Aug. 8, 1950 L. A. HOLMAN 2,518,320

AUTOGRAPHIC REGISTER

Filed March 17, 1947 4 Sheets-Sheet 1

Fig. 1.

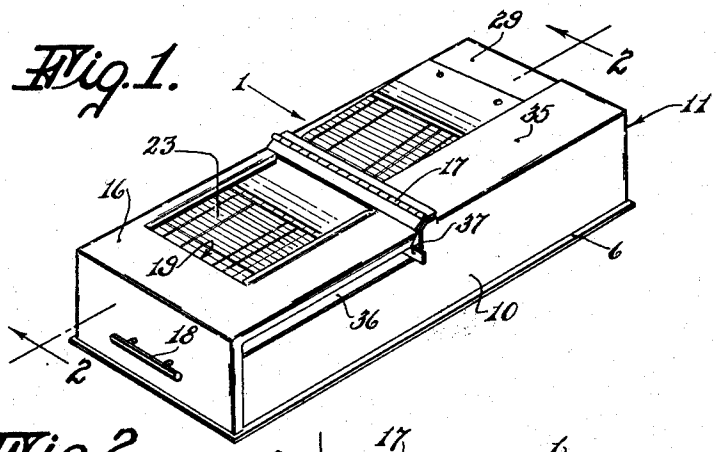


Fig. 2.

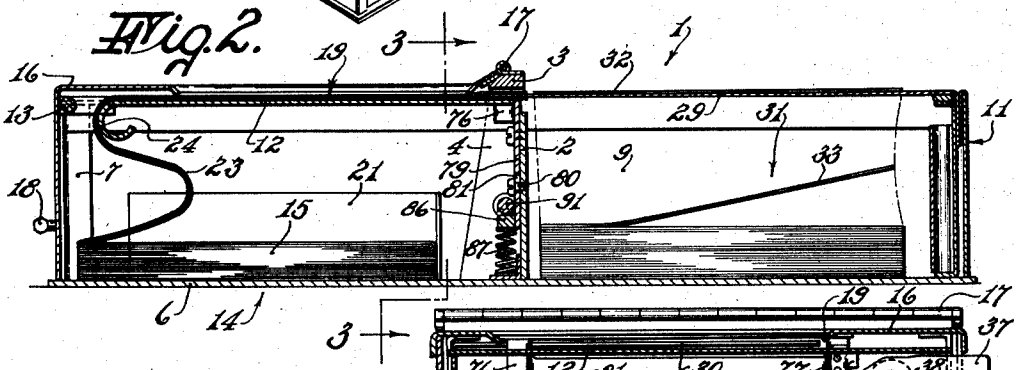


Fig. 3.

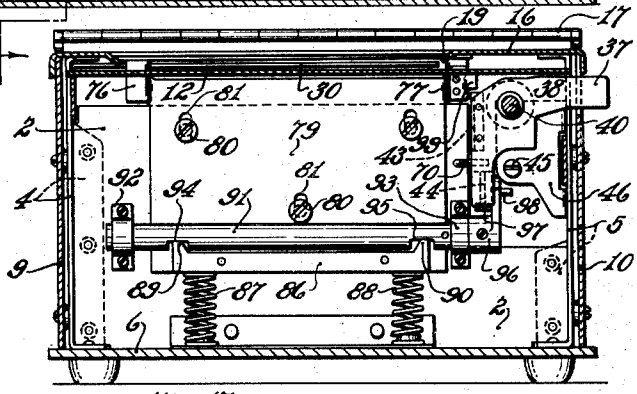
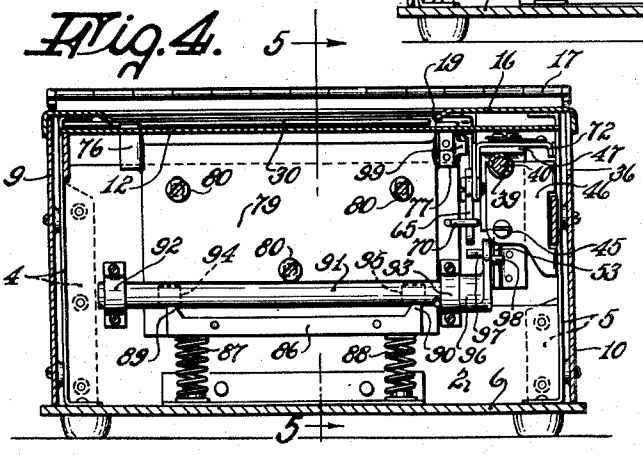


Fig. 4.



INVENTOR
LESLIE A. HOLMAN
BY Chapin & Neal
ATTORNEYS

Aug. 8, 1950 L. A. HOLMAN 2,518,320

AUTOGRAPHIC REGISTER

Filed March 17, 1947 4 Sheets-Sheet 2

Fig. 5.

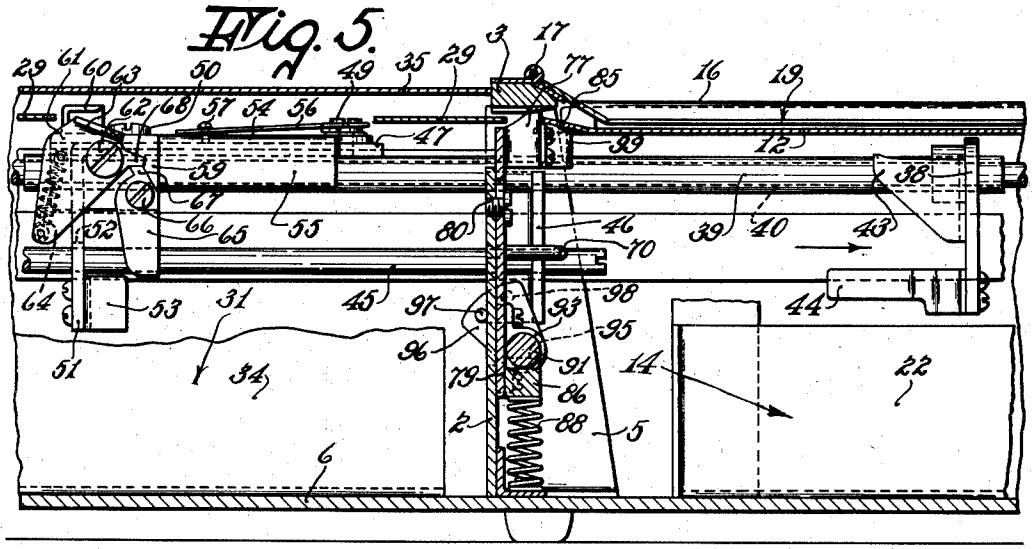


Fig. 6.

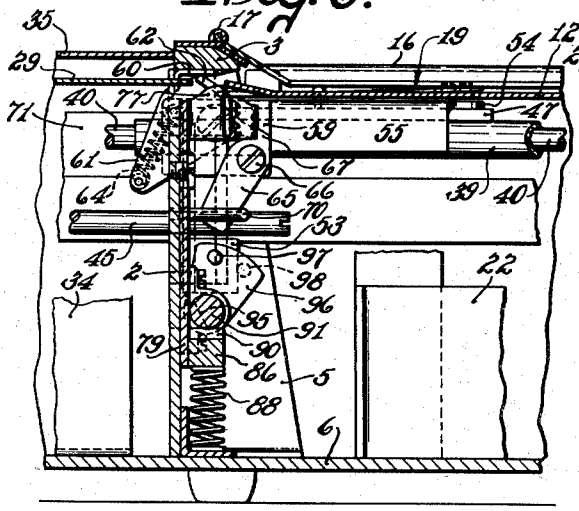


Fig. 7.

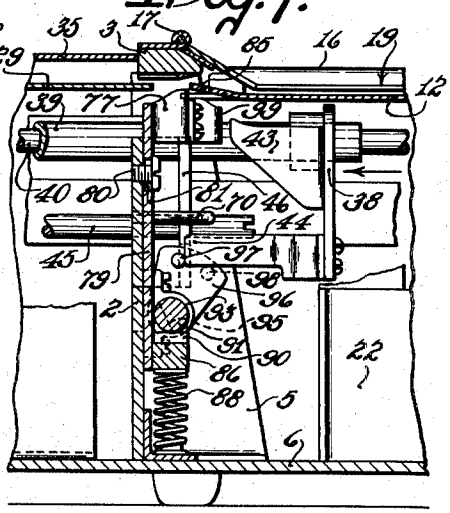


Fig. 8.

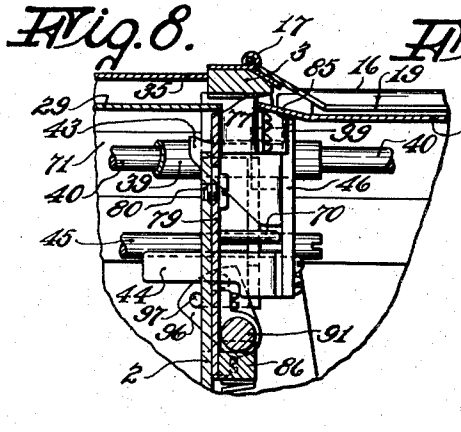
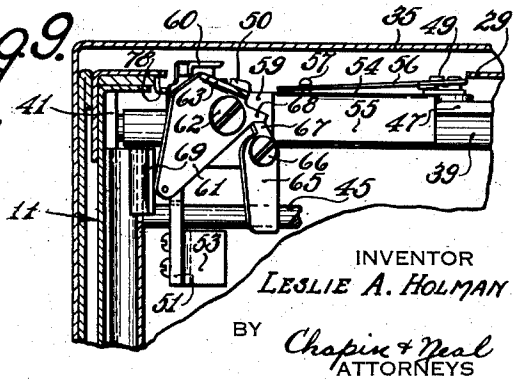


Fig. 9.



INVENTOR
LESLIE A. HOLMAN
BY Chapin & Neal
ATTORNEYS

Aug. 8, 1950 L. A. HOLMAN 2,518,320

AUTOGRAPHIC REGISTER

Filed March 17, 1947 4 Sheets-Sheet 3

Fig. 11.

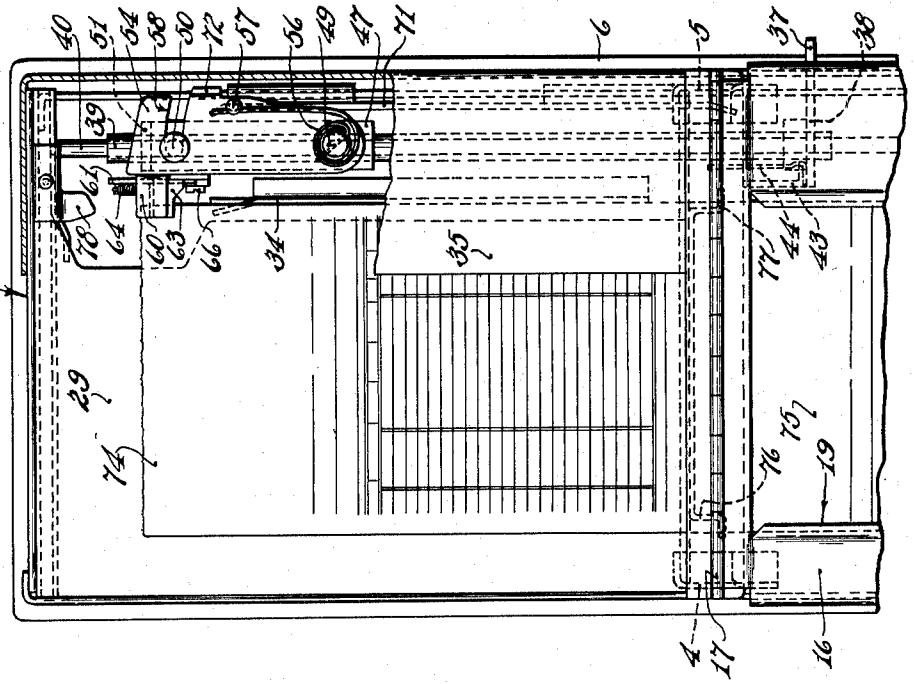
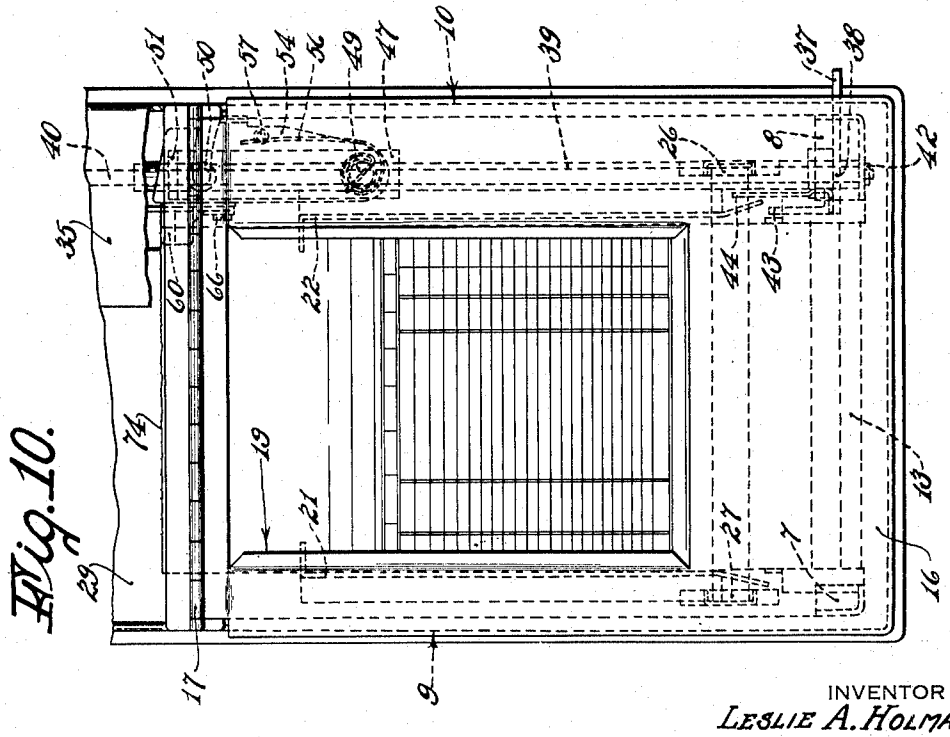


Fig. 10.



INVENTOR
LESLIE A. HOLMAN

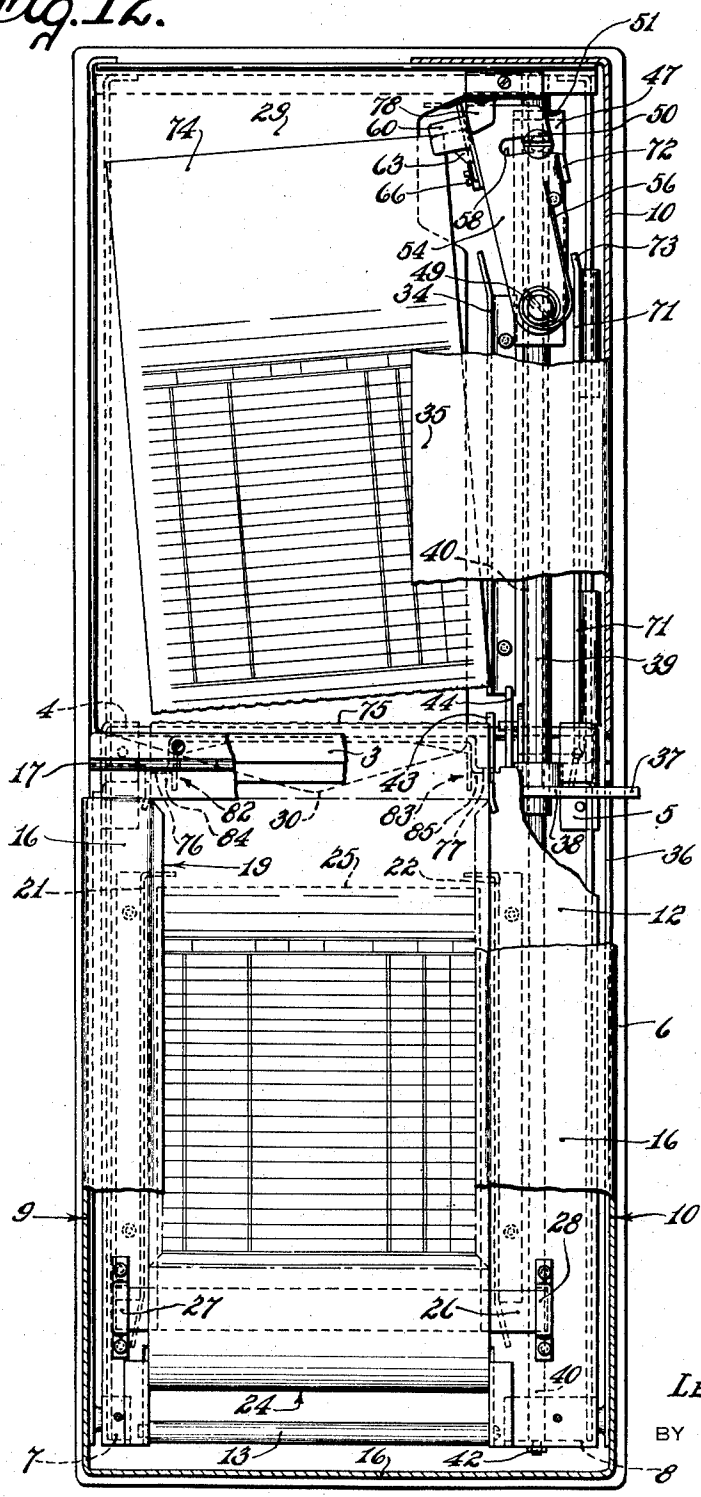
BY Chapin & Neal
ATTORNEYS

Aug. 8, 1950 L. A. HOLMAN 2,518,320

AUTOGRAPHIC REGISTER

Filed March 17, 1947 4 Sheets-Sheet 4

Fig. 12.



INVENTOR
LESLIE A. HOLMAN
BY Chapin & Neal
ATTORNEYS

Patented Aug. 8, 1950 2,518,320

UNITED STATES PATENT OFFICE

2,518,320

AUTOGRAPHIC REGISTER

Leslie A. Holman, Waltham, Mass.

Application March 17, 1947, Serial No. 735,064

19 Claims. (Cl. 164—84.5)

1

This invention relates to autograph register machines of the general type shown and described in my previous Patent 2,046,746 of July 7, 1936.

The present improvement has to do more particularly with the paper feed, severing and registering functions of such machines, and aims to provide effective mechanism for advancing the strips and detaching the sheets therefrom, together with means for positively controlling the position of the registered sheets while being written upon.

As in my previous patent the present machine is designed to handle a plurality of superposed sheets in continuous strip form, drawn from a manifold flat pack or other suitable supply means. It operates to deposit separate and detached record sheets in a storage compartment or auditor's box and to present the remaining detached sheets of each recorded transaction in an ejected position for being easily picked up by the operator.

In the use of the present machine a preliminary step as heretofore, is to manually adjust the superposed strips in registered position onto the writing table with the usual carbons interleaved between the sheets. As a part of this preliminary threading step, upper sheets (to be retained by the operator) are guided above and lower sheets (for a storage compartment) are guided below a fixed deflector plate which partially overlaps the front edge of the writing table. By this means the subsequent advance of the sheets over the table continuously insures a proper separation of the operator's sheets from the auditor's sheets.

After the preliminary threading and adjusting of the strips on the writing table as aforesaid, a table clamp is brought into action which firmly clamps the strips to the table so that the sheets may be written upon without danger of disturbing the registration. When the writing is completed, paper feed mechanism is operated to release the clamp and grasp a leading edge of the strip (preferably at a forward right hand corner) and draw the same forward with a straight line pull until a new set of sheets are in registration upon the table. At this point in the feed advance the table clamp automatically operates to halt further travel of the registered sheets on the table while the paper feed mechanism continues the pull on the forward sheets so as to tear them from the succeeding sheets along preformed transverse rupture lines.

A feature of the sheet tearing action accomplished by my mechanism is that a paper gripper

2

of the feed at the end of its straight line pull in registering a new sheet on the table retains its grasp on the strip through an additional part of a forward stroke and is caused to swing inwardly on an arc under the reactive pull from the registered sheet clamped to the table whereby the forces of pulling the sheets apart are applied at an angle for more readily starting and completing the tearing action. Furthermore, the action of the gripper in thus tearing off sheets is accomplished in a manner to throw the upper sheets slightly to one side on the receiver platform so that they are presented for easy pick up by the operator. The table clamp continues to hold the newly registered sheets on the writing table in firmly clamped position until the paper feed is returned to again grasp the leading edge of the severed strips for the next feed.

Further objects and advantages of my invention will become apparent from the following more detailed description taken with the accompanying drawings, in which:

Fig. 1 is a perspective view in reduced scale of the complete register machine;

Fig. 2 is a longitudinal section of the machine in somewhat larger scale along line 2—2 of Fig. 1 and giving a general view of the cabinet interior;

Fig. 3 is a transverse section in further enlarged scale along line 3—3 of Fig. 2 to show details of the paper clamp mechanism, said mechanism being in clamping position;

Fig. 4 is a view similar to Fig. 3 showing the paper clamp mechanism in release position;

Fig. 5 is a fragmentary longitudinal section along line 5—5 of Fig. 4. In this view the complete paper feed slide is shown in the course of a return stroke;

Fig. 6 is a detail longitudinal section at the central partition wall of the cabinet to show the position of the parts when the paper feed slide is at the rear end of its stroke;

Fig. 7 is a view similar to Fig. 6 showing the position of the parts just before the end of the first phase of forward stroke of the paper feed slide when the paper is about to be clamped on the table;

Fig. 8 is a similar view showing the paper clamp in action as completed by the continued forward motion of the paper feed slide from the position shown in Fig. 7;

Fig. 9 is a detail longitudinal section at the upper rear end of the cabinet to show the opening action of the paper grip jaws at the forward end of a feed slide stroke;

Fig. 10 is a plan view of the rear section of the

register with the parts in position corresponding to Fig. 6;

Fig. 11 is a plan view of the front section of the register with the parts in position corresponding to Fig. 7;

Fig. 12 is a plan view of the complete register showing the paper feed slide at the end of its forward stroke. In this position the paper grip jaws are as shown in Fig. 9 and the paper clamp is as shown in Fig. 8.

The frame of the register machine is in the form of a cabinet or casing indicated generally at 1 which for convenience is divided by a transverse middle partition 2 into a forward section or sheet receiver and a rear section for the sheet supply.

A cross bar 3 extends transversely across the top of the cabinet slightly above the top of partition 2 and is fixedly supported at each end by vertical bracket struts 4 and 5 at each side of the cabinet. These struts are fastened to the bottom 6 of the cabinet as well as to the partition 2 and cross bar 3. Corner posts 7 and 8 also rise from the bottom 6 at each rear corner of the cabinet. Opposite side panels 9 and 10 for the cabinet are secured to these posts 7 and 8 and to the middle struts 4 and 5, and are interfitted at the front of the cabinet with the front wall 11 which comprises an assembly of metal sheets rising from the bottom 6.

At the top of the rear section of the cabinet is a writing support or table 12 which consists of a stiff smooth plate extending rearwardly from the mid partition 2. The table 12 is supported horizontally in fixed position at its front end by the struts 4 and 5 and at its rear end by brackets and cross brace rod 13 between corner posts 7 and 8. The front edge of table 12 is slightly rounded and is notched out rearwardly at each forward corner adjacent the partition 2 for the passage of stop clamps as will appear.

A paper supply compartment 14 is thus provided by the rear section of the cabinet and a manifold flatpack indicated at 15 may be introduced therein through an open rear end. An L-shaped cover 16 hinged at 17 to cross bar 13 serves to close said open end and is provided with handle 18. The top portion of said cover which overlies the table 12 is formed with a window opening 19 to expose the top sheet of the superposed paper forms for being written upon. As is customary the flatpack 15 may be composed of a plurality of superposed continuous strips of sheets folded zigzag along perforated or weakened rupture lines for easy severance. Vertical stack guides 21, 22 are provided to hold the pack 15. The superposed strips are indicated at 23 as being guided to the top of table 12 over a rounded rear extension 24 thereof.

In the preliminary adjustment of the strips upon the table 12, they are interleaved with the usual carbon sheets 25 trailing from tie pieces 26 which are held in spaced keepers 27 and 28 (see Fig. 12).

The front section or sheet receiver of the cabinet has a top wall serving as a discharge platform 29 for the upper sheets of the strips. This platform extends rearwardly from the front wall 11 and has an integral converging rear tongue portion 30 which partially overlaps the table 12 in spaced vertical relation and serves as a deflector for guiding some of the strips to the upper side of said platform 29 and some of the strips to the lower side thereof and into a closed storage compartment 31. Access to this compartment, sometimes called the auditor's box, may be had through a lockable door (not shown) in the left side panel. For illustrative purposes in Fig. 2 of the drawing only two superposed strips are indicated as being advanced over table 12 and being separated by the deflector tongue 30, with the upper strip 32 on top of platform 29 and a lower strip 33 beneath the same for discharge into the auditor's box 31. A vertical stack guide 34 for stored sheets is provided at the right side of the box 31, see Fig. 5.

The discharge platform 29 extends transversely across the top of compartment 31 except for a longitudinal space adjacent the right panel 10, which space is left for the working of the feed mechanism to be described. The forward part of side panel 10 has an integral horizontal roof portion 35 which partially overlaps platform 29 and covers the space aforesaid. The rear part of side panel 10 is cut away at its top edge to provide a slot 36 for the travel of the finger piece 37 projecting laterally from the operating member 38 for the feed mechanism.

Paper feed mechanism

The reciprocable slide of the feed mechanism is shown in its full length in Fig. 5 and comprises a sleeve member 39 slidably mounted on a rod 40 which is fixed at its front end in anchor piece 41 of front wall 11 (see Fig. 9), and at its rear end to corner post 8 by nut 42 (see Fig. 12). The operating member 38 is fast to the rear end of slide sleeve 39 and has projecting forwardly from its upper part an escapement dog 43 and from its lower part a striker finger 44. This striker 44 functions to close a table clamp later to be described.

Spaced below rod 40 is a parallel shorter guide rod 45, the forward end of which is fixed in front wall 11 and the rear end of which is fixed in a bracket web 46 of the mid strut 5. A flat horizontal saddle piece 47 is fastened to the top front end portion of slide sleeve 39, by rivet posts 49 and 50, and an integral depending leg 51 from the saddle 47, is forked at 52 to straddle the lower guide rod 45 and thus restrain the saddle 47 and its sleeve 39 from turning on rod 40 during reciprocations thereon. The lower end of leg 51 has a rearwardly projecting finger 53 which acts as a striker to open the aforesaid table clamp which will be described later.

Pivotally mounted on rivet post 49 of saddle 47 is a gripper carriage 54 having a horizontal top riding on the saddle and inner vertical side flange 55 which limits its sidewise swing. A spring 56 anchored on post 49 presses against a pin 57 on the carriage and tends to keep the carriage to the right in alignment with its saddle as limited by the abutment of the flange 55 against said saddle. The carriage top 54 is slotted at 58 to engage under the head of rivet post 50 and keep said carriage top in parallelism with its saddle 47.

A gripper plate 59 fixed to the side flange 55 of carriage 54, has at its upper end an inturned horizontal ledge 60 constituting a fixed jaw for the gripper. A gripper lever 61 is pivoted at 62 on said plate 59 and has at its upper end an inturned angular ledge 63 which constitutes the movable jaw for the gripper. A spring 64 (see Fig. 11) fastened between plate 59 and lever 61 tends to swing the latter clockwise and close jaw 63 against fixed jaw 60. A gravity hung latch dog 65 is pivoted at 66 on plate 59 and normally tends to hang in a vertical position as shown in Fig. 9 so as to engage its nose 67 under a beak

68 of said gripper lever 61 and thus latch the gripper in open position.

At the forward end of a slide stroke of sleeve 39 and gripper carriage 54, the lower end of gripper lever 61 is brought into striking contact with a fixed abutment 69 on the front wall 11 so as to open gripper jaw 63 and enable latch dog 65 to swing into its latching position and retain the jaw 63 open as shown in Fig. 9. At the rear end of a slide stroke the tail of latch dog 65 is carried against a stop hook 70 fixed to mid partition 2 whereby the open gripper lever is unlatched and will automatically close jaw 63 under the force of its spring 64 as shown in Fig. 6. Thus closed the jaw 63 will remain closed until the end of a forward slide stroke. The pivot 62 of gripper lever 61 is so located as to produce a cramping action in tightening the grip of the jaws due to dragging action from gripped paper.

As shown in Fig. 12, a longitudinal guide rail 71 is fixedly positioned in casing 1, parallel to guide rod 40 and spaced to the right thereof. The pivoted carriage 54 has a narrow retainer lip 72 depending from its right side adapted to engage the outside of rail 71 for sliding thereon during the reciprocations of slide sleeve 39. The guide rail 71 terminates at its forward end 73 and extends from the start of the forward slide stroke participated in by said retainer lip 72 whereby from the beginning of a forward slide stroke of the feed mechanism the gripper carriage 54 will be positively held from swinging on its pivot 49 until the stroke has carried the retainer lip 72 beyond the end point 73 of rail 71. From this point forward and during the remainder of the slide stroke, the carriage 54 and its gripper are free to swing inwardly to the left against only the pressure of carriage spring 56.

As a result of this construction the action of the paper feed mechanism in advancing a strip of sheets is as follows, it being understood that the same action takes place with a plurality of superposed strips as with a single strip.

In Fig. 10 a leading sheet 74 of the strip is shown in registered position on the writing table 12 with its front edge projecting slightly forward of the cross bar 3. The return of the slide sleeve 39 and its appurtenances to the rear position shown in Fig. 10 causes the gripper jaws 60, 63 to close upon the front right corner of sheet 74 as has been described and as shown in Fig. 6.

Then a forward movement of the slide by means of finger piece 37 will advance the strip with a straight line pull over the writing table to bring a succeeding form sheet 75 into registration therewith and the position of the parts at this juncture is shown in Figs. 7 and 11. The forward slide stroke has not been completed but the new sheet 75 is in registration and ready to be clamped on the table for writing. The remainder of the forward slide stroke is employed to effect this clamping and halting of sheet 75 and to continue its pull on the forward sheet 74 in a manner to most effectively and easily tear sheet 74 from sheet 75 along the preformed rupture line. A full description of the sheet stop or clamping mechanism will be given later. For the present it will suffice to say that immediately following the position of the parts in Fig. 7, the continued forward slide movement will actuate clamp mechanism comprising angle shaped feet 76 and 77 which are snapped upwardly to clamp the table sheet 75 against the underside of cross

bar 3 as shown in Fig. 8 (the sheet 75 being omitted from this figure for clarity). At the same time the retainer lip 72 on carriage 54 will pass beyond control of guide rail 71 but the gripper jaws 60, 63 continue to pull on the right front corner of the forward sheet 74. The reactive force of the halted sheet 75 upon the grippers 60, 63 will obviously swing the carriage 54 inwardly of its slide sleeve 39 so that the continued forward pull of the grippers takes place at a gradually increasing angle to the straight forward path of the slide. This angular application of the separating forces on sheets 74 and 75 will very effectively start the tearing action at the right end of the rupture line and the tearing will progressively continue across the sheets during the completion of the forward slide stroke. With the arrival of the parts at the position shown in Fig. 12, sheet 74 has been completely severed from sheet 75 and is being ejected on to the discharge platform 29 in an angular laterally displaced position for being easily picked up by the operator. Any sheets underlying platform 29 will be similarly acted on and discharged into the storage compartment 31.

It will be appreciated that the reactive pull on the grippers 60, 63 from the halted sheet 75 will cease when the tearing is completed as well as when the grippers are opened at the end of the stroke. Therefore, to maintain the angular travel of the gripper carriage 54 to the end of the stroke, and to insure a proper discharge of the sheets, a relatively short end guide 78 is provided projecting rearwardly from the front wall 11. As shown in Fig. 12 this guide 78 engages behind the flange 55 of carriage 54 for a short space near the end of the stroke. Upon the return stroke, the carriage 54 escapes from guide 78, immediately snaps to the right under force of its spring 56 and reengages its retainer lip 72 with guide rail 71 in its return travel.

Sheet clamp and stop mechanism

The means for halting the rear sheet while the forward sheet of the strip is torn therefrom will now be described referring more particularly to Figs. 2, 3 and 4.

A vertically disposed plate 79 is slidably mounted on the rear side of mid partition 2 by means of retaining studs and slots such as 80, 81, for a relatively short up or down throw. The left and right top corners of plate 79 have short vertical extensions in the form of angle shaped clamp feet 76 and 77 previously mentioned. The top edge of plate 79 lies below the writing table 12 and the top of clamp feet 76, 77 extend past clearance corners 82, 83 at the front end of table 12 (see Fig. 12) and project slightly above the main level of table 12 (see Fig. 7). Front corner wings 84, 85 are bent slightly upward from table 12 to guide the sides of the strip or strips over the top of clamp feet 76, 77 all as shown in Fig. 7 where the slide plate 79 is down, and the clamp open.

At the proper time the slide plate 79 is thrown up to press the clamp feet against the underside of cross bar 3 and clamp the paper strip or strips therebetween as shown by the position of the parts in Fig. 8. For this purpose the lower edge of slide plate 79 has fixed thereto a horizontal cam bar 86 which is under constant upward pressure from coiled springs 87 and 88 interposed between the same and the bottom 6 of the cabinet. Each end of bar 86 has an upwardly projecting tooth or cam follower 89, 90 which bear

against a rockable cam shaft 91 held in bearings 92 and 93 on mid partition 2. Cam notches 94 and 95 are formed in the shaft 91 to cooperate with the followers 89, 90 whereby when the followers ride into said notches, the slide bar 79 is thrown up by the springs 87, 88, and when the followers ride out of said notches the slide bar is cammed down by the rock shaft 91.

The right end of rock shaft 91 has fast thereto a segment crank 96. A striker pin 97 projects laterally from the left side of crank 96 and lies in path of striker finger 44 carried by member 38 at the rear end of the slide sleeve 39. A striker pin 98 projects laterally from the right side of crank 96 and lies in the path of striker finger 53 carried by depending leg 51 at the front end of the slide sleeve 39. The shaft 91 is rocked to close the clamp by the action of finger 44 against pin 97, and to open the clamp by the action of finger 53 against pin 98.

The clamping and halting of the paper is timed to occur when each successive sheet is in registration on the table and continues in action during the subsequent tearing off and discharge of the advance sheet and particularly during the period of writing on the registered sheet to thereby prevent any disturbance of the registration. The clamp is opened only when necessary to advance the strip over the table and remains closed at all other times.

In order to avoid the possibility of operating the slide sleeve 39 and its appurtenances for a forward stroke at too high speed which might advance the strip too far before the clamp has a chance to act, an escapement is provided which prevents the slide from travel beyond the clamping point until the clamp has completely closed. This escapement consists of a stop ear 99 fastened to the side of the right hand clamp foot 77 (see Figs. 3 and 4), and projecting into the path of the escapement dog 43 on the finger piece operating member 38 when said clamp foot 77 is down, as in Fig. 7. The dog 43 will pass under the stop ear when the clamp foot 77 is up and closed (see Fig. 8), and permit the continued forward movement of the slide as shown in said figure.

What I claim is:

1. In a machine of the class described, a casing providing a writing table and a sheet receiver forwardly thereof, a constantly stationary deflector extending rearwardly from said receiver into overlapping relation with said writing table, means for feeding to said receiver a plurality of superposed strips of paper sheets over said writing table with an upper strip guided above said deflector and a lower strip guided below said deflector, and means to effect a tearing severance of said upper and lower strips along a transverse line in front of said writing table.

2. In a machine of the class described, a casing providing a writing table and a sheet receiver forwardly thereof, said receiver comprising a lower compartment and a discharge platform above the same, a deflector integral with said platform and projecting rearwardly therefrom into overlapping relation with said writing table, means for feeding to said receiver a plurality of superposed strips of paper sheets over said writing table with an upper strip guided above said deflector and a lower strip guided below said deflector, and means to effect a severance of said upper and lower strips along a transverse line in front of said writing table and discharge an upper severed sheet onto said platform, and a lower severed sheet into said compartment.

3. In a machine of the class described, a casing providing a writing table and a sheet receiver forwardly thereof, said receiver comprising a lower compartment and a discharge platform above the same, said platform having a rearwardly converging tongue portion extending into overlapped relation with said writing table, means for feeding to said receiver a plurality of superposed strips of paper sheets over said writing table with an upper strip guided above said tongue and a lower strip guided below said tongue, and means to effect a severance of said upper and lower superposed strips along a transverse line in front of said writing table and discharge an upper severed sheet onto said platform and a lower severed sheet into said compartment.

4. In a machine of the class described, a casing providing a writing table and a sheet receiver in front thereof, means to feed a continuous strip of paper sheets over said table to position a forward sheet over said receiver and a succeeding sheet in registration with said table, means to hold the succeeding sheet without interrupting the continued advance of said forward sheet by the feeding means, whereby said forward sheet is torn from said strip by said feed means.

5. In a machine of the class described, a casing providing a writing table and a sheet receiver forwardly thereof, said receiver comprising a lower compartment and a discharge platform above the same, means to feed a plurality of continuous superposed strips of paper sheets over said table to position forward sheets at said receiver and succeeding sheets in registration with said table, a deflector extending rearwardly from said receiver serving to guide an upper strip of sheets to said platform and a lower strip of sheets to said compartment, and means to hold all of said succeeding superposed sheets without interrupting the continued advance of all of said forward superposed sheets by the feeding means, whereby said forward superposed sheets are torn from said strips by said feed means.

6. In a machine of the class described, a casing providing a writing table and a sheet receiver in front thereof, means for feeding a continuous strip of paper sheets over said table to position a forward sheet at said receiver and a succeeding sheet at said table; means actuated by said feed means to hold the said succeeding sheet at said table, said feed means comprising a gripper and means operating said gripper to pull said forward sheet after said succeeding sheet has been stopped to thereby tear said forward sheet from said succeeding sheet.

7. In a machine of the class described, a casing providing a writing table and a sheet receiver in front thereof, means for feeding a continuous strip of paper sheets over said table to position a forward sheet at said receiver and a succeeding sheet at said table; said strip having a transverse rupture line between sheets for being torn apart, means actuated by said feed means to hold the succeeding sheet at said table, said feed means comprising a gripper, and means operating said gripper to apply a pull on said forward sheet in a direction at right angles to said rupture line until said succeeding sheet is stopped and thereafter to apply a pull on said forward sheet in a direction at an acute angle to said rupture line to thereby tear said forward sheet from said succeeding sheet.

8. In a machine of the class described, a casing

providing a writing table and a sheet receiver in front thereof, paper feed mechanism operative to pull a continuous strip of sheets over said table for advancing a forward sheet to said receiver and a succeeding sheet to said table, said feed mechanism comprising a reciprocable slide having a forward and return stroke and a gripper carried thereby, means actuated by said slide during its forward stroke to clamp said succeeding sheet on said table, means operating said gripper to pull said forward sheet after said succeeding sheet has been clamped so as to tear said forward sheet from said clamped sheet, and means to release said clamp means at the end of the forward stroke of said slide.

9. In a machine of the class described, a casing providing a writing table and a sheet receiver in front thereof, paper feed mechanism operative to pull a continuous strip of sheets over said table for advancing a forward sheet to said receiver and a succeeding sheet to said table, said feed mechanism comprising a reciprocable slide having a forward and return stroke and a gripper carried thereby, stopping means actuated by said slide prior to the end of its forward stroke to hold the succeeding sheet on said table, said gripper comprising jaws, spring means tending to close said jaws, and a latch for holding the same open, means for latching said jaws open at the forward end of a slide stroke, and means for unlatching said jaws to close by said spring means at the rear end of a slide stroke.

10. In a machine of the class described, a casing providing a writing table and a sheet receiver in front thereof, paper feed mechanism operative to pull a continuous strip of sheets over said table for advancing a forward sheet to said receiver and a succeeding sheet to said table; said feed mechanism comprising a reciprocable slide having a forward and return stroke and a gripper carried thereby, stopping means actuated by said slide prior to the end of its forward stroke to halt further travel of said succeeding sheet, escapement means to prevent completion of a forward slide stroke until after said stopping means has been actuated by said slide, and means operating said gripper to pull said forward sheet after said succeeding sheet has been halted to thereby tear said forward sheet from said succeeding sheet.

11. In a machine of the class described, a casing providing a writing table and a sheet receiver in front thereof, means to feed a continuous strip of paper sheets over said table for advancing a forward sheet to said receiver and a succeeding sheet into registration with said table, means to hold the succeeding sheet when it arrives in registration with said table without interrupting the continued action of said feed means in advancing said forward sheet, said feed means comprising a gripper and means operating said gripper after said succeeding sheet has been held, to apply a pull on said forward sheet in a combined lateral and forward direction so as to tear said forward sheet from said succeeding sheet.

12. In a machine of the class described, a casing providing a writing table and a sheet receiver in front thereof, paper feed mechanism operative to pull a continuous strip of sheets over said table for advancing a forward sheet to said receiver and a succeeding sheet to said table, said feed mechanism comprising a reciprocable slide having a forward and return stroke and a gripper carried thereby, stopping means actuated by said slide prior to the end of its forward stroke to hold the succeeding sheet on said table, and means operating said gripper after said succeeding sheet has been held to apply a pull on said forward sheet in a combined forward and lateral direction during the completion of said slide stroke so as to tear said forward sheet from said halted succeeding strip.

13. In a machine of the class described, a casing providing a writing table and a sheet receiver in front thereof, paper feed mechanism to feed a continuous strip of sheets over said table in advancing a forward sheet to said receiver and a succeeding sheet to said table, said paper feed mechanism comprising a reciprocable slide having a forward and return stroke, and a gripper pivotally carried on said slide and positioned to grasp a front corner of said forward sheet in feeding said strip, stopping means actuated by said slide prior to the end of its forward stroke to hold the succeeding sheet on said table, means for restraining said gripper against swinging movement on said slide until said succeeding sheet is held by said stopping means, said means having provision for thereafter releasing said gripper to swing inwardly of said slide under the reactive pull from said halted sheet during the completion of said slide stroke so as to effect tearing of the forward sheet from said succeeding sheet by a combined lateral and forward pull of said gripper.

14. In a machine of the class described, a casing providing a writing table and a sheet receiver in front thereof, paper feed mechanism to feed a continuous strip of sheets over said table in advancing a forward sheet to said receiver and a succeeding sheet to said table, said paper feed mechanism comprising a reciprocable slide having a forward and return stroke, and a gripper pivotally carried on said slide and positioned to grasp a front corner of said forward sheet in feeding said strip, stopping means actuated by said slide prior to the end of its forward stroke to hold the succeeding sheet on said table, means for restraining said gripper against swinging movement on said slide until said succeeding sheet is held by said stopping means, said means having provision for thereafter releasing said gripper to swing inwardly of said slide under the reactive pull from said halted sheet during the completion of said slide stroke so as to effect tearing of the forward sheet from said succeeding sheet by a combined lateral and forward pull of said gripper, means to open said gripper to release the paper at the forward end of said slide stroke, and means to retain said gripper in its inwardly swung position after said gripper has opened and for a short distance on the return stroke of said slide.

15. In a machine of the class described, a casing providing a writing table and a sheet receiver in front thereof, paper feed mechanism to feed a continuous strip of sheets over said table in advancing a forward sheet to said receiver and a succeeding sheet to said table, said paper feed mechanism comprising a reciprocable slide having a forward and return stroke, and a gripper pivotally carried on said slide and positioned to grasp a front corner of said forward sheet in feeding said strip, a spring tending to hold said gripper in fixed position on said slide, stopping means actuated by said slide prior to the end of its forward stroke to hold the succeeding sheet on said table, guiding devices for restraining said gripper against swinging movement on said slide during the first part of the

forward stroke of said slide and until the stopping means has been actuated by said slide, said guiding devices being constructed to release said gripper for inward swinging movement on its pivot under the reactive pull from said held sheet during the remainder of said slide stroke so as to effect tearing of said forward sheet from said succeeding sheet by a combined lateral and forward pull of said gripper.

16. In a machine of the class described, a casing providing a writing table and a sheet receiver in front thereof, means to feed a continuous strip of paper sheets over said table for advancing a forward sheet to said receiver and a succeeding sheet into registration with said table, means to hold the succeeding sheet when it arrives in registration with said table without interrupting the continued action of said feed means in advancing said forward sheet, whereby said forward sheet is torn from said strip by said feed means, said holding means for the paper comprising a clamp mounted adjacent the table, spring means tending to close said clamp, and cam means operated by said paper feed means to open said clamp.

17. In a machine of the class described, a casing providing a writing table and a sheet receiving in front thereof, paper feed mechanism operative to pull a continuous strip of sheets over said table for advancing a forward sheet to said receiver and a succeeding sheet to said table, said feed mechanism comprising a reciprocable slide having a forward and return stroke and a gripper carried thereby, means for clamping a succeeding sheet to said table actuated during a latter part of a forward slide stroke, means operating said gripper to pull said forward sheet after said succeeding sheet has been clamped so as to tear said forward sheet from said clamped sheet, said clamping means comprising a shiftable clamp member having a limited throw, spring means normally tending to hold said member in its clamp closing position, and cam means operated by said slide to shift said clamp member for opening the same during the earlier part of the forward slide stroke.

18. In a machine of the class described, a casing providing a writing table and a sheet receiver in front thereof, paper feed mechanism operative to pull a continuous strip of sheets over said table for advancing a forward sheet to said receiver and a succeeding sheet to said table, said feed mechanism comprising a reciprocable

slide having a forward and return stroke and a gripper carried thereby, clamp means to hold said succeeding sheet on said table during the latter part of the forward slide stroke, means operating said gripper to pull said forward sheet after said succeeding sheet has been held so as to tear said forward sheet from said clamped sheet, said clamp means comprising a vertically shiftable clamp member having a limited throw, spring means normally tending to raise said member for closing the clamp, cam means to depress said clamp member for opening said clamp, and means carried by said slide to operate said cam means for an opening clamp action at the end of the return stroke of said slide.

19. In a machine of the class described, a casing providing a writing table and a sheet receiver in front thereof, paper feed mechanism operative to pull a continuous strip of sheets over said table for advancing a forward sheet to said receiver and a succeeding sheet to said table, said feed mechanism comprising a reciprocable slide having a forward and return stroke and a gripper carried thereby, clamp means to hold said succeeding sheet on said table during the latter part of a forward slide stroke, means operating said gripper to pull said forward sheet after said succeeding sheet has been held so as to tear said forward sheet from said clamped sheet, said clamp means comprising a vertically movable clamp member having a limited throw, spring means normally tending to raise said member for closing the clamp, cam means to depress said clamp member for opening said clamp, means carried by said slide to actuate said cam means for clamp closing action when said succeeding sheet has arrived on said table, and means carried by said slide to operate said cam means for clamp opening action at the end of the return stroke of said slide.

LESLIE A. HOLMAN.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
965,708	Hano	July 26, 1910
1,146,520	Ritschard	July 13, 1915
1,481,519	Macdonald	Jan. 22, 1924
2,046,746	Holman	July 7, 1936