is normally yieldingly elevated by means of a helical tension spring 40. It will thus be seen that upon depression of the finger lever 37 against the action of spring 40, pawl 39 will engage the teeth of ratchet wheel 38 and effect partial rotation thereof so as to correspondingly turn the shaft 25 and roller 22. This provides a means of variable line spacing in that it may be used to elevate the leaf of the notebook any desired distance, depending upon the stroke of the lever 37. As soon as the lever 37 is released, spring 40 returns it to elevated position and positions the pawl 39 for the next stroke. In order to properly limit the return stroke of pawl 39, a cam lug is provided at 41 on the front face of the bracket 30 and in the path of said pawl so that said pawl will be automatically disengaged from the teeth of ratchet wheel 38 when it has reached its limit of return movement under the influence of spring 40. Accidental retrograde turning of ratchet wheel 38 and shaft 25 is prevented by a suitable spring detent 42 mounted on bracket 30 and engaging the teeth of ratchet wheel 38. As the lever 37 is located at one side of the typewriter keyboard, it can be conveniently and quickly reached and operated so as to

effect turning of the roller 22 with a minimum loss of time and expenditure of effort. In this embodiment, it has been found that a slight amount of lost motion will be had due to the use of the flexible shaft 25, and this lost motion would ordinarily permit creeping or slight retrograde turning of roller 22 after being actuated. As this would allow slight objectionable shifting of the notebook leaf after being elevated to the desired degree, it is prevented by means of a spring-pressed detent 43 mounted on a frame member 6 and engaging the teeth of a ratchet wheel 44 fixed on the shaft of roller 22 at one end of the latter.

In the embodiment of Figures 6 to 8, inclusive, the shaft of roller 22 has a bevel gear 45 fixed on one end thereof and meshing with another gear 46 fixed on the upper end of a shaft 47 journaled at one side of the frame 6, 7, 8, in brackets 48 secured to the adjacent frame member 6. The lower end of the shaft 47 is received in a thrust bearing 49 mounted on the base plate 5, and a further gear 50 is secured on the lower portion of shaft 47 and meshes with another gear 51 fixed on the rear end of a horizontal forwardly extending operating shaft 52 journaled adjacent but above the base plate 5 along one side of the latter. The forward end of shaft 52 is journaled in and projects forwardly through an angle bracket 53 secured on base plate 5, and the forward terminal of shaft 52 has a knob 54 secured thereon. Pivoted at one end on the shaft 52, between the knob 54 and bracket 53 is a finger lever 55 having a spring-pressed pawl 56 hinged thereto and arranged to engage the teeth of a ratchet wheel 57 secured on shaft 52 between lever 55 and bracket 53. A helical tension spring 58 acts to swing the finger lever 55 in one direction so as to position pawl 56 for engagement with the teeth of ratchet wheel 57 on the next operative stroke of the finger lever 55, the return movement of the pawl 56 resulting in its engagement with a cam lug 59 by means of which it is disengaged from the teeth of ratchet wheel 57 so as to limit the return stroke of said lever. Accidental retrograde turning of shaft 52 and ratchet wheel 57 is prevented by means of a spring detent 60 fixed on the bracket 53 and engaging the teeth of ratchet wheel 57. It will be seen that upon swinging the lever 55 to the right in Figure 8, the shaft 52 may be partially rotated for similarly turning roller 22 and effecting the step-by-step elevation of the notebook leaf. Also, spring 58 acts to return the lever and its pawl to the position for the next stroke of lever 55. Lever 55 is located beside the keyboard of the typewriter when the latter is placed on the base plate 5 so that step-by-step rotation of roller 22 may be conveniently effected with a minimum expenditure of time and effort. At the same time, when a great degree of elevation of the notebook page is desired, knob 54 may be utilized. By this use of rigid shafts and gears, use of the detent 43 and ratchet wheel 44 of Figure 1 is not necessary.

In the embodiment of Figures 9 and 10, a projecting end of the shaft of roller 22 has a ratchet wheel 61 secured thereon, and pivoted on said shaft inwardly of the ratchet wheel 61 is one end of a lever 62 having a pawl 63 pivoted thereto and arranged to engage the teeth of the ratchet wheel 61. A releasing cam lug 64 is provided for pawl 62, as in the other forms, and a spring detent 65 is also provided for preventing retrograde turning of ratchet wheel 61 and the roller 22. Detent 65 and cam lug 64 may be carried by a plate 66 fixed to the upper end of the adjacent frame member 6 and through which the shaft of roller 22 freely extends. A bracket 67 is fixed to and projects forwardly from the adjacent frame member 6 and has an opening in which is secured one end of a curved tubular housing 68. The housing 68 extends downwardly and forwardly at one side of the base plate 5 and has its forward end secured in an opening of an upright bracket 69 carried by the base plate 5. The intermediate portion of housing 68 may be additionally supported by a bracket 70 rising from the base plate 5, as shown in Figure 9. Extending through the housing 68 is a flexible shaft 71 having one end pivoted at 72 to the forward end of lever 62. The other end of shaft 71 is secured to the rear end of a rack bar 73 slidably mounted in bracket 69 and a further bracket 74 spaced from the bracket 69 and located in front of the latter upon the base plate 5. Pivoted on a bracket 75 beneath the rack bar 73 is a segment gear 76 from which projects a forwardly extending finger lever 77. A helical tension spring 78 acts to turn the segment gear 76 to a position wherein the forward end of lever 77 is elevated, and wherein the rack bar 73 is in a rearwardly slid position with the lever 62 elevated. By depressing finger lever 77 against the action of spring 78, rack bar 73 may be shifted forwardly so as to pull the shaft 71 and swing lever 62 downwardly for causing pawl 63 to engage and turn ratchet wheel 61, thereby partially turning roller 22 in a counter-clockwise direction, as viewed in Figure 9. In this way, a step-by-step turning movement may be intermittently imparted to roller 22 for elevating the leaf of a notebook in a step-by-step fashion as transcription proceeds. Also, the lever 77 is conveniently positioned beside the keyboard of the typewriter when the latter is disposed on the base plate 5 so that the turning of roller 22 may be conveniently effected with a minimum of effort and expenditure of time.

From the foregoing description, it is believed that the construction and operation of each form of the invention will be readily understood by those skilled in the art. Also, it is believed that the desirable features and advantages of each form will be readily and fully appreciated. The invention is susceptible of further modifications and changes in details of construction without departing from the spirit and scope of the invention as claimed. For instance, the notebook may be opened and suitably held against the front of the book rest without hanging said book over the book rest. Also, movable parts and gears may be suitably encased as indicated by dotted lines at *e*. The casing where the finger lever is provided will be provided with a slot through which the finger lever projects and by means of which the effective stroke of the finger lever may be properly limited. The cam lug releases the pawl of the finger lever on the return stroke of the latter so that the knurled knob may be used to turn the leaf-engaging roller further in either direction and thereby secure proper line adjustment when the effective stroke of the finger lever elevates the book leaf a little more or less than desired, due to variable spacing of the lines of notes on the notebook.

What I claim is:

1. A notebook leaf elevator and turner comprising an upright open frame, a horizontal leaf-engaging roller journaled in the upper portion

of said frame, a book rest mounted in the frame with its upper end disposed directly rearwardly of the roller, said book rest being tiltably adjustable to vary the space between the upper end thereof and the roller and being adapted to have the notebook hung thereover, and means for turning said roller to elevate and turn the foremost leaf of the notebook, said roller-turning means including a manually operable finger lever operatively connected to the roller and mounted for oscillation forwardly and at one side of the frame to occupy a position beside the keyboard of a typewriter placed in front of the frame.

2. A notebook leaf elevator and turner comprising an upright frame, a horizontal leaf-engaging roller journaled in the upper portion of said frame, a book rest mounted in the frame with its upper end disposed directly rearwardly of the roller, said book rest being tiltably adjustable to vary the space between the upper end thereof and the roller and being adapted to have the notebook hung thereover, and means for turning said roller to elevate and turn the foremost leaf of the notebook, said roller-turning means including a manually operable element located forwardly and at one side of the frame to occupy a position beside the keyboard of a typewriter placed in front of the frame, and an upwardly and rearwardly directed guide on the top of the frame arranged to direct the leaves of the notebook rearwardly from the roller and to cause rearward turning of the leaves upon complete elevation thereof.

3. A notebook leaf elevator and turner comprising an upright open frame, a horizontal leaf-engaging roller journaled in the upper portion of said frame, a book rest mounted in the frame with its upper end disposed directly rearwardly of the roller, said book rest being tiltably adjustable to vary the space between the upper end thereof and the roller and being adapted to have the notebook hung thereover, and means for turning said roller to elevate and turn the foremost leaf of the notebook, said roller-turning means including a shaft extending forwardly from the frame at one side of the latter and ratchet means operatively associated with the forward end of said shaft for actuating the latter.

4. A notebook leaf elevator and turner comprising an upright open frame, a horizontal leaf-engaging roller journaled in the upper portion of said frame, a book rest mounted in the frame with its upper end disposed directly rearwardly of the roller, said book rest being tiltably adjustable to vary the space between the upper end thereof and the roller and being adapted to have the notebook hung thereover, and means for turning said roller to elevate and turn the foremost leaf of the notebook, said roller-turning means including a shaft extending forwardly from the frame at one side of the latter and ratchet means operatively associated with the forward end of said shaft for actuating the latter, said ratchet means including a ratchet wheel fixed on the forward end of the shaft, an oscillating finger lever pivoted on the shaft and having a pawl operatively associated with said ratchet wheel, and yieldable means to swing the lever in one direction to a position for its next stroke upon completion of a roller-actuating stroke thereof.

5. A notebook leaf elevator and turner comprising an upright open frame, a horizontal leaf-engaging roller journaled in the upper portion of said frame, a book rest mounted in the frame with its upper end disposed directly rearwardly of the roller, said book rest being tiltably adjustable to vary the space between the upper end thereof and the roller and being adapted to have the notebook hung thereover, and means for turning said roller to elevate and turn the foremost leaf of the notebook, said roller-turning means including a flexible shaft attached at one end to the roller, a base plate, said frame being fixed upon the rear portion of said base plate, a bracket secured upon the forward portion of said base plate in front of and at one side of said frame, said shaft extending through said bracket and having a ratchet wheel secured thereon, a yieldingly elevated manually depressible finger lever pivoted on said shaft to occupy a position beside the keyboard of a typewriter placed upon the base plate in front of the frame, and a pawl carried by said lever and engageable with said ratchet wheel to effect actuation of the shaft and intermittent step-by-step turning of the roller upon successive depressions of said lever.

6. A notebook leaf elevator and turner comprising an upright open frame, a horizontal leaf-engaging roller journaled in the upper portion of said frame, a book rest mounted in the frame, with its upper end disposed directly rearwardly of the roller, said book rest being tiltably adjustable to vary the space between the upper end thereof and the roller and being adapted to have the notebook hung thereover, and means for turning said roller to elevate and turn the foremost leaf of the notebook, said roller-turning means including an upright shaft journaled at one side of said frame and operatively geared at its upper end to one end of said roller, a horizontal actuating shaft extending forwardly from and operatively geared to the lower end of said upright shaft, a finger lever pivoted on the forward end of said actuating shaft to occupy a position beside the keyboard of a typewriter placed in front of the frame, a ratchet wheel fixed on the forward end of said actuating shaft, and a pawl carried by said lever and engageable with the teeth of said ratchet wheel.

7. A notebook leaf elevator and turner comprising an upright open frame, a horizontal leaf-engaging roller journaled in the upper portion of said frame, a book rest mounted in the frame with its upper end disposed directly rearwardly of the roller, said book rest being tiltably adjustable to vary the space between the upper end thereof and the roller and being adapted to have the notebook hung thereover, and means for turning said roller to elevate and turn the foremost leaf of the notebook, said roller-turning means including a ratchet wheel fixed on one end of the roller, a ratchet lever hinged at one end of the roller and having a pawl operatively engageable with the teeth of said ratchet wheel, an actuating rod connected to said lever and extending downwardly and forwardly therefrom at one side of the frame, a rack bar on the forward end of said rod, and a segment gear meshing with said rack bar and having a manually depressible finger lever rigid therewith and arranged to occupy a position beside the keyboard of a typewriter placed in front of said frame.

8. A notebook leaf elevator and turner comprising an upright frame, a horizontal leaf-engaging roller journaled in the upper portion of said frame, a book rest mounted in the frame with its upper end disposed directly rearwardly of the roller, said book rest being tiltably adjust-

able to vary the space between the upper end thereof and the roller and being adapted to have the notebook hung thereover, and means for turning said roller to elevate and turn the foremost leaf of the notebook, said roller-turning means including a manually operable element located forwardly and at one side of the frame to occupy a position beside the keyboard of a typewriter placed in front of the frame, vertically adjustable means carried by the book rest and engageable with the lower edge of the notebook cover disposed at the front of said book rest for sustaining the same against accidental lowering movement.

9. A notebook leaf elevator and turner comprising an upright frame, a horizontal leaf-engaging roller journaled in the upper portion of said frame, a back rest mounted in the frame with its upper end disposed directly rearwardly of the roller, said book rest being tiltably adjustable to vary the space between the upper end thereof and the roller and being adapted to have the notebook hung thereover, and means for turning said roller to elevate and turn the foremost leaf of the notebook, said roller-turning means including a manually operable element located forwardly and at one side of the frame to occupy a position beside the keyboard of a typewriter placed in front of the frame, and laterally adjustable leaf guides carried by said book rest in position to engage the side edges of the leaves of the notebook to maintain them in an even condition.

10. A notebook leaf elevator and turner comprising an upright frame, a horizontal leaf-engaging roller journaled in the upper portion of said frame, a book rest mounted in the frame with its upper end disposed directly rearwardly of the roller, said book rest being tiltably adjustable to vary the space between the upper end thereof and the roller and being adapted to have the notebook hung thereover, and means for turning said roller to elevate and turn the foremost leaf of the notebook, said roller-turning means including a manually operable element located forwardly and at one side of the frame to occupy a position beside the keyboard of a typewriter placed in front of the frame, and ratchet and detent means for preventing retrograde turning of said roller.

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