July 18, 1939. B. C. SHIPLEY ET AL 2,166,508

HOLDING AND FEEDING DEVICE FOR "STENOTYPE" NOTES

Filed Jan. 6, 1938 3 Sheets-Sheet 1

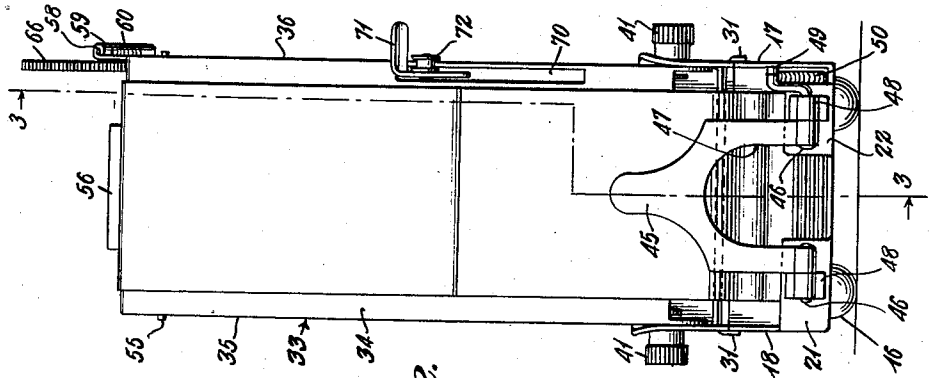


Fig. 2.

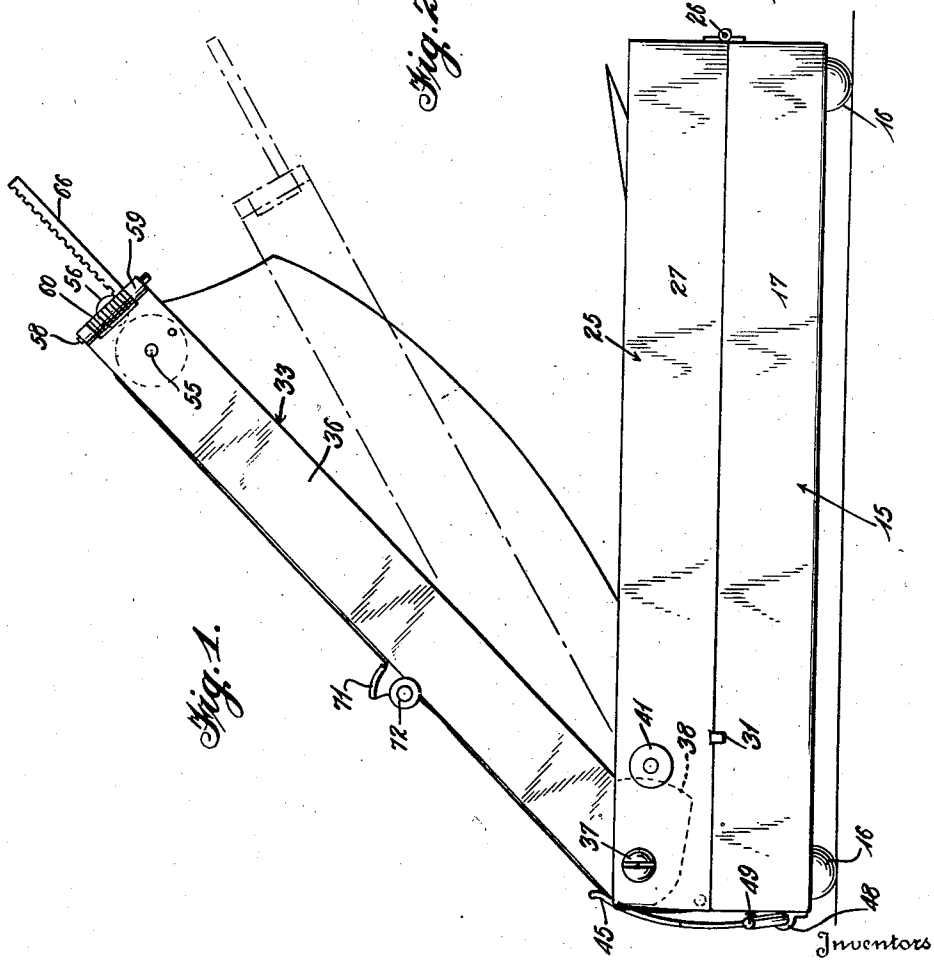


Fig. 1.

Inventors

Byron Clifford Shipley

and Julia Dee Rice

By L. Donald Myers

Attorney

July 18, 1939. B. C. SHIPLEY ET AL 2,166,508

HOLDING AND FEEDING DEVICE FOR "STENOTYPE" NOTES

Filed Jan. 6, 1938 3 Sheets-Sheet 2

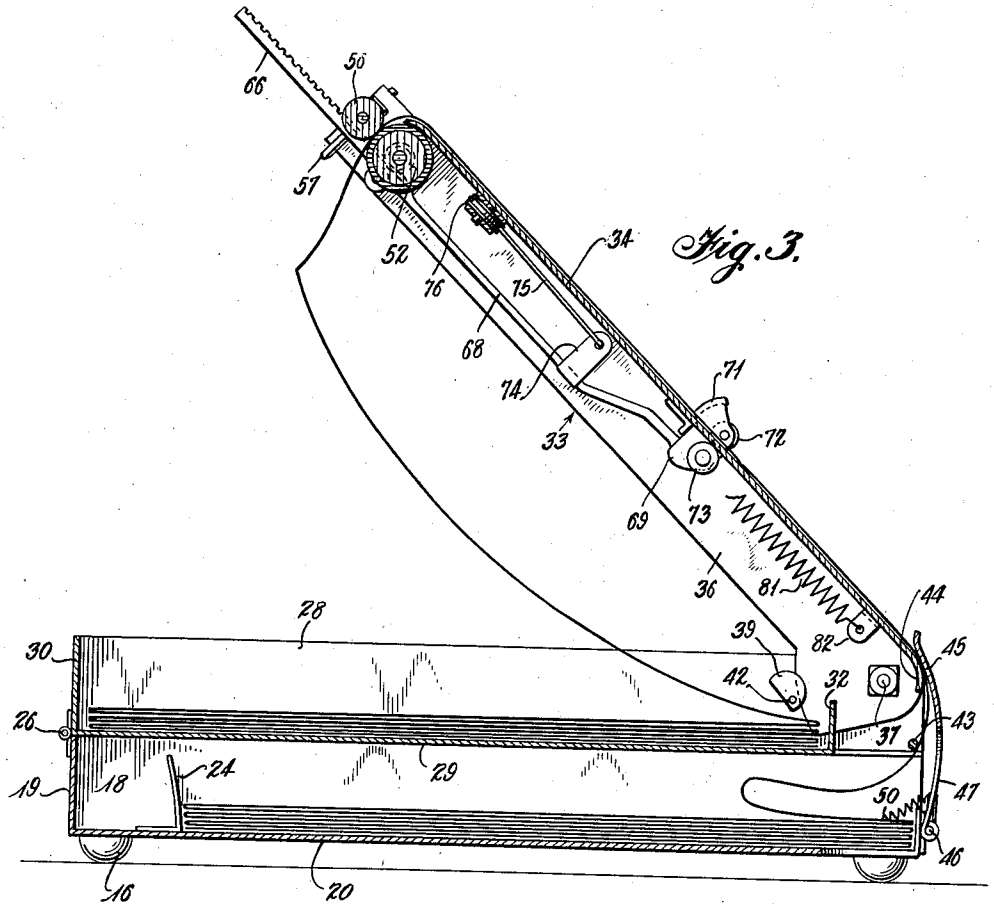


Fig. 3.

Fig. 4.

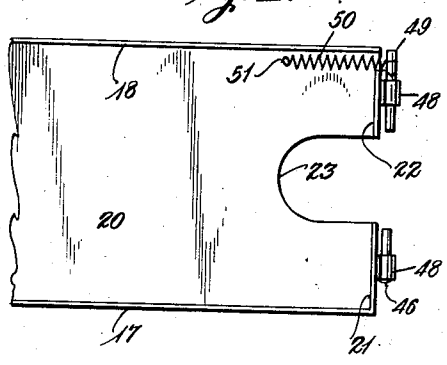
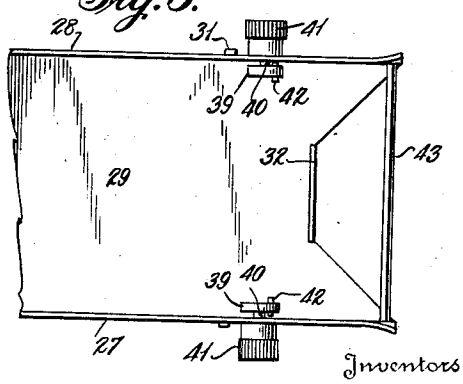


Fig. 5.



Inventors

Byron Clifford Shipley
and Julia Dee Rice

By L. Donald Myers

Attorney

July 18, 1939. B. C. SHIPLEY ET AL 2,166,508

HOLDING AND FEEDING DEVICE FOR "STENOTYPE" NOTES

Filed Jan. 6, 1938 3 Sheets-Sheet 3

Fig. 6.

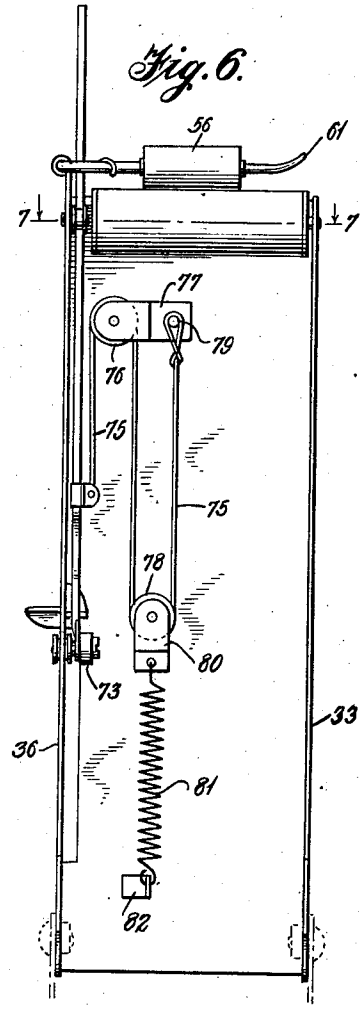


Fig. 9.

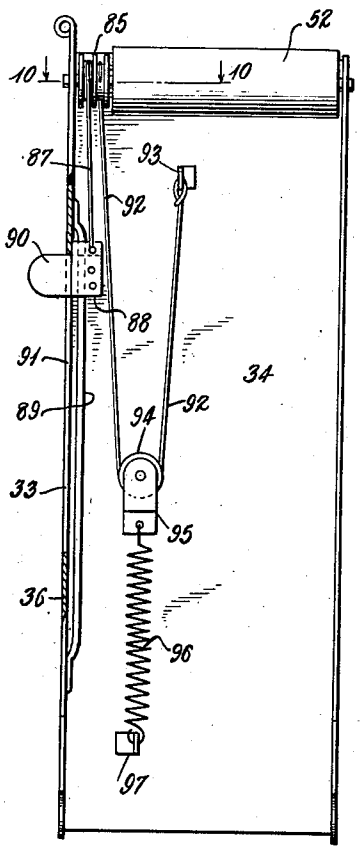


Fig. 11.

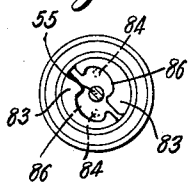


Fig. 12.

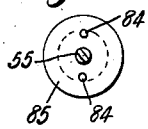


Fig. 7.

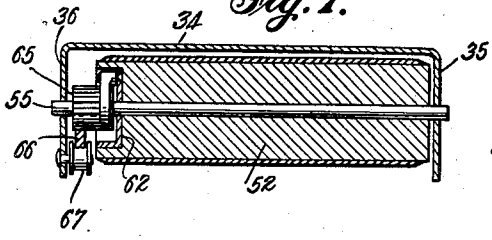


Fig. 10.

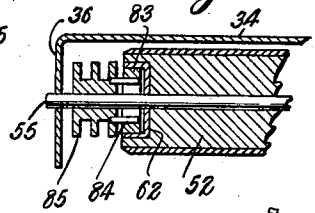
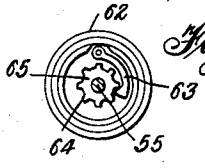


Fig. 8.



Inventors

Byron Clifford Shipley

and Julia Dee Rice

By L. Donald Myer

Attorney

Patented July 18, 1939 2,166,508

UNITED STATES PATENT OFFICE

2,166,508

HOLDING AND FEEDING DEVICE FOR "STENOTYPE" NOTES

Byron Clifford Shipley, Lawrence, Kans., and Julia Dee Rice, Kansas City, Mo.

Application January 6, 1938, Serial No. 183,718

5 Claims. (Cl. 120—32)

This invention relates to new and useful improvements in devices for holding and feeding "stenotype" notes.

The primary object of this invention is to provide a device which will hold the fan-fold type of paper used in a "stenotype" machine at a convenient and readily visible position for permitting the notes appearing thereon to be transcribed.

A further important object of the invention is to provide mechanism for effecting easy and rapid advancement of the "stenotype" note paper in the holding device as the notes are transcribed.

Another object of the invention is to provide means for storing and maintaining separated the transcribed and untranscribed portions of the "stenotype" note paper.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawings forming a part of this specification and in which like numerals are employed to designate like parts throughout the same,

Figure 1 is a side elevational view of the "stenotype" paper holding and feeding device embodying this invention with the easel portion of the device arranged in a suitable position to enable a stenographer to properly view the notes appearing on the paper,

Figure 2 is a front elevational view of the device shown in Fig. 1,

Figure 3 is a vertical sectional view taken on line 3—3 of Fig. 2,

Figure 4 is a fragmentary plan view of the discharge end portion of the lower note paper holding tray,

Figure 5 is a fragmentary plan view of the end portion of the upper tray which overlies the portion of the lower tray disclosed in Fig. 4,

Figure 6 is a bottom plan view of the easel portion of the device disclosed in the preceding figures, and particularly Figs. 1 to 3, inclusive, and illustrates in detail the mechanism employed for feeding the paper over the easel,

Figure 7 is a detail transverse sectional view taken on line 7—7 of Fig. 6 and illustrates the feed roll portion of the feeding mechanism,

Figure 8 is a detail end elevational view of the feed roll disclosed in Fig. 7 and illustrates the one-way drive mechanism for the said roll,

Figure 9 is a similar view to Fig. 6, but illustrates a modified form of operating mechanism for the paper feed roll,

Figure 10 is a fragmentary transverse sectional view taken on line 10—10 of Fig. 9 and illustrating a portion of the drive mechanism for the feed roll,

Figure 11 is a detail end elevational view of the feed roll disclosed in Figs. 9 and 10 and showing the one-way drive mechanism for said roll, and

Figure 12 is an end elevational view of the feed roll driving sheave clearly illustrated in Figs. 9 and 10.

In the drawings, wherein for the purpose of illustration are shown the preferred embodiments of this invention, the reference character 15 designates a lower tray which really constitutes the base of this "stenotype" note paper holding and feeding device. This tray is suitably supported by the legs or pads 16 which are located at the four corners of the same. By referring to Figs. 1, 2 and 3, it will be seen that this lower tray includes the two longitudinal side walls 17 and 18, the end wall 19, and the bottom wall 20. Fig. 2 discloses the remaining end of the tray 15 as being only partially closed by the corner pieces 21 and 22. These corner pieces are of proper size and are so arranged as to leave uncovered the entire upper part of the tray end and the middle section of the lower half of said end. Fig. 4 discloses the central portion of the adjacent end of the bottom wall 20 as being cut away, as at 23, to provide an opening registering with the space between the corner pieces 21 and 22. The opening formed by the cut away portion 23 and the space between the corner pieces 21 and 22 accommodate the fingers of an operator in positioning a stack or bundle of fan-fold stenotype note paper in the lower tray, as best illustrated in Figs. 2 and 3. The opening at the upper half of the end of the lower tray permits withdrawal of the note paper from said tray. Positioned within the tray 20, properly spaced from the closed end wall 19, is a barrier 24 which functions to properly position the stack or bundle of note paper relative to the discharge end of the lower tray.

An upper tray 25, of the same horizontal dimensions as the lower tray 15, rests upon the upper edges of the various walls of the lower tray with the hinge 26 connecting the two trays at one end of the device. The upper tray is provided with side walls 27 and 28, a bottom wall 29 and a solid end wall 30. As is clearly disclosed in Figs. 3 and 5, the remaining end of the upper tray 25 is left open. Tongues 31 are provided at the opposite sides of the upper tray 25 to properly position this tray on the lower one. A barrier 32 is struck up from the bottom wall

29 of the upper tray, adjacent the open end of the latter, and functions to properly position the "stenotype" note paper in this upper tray as it is deposited therein, see Fig. 3.

An easel member 33, comprising a top wall 34 and side walls 35 and 36 is pivotally connected at one of its ends to the side walls 27 and 28 of the upper tray 25 by means of the bolt 37. Each of the side walls 35 and 36 of the easel is provided with a projecting segment 38 at the pivoted end of the easel which are engaged by the clamping heads or lugs 39. Each one of these lugs is provided with a threaded stem 40 which projects through an aperture formed in a side wall of the upper tray. The knobs 41 are threaded on these stems and positioned outside of the side walls of the upper tray. Each clamping head or lug 39 is provided with an axially directed pin or stop 42 which engages the edge of its respective segment 38 for limiting rotation of the head or lug during rotation of the associated knob 41.

To clamp the easel 33 in any desired adjusted position, it is only necessary to rotate the knobs 41 in the proper direction which results in engagement of each pin or stop 42 with its segment 38 and the clamping of the heads or lugs 39 against the inner faces of the segment. The pins 42 also function to limit rotation of the lugs 39 when the knobs 41 are rotated in the opposite direction to release the easel for further adjustment.

Figure 3 clearly illustrates the movement of the web of note paper from the compartment of the lower tray 15 to the compartment of the upper tray 25. In leaving the lower tray, the paper is withdrawn through the open end of the latter and passes around the adjacent ends of the upper tray 25 and the easel 33. A run of the paper extends longitudinally of the top face or wall 34 of the easel and passes around the upper, discharge end of said easel to be deposited in the compartment of the upper tray.

A transverse guide bar 43 is carried by the end of the upper tray which overlies the discharge opening of the lower tray. The paper, in leaving the lower tray, bears against this guide bar. The top wall 34 of the easel 33, at the pivoted end of the latter, is extended to form the curved portion 44 around which the paper passes.

For the purpose of tensioning the paper at the lower end of the easel and to effect a braking action on the paper, a blade 45 is provided. This blade is pivotally supported by pins 46 which are attached to the lower arms 47 of the blade 45 and are journaled in bearings 48 carried by the corner pieces 21 and 22 of the lower tray 15.

Figs. 2 and 4 clearly illustrate one of the pins 46 as having formed thereon a crank arm 49. The free end of this crank arm has connected thereto a spring 50 which is connected at its opposite end to the bottom wall 20 of the lower tray, as at 51. The crank arm 49 extends in the plane of the branches 47 of the blade 45. When the blade is arranged in the position illustrated in Figs. 1, 2 and 3, the upper end portion of the same is tensioned and forced against the note paper as it passes around the curved wall section 44 of the easel. When it is necessary to thread the starting end of a strip of note paper through the device, the tension and brake blade 45 may be moved outwardly and downwardly until the outer end portion of the same contacts the surface on which the device is resting. When in this position, the crank arm 49 has been moved to the opposite side of a plane which passes through the axes of the pins 46 and the point of connection of the spring 50 to the bottom wall 20 of the lower tray. This past center movement of the crank arm 49 causes the spring 50 to retain the blade in its folded out or inoperative position.

To effect advancement of the note paper over the top wall 34 of the easel, a feed roll 52 is journaled at the upper or discharge end of the easel by means of a transverse shaft 55 which is rotatably supported by the side walls 35 and 36 of the easel. Although this roll 52 may be of any desired construction, it is illustrated as consisting of a wooden core with a rubber surface ply for providing efficient frictional contact with the paper.

To cause the paper to frictionally or drivingly engage the surface of the feed roll 52, an idler roll 56 is positioned outwardly of the feed roll and is journaled on the arm 57. This arm 57 is properly bent to provide a branch 58 journaled in the ears 59 which are located at the outer end of the side wall 36 of the easel. A spring 60 is properly connected to the arm 57 at one end and to the easel at its other end to bias the idler roll 56 constantly toward the feed roll 52. Fig. 6 clearly discloses the free end of the arm 57 as being bent outwardly, as at 61, to enable an operator of the device to easily pivot or swing the idler roll 56 away from the feed roll 52 while a new section of note paper is being passed around the feed roll 52.

It is desirable to effect rotation of the feed roll 52 in one direction only and two different forms of driving mechanism for the feed roll are disclosed. One form is clearly shown in Figs. 3, 6, 7 and 8. The second form of feed roll operating mechanism is disclosed in detail in Figs. 9 to 12, inclusive.

Referring first to the form disclosed in Figs. 3 and 6 to 8, inclusive, the roll 52 is recessed at 62 to provide a pocket for the one-way clutch finger 63 which is pivotally secured to the roll and is positioned and properly shaped to engage the teeth 64 of the pinion 65 which is rotatably positioned upon the shaft 55 for the roll. This one-way clutch finger 63 effects driving connection between the pinion 65 and the roll 52 when the pinion is rotated in one direction. Rotation of the pinion in the opposite direction causes the finger 63 to ride over the pinion teeth 64.

A rack 66 is retained in mesh with the teeth of the pinion 65 by means of a supporting and guiding roller 67 which is supported by the adjacent side wall of the easel 33. This rack 66 is formed on the outer end portion of a bar 68 connected at its opposite end to a slide 69. This slide travels in a slot 70 formed in the top wall 34 of the easel, as best shown in Fig. 2. The slide is provided with a finger engaging portion 71 which projects laterally of the easel. Antifriction rollers 72 and 73 are carried by the slide 69 and cooperate with the top wall 34 and the side wall 36 of the easel for retaining the slide properly associated with the slot 70 and to permit easy movement of the slide.

Figs. 3 and 6 disclose an arm 74 mounted on the bar 68. This arm has connected to its outer end a cable 75 which is trained around a stationary sheave 76 carried by the bracket 77 and a movable sheave 78 to be anchored at its remaining end to the pin 79 carried by the bracket 77. The sheave 78 is mounted in the block or carrier 80 which is connected to one end of the spring 81. The remaining end of the spring 81

is anchored to the inner face of the top wall 34 of the easel by means of the fixed ear 32.

The mode of operation of this feeding mechanism may be described as follows:

When a typist has finished transcribing the notes appearing on the run of the paper overlying the easel 33, a new section of the paper may be advanced onto the easel by merely moving the slide 69 downwardly, to any extent desired, through the slot 70. This movement of the slide causes the rack 66 to travel downwardly, with respect to the length of the easel, for rotating the pinion 65. This rotation of the pinion is transmitted to the feed roll 52 by means of the clutch element 63.

When the operator has advanced the note paper to the extent desired, the slide 69 may be released. The spring 81, through the medium of the cable 75, will cause the slide 69 to return to the upper end of the slot 70. This return movement of the slide causes the rack 66 to move outwardly which effects rotation of the pinion 65 in the opposite direction. This reverse rotation of the pinion is not transmitted to the feed roll 52 because of the drag or braking action placed on the feed roll by the spring pressed idler roll 56. The teeth 64 of the pinion 65, therefore, ride past the touching end of the one-way clutch finger 63. The newly exposed section of the note paper, therefore, remains in its advanced position which resulted from the downward movement of the slide 69. The tensioning blade 45 functions to prevent withdrawal of more of the note paper from the lower tray than is actually accomplished by the manipulation of the slide 69. As the paper is discharged from between the feed roll 52 and the idler roll 56, it drops into the upper tray 25. The folds formed in the paper, after the first fold or ply of the paper is properly positioned within the compartment of the upper tray, cause the remaining sections or plies to properly fall into position.

The feed roll operating mechanism disclosed in Figs. 9 to 12, inclusive, now will be described. The feed roll 52 is recessed at 62, in the same manner as described in connection with the feed roll for the former mechanism, to receive the two clutch shoes 83, best shown in Fig. 11. These clutch shoes are caused to grip the peripheral wall of the recess 62 by the pins 84 which project axially from the double sheave 85 loosely journaled on the shaft 55. These pins 84 cause gripping engagement of the shoes 83 when the sheave 85 is rotated in a clockwise direction, as viewed in Fig. 11, which results in movement of the pins 84 along the camming surfaces 86 of the shoes 83 or toward the thicker ends of these shoes. Reverse movement of the double sheave 85 permits the pins 84 to move into the position disclosed in Fig. 11 where they are opposite the thinner portion of the shoes. The shoes, therefore, do not grip the feed roll in this reverse rotation of the double heave.

To effect rotation of the sheave, a cable 87 is anchored at one end in one groove of the sheave and has several turns wrapped around the sheave in this groove. The remaining end of the cable is secured to a slide 88 which is guided by a rod 89, positioned within the easel 33 and fastened to its side wall 36. This slide 88 is provided with a finger grip 90 which projects through a slot 91 formed in the easel side wall 36.

A second cable 92 has one end anchored to the ear 93, secured to the inner face of the top wall 34 of the easel, and is trained around a sheave 94, carried by the block 95. The remaining end portion of the cable 92 is anchored in and wrapped around the second groove of the double sheave 85. A spring 96 is connected at one end to the sheave carrier 95 and is anchored at its remaining end to the ear 97 which is secured to the inner surface of the front wall 34 of the easel.

It is to be understood that an idler roll 56 is associated with the feed roll 52 of Figs. 9 to 11, inclusive, and functions in the same manner as the idler roll 56 shown in detail in Fig. 6. Movement of the slide 90 effects rotation of the feed roll 52 in one direction for advancing the note paper longitudinally of the easel 33 in the same manner as described in connection with the movement of the slide 69. It is to be understood that this feed roll operating mechanism of Figs. 9 to 12, inclusive, is intended to be used with all of the remaining elements of the device which are disclosed in detail in Figs. 1 to 5, inclusive.

It is to be understood that the forms of this invention herewith shown and described are to be taken as preferred examples of the same, and that various changes in the shape, size, and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claims.

Having thus described the invention, we claim:

1. In a device of the type described, a pair of trays pivotally connected together in superimposed relation and providing two compartments for receiving fan-fold paper, an easel pivotally connected to the upper tray to receive a run of said paper in passing from one tray compartment to the other, the pivotal connection between the trays and easel facilitating association of a supply of paper with the two tray compartments and the easel and permitting the easel to be arranged at selected positions to display the run of paper arranged thereon, and means for withdrawing the paper from one compartment, advancing it over said easel and folding it into the second compartment.

2. In a device of the type described, a pair of superimposed trays to receive fan-fold paper, the lower tray having an opening through which the paper is withdrawn, an easel pivotally mounted on the upper tray to receive the paper withdrawn through said opening, means for holding the easel in different positions of adjustment comprising a segment carried by the easel and overlying a side wall of the upper tray, a clamping lug mounted on said side wall and overlying said segment, and means for drawing the lug toward the side wall to clamp the segment thereagainst, and feeding mechanism for moving the paper over said easel and delivering it to the upper tray in a manner to permit it to assume its folded condition therein.

3. In a device of the type described, a pair of superimposed trays to receive fan-fold paper, the lower tray having an opening through which the paper is withdrawn, an easel mounted on the upper tray to receive the paper withdrawn through said opening, guiding and tensioning means for the paper as it leaves the lower tray and travels to the easel, said means comprising a curved wall portion formed at the lower end of the easel and a spring loaded blade pivotally mounted on the adjacent end of the lower tray and overlying said curved wall portion to yieldably grip the paper therebetween, and feeding mechanism for moving the paper over said easel and delivering it to the upper tray in a manner

to permit it to assume its folded condition therein.

4. In a device of the type described, a pair of superimposed trays to receive fan-fold paper, the lower tray having an opening through which the paper is withdrawn, an easel mounted on the upper tray to receive the paper withdrawn through said opening, guiding and tensioning means for the paper as it leaves the lower tray and moves to the easel carried in part by each of the two trays and the easel, and feeding mechanism located at the discharge end of the easel for moving the paper over said easel and delivering it to the upper tray in a manner to permit it to assume its folded condition therein.

5. In a device of the type described, a pair of rectangular trays of corresponding horizontal dimensions arranged in superimposed relation with the upper tray resting on the upper edges of the vertical walls of the bottom tray, hinge means for pivotally connecting said trays together at one end, means associated with the free ends of the trays for preventing relative lateral movement of the trays, said trays providing two compartments for receiving fanfold paper, an easel pivotally mounted at one end within the free end of the upper tray to receive a run of paper as it passes from the lower tray compartment to the upper tray compartment, means for retaining the easel in different inclined positions relative to the upper tray, the pivotal connection between the trays and easel facilitating association of a supply of paper with these elements, and means for withdrawing the paper from one compartment, advancing it over said easel and folding it into the second compartment.

BYRON CLIFFORD SHIPLEY.
JULIA DEE RICE.