Aug. 27, 1935. J. Q. SHERMAN ET AL 2,012,289

PIN FEED PLATEN ROLL

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Fig. 1

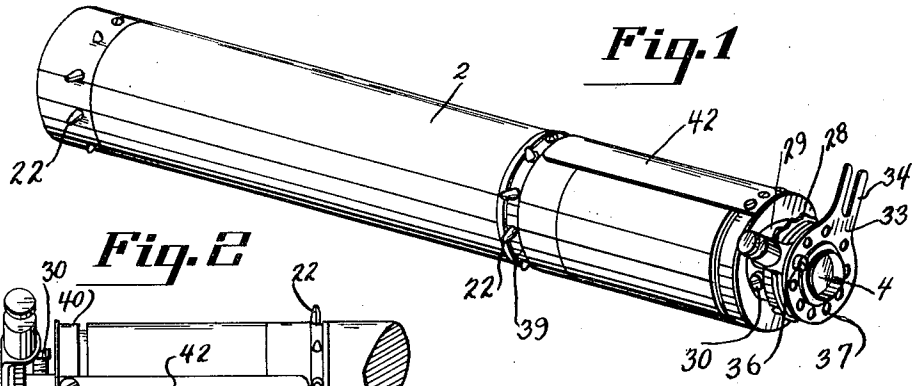


Fig. 2

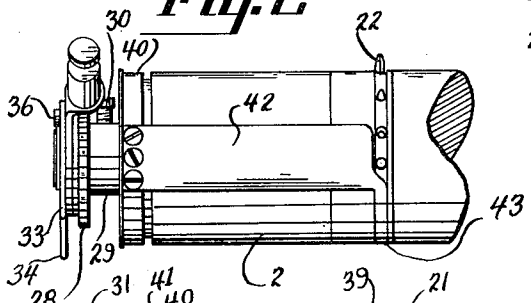


Fig. 3

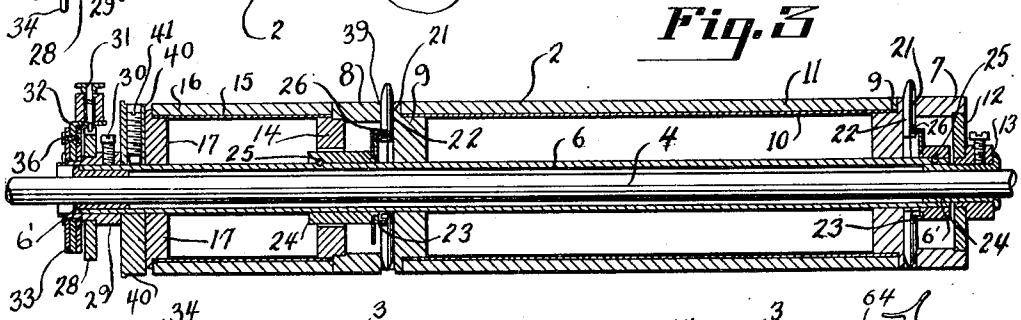


Fig. 4

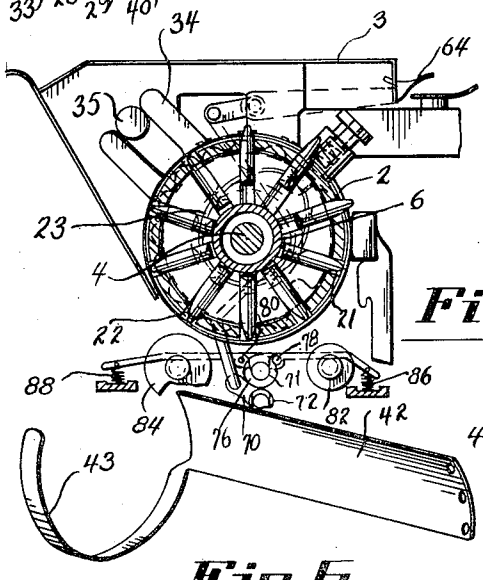


Fig. 5

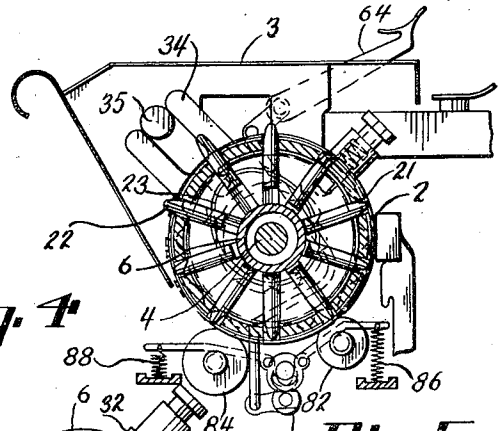


Fig. 6

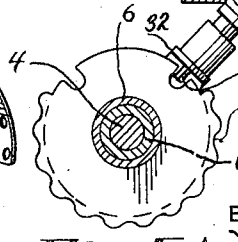


Fig. 6A

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Fig. 7

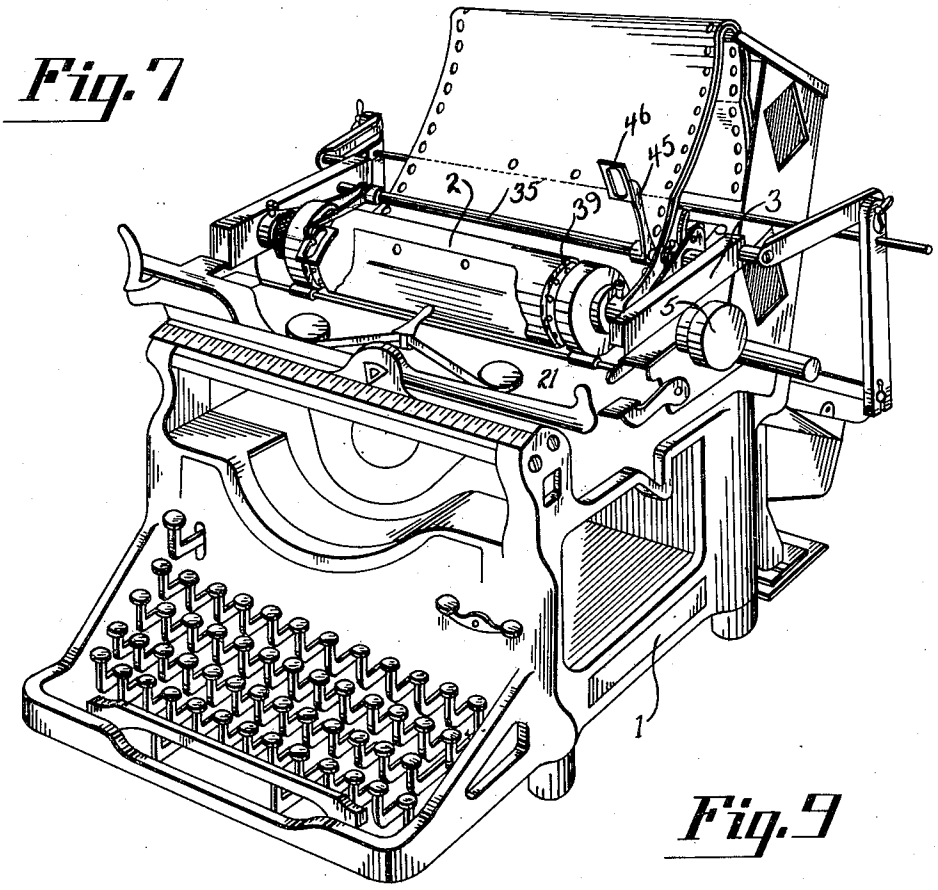


Fig. 9

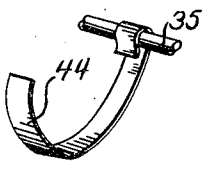
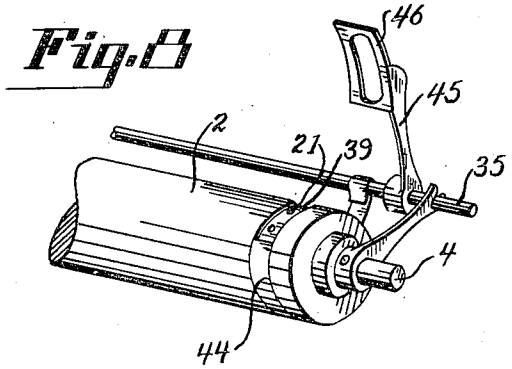


Fig. 8



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Fig.10

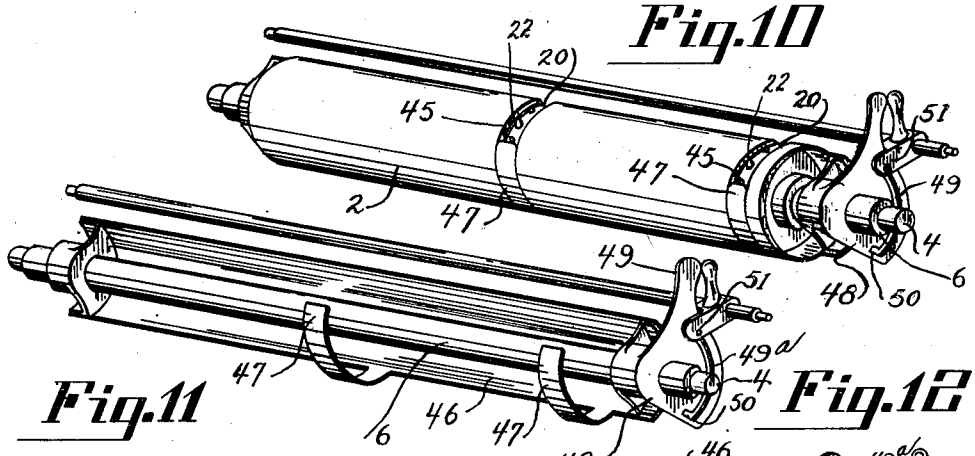


Fig.11

Fig.12

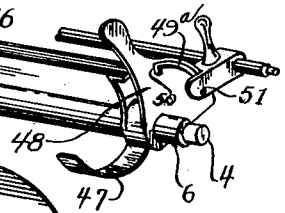


Fig.13

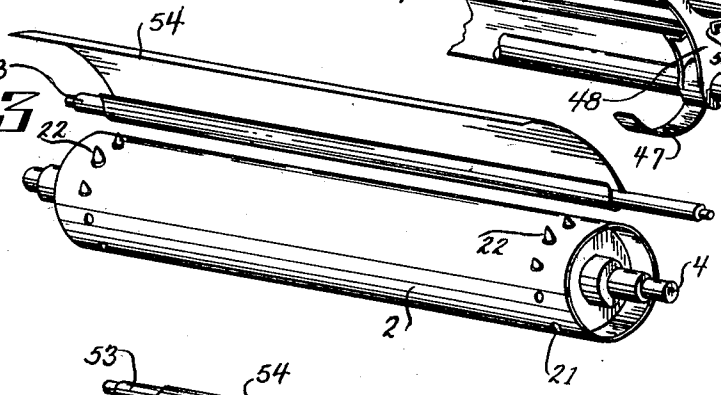


Fig.14

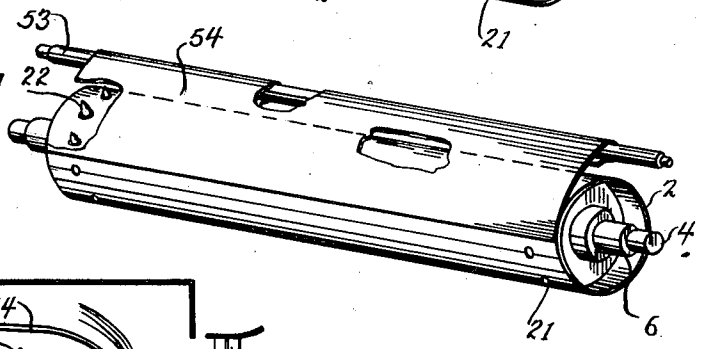
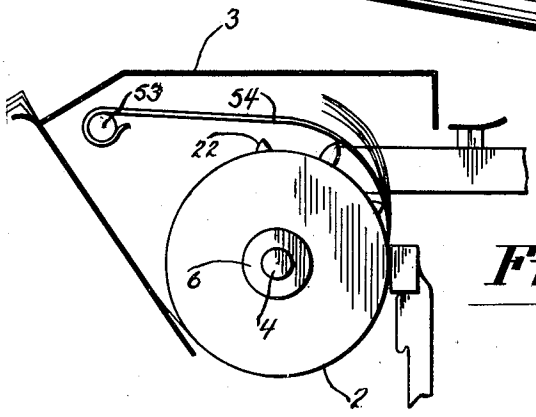


Fig.15



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PIN FEED PLATEN ROLL

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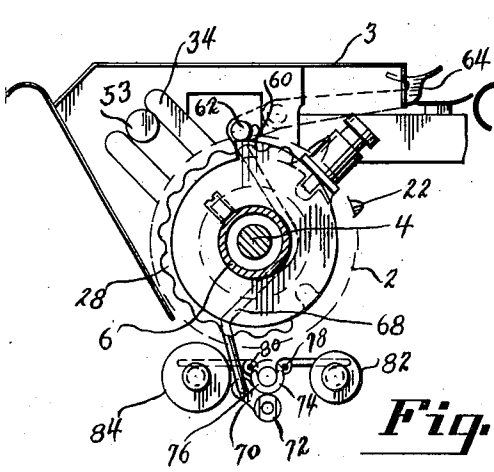


Fig. 18

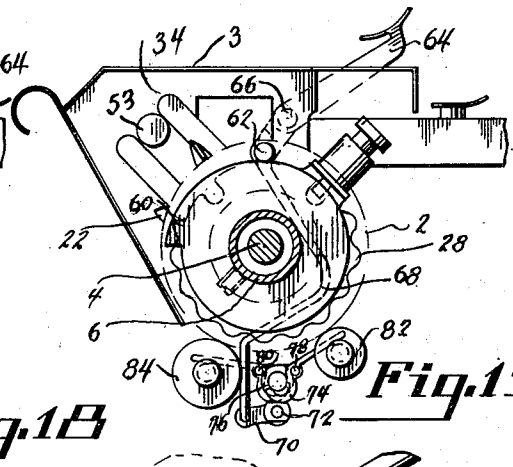


Fig. 19

Fig. 16

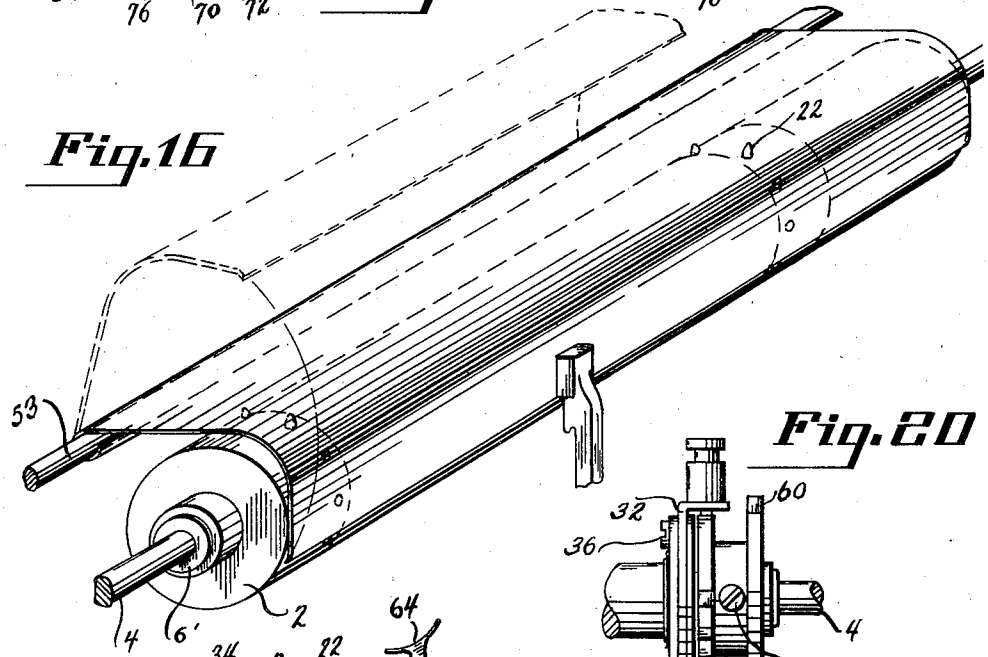


Fig. 20

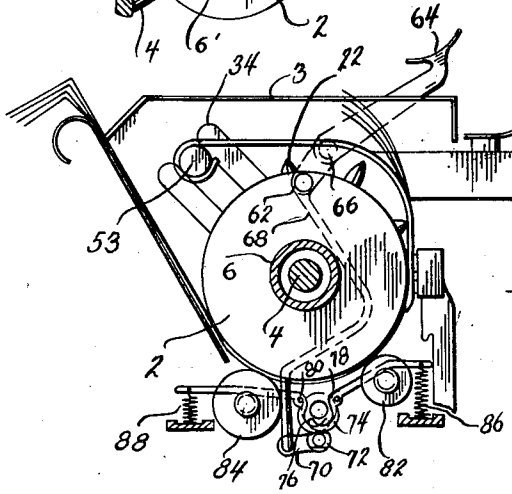


Fig. 17

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Patented Aug. 27, 1935 2,012,289

UNITED STATES PATENT OFFICE

2,012,289

PIN FEED PLATEN ROLL

John Q. Sherman and Albert W. Metzner, Dayton, Ohio; said Metzner assignor to said Sherman

Application February 27, 1932, Serial No. 595,510

40 Claims. (Cl. 197—133)

This invention relates to writing machine platens, and more particularly to a platen roll usable to alternately feed record material positively by pin type feeding devices, and to feed such material frictionally, past writing position.

In the present invention there is contemplated a platen roll having spaced series of retractable feeding pins projected radially beyond the periphery of the roll for engagement with marginally punched paper to be positively fed past writing position, and having means for retracting the pins and a cover for the feeding pin holes positioned thereover simultaneously with the retraction of the pins, to afford a smooth writing surface for the frictionally fed record material which may be of greater width than the marginally punched material employed with the feeding pins, and hence overlie the positions of the pin feed devices.

The object of the invention is to simplify the construction, as well as the means and mode of operation of writing machine platens whereby they will not only be cheap in construction, but will be more efficient in use, capable of application to a wider variety of record materials and for different purposes, easily controlled, and unlikely to get out of order.

A further and important object of the invention is to provide a platen roll suitable to be interchanged with the ordinary platen roll of conventional typewriting machines by which an ordinary commercial form of typewriter may be quickly and easily interchanged into a billing machine for manifolding multiple copies which are positively fed past writing position and hence maintained accurately in registering relation with each other.

A further object of the invention is to provide an improved platen roll which is usable to alternately positively feed and frictionally feed record material thereabout past the writing position.

A further object of the invention is to provide a pin type of feeding device which can be readily and quickly transformed to frictionally feed unpunched paper.

Another object of this invention is to provide a supplemental platen for use in connection with a platen in a writing machine having an interrupted writing surface so as to present a continuous writing surface to the writing material.

Another object of this invention is to provide a plurality of platens of dissimilar writing surfaces that may be used selectively so as to present a writing surface suitable for the particular writing material. This may be accomplished by providing one platen member of a resilient material and the other platen member of a firmer material so that for certain types of work where it is desirable to use a resilient platen the resilient platen may be used and for other work requiring a firmer platen, the other platen member may be used.

Another object of this invention is to provide a friction feed and a positive feed without interchanging platen rolls, and at the same time presenting a continuous writing surface to the writing material when the friction feed is used.

Another object of this invention is to shield irregularities in a pin type feed for the writing material when the pin type feed is moved into inoperative position and the friction feed is used. This has been accomplished by providing a shield having an operative and inoperative position, the shield when mounted in operative position covering the apertures provided for the passage of the feeding pins through the surface of the platen, and when in inoperative position being removed from the writing position.

Another object of this invention is to optionally positively feed the writing material or frictionally feed the writing material, and to automatically present a continuous writing surface to the writing material when this material is frictionally fed.

Another object of this invention is to move the positive feed into inoperative position and to present a continuous writing surface to the writing material.

A further object of the invention is to provide a pin type feeding apparatus adapted for feeding marginally punched record material which may be quickly and easily transformed to feed unpunched material of equal or unequal width.

A further object of the invention is to provide simple and easily adjustable means for affording a smooth writing area over the position of pin type feeding devices when the latter are retracted.

A further object of the invention is to provide a pin type feeding device having retractable pins, and a cover element automatically positioned over the feed pin holes upon retraction of the pins.

With the above primary and other incidental objects in view, as will more fully appear in the specification, the invention consists of the features of construction, the parts and combinations thereof, and the mode of operation, or their equivalents, as hereinafter described and set forth in the claims.

Referring to the accompanying drawings, wherein is shown the preferred, but obviously not necessarily, the only forms of the embodiment of the invention, Fig. 1 is a perspective view of a typewriter platen roll in which the present invention has been embodied. Fig. 2 is a side elevation of the roll, viewed from the rear of Fig. 1. Fig. 3 is a longitudinal sectional view. Figs. 4 and 5 are transverse sectional views showing the feeding pins and the adjustable mask or cover in different positions of adjustment. Fig. 6 is a detail perspective view of the cover or mask removed from the roll. Fig. 6a is a detail view of the pin wheel feed latch. Fig. 7 is a perspective view of a conventional form of typewriting machine including a platen roll embodying the present invention. Fig. 8 is a perspective view illustrating a modified form of the cover or mask for the pin feed devices. Fig. 9 is a detail perspective view of the cover or mask element shown in Fig. 8 removed from the cylinder. Fig. 10 is a perspective view of a platen roll embodying a further modification. Fig. 11 is a perspective view of the guard or cover means and the support and adjusting means therefor illustrated in Fig. 10 from which the platen roll has been detached. Fig. 12 is a detail perspective view of the adjusting means shown in Figs. 10 and 11. Figs. 13 and 14 illustrate a further modification showing the guard or cover device in alternative positions of adjustment, Fig. 13 showing the guard or cover element retracted to permit positive feeding of the record material by the pin type feeding devices, while Fig. 14 shows the guard or cover element adjusted for frictionally fed record material. Fig. 15 is an end elevation of the device illustrated in Figs. 13 and 14. Fig. 16 discloses a shield similar to the one disclosed in Fig. 14. Figs. 17 to 20 inclusive disclose the friction feed mechanism and the friction feed release.

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

For many commercial transactions, multiple copies of records are required. For manifolding any considerable number of copies, it is quite essential that the record material be positively fed past the writing position whereby the superposed forms may be maintained in accurate registry. A quite usual and successful method of positively feeding manifold copies is by pin wheel feed devices which successively engage marginally punched holes in superposed strips of record material to advance such strips in unison past the writing position. As heretofore employed such manifold marginally punched record material is fed through a writing machine especially adapted thereto, generally referred to as a "billing machine" which, because of the presence of the feeding pins, is not adaptable for frictionally feeding other forms of stationary. One of the primary purposes of the present invention is to enable the ordinary conventional type of typewriter to be transformed at will into a "billing machine" with pin type feeding devices for positively feeding marginally punched manifolding strips, and when not in use for such purpose enable the machine to be used in the ordinary manner for frictionally feeding conventional unpunched stationary used in letter writing and the like. To this end writing machine platens embodying the present invention are made interchangeable with the standard platen rolls of the popular forms of typewriters now available upon the market.

Referring to the accompanying drawings, 1 indicates an ordinary conventional form of typewriter of which 2 is the platen roll revolubly mounted in the reciprocatory carriage 3 in the usual manner, and is actuated by any suitable line spacing mechanism, and carries at each end thereof the usual knob 5 by which the platen roll may be manually rotated. The platen roll 2 is supported upon a shaft 4 revolubly mounted in suitable bearings in the typewriter carriage 3 from which the original friction feed platen roll has been removed.

The platen roll may be rubber covered, as is usual in typewriter constructions, but for manifolding purposes, for which the present feeding mechanism is especially adapted, such cylinder may, if desired, be of metal to afford a harder abutment surface for the impingement of the typewriter type.

For illustrative purposes, but with no intent to unduly limit the application or scope of the invention, there has been illustrated a platen roll adapted for positively feeding comparatively narrow marginally punched manifolding material and for frictionally feeding wider unpunched stationery. To this end one set of feeding pins is located contiguous to the end of the roll or cylinder while the second set of feeding pins is disposed in midlength position. Obviously the relative spacing of the feeding pins longitudinally of the platen roll or cylinder may differ on different cylinders according to the requirement and conditions of use.

The detail construction of the platen roll or cylinder is best illustrated in Figs. 3 and 4. Surrounding the axial shaft 4 is a tubular sleeve 6 having bearing bushings 6' at each end and mounted upon the shaft 4 for limited to and fro rocking motion relative thereto. Loosely journaled upon the tubular sleeve 6 are two feeding pin carrying heads 7 and 8. These heads 7 and 8 are reversely disposed in spaced relation and are peripherally rabbeted at 9 to receive a metallic cylinder 10 surrounded by a rubber cylinder 11 or covered by other suitable surfacing material. The heads 7 and 8 are tightly pressed within the opposite end of the cylinders 10 and 11 to form an integral unit. Secured to the head 7, preferably by being pressed tightly therein is a disc like head 12 having a hub portion 13 fixedly secured to the axial shaft 4. This head 12 and hub 13 afford the driving connection between the shaft 4 and the roll. The companion feeding pin carrying head 8 also receives a head 14, pressed therein at one side, and at the opposite side such head 14 has like engagement within a shorter section 15 of the metallic cylinder and the surrounding cylinder 16 of rubber or other surfacing material. These cylinder portions 15 and 16 receive at their terminal a head 17 fixedly secured therein by being firmly pressed into the end of the cylinder, which head 17 is revoluble upon the tubular sleeve 6. The several heads 7, 8 and 17 thus revolubly support the roll or cylinder upon the tubular sleeve 6 for rotary motion thereabout under influence of the axial shaft 4 which has driving connection with the cylinder or roll through the hub 13 and disc 12 at one end thereof. The head or collar 14 is merely a coupling device for fixedly interconnecting the sectional portions 15 and 16 of the cylinder or roll with the intermediate pin carrying head 8.

Each of the heads 7 and 8 is provided with a series of radially disposed grooves 38 communi-

cating with holes 21 in the periphery of such head. Within the grooves 39 and holes 21 are mounted reciprocatory feeding pins 22 which are adapted, during the rotation of the platen, to be automatically reciprocated within such grooves whereby in one position of the platen the pins will be projected through the holes 21 beyond the periphery of the head, while in another position such feeding pins will be retracted wholly within the head. For the purpose of reciprocating such feeding pins 22, box cams 23 are provided interiorly of the heads 7 and 8. These cams 23 are mounted upon hubs or collars 24 fixedly secured to the tubular sleeve 6, preferably by pinning as at 25. The marginal laterally extending flanges of the box cams 23 engage within notches 26 laterally disposed in the feeding pins 22. The box cams 23 are eccentric relative to the roll or cylinder. As the cylinder or roll is rotated about the cams 23 which are stationarily held by the tubular sleeve 6, the notched pins following the eccentric path of such cams receive to and fro motion causing the pins to be progressively projected and retracted. The point in the rotation of the cylinder at which the pins will be projected beyond the periphery of the roll or cylinder, is dependent upon the relative position of the cams 23. In one position of such cams, the pins will be projected in proximate relation with the writing line or writing position and hence will have operative engagement with the marginally punched record material. By rotatively adjusting the cams 23 through rocking motion of the tubular sleeve 6, the cams 23 are positioned to retract the feeding pins 22 adjacent to the writing position and to project such pins beyond the writing position where they will be inoperative to engage the punched material. Fig. 4 shows the pins advanced in the operative position, that is, in proximity to the writing line while Fig. 5 shows the pins advanced in an inoperative position due to a reversal of position of the guiding cams 23.

For the purpose of adjusting the cams 23, which as before stated are fixedly secured to the rocked sleeve 6, this sleeve is provided at one end with a knurled or crenate adjusting head 28 having a hub 29 fixedly secured to the rock sleeve 6 by the set screw 30. The adjusting head 28 is provided with spaced notches, in either of which is engageable a spring pressed detent plunger 31 carried upon a disc like head 32 loosely journaled upon the shaft 4. Closely adjacent to the disc 32 is a second disc 33 having a bifurcated arm 34 engageable with any suitable cross rod or tie member 35 found upon the conventional writing machine. The straddling engagement of the bifurcated arm 34 with the writing machine carriage frame or rod 35 prevents rotation of the disc 33 relative to the shaft 4 and holds such disc stationary. The detent carrying disc 32 is in turn fixedly secured to such stationarily held disc 33 by means of a connection screw 36. The disc 33 is provided with a series of holes 37 through any of which the screw 36 may be introduced into engagement with the detent carrying disc 32 thereby changing the relative position of the bifurcated arm 34 to accommodate the device to different writing machine constructions. By withdrawing the detent 31 from one notch in the head 28 and then rotating the head 28 to thereby rock the tubular sleeve 6 and with it the box cams 23, such cams are adjusted rotatively to change the position at which the feeding pins 22 are projected beyond the periphery of the roll. The detent may then be engaged in the other of the notches in such head 28.

The head 8, disposed at midlength of the platen roll or cylinder, is peripherally grooved as at 39 within which groove the feeding pins 22 are projected by their travel about the eccentric cams 23. Secured to the rocked sleeve 6 at the end of the cylinder is a disc 40 engaged with the sleeve 6 by the set screw 41 to which disc is connected a segmental plate 42 extending in overlapping relation with the section 16 of the roll or cylinder, and having at its extremity a curved finger 43 forming a cover or mask for the feed pin holes 21. The finger 43 is disposed within the peripheral groove with its outer surface flush with that of the cylinder or roll. The disc 40 and with it the segmental plate and cover or mask finger 43, are given a to and fro rocking motion in unison with the rocking adjustment of the tubular sleeve 6 necessary to adjust the feeding pins. When the rock sleeve 6 and with it the cams 23 are adjusted to position to retract the feeding pins from the writing position, the cover finger or mask 43 is automatically advanced into such writing position to cover the holes from which the pins have been withdrawn and to fill the peripheral groove thereby presenting a flush cylindrical surface. Upon reverse adjustment of the rocking sleeve 6 to return the feeding pins to operative engagement with the punched record, the adjustment of the parts effect automatic retraction of the cover finger or mask 43 uncovering the feed pin holes 21 contiguous to the writing position through which the pins 22 are projected by the cams 23. The segmental plate 42 occupies at all times a position over an inoperative part of the cylinder or roll where it does not interfere with the travel of the paper or other record material about the cylinder.

The pin adjusting mechanism, hereinbefore described, does not, per se, form any part of the present invention except in association with other parts and mechanisms, but has been described and claimed in copending application Serial No. 542,855, filed June 8, 1931, now Patent No. 2,000,649, May 7, 1935.

While the construction heretofore described and illustrated in Figs. 1 to 6 inclusive is the preferable and commercial embodiment of the invention, it is obvious that it may be otherwise applied to typewriting machines. In Figs. 7 and 8, the platen roll 2 is shown formed with a peripheral groove 39 within which the feed pins 22 are projected beyond the periphery of the roll into engagement with the marginally punched record material. In lieu of the guard or mask adjustably mounted upon the roll and automatically shifted into and out of operative position by the adjustment of the feeding pins, there is shown in Figs. 7 and 8, and in detail in Fig. 9, an arcuate guard finger or mask 44 which may be either permanently or detachably mounted upon the frame rod 35 of the typewriter carriage. This curved guard 44 is adapted to be positioned in the peripheral groove 39 when the feeding pins are retracted, and is of sufficient length to extend past the writing position thereby affording a smooth flush surface over which unpunched stationery may be frictionally fed and across which the writing operation may be extended. In Figs. 7 and 8 there is shown a keeper for retaining the marginally punched paper loosely in engagement with the feeding pins comprising an arm 45 pivoted upon the carriage frame rod 35 and having

a slotted arcuate head 46 which overlies the feeding pins, as shown at the left in Fig. 7. This slotted head serves to loosely retain the marginally punched material in engagement with the feeding pins which register with the slot therein thereby preventing any accidental disengagement or escape of the material.

As a further modification, there is shown in Fig. 10, a platen roll having multiple peripheral grooves in which the respective sets of feeding pins are operative. Journalled upon the axial shaft 4 of the roll 2 at each end of the latter, is a concentric segmental shell or housing 46 carrying integral arcuate fingers 47 positioned within the peripheral grooves 45 of the platen roll and movable circumferentially therein by the oscillation of the shell or housing, into and out of overlying relation with the feed pin holes contiguous to the writing position. The integral arcuate fingers 47 form covers or masks for the feed pin holes and lie within the peripheral grooves flush with the cylindrical surface of the platen roll forming a smooth writing surface over which the writing operation may be extended when employing ordinary unpunched stationery. To adjust the guard or mask fingers 47 into and out of writing position, the supporting segmental shell or housing 46 carries at one end a sector 48 having a finger lever 49 by which the shell or housing may be oscillated about the shaft 4 and independently of the platen roller. The sector 48 has therein a concentric slot 49a having at each end a notch 50, within which a detent latch 51 is engageable to lock the sector and thereby the guard or mask fingers 47 in adjusted positions. In Figs. 10 and 11 these parts are shown locked in their advanced or operative positions, while in Fig. 12 the latch is engaged in the notch at the opposite end of the slot thereby locking the parts in retracted position.

A further and simplified guard means for transforming the platen roll from a positive feed device to a frictional feed device is shown in Figs. 13 to 16 inclusive. In this simplified form of embodiment of the invention, the platen roller or cylinder 2 is not provided with the peripheral groove or grooves as heretofore described, but is provided with reciprocatory feeding pins 22 progressively advanced and retracted as the platen is rotated. In this construction it is not essential that means be provided for changing the position in which the pins are projected from operative to inoperative relation, but the feed pins 22 may be progressively projected beyond the periphery as they leave the writing position and later retracted. Mounted upon a suitable supporting rod 53, forming a part of the traveling platen carriage, is a curved guard plate 54 of such extent as to project beyond the feeding pins 22 and so curved as to clear such pins. The relative extent and shape of the guard plate is best shown in Fig. 15. When the feeding pins 22 are not to be employed for positively advancing the manifolding material, the guard plate 54 is turned downward to the position shown in Fig. 15, in which it deflects the manifolding material away from the platen roll and overlies the feeding pins thus preventing the engagement of the manifolding material therewith. The guard plate is preferably of sufficient extent to project slightly beyond the writing position, as shown in Figs. 14 and 16, and form the abutment or platen against which the type bars impinge. This affords a smooth writing surface over the area perforated for projection of the feeding pins. However, it may terminate slightly short of the writing position, as shown in Fig. 15, in which case it protects the manifolding material from being marred or marked by coming in contact with the feeding pins.

When the feeding pins are to be employed the guard plate is turned upward and backward, as shown in Fig. 13, out of the path of the manifolding material, thus exposing the feeding pins for engagement therewith.

The shield or guard plate 54 disclosed in Figs. 14 and 16 is in reality a supplemental platen that may be inserted intermediate the writing material and the rotary platen. If, for example, the rotary platen is made of a resilient material such as rubber, the supplemental platen may be made of a firmer material such as sheet metal so as to present a harder surface to the writing material. This is very desirable where one type of material demands a different writing surface than another type of material. This supplemental platen is not limited to the use in a machine having a pin wheel feed, as it may be used in any other writing machine, such as, for example, a noiseless typewriter having a comparatively soft resilient roll platen, when certain types of work demand a platen furnishing a firmer writing surface. Likewise, if the roll platen is made from metal such as aluminum, it may be desirable at times to use a supplemental platen having a resilient surface. If so, the supplemental platen could be made from a suitable resilient material and may be disposed intermediate the writing material and the metallic platen so as to present the desired writing surface to the writing material.

As may best be seen in Figs. 17 to 20, a cam 60 integral with the disc 32 releases the paper friction feed mechanism when the pin wheel cam 23 is moved so as to cause the pin wheel feed mechanism to be operative. The cam 60 engages a roll 62 carried by the paper release lever 64 so as to release the paper feed mechanism when the pins are in operative position. The paper release mechanism includes the lever 64 pivoted at 66 and actuates an arm 68 pivoted to member 70 keyed to a cam 72 that engages the pivotally mounted arms 74 and 76 pivoted at 78 and 80 so as to throw feed rolls 82 and 84 out of operative position when pressing down on lever 64, or raising the cam 62 as viewed in Figs. 18 and 19. When the cam 60 is in the position disclosed in Fig. 18, the friction feed rolls 82 and 84 are out of engagement with the rotary platen 2, and when the cam 60 is in the position disclosed in Fig. 19, the friction feed rolls 82 and 84 are in operative position and in engagement with the platen roll 2 unless the friction release 64 is manually operated by the operator. The springs 86 and 88 disposed between the friction feed rolls 82 and 84 and suitable seats carried by the carriage urge the feed rolls against the platen 2.

From the foregoing descriptions, it may readily be seen that as the pin wheel feed is actuated from inoperative position to operative position, the friction feed mechanism is automatically released, and vice versa. The actuating mechanism described is merely illustrative of the principle, as any other suitable mechanism for automatically releasing the friction feed when the pin wheel feed is used, and vice versa, may be substituted within the purview of this invention.

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 and/or modifications within the legitimate and valid scope of the appended claims.

Having thus described our invention, we claim:

1. In a writing machine, the combination of a platen having optionally a positive and a friction feed for feeding the writing material with a shield intermediate the writing material and the platen when frictionally feeding the writing material.

2. In a writing machine, the combination of a friction feed for feeding the writing material, said friction feed including a platen with means for positively feeding the writing material, said means having an operative and inoperative position, and a shield located intermediate the writing material and the platen when said means is inoperative.

3. In a writing machine, the combination of a mechanism for frictionally feeding writing material, said mechanism including a platen with positive feeding means having an operative and inoperative position, said feeding means when in operative position replacing the friction feeding means in feeding the writing material, and a shield interposed between the writing material and the platen when said feeding means is in the inoperative position.

4. In a writing machine, the combination of a platen having apertures therein interrupting the writing surface, pin feeding means associated with the platen to feed the writing material with a shield having an operative and inoperative position, said shield when in the operative position being interposed intermediate said writing material and said platen so as to present a smooth writing surface at which time the pin feeding means is inoperative.

5. In a writing machine, the combination of a rotary platen having an annular recess, a shield located in said recess, said shield having an operative and inoperative position, the shield when in operative position filling said recess at the writing position as the platen rotates so as to present a smooth writing surface under the writing material.

6. In a writing machine, the combination of a rotary platen having an annular offset therein, a shield projecting into said offset and movable into and out of operative position continuous to the writing position upon the platen, said shield when in operative position filling said offset at the writing position as the platen rotates whereby a smooth writing surface is presented to the writing material, and means for locking said shield in operative position.

7. In a writing machine, the combination of a rotary platen having an annular offset therein, a shield projecting into said offset and movable into and out of operative position contiguous to the writing position upon the platen, said shield when in operative position filling said offset at the writing position as the platen rotates whereby a smooth writing surface is presented to the writing material, and means for locking said shield in inoperative position.

8. In a writing machine, the combination of a rotary platen having an annular recess with a shield located in said recess, said shield having an operative and inoperative position, said shield when in operative position filling said recess at the writing position as the platen rotates whereby a smooth writing surface is presented to the writing material, and means for moving said shield from operative to inoperative position, and for locking said shield in either position.

9. In a writing machine, the combination of a rotary platen having an annular recess with a shield located in said recess, said shield having an operative and inoperative position, said shield when in operative position filling said recess at the writing position as the platen rotates whereby a smooth writing surface is presented to the writing material, and means for moving said shield into either position and locking said shield.

10. In a writing machine, the combination of a pin wheel feed, said pin wheel feed including pins eccentrically mounted with respect to the platen so that for a portion of a revolution the pins extend beyond the surface of the feeding platen to engage the writing material, and means for moving said pins to an inoperative position with a shield interposed intermediate the writing material and the pins when said pins are in the inoperative position so as to present a smooth writing surface to the writing material.

11. In a writing machine, a rotary platen having an interrupted writing surface, positive feeding means cooperating with the interrupted platen to feed writing material, a second platen having an operative and inoperative position, said second platen presenting a continuous writing surface to the writing material when in operative position at which time the pin feeding means is inoperative.

12. In a writing machine, a pair of platens, one of said platens having an interrupted writing surface, positive feeding means cooperating with the interrupted platen to feed writing material, and the other a continuous writing surface, one of said platens having an operative and inoperative position, said one platen being interposed intermediate the writing material and the other platen when in operative position at which time the pin feeding means is inoperative.

13. In a writing machine, writing material feeding mechanism including a rotary platen having a pin wheel feed interrupting its writing surface, and means for making the pin wheel feed ineffective and for covering the apertures so as to present a continuous writing surface to the writing material.

14. In a writing machine, a writing material friction feeding mechanism with a pin wheel feed mechanism synchronously operated with a platen, said pin wheel feed interrupting the writing surface of said platen, mechanism for making said pin wheel feed ineffective, and a shield for covering the apertures vacated by the pins in said pin wheel feed so as to present a continuous writing surface to the writing material.

15. In a writing machine having a writing mechanism, a friction feeding mechanism for supplying the writing material to the writing

mechanism, said friction feeding mechanism including a platen with a second feed for positively supplying the writing material, said second feed interrupting the writing surface of the platen; a mechanism for selecting one of said feeding mechanisms, said mechanism including a shield covering at least a portion of said platen when the writing material is frictionally fed so as to present a continuous writing surface to the writing material.

16. In a writing machine, a friction feeding mechanism including a platen having an interrupted surface, and positive feed having an operative and inoperative position, with means for making the surface of said platen continuous when the positive feeding mechanism is in inoperative position.

17. In a writing machine, a friction mechanism for feeding writing material, said friction feed including a platen, a pin wheel for positively supplying the writing material, said pin wheel feed including apertures for receiving the pins, means for moving the pin wheel feed into operative position and the friction feed into inoperative position, and a shield covering the apertures of said pin wheel feed when the positive feed is in inoperative position.

18. In a writing machine having a platen, a friction feed having an operative and inoperative position relative to the platen, a pin wheel feed having an operative and an inoperative position, said pin wheel feed being so related to the platen as to interrupt the full writing surface, a mechanism for moving one of said feeds into operative position and at the same time moving the other feed out of operative position, and an adjustable member providing means to lengthen the writing surface presented to the writing material when the pin wheel feed is out of operative position.

19. In a writing machine, a platen, a friction feed, means for releasing said friction feed, a pin wheel feed having an operative and an inoperative position, said means for releasing said friction feed moving said pin wheel feed into operative position when releasing the friction feed, and a shield disposed intermediate the writing material and the platen.

20. In a writing machine having a platen, a friction feed having operative and inoperative position relative to the platen, a pin wheel feed, adjustable to operative and inoperative condition, said platen having an interrupted writing surface, mechanism for moving the pin wheel feed from operative to inoperative position and for causing the friction feed to operatively engage the writing material, and an adjustable member providing means continuing the writing surface presented to the writing material past the interruption of the platen when the positive feed is out of operative position.

21. In a writing machine, a friction feeding mechanism, a release for said friction feeding mechanism, a positive feed having an operative and an inoperative position, mechanism for releasing said friction feeding mechanism and for moving the positive feed from inoperative to operative position, one of said feeds including a platen and a shield that is selectively interposed intermediate the writing material and said platen.

22. In a writing machine, a friction feeding mechanism, a release for the friction feeding mechanism, a pin wheel feed, one of said feeds including a platen, a shield interposed intermediate the platen and the writing material when the friction feed is operative and a mechanism for simultaneously releasing the friction feed and for moving the pin wheel feed into operative position.

23. In a writing machine, a friction feeding mechanism, a release for said friction feeding mechanism, a pin wheel feeding mechanism having an operative and an inoperative position, a shield mounted intermediate the writing material and the platen when the pin wheel feed is in inoperative position and mechanism for simultaneously releasing the friction feeding mechanism, moving the pin wheel feed mechanism into operative position and interposing the shield intermediate the writing material and the platen.

24. In a writing machine, a friction feeding mechanism, said feeding mechanism including a platen, a pin wheel feeding mechanism, a channel in said platen having apertures for receiving said pin wheel mechanism, a curved mask located in said channel, means for moving said mask into writing position when the pin wheel feed is actuated out of operative position so as to present a continuous writing surface to the writing material.

25. In a writing machine, a platen, said platen having an annular channel, a pin wheel feed having an operative and an inoperative position, the pins of said pin wheel feed extending through apertures located in said channel, and a mask situated in said channel moving into writing position when the pin wheel feed is moved out of operative position so as to present a continuous writing surface to the writing material.

26. In a writing machine having a platen, a shield for said platen, a pin wheel feed mechanism having an operative and an inoperative position, and means for moving the shield intermediate the writing material and the platen and for actuating the pin wheel feed out of operative position.

27. In a writing machine, a platen, a pin wheel feeding mechanism having an operative and inoperative position, and a shield disposed intermediate the writing material and the pin wheel feed when the pin wheel feed is out of operative position.

28. In a writing machine, a friction feeding means having an operative and inoperative position, a pin wheel feeding means having an operative and inoperative position, said pin wheel feeding means including an interrupted writing surface, a mechanism for moving one of said feeding means into operative position, a second mechanism for moving the other feeding means out of operative position, and a shield actuated by one of said mechanisms for presenting a continuous surface to the writing material when the pin wheel feeding means is out of operative position.

29. In a writing machine, the combination of a writing material feeding mechanism including a rotary platen having a pin wheel feeding mechanism interrupting the writing surface, with a curved shield overhanging said platen for covering the apertures of the pin wheel feed so as to present a continuous surface to the writing material.

30. In a writing machine, the combination of a pin wheel feed mechanism including a head having apertures for the pins, said mechanism being synchronously operated with a platen, with an overhanging shield for covering the apertures vacated by the pins in said pin wheel feed so

as to present a continuous writing surface to the writing material at which time the pin wheel feed mechanism is inoperative.

31. Writing machine platen having therein a series of openings, retractable writing material feeding pins mounted in said openings, means to retract and extend said pins, and a shield adjustable in unison with the pins for covering the openings adjacent to the writing position when the pins are retracted.

32. A writing machine platen including writing material feeding pins adjustable to operative and inoperative positions and a shield member likewise adjustable into operative and inoperative positions and adjusting means common to the pins and shield for presenting the pins and the shield alternately in operative position.

33. A writing machine platen including retractable writing material feeding pins occupying a portion of the platen surface and an adjustable shield overlying the position of the pins when the latter are retracted for presenting a smooth writing surface coincident with the surface otherwise occupied by certain of said pins, and adjusting means common to the pins and the shield for alternating the pins and shield into and out of operative and inoperative positions.

34. A writing machine platen including a retratable writing material feeding pins adjusting means for retracting the pins and a shield adjustable into position to afford a smooth writing surface coincident with that previously occupied by the pins.

35. A writing machine platen including a plurality of writing material feeding pins and an adjustable shield movable into and out of position overlying the pins to present a substantially smooth writing surface over which the material is movable independently of the pins.

36. A writing machine platen adapted for alternate positive and friction feeding of writing material including a plurality of writing material feeding pins for positively feeding the writing material relative to the platen, and a shield adapted to be interposed between the pins and writing material over which the material is frictionally fed independently of the feeding pins.

37. A writing machine platen including a series of retractible feeding pins, means for effecting the extension of the retractible pins at different relatively spaced points and a shield overlying one position of projection of the pins when such pins are being projected at a different point.

38. A writing machine platen including a series of retractible feeding pins, a shield for overlying the position at which such pins are projected, and control means for alternating the position of the shield and that at which the retractible pins are projected.

39. A writing machine platen including a series of retractible feeding pins projectable into operative position substantially at the writing line of the machine, a shield movable into and out of like position at the writing line, and control means for alternating the feeding pins and the shield at the writing line.

40. A writing machine platen including a series of retractible feeding pins extendible in offset relation with the writing line of the platen, and a shield operable in the writing lines thereof to afford a continuous writing surface past the position of the pins.

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CERTIFICATE OF CORRECTION.

Patent No. 2,012,289. August 27, 1935.

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It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 5, first column, line 66, claim 6, for "continuous" read contiguous; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 24th day of September, A. D. 1935.

(Seal) Leslie Frazer
Acting Commissioner of Patents.