

(No Model.)

2 Sheets—Sheet 1.

A. KRAUTH.
AUTOGRAPHIC REGISTER.

No. 538,264.

Patented Apr. 30, 1895.

Fig. 1.

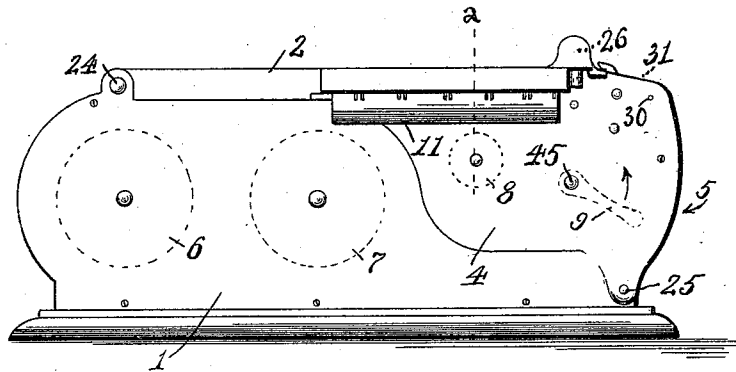


Fig. 2.

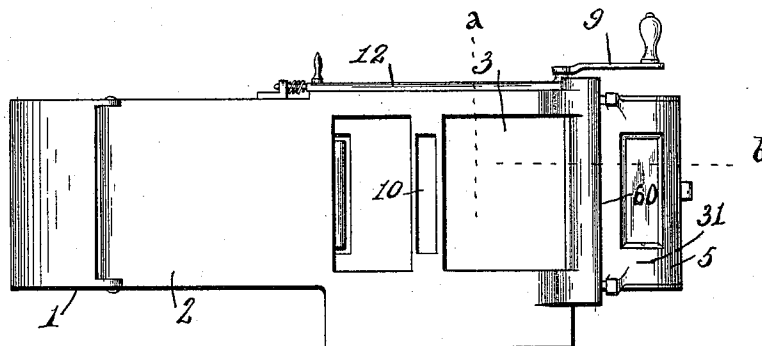


Fig. 4.

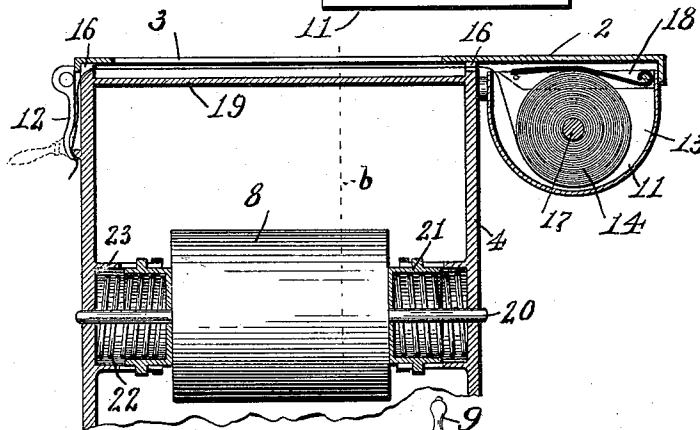
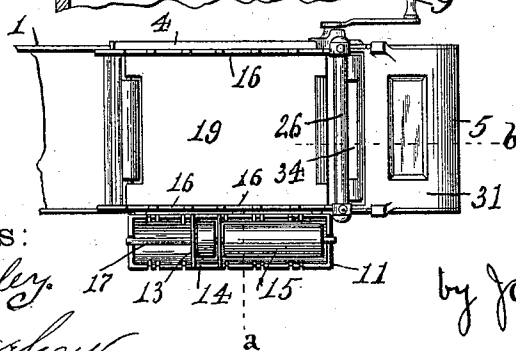


Fig. 3.



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Albert Krauth.

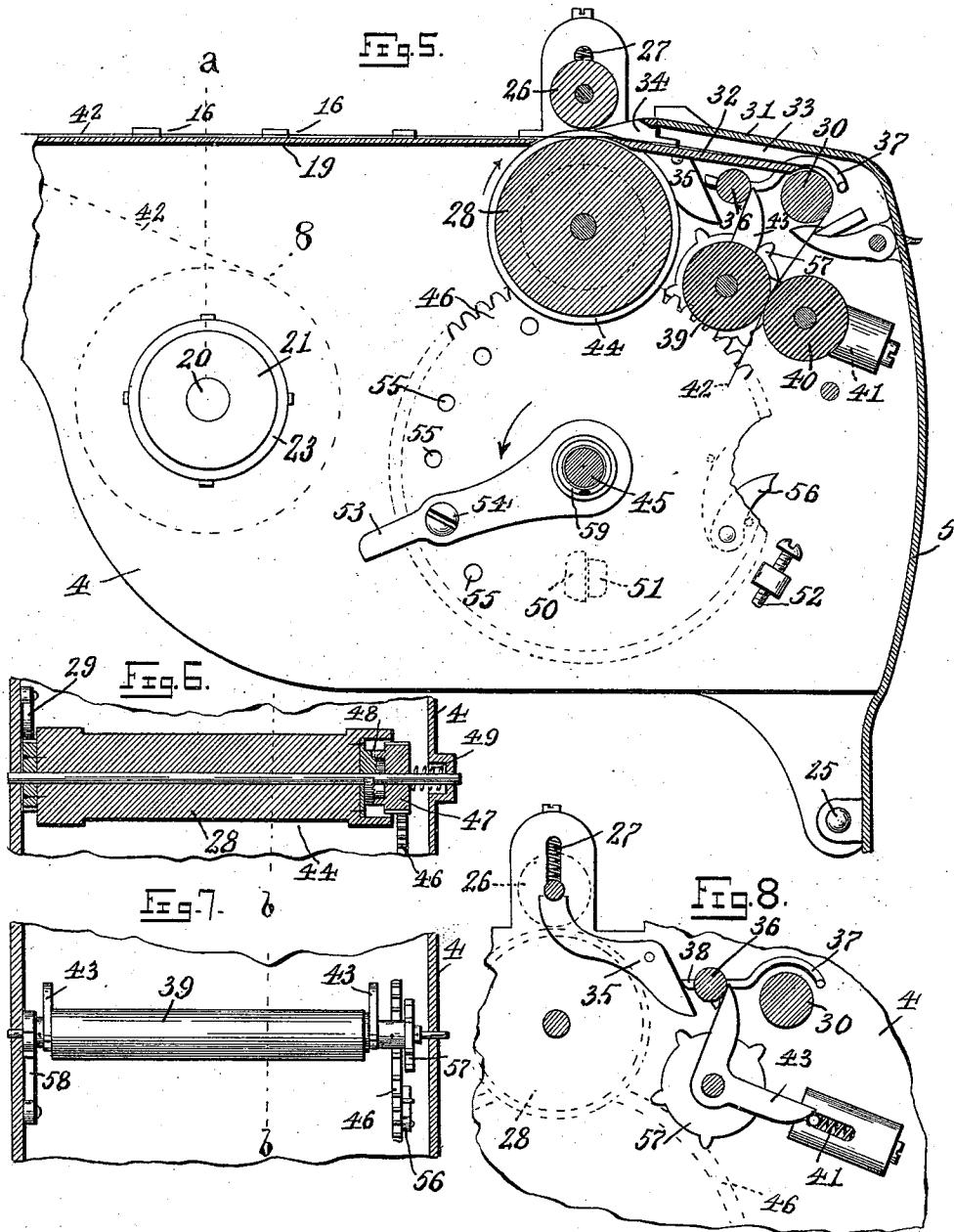
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2 Sheets—Sheet 2.

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Patented Apr. 30, 1895.



Witnesses:
E. R. Shipley.
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Albert Krauth Inventor
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UNITED STATES PATENT OFFICE.

ALBERT KRAUTH, OF HAMILTON, OHIO, ASSIGNOR TO THE NATIONAL AUTOGRAPHIC REGISTER COMPANY, OF NEW YORK, N. Y.

AUTOGRAPHIC REGISTER.

SPECIFICATION forming part of Letters Patent No. 538,264, dated April 30, 1895.

Application filed April 14, 1894. Serial No. 507,525. (No model.)

To all whom it may concern:

Be it known that I, ALBERT KRAUTH, of Hamilton, Butler county, Ohio, have invented certain new and useful Improvements in Autographic Registers, of which the following is a specification.

This invention relates to improvements in that class of devices employed in the production of duplicate copies of written matter, one copy to be removed for use, the other copy being stored up in the machine for authorized access only. This class of registers also often provide for triplicate copies. They also provide for employing the stored up record paper, not to furnish a record of the entire matter but to furnish a summary record, as of a single line only of the entire entry. As the several papers are fed forward from the supply strips as needed it follows that the summary-paper will require to feed a much less distance than the other paper or papers.

My improvements will be readily understood from the following description, taken in connection with the accompanying drawings, in which—

Figure 1, is a side elevation of an autographic register exemplifying my present improvements; Fig. 2, a plan of the same; Fig. 3, a similar plan with the top-plate, 2, opened back or removed; Fig. 4, an enlarged vertical transverse section in the plane of line *a*; Fig. 5, a vertical longitudinal section of a portion of the apparatus in the plane of line *b*; Fig. 6, a vertical diametrical section of feed-roll 28; Fig. 7, a rear elevation of feed-roll 39; and Fig. 8, a view similar to Fig. 5 but with various rolls, &c., removed so as to expose their journal-bearings. Figs. 4, 6, and 7 are upon a larger scale than Figs. 1, 2 and 3, and Figs. 5 and 8 are upon a still larger scale.

In the drawings:—1, indicates the mere casing of the apparatus; 2, the top thereof, hinged at 24 so that the apparatus may be opened at the top; 3, the usual opening through this top through which the writing is to be done upon the paper there exposed; 4, a portion of the main casing hinged to the casing part 1 at pivot 25 so that the general casing may be readily opened to give access to the interior; 5, an end door to the casing, also pivoted at 25; 6, the usual supply roll of

paper on which the writing is to be done as paper from that roll becomes presented at opening 3, this paper to be of width suited to the machine, that is to say, somewhat wider than the opening 3 so that the edges of the paper will underlie the side margins of the opening; 7, supply-roll of duplicate paper, if full duplicate of the entry is desired; 8, supply-roll of record or "summary-paper," this paper being narrower than the previously mentioned paper, which previously mentioned paper will be called the "bill-paper;" 9, handle for giving motion to the feed-rollers; and 10, narrow opening in the top of the apparatus, the length of this opening being suited to the width of the summary-paper so that no writing can be done through the opening upon the bill-paper which cannot be received upon the narrower underlying summary-paper. Thus far nothing has been referred to possessing any substantial points of novelty over devices now to be found in public use.

Proceeding with the drawings:—11, indicates an upwardly opening lidded trough secured alongside the casing and long enough to comprehend all of the top-openings in the casing through which writing is to be done, this trough being designed to hold the roll or rolls of transfer or carbon paper which is to be interposed between the writing papers, the carbon paper going from the roll in this trough across the apparatus between the writing papers and then out of the opposite side of the casing; 12, a combined spring door and clamp hinged to the top of the casing along the edge thereof where the carbon paper comes out, its lower edge clamping against the casing so as to hold the end of the carbon paper; 13, thin transverse partitions movably inserted in the trough 11, being held in the trough by engaging notches in the upper edges of the trough walls; 14, a roll of narrow carbon paper within one of the compartments of the trough, this paper having a width and position suited to the writing opening 10 in the top of the casing; 15, a roll of wider carbon paper in another compartment of the trough, this paper having a width and position suited to the writing opening 3 in the top of the casing; 16, shallow notches or depres-

sions in the top edges of the side walls of the casing, the end extremities of these notches being in line with the selective positions for the partitions 13 in the trough which holds the carbon paper; 17, a spindle extending endwise through the trough and through the roll or rolls of carbon paper therein, this spindle preferably resting in upwardly open notches or bearings in the ends of the trough as shown in Fig. 3; 18, a thin cover hinged in the top of the trough and moving with sufficient frictional resistance to support the roll or rolls of carbon paper if the apparatus is turned upside down; and 19, a sub-top to the casing extending across under the writing openings to support the papers while being written on through the openings.

Autographic registering devices of the class in question are used in a variety of ways depending largely upon the business requirements of the user. Assume, first, that the user desires to employ only the two wide papers, to make a bill and a full duplicate thereof through opening 3. In such case he would use only the one roll of wide carbon paper 15, setting the trough-partition to suit the length of the roll of carbon. He would employ the spindle 17 or dispense with it as desired. The top 2 of the casing is extended to form a main lid to cover the trough and its contents; but, in opening the register, when the cover 2 (Fig. 1) is opened back and the part 4 opened back then the trough becomes turned upside down and cover 18 serves in preventing the carbon paper from falling out. The trough thus has two lids but of course only one is needed if the trough is not mounted on a casing-part which reverses the trough in opening the casing. Again, second, if the user wishes to employ the summary-paper for a brief entry through opening 10 an additional carbon paper will be needed, overlying the summary-paper, and this carbon paper must not underlie opening 3 else more than the brief entry would become transferred to the summary-paper. The user accordingly puts the narrow roll of carbon paper 14 in the trough, in line with opening 10, this paper being stretched across the casing like the other carbon paper. The partitions may be shifted in the trough to suit various conditions of use. The carbon paper or papers go across and out of the casing and are held by spring door 12 which holds their ends. By opening this door access is given to the end of the carbon paper and it may be drawn forward and the exhausted portion torn off and the fresh end reclamped by the spring door. The narrow carbon paper, extending across the apparatus between two writing papers, is subject to a displacing transverse drag by the longitudinal travel of the writing papers. The shores of the depressions 16 in the top edges of the side wall of the casing serve to retain the carbon paper and prevent any injurious dragging. Wide carbon paper has sufficient transverse strength to resist the

dragging and may rest upon the top edges of the side-walls regardless of the notches, but, in practice, the edge of the carbon paper will sink into the foremost depressions and find support at their shores.

20 (Fig. 4) indicates the spindle of one of the supply-rolls of paper, 8 being the roll of paper wound so as to have a small bore fitting directly upon the spindle; 21, large loose hubs held by the sides of the casing, around the spindle, and pressing against the ends of the roll of paper and providing the tensional resistance to the unwinding thereof; 22, springs surrounding the spindle and pressing the hubs 21 yieldingly against the ends of the roll of paper; 23, hollow bosses within the casing around the spindles 20, to receive and support the tension hubs 21, the tension hubs being capable of sliding in and out in these bosses but not of turning or of coming entirely out of the bosses. This tension arrangement, while illustrated and described only in connection with roll 8, which is the roll of summary-paper, may be taken as applying also to supply-rolls 6 and 7.

24, indicates the hinge pivot heretofore referred to as uniting the casing-top 2 to the casing; 25, the hinge pivot heretofore referred to as uniting the casing part 4 and the end door 5 to the casing; 26, (Fig. 5,) the top feed-roll for the wide papers, as long at least as those papers are in width; 27, spring bearings holding this roll yieldingly to its work; 28, the lower feed-roll, co-operating with feed-roll 26, and having a similar length, the wide papers passing between these two rolls; 29, (Fig. 6,) pawl and ratchet preventing the turning of feed-roll 28 in the reverse direction, this ratchet permitting the feed-rolls to turn in the direction indicated by the arrow in Fig. 5; 30, a guide-roll extending across the casing forwardly beyond the feed-rolls which have been referred to, the narrow paper, after it passes the feed-rolls, going on around this guide-roll; 31, a super-top portion to the casing forward of the feed-rolls 26-28 and extending rearwardly above the periphery of the lower feed-roll, this super-top portion being formed mainly as a part of the end door 5, the rearmost edge, however, being separate from the door and rigidly supported by the casing, this super-top portion being preferably provided with a window through which late entries on the summary paper may be inspected; 32, a sub-roof below roof part 31, extending back close to feed-roll 28, the summary-paper overlying this sub-roof; 33, the channel formed between roof 31 and sub-roof 32 for the passage of the summary-paper; 34, the entrance to this channel, formed at the rear edge of the roof 31, this entrance, as seen in Fig. 3, having a width suited to the width of the summary-paper; 35, (Fig. 8,) levers pivoted to the sides of the casing and engaging under journals of the top feed-roll 26; 36, a cam-shaft extending across the casing near the feed-

rolls; 37, a handle to this cam-shaft by means of which it may be turned, this handle being within the casing and held down in normal position by a top portion of end door 5 extending over it when the door is closed, and forming a yielding obstruction to the closing of the door; 38, cam-portions of the cam-shaft 36 adapted to rock levers 35 when the handle 37 is lifted; 39, one of the feed-rolls for the summary-paper; 40, the other feed-roll for the summary-paper, this roll being spring mounted so as to be held yieldingly to its work; 41, the spring mounting of feed-roll 40; 42, the summary-paper, on its way from roll 8 back and then forward over sub-top 19, then, idly, between feed-rolls 26 and 28, then through passage 33 and over guide-roll 30 and down between feed-rolls 39 and 40 and thence into the general space of the casing where it may accumulate; 43, levers engaging the journals of feed-roll 40 in the same manner as levers 35 engage roll 26; and 44, a wide circumferential groove in feed-roller 28, somewhat wider than the summary-paper, so that while feed-rolls 26 and 28 pinch and act upon the wide paper or papers the narrower summary-paper passes idly between those rolls to its individual feed-rolls 39 and 40.

Normally the feed-rolls pinch upon and may feed their proper papers and normally the casing is closed and secured against unauthorized access. As the feed-rolls pinch their papers the papers cannot be moved back or forward except by manipulating the rolls, thus guarding against tampering with the papers or improperly changing their relative positions; but if end door 5 be opened then handle 37 is free to be operated and the rocking of cam-shaft 36 pries both sets of feed-rolls open thus permitting of any proper dealing with the papers free from the pinching of the rolls. The act of again closing the end door 5 restores handle 37 to normal position putting the rolls again in pinching condition. In other words the end door 5 cannot be closed while the feed-rolls are open.

45 (Fig. 5) indicates the spindle of handle 9 which is employed in giving motion to the feed-rolls; 46, a gear fast on this spindle; 47, (Fig. 6,) a pinion loose on the spindle of feed-roller 28 and engaged by gear 46; 48, a facial ratchet-clutch locking pinion 47 to feed-roll 28, the teeth of this clutch facing in such direction as to compel the roll to turn when the pinion is turned in feeding direction; 49, a spring holding the pinion clutched to the feed-roll but permitting it to unclutch or slip back when the pinion turns in non-feeding direction; 50, (Fig. 5,) a fixed stop lug on the side of the casing near the face of gear 46; 51, a lug upon gear 46 adapted to engage fixed lug 50 and limit the rotation of gear 46 in the non-feeding direction; 52, a second fixed stop, supported by the casing near gear 46; 53, an arm secured to gear 46 and adapted to make contact with stop 52 and limit the turning of gear 46 in the feeding direction; 54, a screw secur-

ing arm 53 to the gear; and 55, other selective holes in the gear 46 to receive screw 54 if the position of stop 53 upon the gear is to be changed.

By turning handle 9 the gear 46 may be turned in either direction as far as stops 50 and 52 will permit. An oscillating motion is to be employed upon handle 9. This motion causes an idle backward motion of pinion 47 and a forward feeding motion of that pinion, the result being that feed-rolls 26 and 28 will feed their paper or papers forward during the forward stroke of handle 9, the handle going back idly, and being preferably returned by a spring 59 coiled upon its spindle. The parts being in the position shown in Fig. 5 it is obvious that the length of paper which will be fed forward at one impulse of handle 9 will be governed by arm 53 which is arrested when it strikes stop 52. Assume this feeding distance to be three inches and to correspond with a standard length of bill to be dealt with. Let the other holes 55 correspond with other standard feed lengths or standard lengths of bills. Then, knowing the length of bill to be employed in the apparatus arm 53 may be secured in desired position on gear 46 and then the proper feeding length will be given at each forward impulse of handle 9. Stop 52 is shown as being provided with an adjusting screw. This is useful only in case of departures from standard lengths of bill suited to the positions of holes 55. While the handle and gear and pinion are making their idle backward motions, the pawl 29 prevents any backward drag of feed-roller 28.

56, indicates a spring tooth or pawl carried by gear 46; 57, a gear or star wheel fixed on roll 39 which is to feed the summary-paper, this star wheel being in such position that one of its teeth may be engaged by the spring tooth 57 as gear 46 makes its forward feeding motion; 58, (Fig. 7,) pawl and ratchet to prevent retrograde motion of feed-roll 39; and 59, the spring previously referred to on the spindle of handle 9 to give it its backward idle motion.

With the parts in the position shown in Fig. 5 the forward motion of gear 46 causes feed-roll 28 to at once begin its feeding motion, which will be kept up throughout the forward motion of gear 46. During this forward motion of the gear the spring tooth 56, will engage a tooth of star wheel 57 and produce a partial rotation of feed-rolls 39 and 40. Upon the return motion of gear 46 all the feed-rolls remain stationary. The circumference of feed-rolls 39 and 40, and the number of teeth in the star wheel 57 are to be so proportioned as to give to those feed-rolls, at one impulse a linear feeding capacity suited to the item space determined upon for the summary-paper. Assume, for instance, that we desire the bills, to be torn off, to be three inches long, and that the summary-item on the summary-paper calls for a half an inch of feed space on the summary-paper. Then the parts are to

be so proportioned that one impulse of handle 9 will turn feed-roll 28 a circumferential distance equal to three inches and will turn feed-roll 39 a circumferential distance equal to a half an inch.

In using the apparatus, with its papers properly placed as usual, the full bill-paper entry is written through opening 3, being written directly on the top paper. This entry in full becomes transferred to the underlying duplicate paper, from roll 7, through intermediate carbon paper. The summary to be recorded is then written through opening 10, this writing also being directly upon the bill-paper and being transferred to the extreme lower or summary-paper through the narrow strip of carbon paper overlying the summary-paper. A forward impulse is then given to handle 9 which, when released, returns idly to normal position. This motion of the handle has fed forward the two top papers, the wide papers fed by rolls 26 and 28, a standard bill length, and has fed forward the summary-paper, by rolls 39 and 40, a very small distance. The summary-paper passes unbroken through channel 33 and through its feed-rolls into the casing for accumulation. The upper papers pass out over roof 31 and under tearing edge 60 of the top (Fig. 2) where they may be torn off for use, thus leaving a blank bill in position at opening 3, and leaving the summary-paper properly advanced for the next summary entry.

The passage 33 between the two roof portions forms the channel for the summary-paper, sub-roof 32 guiding the paper to the guide-roll when first started and supporting it later. The bill papers are prevented from dropping to this channel by the rearmost edge of the super-top portion. When door 5 is opened, for adjusting papers or for testing the working, the main portion of the super-top comes away with the door but the separating rearmost edge of the super-top still remains in working position.

In the use of autographic registers with attachments for summarizing, the bill paper requires to be fed a distance equal to the adopted length of bill-blank, while the summary paper requires to be fed a comparatively short distance. In some machines of this class this differential feeding is effected by causing the several pairs of feed rolls to turn simultaneously but at different rates of speed, resulting in a long feed for the bill paper and a short feed for the summary paper; but if a new length of bill blank be adapted then the length of feed for the summary paper would be correspondingly increased or decreased when the desire is that the length of feed for the summary paper remain unchanged, it being obvious that a given length of feed for the summary paper would be appropriate for bill-blanks of any length. In my device the differential feeding of the papers is not effected by turning the several pairs of feed rolls coincidentally but at different rates of speed,

but by causing the feed rolls of the summary paper to move but a portion of the time while the bill paper is feeding. This avoids the necessity for any accurate relationship between the circumference of the different feed rolls, and it avoids the necessity for accurate communicating gearing between the several feed rolls, and it permits of feeding for various lengths of bill-blanks without requiring any readjustment of the summary feeding device to maintain a constant degree of feed for the summary paper.

It is to be noticed (see Fig. 4) that the trough which contains the roll of transfer paper is open at the top, the lid to the trough forming a protection to the carbon paper. It will also be noticed that the trough has two lids, one formed by the cover of the general casing, and the other formed by the lid 18 within the trough. Referring to Fig. 1 it will be obvious that if cover 2 is swung open to the left and then part 4 of the casing be swung to the right the trough would be turned upside down and in the absence of lid 18, which goes with the trough, the roll of transfer paper could fall out of the trough. If the casing is not arranged to have the reversible part 4, or if the trough is not carried by such reversible part, then the inner lid to the trough would not be needed, the lid formed by portion 2 being sufficient, and in any case if lid 18 be retained the upper cover need not be provided except as a matter of looks for smooth finish over the trough. Therefore in speaking of an "upwardly open lidded trough" I refer to an upwardly open trough having either one or both of the trough lids referred to.

I claim as my invention—

1. In an autographic register, the combination, substantially as set forth, of a casing, an endwise removable spindle mounted in the side walls thereof to receive a roll of paper, tension hubs surrounding the spindle and supported by the casing independent of the spindle and adapted to bear against the ends of the roll of paper, and springs supported by the casing independent of the spindle and pressing said tension hubs to their work.

2. In an autographic register, the combination, substantially as set forth, of a casing, a spindle supported in and endwise removable from the side walls thereof to receive a roll of paper, hollow bosses projecting inwardly from said side walls concentric with said spindle, tension hubs supported by said bosses and adapted to press against the ends of the roll of paper, and springs within said hubs and bosses to press said tension hubs to their work.

3. In an autographic register, the combination, substantially as set forth, of a casing provided with paper-supporting and paper-moving devices, a support at one side of such casing for a roll of transfer-paper with the axis of such roll parallel with the path of movement of the paper to be written upon, an opening at the other side of said casing to permit the outward passage of the transfer paper

drawn across the casing from said roll, and a spring door at such opening, adapted to close the opening and clamp the end of the transfer-paper projecting therefrom.

4. In an autographic register, the combination, substantially as set forth, of a casing having a top portion to serve as a backing for the paper on which the writing is to be done, ledges, of a length suited to the widest transfer-paper to be employed, projecting upwardly from the sides thereof in position to have the writing-paper guided between them and having intermediate notches or depressions in their upper surfaces, and holding devices upon said casing adapted to support a strip or strips of transfer-paper in position to cross said top portion and lie in said notches or depressions.

5. In an autographic register, the combination, substantially as set forth, of a casing provided with devices for supporting and moving the writing-papers, an upwardly opening lidded trough secured at one side of said casing parallel with the line of travel of the writing-papers, and a holding device for transfer-paper at the other side of said casing.

6. In an autographic register, the combination, substantially as set forth, of a casing provided with devices for holding and moving the writing papers, an upwardly opening lidded trough secured to one side of said casing, a removable spindle passing longitudinally through said trough, and a holding device for carbon-paper upon the opposite side of said casing.

7. In an autographic register, the combination, substantially as set forth, of a casing provided with devices for supporting and moving the writing papers, an upwardly opening lidded trough secured at one side of the casing and having upwardly open spindle bearings in its ends, a spindle removably supported in said spindle-bearings, and a holding device for transfer-paper on the opposite side of said casing.

8. In an autographic register, the combination, substantially as set forth, of a casing provided with devices for supporting and moving the writing papers, an upwardly opening lidded trough secured to said casing and adapted to receive a roll or rolls of transfer-paper, and one or more transverse partitions adjustably secured within said trough, whereby said trough is adapted to properly support a wide roll or one or several narrow rolls of selective widths of transfer-paper.

9. In an autographic register, the combination, substantially as set forth, of a casing, a portion thereof hinged so as to permit the opening of the casing, a trough secured to said hinged portion and adapted to receive a roll of transfer paper, and a cover carried by said trough and adapted to engage over the contained roll of carbon paper.

10. In an autographic register, the combination, substantially as set forth, of a casing, a pair of feed-rolls mounted thereon, springs to

urge said feed-rolls together, a door to the casing, and a handle mechanism for separating the feed-rolls having a part engaged and held in inactive position by said door when closed.

11. In an autographic register, the combination, substantially as set forth, of a casing, two pairs of feed-rolls mounted therein, springs to urge the rolls of the respective pairs together, a door to said casing, and a handle mechanism arranged to open both pairs of feed-rolls simultaneously and having a part engaged and held in inactive position by said door when the door is closed.

12. In an autographic register, the combination, substantially as set forth, of a casing, a pair of feed-rolls mounted therein, springs to press one of said feed-rolls toward the other, levers to move said spring-pressed roll away from the other roll, a cam-shaft engaging said levers, a door to the casing, and a handle to the cam-shaft engaged by said door when closed to hold the handle in position corresponding with the closed condition of the rolls.

13. In an autographic register, the combination substantially as set forth, of a casing, two pairs of feed-rolls mounted therein, springs at each pair of feed-rolls for holding them normally closed, pivoted levers for opening both pairs of rolls, a cam-shaft to rock said levers and open both pairs of rolls simultaneously, a door to the casing, and a handle to said cam-shaft in position to be engaged by said door when closed so as to hold the handle in position corresponding with the closed condition of the rolls.

14. In an autographic register, the combination, substantially as set forth, of a casing, a door thereto, and a roll-opening mechanism having a part so projecting when the rolls are open as to be engaged by the door in closing.

15. In an autographic register, the combination, substantially as set forth, of a casing, a pair of feed-rolls, an oscillatory handle for operating the feed-rolls, a ratchet-clutch between the handle and feed-rolls whereby the handle will move the feed-rolls only when the handle is turned in the forward direction, stops to limit the oscillatory motion of the handle whereby at each forward impulse of the handle a definite length of paper is fed forward by the feed-rolls, and mechanism for adjusting the effective distance between said stops whereby the length of paper to be fed by one handle impulse may be adjusted.

16. In an autographic register, the combination, substantially as set forth, of a casing, a pair of feed-rolls, an oscillatory handle for operating the feed-rolls, a ratchet-clutch between the handle and feed rolls whereby the feed-rolls are moved only during the forward motion of the handle, two fixed stops carried by the casing, a lug carried by the handle and adapted to engage one of said fixed stops and limit the motion of the handle in one direction, a stop-arm carried by the handle and adapted to be arrested by the other fixed stop

and limit the motion of the handle in the other direction, and means for adjusting said stop-arm with reference to said lug.

17. In an autographic register, the combination, substantially as set forth, of a casing, a pair of feed-rolls, a pinion loose on one of said feed-rolls, a ratchet-clutch connecting said pinion with its feed-roll, an oscillatory handle for operating the feed-rolls, a gear carried by the handle and engaging the pinion, a pair of fixed stops carried by the casing, a lug carried by said gear and engaging one of said fixed stops to limit the motion of the handle in one direction, and a stop-arm secured to said gear in adjustable position with reference to said lug and adapted to engage the other one of said fixed stops.

18. In an autographic register, the combination, substantially as set forth, of a casing, a pair of feed-rolls, a ratchet-faced clutch-member on one of said feed-rolls, a ratchet-faced clutch-member free to turn and slide on the spindle of such roll, an oscillatory handle arranged to give motion to the mechanism, and a spring urging said clutch-members into engagement.

19. In an autographic register, the combination, substantially as set forth, of a first pair of feed rolls adapted to feed a strip of bill paper containing bill-blanks of selected length, a second pair of feed rolls adapted to feed a strip of summary paper, a handle for giving motion to the mechanism, and gearing connecting said two pairs of feed rolls and arranged to transmit motion to the second pair of feed rolls for a brief interval only during feeding motion of said first feed rolls, whereby the degree of feed given to the summary paper is not dependent upon the degree of feed given to the bill paper.

20. In an autographic register, the combination, substantially as set forth, of a casing, a lower feed-roll within said casing with its periphery projecting through an opening in the top thereof, an opening through said top into said casing beyond said feed-roll, an upper feed-roll outside the casing, a narrow super-top portion to said casing beyond the feed-rolls over said opening beyond the feed-rolls

and extending to near the upper feed-roll, forming a channel between said top-portion and said super-top portion and extending from near the feed-rolls into the casing and a door to said casing carrying an extension to said narrow super-top portion.

21. In an autographic register, the combination, substantially as set forth, of a casing, a lower feed-roll within the casing and having its periphery projecting through an opening in the top of the casing and provided with a wide peripheral groove, an upper feed-roll outside the casing cooperating with said lower feed-roll, and a super-top portion to said casing beyond the feed-rolls and forming with said top-portion a channel the width of said peripheral groove and extending from near the feed-rolls to the interior of said casing.

22. In an autographic register, the combination, substantially as set forth, of a first pair of feed-rolls, a second pair of feed-rolls, an oscillatory handle for operating the feed-rolls, and gearing connecting the handle with both pairs of feed-rolls and adapted to move the second pair of feed-rolls during a portion only of the movement of the first pair of feed-rolls.

23. In an autographic register, the combination, substantially as set forth, of a casing, a first pair of feed-rolls mounted therein, an oscillatory handle connected with said feed-rolls continuously during the forward movement of the handle, a second pair of feed-rolls, a toothed wheel carried thereby, and a pawl carried by said handle and adapted to engage a tooth of said wheel as the handle is moved forward.

24. In an autographic register, the combination, substantially as set forth, of a casing, a first pair of feed-rolls having one of its rolls peripherally grooved to permit of the idle passage through the rolls of a narrow strip of paper while the rolls are feeding a wider strip, a second pair of feed-rolls located in the casing beyond the first pair, and a handle differentially geared to both pairs of feed-rolls.

ALBERT KRAUTH.

Witnesses:

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J. N. SLAYBACK.