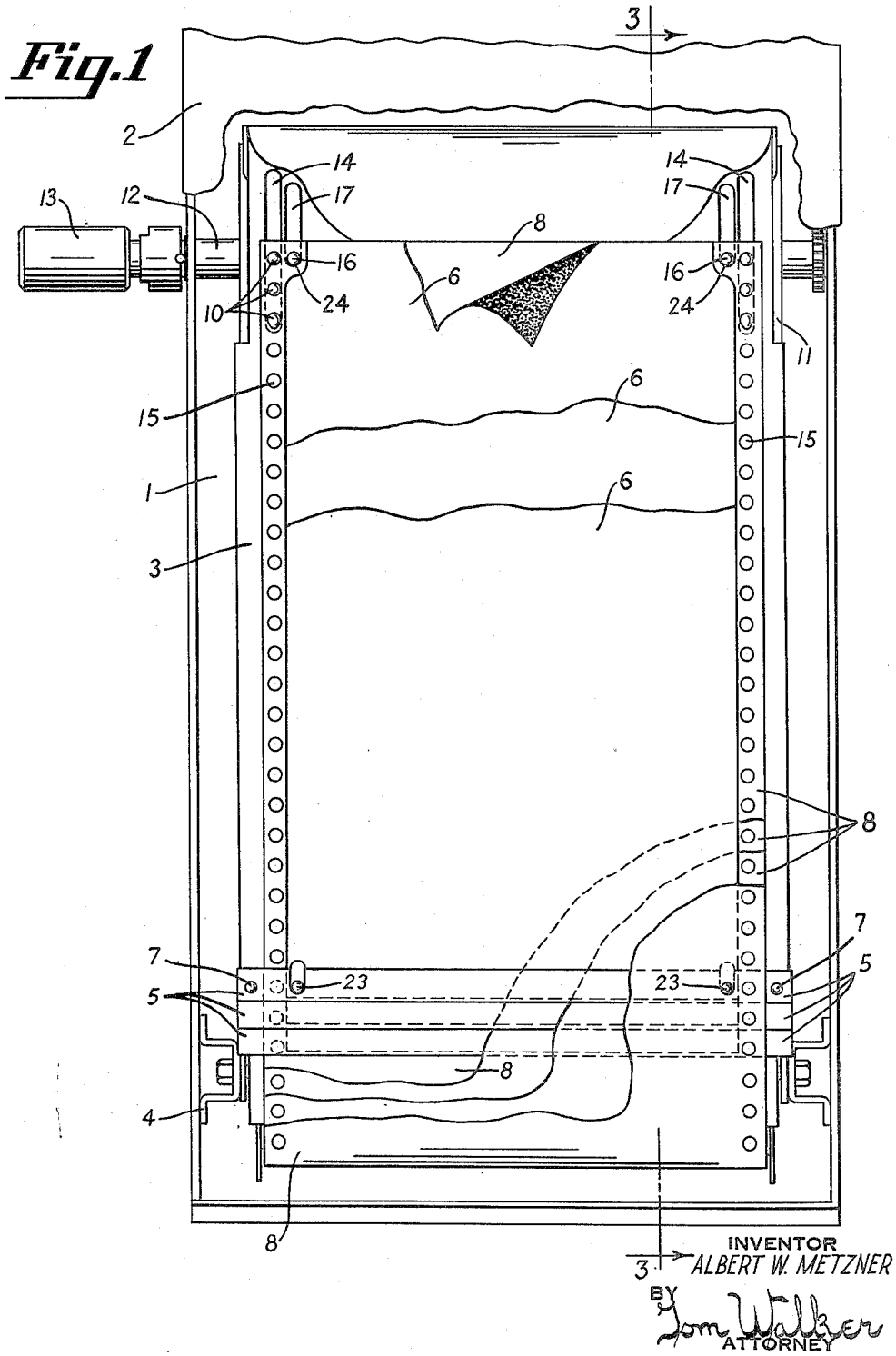
May 4, 1954 A. W. METZNER 2,677,540

STRIP FEEDING DEVICE

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Fig. 1

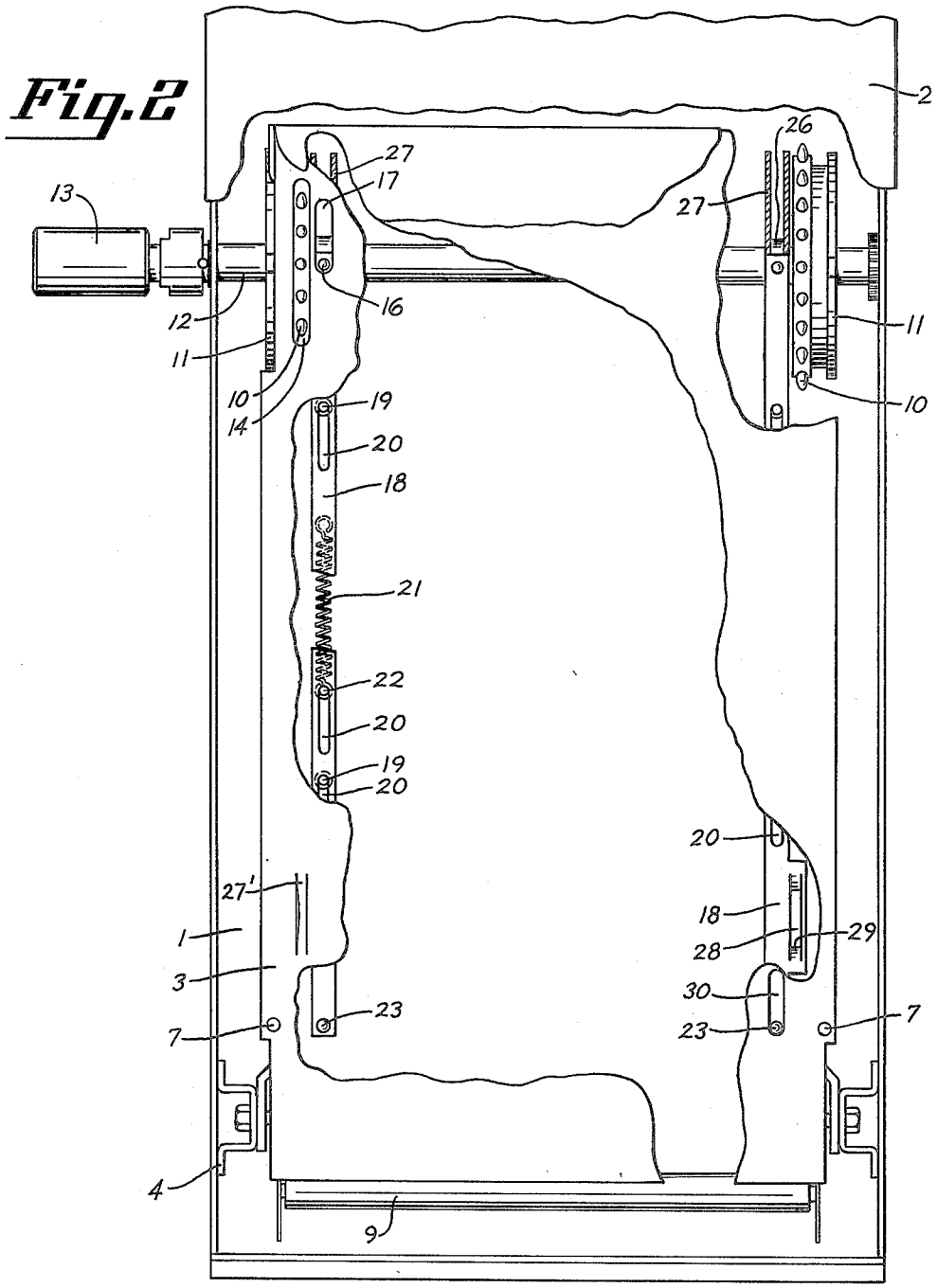


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Fig. 2



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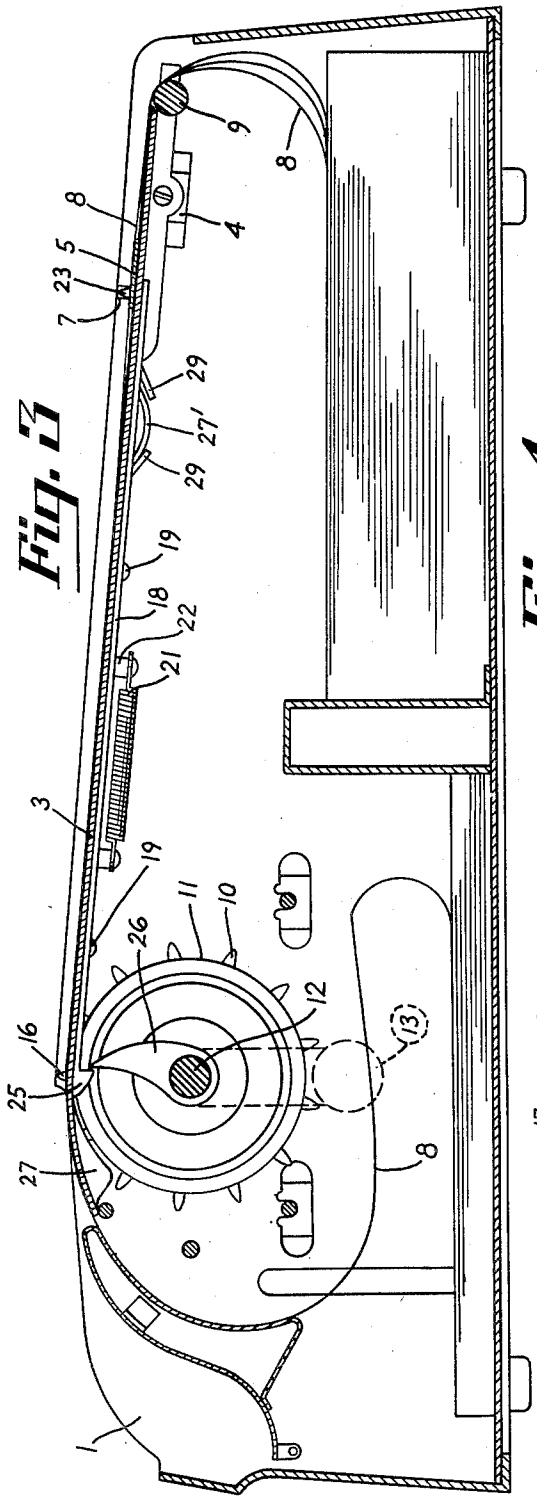


Fig. 3

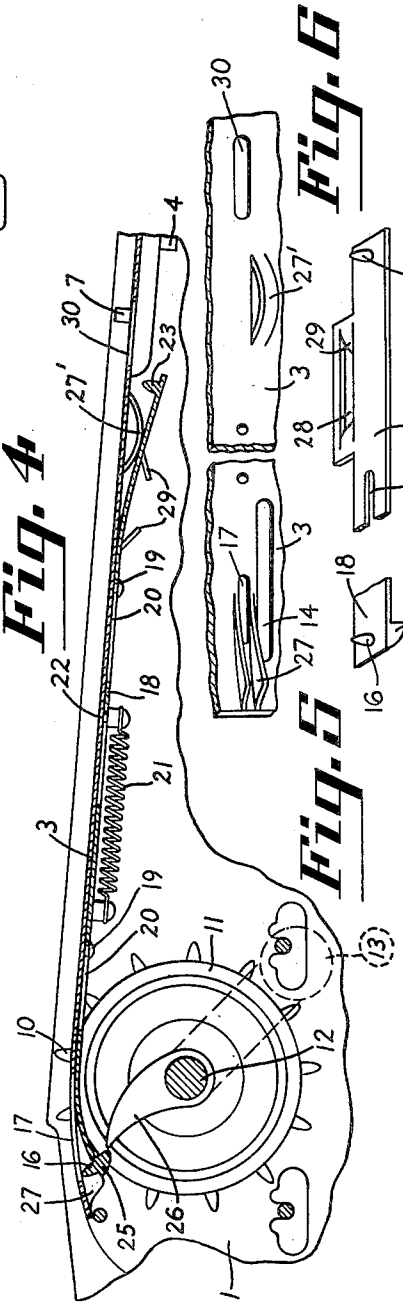


Fig. 4

Fig. 5

Fig. 6

Fig. 7

Fig. 8

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UNITED STATES PATENT OFFICE

2,677,540

STRIP FEEDING DEVICE

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Application April 28, 1948, Serial No. 23,791

22 Claims. (Cl. 271—2.4)

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This invention relates to strip feeding apparatus, and more particularly to an auxiliary pin feed device for concurrent use with the now usual forms of pin type strip feeding devices.

For the sake of simplicity, the present embodiment shown herein is particularly adapted for use in autographic registers, but the principle involved and the beneficial results of such an auxiliary feeding device is not necessarily limited thereto.

In the process of recording indicia upon the superposed continuous strips of record stationery, whether in an autographic register or other type of recording mechanism, the pressure applied to the original or topmost strip causes the intermediate strips of carbon paper to become sticky and more or less united to the underlying record strips. Such adhesion of the strips hinders the uniform advancement of the strip assembly by the feeding means. To overcome this hindrance, excessive pressure of the strip feeding device is required, which possibly greatly exceeds the tensile strength of the paper in the record strips, resulting in a torn or otherwise defaced record form.

To overcome this problem and difficulty, auxiliary or secondary feeding means having temporary engagement with the assembly of superposed record strips has been proposed. Most of such units, however, require specially formed writing tables or platens so that the extra feeding means may be accommodated. Such alteration in the writing tables reduces the available writing area thereof, however, to a point that in many instances such devices have been found objectionable.

With the present construction a very efficient secondary or auxiliary feed is provided without decreasing the available writing area in the recording mechanism, and without complicated and expensive changes in the primary feeding means or the writing table.

Thus, the object of the present invention is to simplify the construction as well as the means and mode of operation of a strip feeding mechanism as herein disclosed, whereby such devices may not only be economically manufactured, but will be more efficient and uniform in operation, adaptable to a wide variety of applications, having relatively few parts, and be unlikely to get out of repair.

A further object of the invention is to provide an auxiliary feeding device temporarily engageable with the record strip at longitudinally spaced points therein.

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A further object of the invention is to provide an auxiliary feeding device which does not necessitate material alteration in the writing surface of the recording mechanism.

A further object of the invention is to provide a writing surface in the recording mechanism of maximum area, comparable to that present in conventional recording machines of similar types.

A further object of the invention is to provide a reciprocatory strip feeding device actuated in unison with a rotary strip feeding device.

A further object of the invention is to provide a resiliently mounted strip feeding device, intermittently actuated by actuation of the primary feeding device.

A further object of the invention is to provide automatic means for withdrawing the auxiliary strip feeding device from the assembly of superposed record strips simultaneously with the advancement thereof.

A further object of the invention is to provide means for automatically releasing the auxiliary feed from the primary feeding means for return to normal position.

A further object of the invention is to provide a strip feeding apparatus possessing the advantageous structural features, the inherent meritorious characteristics and the mode of operation herein disclosed.

With the above primary and other incidental objects in view as will more fully appear in the specification, the invention intended to be protected by Letters Patent consists of the features of construction, the parts and combinations thereof, and the mode of operation, as hereinafter described or illustrated in the accompanying drawings, or their equivalents.

Referring to the accompanying drawings, wherein is shown the preferred but obviously not necessarily the only form of embodiment of the invention,

Fig. 1 is a top plan view of an autographic register embodying the present invention with the cover broken away.

Fig. 2 is a top view of the register with assembly of record strips removed and portions of the writing table broken away showing the auxiliary feeding means in position.

Fig. 3 is a longitudinal section through the register on line 3—3 of Fig. 1.

Fig. 4 is a fragmentary view similar to Fig. 3, showing the feeding device in operated position.

Figs. 5 and 6 are fragmentary perspective views

showing the underside of the writing table and the control means for the auxiliary feed.

Figs. 7 and 8 are perspective views of the auxiliary pin unit.

Like parts are indicated by similar characters throughout the several views.

The present disclosure represents a further development of that shown and claimed in my copending application Serial No. 593,633, filed May 14, 1945, now matured into Patent No. 2,516,899.

The present invention is shown embodied in a substantially conventional autographic register having a housing 1, to the front end of which the cover 2 is pivotally secured. The writing table 3 is pivotally mounted upon the brackets 4 within the register housing adjacent the rear end thereof. Carbon holders 5 carrying strips of carbon 6 are secured to the writing table by means of stationary pins 7, as in the usual autographic register construction. The assembly of superposed record strips 8 are brought from the supply thereof over the strip guide 9, coincident with the writing table mounting, interleaved between the carbon strips 6 and placed in engagement with the transversely aligned pairs of feeding pins at the front of the register.

The pair of outer pins 10 are a part of the series of feeding pins located about the periphery of the pin wheels 11, fixedly secured to the shaft 12 and actuated by the hand crank 13 to advance the assembly of superposed series connected record forms comprising the strips 8. As is usual practice, the writing table is slotted as at 14, through which slots the pin wheels 11 project to engage holes 15 in the superposed strips of the strip assembly and continuously advance the same upon rotation of the pin wheels.

Immediately adjacent the pin wheels 11 and inwardly spaced relative thereto are a pair of auxiliary feeding pins 16 projecting through slots 17, which slots extend only forwardly from the home position of the pins. Thus, the writing area of the table is in no way reduced, since the table ahead of the home position of the pins shown in Figs. 1, 2 and 3 is not within the area of the record form then in inscribing position.

The auxiliary pins 16 are carried by an inherently resilient spring steel strip 18 which extends longitudinally of the register, as shown in Figs. 2 and 3. The strips 18 are slidingly secured to the bottom of the writing table 3 by a pair of rivets 19, the reduced shanks of which pass through the elongated slots 20 in the pin carriers 18. The carrier strips 18 are resiliently urged toward the rear of the register, i. e., resiliently maintained in the position shown in Figs. 1, 2 and 3 under influence of the retractile spring 21, one end of which is secured to the carrier 18 and the other end being fixed to the underside of the table 3, as at 22.

A second auxiliary pin 23 is carried by the strips 18 at the rear end thereof, i. e., opposite the pin 16. This second pin 23 is so arranged on the strip 18 that it will, when in the home position (Figs. 1, 2 and 3) engage the auxiliary hole 24 in the succeeding form. The same hole 24 is also engaged by the pin 16 when advanced to recording position by operation of the feeding means.

To actuate the auxiliary pins 16—23 there is provided on the underside of the carrier strip 18 a dog 25 which normally projects into the path of travel of pawl 26 fixedly secured to the pin wheel shaft 12 and actuated in unison therewith under influence of the hand crank 13. Upon forward motion of the pawl 26 (counterclockwise in Figs. 3 and 4) it contacts the dog 25 and temporarily moves it and the associated carrier strip 18 in unison therewith.

Controlling withdrawal of the pins 16—23 and disengagement of the dog 25 from the pawl 26 are a series of cams or control surfaces on the underside of the writing table 3. Projecting downwardly from the writing table adjacent the slot 17 and longitudinally aligned therewith are a pair of arcuately contoured flanges 27 upon the curved surface of which the strip 18 bears upon forward movement. As the strip 18 is moved forwardly by the pawl 26, the flanges engage and deflect the strip, thereby withdrawing the pin 16 from engagement with the hole 24 in the record strips.

The curved periphery of the flanges 27 are not, however, concentric with the periphery of pin wheels 11 or with the arc described by the pawl 26 as it rotates in unison with the pin wheel shaft 12. The inherent resiliency of the carriers 18 causes them to follow closely the contour of the flanges 27 in their effort to maintain themselves in a single plane. Consequently, as the carrier 18 approaches the forward end of the flange or cam 27, it moves away from the pawl sufficiently that the dog 25 is freed from its engagement with the pawl.

Upon release of the dog 25 therefrom, the carrier 18 is immediately retracted to its original or home position under the retractive influence of the spring 21 where it remains until a succeeding feeding operation is initiated. The pawl 26, after release from the dog 25, is free to continue its rotation in unison with the pin wheel shaft 12 through a complete revolution thereof, which is equivalent to the feeding of a full form length.

During the feeding of the assembly of record strips by the pin wheels 11 after disengagement of the auxiliary pins 16 therefrom, the auxiliary pins remain beneath the surface of the strip assembly. The resiliency of the carriers 18 does not produce sufficient upward pressure against the record strip assembly to cause the auxiliary pins to puncture or otherwise deface the strips.

The auxiliary pins remain in their deflected position under pressure of the assembly of record strips until completion of the feeding operation, at which time the succeeding form length is in writing position. When this occurs, the auxiliary hole 24 in which the trailing pin 23 was previously engaged is in alignment with the forward pin 16, into which hole the pin automatically springs under the influence of the inherent resiliency of the carrier 18. The feeding device is then conditioned to initiate a succeeding feeding cycle after completion of the inscription upon the record form then in writing position.

The trailing pin 23 is also automatically withdrawn from the record strip assembly as the carrier 18 approaches its forward limit of travel motion under influence of the pawl 26. This is accomplished by embossing or otherwise producing upon the underside of the writing table 3 a control surface or cam 27'. The carrier strip 18 is slotted as at 28, within which slot the cam 27' projects. The opposite ends of the slot 28 are downturned providing a pair of ears or cam followers 29 which engage the cam 27' upon longitudinal movement of the carrier 18 to depress the carrier and thereby withdraw the pin 23 from the record strip assembly.

The writing table 3 is also slotted as at 30 to permit sliding movement of the pin 23 relative thereto. Like the slot 17 at the front of the table, the rear slot 30 is also outside the writing area of the form then in record receiving position, hence does not in any way reduce the available inscription area.

In operation, upon initiation of the feeding operation, there are a plurality of pins in engagement with the record strip assembly. Thus, the pull necessary to initiate the advance movement of the strip assembly is divided among the several pins and not concentrated upon the single pin in the pin wheels 11. Such additional or auxiliary feeding impulse is, however, unnecessary after the initial strain is overcome. The auxiliary pins are therefore withdrawn from the strip immediately after the initial strain is overcome. The auxiliary pins and their carrier strip are shown in withdrawn position, just prior to return to home position, in Fig. 4. Upon movement of the pawl 26 past the dog 25 in Fig. 4, the carrier strip 18 is returned to its initial position ready for engagement of the pins 16—23 in the holes 24 of succeeding forms upon completion of the feeding cycle, and return of the pin wheels 11 to home position.

While the invention has been shown and described in connection with an autographic register, it may be likewise used with flat bed recording machines, and may be adapted to other forms of writing or recording equipment.

From the above description it will be apparent that there is thus provided a device of the character described possessing the particular features of advantage before enumerated as desirable, but which obviously is susceptible of modification in its form, proportions, detail construction and arrangement of parts without departing from the principle involved or sacrificing any of its advantages.

While in order to comply with the statute the invention has been described in language more or less specific as to structural features, it is to be understood that the invention is not limited to the specific features shown, but that the means and construction herein disclosed comprise the preferred form of several modes of putting the invention into effect, and the invention is therefore claimed in any of its forms or modifications within the legitimate and valid scope of the appended claims.

Having thus described my invention, I claim:

1. A recording apparatus of the type wherein continuous superposed strips of interconnected record forms are progressively advanced over a writing table and past a record receiving position by means of a rotary strip feeding device having continuous engagement within a series of feeding configurations longitudinally disposed along the margins of the continuous superposed strips, characterized by an auxiliary feeding device temporarily engageable within each of the series of interconnected forms, including a resilient reciprocatory carrier, a feeding pin carried thereby in proximate relation with the front end of the carrier and engageable within a feeding configuration adjacent the leading edge of each succeeding record form, a second feeding pin in proximate relation with the rear end of the carrier and engageable within a feeding configuration adjacent the leading edge of the next succeeding record form, actuating means for the carrier including a retractile spring urging the carrier in one direction and an intermittently operable power drive connection urging the carrier in the opposite direction against the yielding resistance of the retractile spring, said power drive connection including a pawl associated with the rotary feeding device for unison rotation therewith, and a dog on the underside of the carrier strip normally projecting into the path of travel of the pawl for temporary engagement thereby, control means for the carrier strip carried by the underside of the writing table to which the carrier strip is slidingly secured, including a pair of downwardly extending cam surfaces against which the carrier is urged under influence of its inherent resiliency, cam followers on the carrier strip cooperating with the cams to depress the strip at the limit of its forward motion thereby retracting the feeding pins carried thereby from engagement with the superposed strips of continuous series connected record forms, one of said cam surfaces being eccentric to the path of travel of the power operated pawl, the construction and arrangement being such that the carrier in following the eccentric cam surface removes the dog from engagement with the power operated pawl to permit return of the carrier to its normal position under influence of the retractile spring.

2. In a recording apparatus of the type wherein a continuous strip of series connected detachable record forms are intermittently advanced past a recording position by a pin type feed device having progressive engagement within longitudinal series of marginally disposed feeding configurations, characterized by an auxiliary feeding device having simultaneous engagement with the strip adjacent the leading edges of the record form then in recording position and the next succeeding form, actuating means therefor intermittently actuating the auxiliary feeding device through a forward movement of limited extent simultaneously with the actuation of the pin type feeding device, control means therefor simultaneously withdrawing the auxiliary feeding device from engagement with the strip and disconnecting the auxiliary feeding device actuating means, and a retractile spring under influence of which the auxiliary feeding device is returned to its initial position for subsequent engagement with succeeding record forms.

3. In a recording apparatus of the type wherein a continuous strip of series connected detachable record forms are intermittently advanced past a recording position by a pin type feed device having progressive engagement within longitudinal series of marginally disposed feeding configurations, characterized by a supplemental feeding device having temporary engagement with succeeding forms of the series, including a carrier strip upon which a pair of longitudinally spaced feeding pins are mounted, mounting means supporting the carrier strip upon the recording apparatus for reciprocatory motion longitudinally thereof, a retractile spring resiliently urging the carrier strip in one direction of movement, actuating means common to the carrier strip and the pin type feeding device for advancing the carrier strip in the opposite direction against the yielding resistance of the retractile spring, carrier strip drive means within which the actuating means is temporarily engageable, to advance the carrier strip, and carrier strip control means comprising a pair of cam surfaces against which the strip is movable to withdraw the supplemental feeding device from engagement with the strip of series connected de-

tachable forms at the forward limit of its reciprocatory movement, one of said cam surfaces simultaneously therewith causing disengagement of the actuating means from the carrier strip to permit return of the carrier strip to its initial position under influence of the retractile spring.

4. In a recording apparatus of the type wherein a continuous strip of series connected detachable record forms are intermittently advanced past a recording position by a pin type feed device having progressive engagement within longitudinal series of marginally disposed feeding configurations, a reciprocatory auxiliary feeding device simultaneously engageable within succeeding form lengths, means for actuating the auxiliary feeding device simultaneously with the actuation of the pin type feeding device, clutch mechanism interrupting the actuating of the auxiliary feeding device after forward movement thereof through a predetermined distance, control means for withdrawing the auxiliary feeding device from engagement with the strip of series connected detachable forms simultaneously with its release from the actuating means, and a second actuating device automatically operative upon release of the auxiliary feeding device from the actuating means to return the feeding device to its initial position for engagement with the succeeding record forms upon completion of the feeding operation by the pin type feed device.

5. In a recording apparatus, dual strip feeding means including a rotary strip feeding means having progressive continuous positive engagement with a continuous strip of series connected record forms, a reciprocating strip feeding means having intermittent engagement with the record strip at longitudinally spaced intervals thereof adjacent the leading edges of succeeding forms, common actuating means therefor operative to simultaneously energize each of the feeding devices to initiate feeding movement of the strip, means affording yielding resistance to the actuation of said reciprocating strip feeding means, automatic control means for the reciprocating feeding means limiting its feeding movement under influence of the common actuating means and simultaneously therewith withdrawing the reciprocatory feeding means against the yielding resistance of which the actuating means is effective, the construction and arrangement being such that upon cessation of the feeding impulse of the reciprocatory feeding means, said feeding means is returned to its initial position for engagement with succeeding forms upon completion of the feeding cycle by the rotary strip feeding means.

6. In a recording apparatus, dual strip feeding means for advancing a continuous strip of series connected detachable record forms through step by step movement past a recording position, one of which is intermittently engageable with the record strip in timed relation with the operation of the other feeding means, including a primary feeding device having progressive continuous engagement with the record strip, a secondary feeding means having intermittent engagement therewith adjacent the leading edge of succeeding forms and temporarily operable to assist the primary feeding device in initiation of the strip feeding operation, actuating means common to the dual feeding devices simultaneously energizing the feeding devices to initiate strip feeding operation, guide means withdrawing the secondary feeding means out of the plane of the strip after a predetermined advancement thereof, said secondary feeding means being de-energized simultaneously with its withdrawal from the record strip and retained in inoperative condition until completion of the feeding cycle by the primary feeding device.

7. An autographic register wherein marginally punched continuous form stationery is progressively advanced past a recording position by a primary pin type feeding device mounted transversely of the path of advancement of the form stationery and having progressive engagement in longitudinally spaced aligned marginal feed holes therein, including an auxiliary reciprocatory pin type feeding device mounted parallel to the path of advancement of the form stationery and having a pair of pins disposed at opposite ends thereof simultaneously engageable in aligned feed holes in inwardly spaced relation relative to the marginal series of feed holes when the stationery is in recording position, and actuating means for reciprocating said auxiliary feeding device through a limited range of movement simultaneously with the advancement of the strip from recording position under influence of the primary feeding device.

8. An autographic register wherein marginally punched continuous form stationery is progressively advanced past a recording position by a primary pin type feeding device having progressive engagement in longitudinally spaced aligned marginal feed holes therein, including an inherently resilient pin type feeding device normally urged into engagement with the strip in inwardly spaced relation with the marginal feed holes while the strip is in recording position, actuating means therefor imparting thereto a limited reciprocatory motion longitudinally of the register, and retracting means overcoming the inherent resiliency of the feeding device to withdraw the resilient feeding device from the record strip at one limit of its reciprocatory motion.

9. An autographic register wherein marginally punched continuous form stationery is progressively advanced past a recording position by a primary pin type feeding device having progressive engagement in longitudinally spaced aligned marginal feed holes therein, including an inherently resilient pin type feeding device movable longitudinally of the register and normally urged into engagement with the strip in inwardly spaced relation with the marginal feed holes while the strip is in recording position, and control means for the resilient feeding device simultaneously imparting thereto a limited to and fro motion and retractive influence sufficient to overcome the inherent resiliency of the feeding device and withdraw the feeding device from the strip coincident with initiation of strip advancement from the recording position.

10. An autographic register wherein marginally punched continuous form stationery is progressively advanced past a recording position by a primary pin type feeding device having progressive engagement in longitudinally spaced aligned marginal feed holes therein, including an inherently resilient pin type feeding device normally urged into engagement with the strip in inwardly spaced relation with the marginal feed holes while the strip is in recording position, and operative by said primary pin type feeding device coincident with initiation of the feeding operation by the primary feeding device to temporarily assist in initiation of the advancement of the strip from recording position, means for limiting ad-

vancing movement of said resilient device, and means for automatically retracting said resilient device to a starting position.

11. In a strip feeding apparatus of the type wherein a main feeding device has continuous uninterrupted marginal feeding engagement with a strip for intermittently advancing the strip past a recording position, a strip starting device temporarily engageable with the strip in inwardly spaced relation with the marginal engagement of the main feeding device, including a longitudinally reciprocatory member resiliently mounted beneath the strip and resiliently urged into engaging relation therewith while the strip is in recording position, means for advancing the reciprocatory member through a limited range of movement simultaneously with initiation of the strip feeding operation by the main feeding device, and means for progressively withdrawing the reciprocatory member from engagement with the strip during its forward movement subsequent to initiation of the strip feeding operation.

12. In a strip feeding apparatus of the type wherein a main feeding device has continuous uninterrupted marginal feeding engagement with a strip for intermittently advancing the strip past a recording position, a duo-functional strip starting and strip anchoring device resiliently mounted in proximate relation with the strip and engageable therewith at widely spaced longitudinal points, including a longitudinally movable carrier having strip feeding surfaces at opposite ends thereof for simultaneous engagement with the strip at longitudinally spaced intervals, actuating means therefor common to the main feeding device, and control means automatically disengaging the actuating means from said carrier and removing the strip feeding surfaces from engagement with the strip after a predetermined longitudinal movement thereof of limited extent for return to normal position where it remains inoperative until completion of the feeding operation by the main feeding device.

13. The herein described method of feeding a continuous strip of series connected record forms, including the step of imparting to a marginal portion thereof progressively uninterrupted feeding influence sufficient to advance the strip through a predetermined range of motion, and temporarily distributing the initial feeding impulse both transversely and longitudinally of the strip in inwardly spaced relation with the marginal feeding area thereof to assist in overcoming initial resistance of the strip to advancement thereof.

14. A strip feeding apparatus comprising a main feeding device engageable in marginally disposed strip feeding configurations, and a secondary feeding device intermittently engageable with the strip for temporarily assisting the main feeding device in initiating strip feeding operation, including a plurality of longitudinally spaced strip feeding surfaces, a carrier therefor upon which the strip feeding surfaces are mounted for unison motion coincident with initiation of strip feeding operation, and automatic control means permitting simultaneous engagement of the strip feeding surfaces with the strip upon completion of a preceding strip feeding operation and simultaneously disengaging the strip feeding surfaces from the strip after limited advancement thereof during initiation of a succeeding strip feeding operation.

15. In a strip feeding device having a main feeding device for progressively advancing the strip through intermittent step by step movements, an auxiliary feeding device simultaneously engageable with the strip at widely spaced longitudinal points for temporary feeding engagement therewith during initiation of a succeeding feeding movement, and control means therefor temporarily coupling the auxiliary feeding device to the main feeding device for limited feeding operation during initiation of a strip feeding movement and simultaneously disengaging the longitudinally spaced points of feeding engagement thereof upon completion of the initiation of the strip feeding movement.

16. A strip feeding apparatus including a main feeding device for progressively advancing the strip through intermittent step by step movements, an auxiliary feeding device intermittently engageable with the strip for temporary feeding engagement during initiation of strip feeding movement, control means for the auxiliary feeding device temporarily coupling the device to the main feeding device for simultaneous operation through a limited range of movement and subsequently operative upon completion of the initiation of strip movement to release said coupling permitting relative movement of said feeding devices, one relative to the other, for advancing a strip having a first series of feeding configurations extending longitudinally of the strip with which the main feeding device has progressive engagement and a second series of feeding configurations located in inwardly spaced relation to said first series and extending longitudinally of the strip with which the auxiliary feeding device has temporary intermittent engagement, said second series of configurations having relatively greater spacing intermediate successive configurations than the first series.

17. In an apparatus for recording on a record strip including a first series of longitudinally spaced feeding configurations, a second series of longitudinally spaced feeding configurations transversely spaced from the first series, the feeding configurations of the second series being longitudinally spaced at greater distances than the configurations of the first series, a main strip feeding means having continuous uninterrupted engagement with the first series of feeding configurations for progressively advancing the strip past a recording position, and a supplemental strip feeding means temporarily engageable with the second series of feeding configurations at longitudinally spaced points simultaneously with the engagement of the main strip feeding means while advancement of the strip is being initiated, said supplemental feeding means being automatically disengageable from the second series of feeding configurations upon initiation of strip advancement.

18. A strip feeding apparatus, including a main feeding device having continuous uninterrupted marginal feeding engagement with a strip for progressively advancing the strip through a predetermined range of travel, and a strip starting device temporarily engageable with the strip at longitudinally spaced points in inwardly spaced relation with the path of simultaneous marginal engagement of the main feeding device therewith and automatically disengageable therefrom when the advancement of the strip has been initiated.

19. A recording apparatus wherein marginally punched continuous form stationery is progressively advanced past a recording position by pin type feeding means progressively engageable in

longitudinally spaced marginal feed holes therein, including traveling feeding pins propressively engageable in the aligned marginal feed holes to advance the stationery relative to the recording position, and a plurality of longitudinally aligned supplemental pins in inwardly spaced relation with the traveling feeding pins simultaneously engageable with the strip while in recording position in corresponding holes therein in inwardly spaced relation with the aligned marginal feed holes.

20. The herein described method of feeding a continuous strip of series connected record forms including the step of imparting to a marginal portion thereof progressive uninterrupted feeding influence sufficient to advance the strip through a predetermined range of motion, and imparting to the strip at longitudinally spaced points in inwardly spaced relation to the first feeding influence a supplemental feeding impulse additional to such feeding influence sufficient to overcome the initial resistance of the strip to advancement, and terminating the supplemental feeding impulse upon starting of the strip movement while the advancement thereof is continued by the feeding influence applied to the margin thereof.

21. The herein described method of feeding a continuous strip of series connected record forms including the step of imparting to a marginal portion thereof progressive uninterrupted feeding influence sufficient to advance the strip through a predetermined range of motion, and temporarily distributing the initial feeding impulse both transversely and longitudinally of the strip inwardly of the marginal feeding area thereof.

22. A recording apparatus wherein marginally punched continuous form stationery is progressively advanced past a recording position by pin type feeding means progressively engageable in longitudinally spaced marginal feed holes therein, including a main set of traveling feeding pins progressively engageable in the aligned marginal feed holes to advance the stationery through step by step movements relative to the recording position, and a plurality of longitudinally aligned supplemental traveling feeding pins simultaneously engageable with the stationery while in recording position for limited travel therewith from the recording position.

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