Feb. 14, 1933. O. THIEME 1,897,284

TYPEWRITING MACHINE

Filed Sept. 8, 1928 2 Sheets-Sheet 1

FIG. 1.

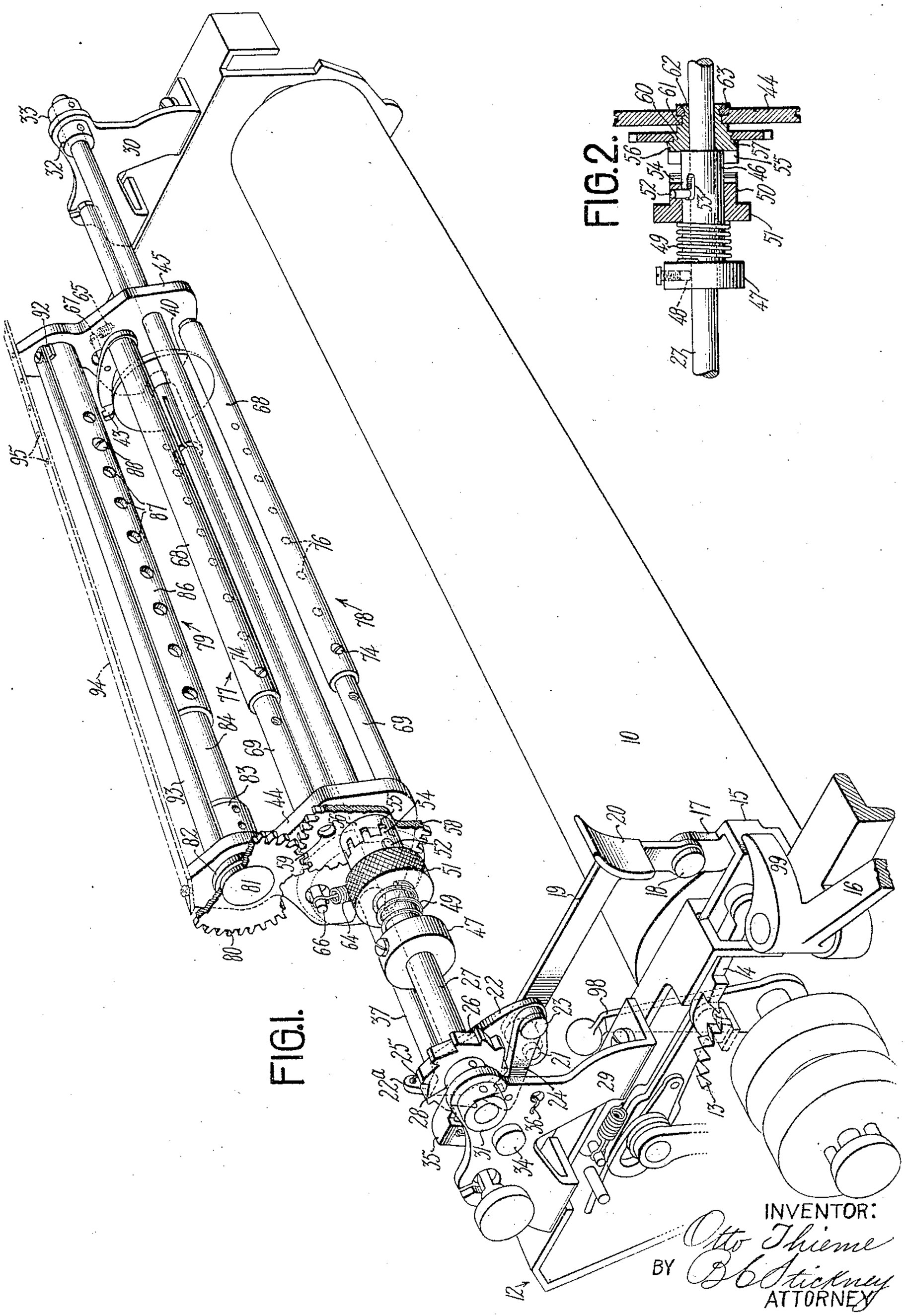
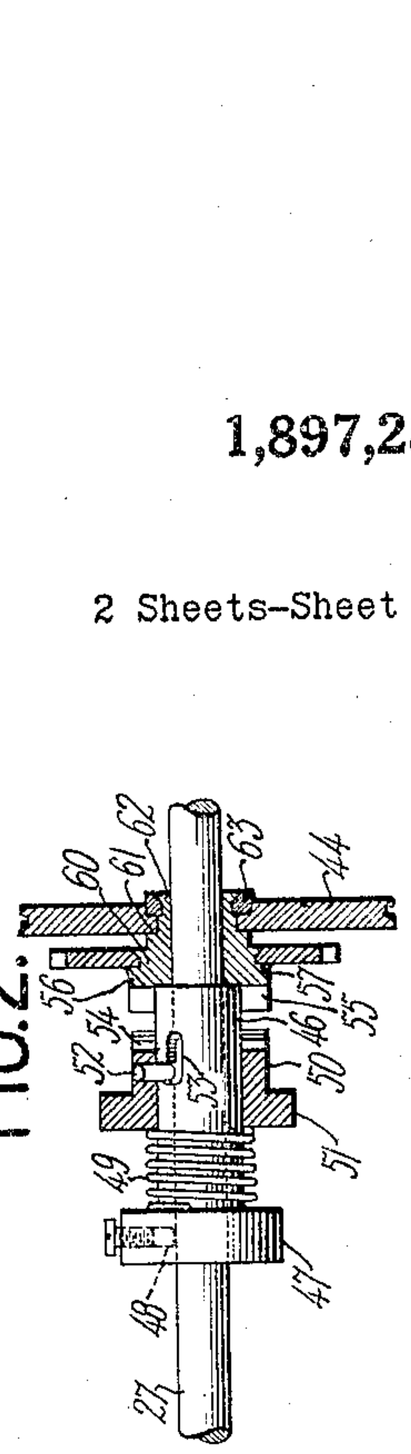


FIG. 2.



INVENTOR:
Otto Thieme
BY B6 Stickney
ATTORNEY

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FIG.5.

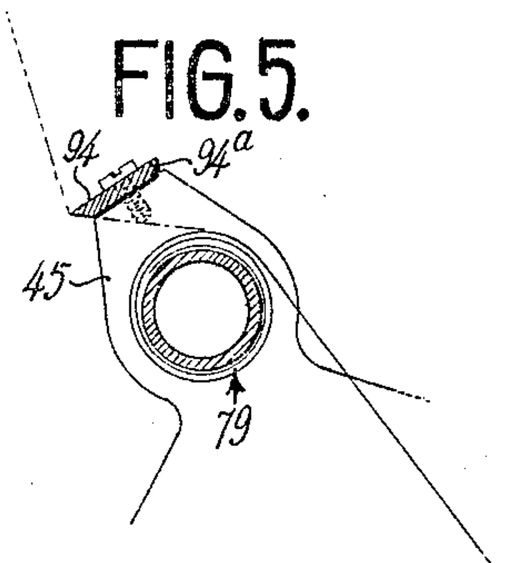


FIG.3.

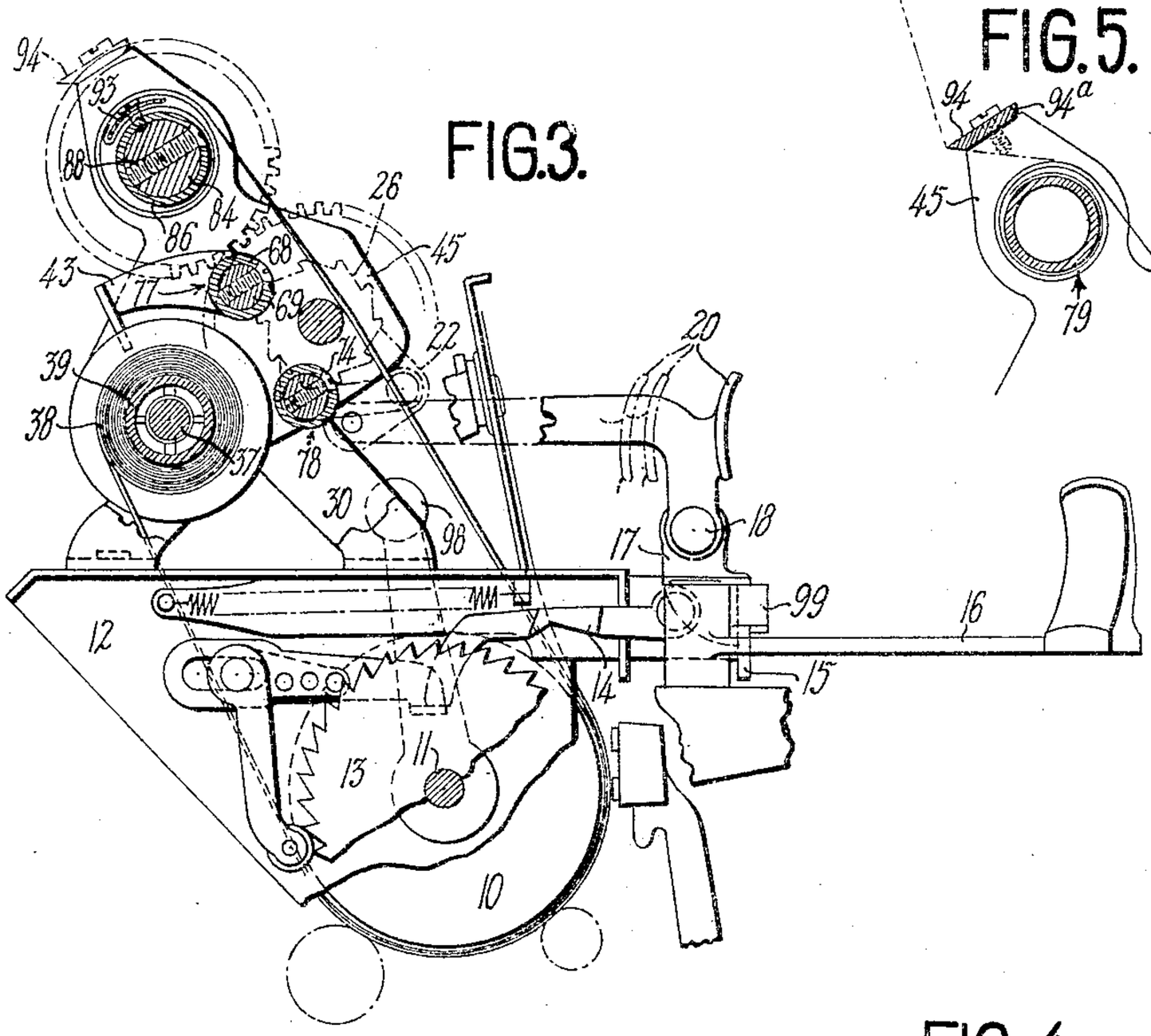


FIG.4.

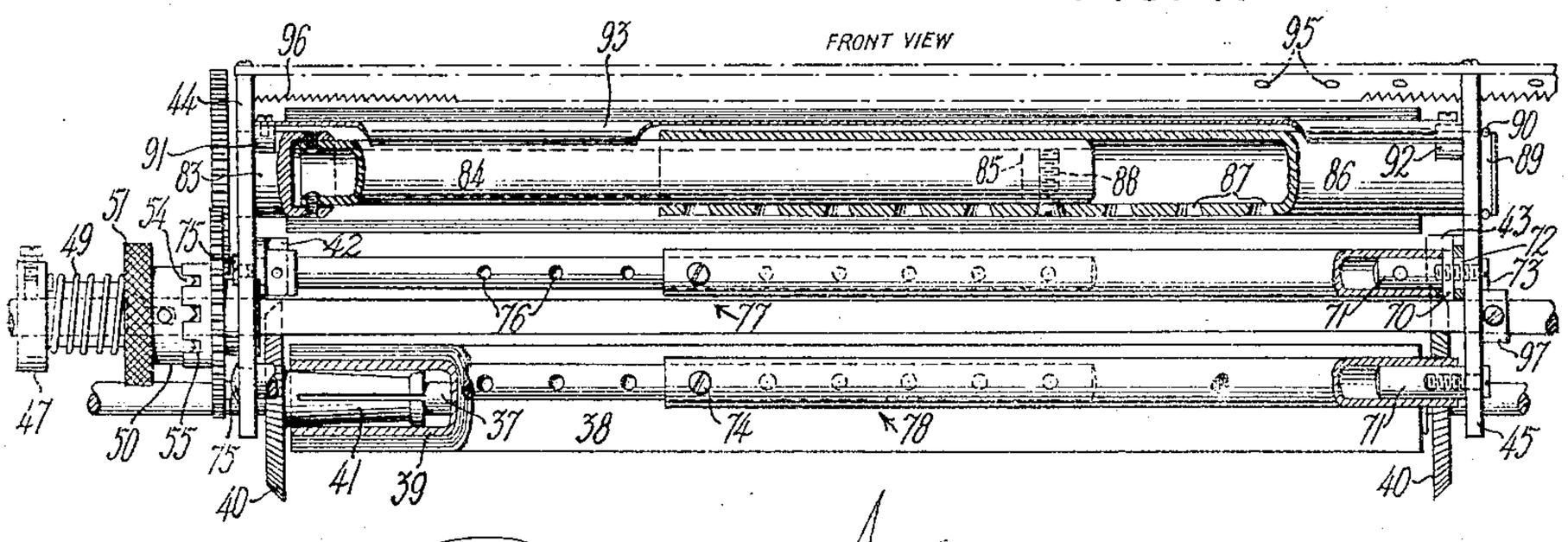


FIG.6.

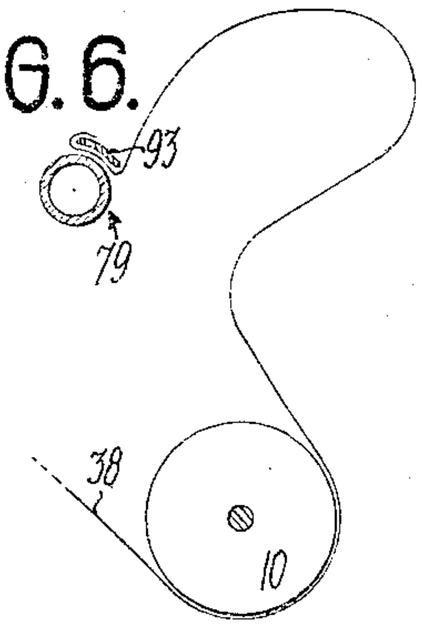
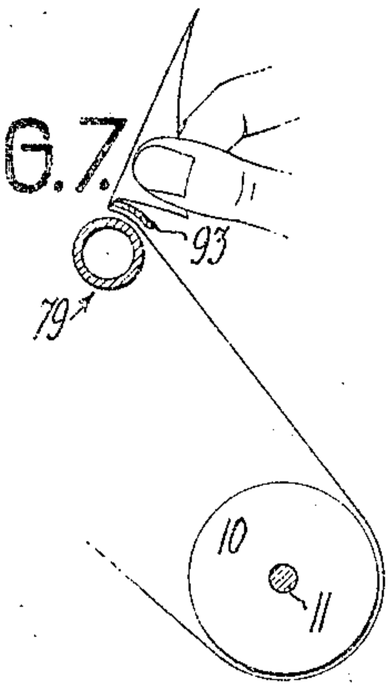


FIG.7.



INVENTOR:
Otto Thieme
BY B. C. Stickney
ATTORNEY

Patented Feb. 14, 1933 1,897,284

UNITED STATES PATENT OFFICE

OTTO THIEME, OF HARTFORD, CONNECTICUT, ASSIGNOR TO UNDERWOOD ELLIOTT FISHER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF DELAWARE

TYPEWRITING MACHINE

Application filed September 8, 1928. Serial No. 304,653.

This invention relates to a tally-strip supporting and feeding mechanism for use with typewriting machines.

It has been customary to manufacture in quantity and keep in stock eighteen different sizes of tally-roll attachments, because there are in general use this number of different widths of tally-strips. This has entailed a considerable tying up of capital, and some sizes of attachments would not be often called for. Other sizes have been over sold. Profits were meagre, and there was delay in filling orders, and sales were lost. A local agency cannot afford to carry a full line. It has also happened that the wrong size of attachment has been forwarded to a distant agency.

A feature of the invention is to provide an improved tally-roll attachment embodying means whereby as few as three standard sizes of attachments can be adjusted to accommodate as many as eighteen or more different widths of tally-strip.

Thus the aforementioned difficulties are overcome, and other advantages are gained. It is a feature of importance to employ the telescopic principle for the bars which connect the end plates of the tally-roll attachment. Two of these bars are tie-bars for spacing the end plates. The end plates are slidably combined with two shafts. One of these shafts revolves the tally-strip arbor by means of gears, while the other carries a tally-strip supply-roll which normally abuts each end plate. The range of spacing of the end plates is governed by the lengths of the telescopic bars. The bars have the same minimum length and the same limits of extension. Three sets may be manufactured, each set having a different minimum length and a different range of extension. Thus eighteen former and differing widths of tally-roll attachments can be condensed to three standard sizes, all of which can be carried in stock by an agency at a small expense.

A narrow strip may extend along the tally-strip bar, and may be attached thereto at each end to revolve therewith. This strip may serve as a clip by which the tally-strip is attached to the arbor, if desired. Said clip also may serve as a cut-off knife for the tally-strip when so desired. For this purpose, the arbor and clip may be revolved, and then held steady while the tally is severed. In addition to said clip, a stationary cut-off knife may be provided above the arbor. This cut-off knife is non-extensible, and is furnished long enough to over-span the widest tally-strip. When used with narrower tally-strips, one end of the knife is arranged to overhang the adjacent end plate.

Heretofore, tally-strip winders have frequently been actuated by a driving gear which could be side-slipped out of mesh with a driven gear on the winder-shaft. When so disengaged, the winder can be interrupted, or be rotated in either direction by hand. This is a convenience when attaching the leading end of a tally-strip to the winder, or when unwinding said strip from the latter. Also, when a tally-strip is not being used, the drag of its winding mechanism is removed from the line-spacing operation of the platen. When using a side-slipping gear, however, it has been found that very often its controlling mechanism has ceased to keep it in mesh, and that a supposedly rotating winder has become inoperative and has spoiled a record on the tally-strip. To obviate such a disadvantage this invention features two actuating gears which are enmeshed in fixed relation with each other and with one of the end plates.

Another feature of this invention permits winding and line-spacing of the tally-strip through actuation of its ratchet and pawl, but without rotating the platen. This is accomplished through the rearward movement of a link which connects the respective actuating members of the platen and the tally-strip ratchets. Said link may be selectively operated by a finger-piece on a slide with which it connects.

Other features and advantages will hereinafter appear.

In the accompanying drawings,

Figure 1 is a fragmentary perspective view of an Underwood typewriting machine having applied thereto a tally-strip device embodying my invention.

Figure 2 is a detail view illustrating the construction of a clutch used in carrying out certain features of my invention.

Figure 3 is a fragmentary cross-sectional view, front to rear, of the structure shown in Figure 1.

Figure 4 is a front-elevational view, broken away in part, of the structure shown in Figure 3.

Figure 5 is a diagrammatic view illustrating how the tally-strip may be frictionally driven by the winding shaft (without the use of a clip), and also how a typed section may be severed on a cut-off knife after being unwound from the winding shaft.

Figure 6 is a diagrammatic view illustrating how a typed section of tally-strip is unwound from the winding shaft preparatory to severing it from the remainder of the tally-strip.

Figure 7 is a diagrammatic view illustrating how a typed section of a tally-strip may be severed on the edge of a strip which also serves to fasten the tally-strip to the winding shaft.

Referring to the drawings, 10 indicates a platen carried in a usual manner on a shaft 11 on a carriage 12. To rotate the platen, there is a line-space mechanism which includes a ratchet-wheel 13, attached to the shaft 11. The ratchet 13 may be rotated, as is common, by a pawl 14 carried by a slide 15 operable by a line-space lever 16. The slide 15 has an upwardly-bent arm 17. A stud 18 is riveted to the arm 17 and forms a fulcrum for one end of a link 19 which carries a finger-piece 20. The other end of link 19 is fulcrumed on a screw 21 which attaches it to a lug on one side of a rocker 22. On the reverse side of the rocker 22 and attached to the same by a fulcrum-stud 23, is a spacing pawl 24, having a pin near its tooth-end. The pin holds one end of a contractile spring 25. The other end of the spring 25 is attached to an arm 22^a of the rocker 22, and holds the spacing pawl 24 in engagement with the teeth of a ratchet-wheel 26. The rocker 22 has an axially-bored hub loosely mounted on a driving shaft 27. The rocker on one side is positioned on the shaft by a collar fastened by a set-screw. On the other side, the rocker 22 abuts the ratchet-wheel 26. The latter has a hub 28 which is secured by a pin to the driving shaft 27. Said shaft is rotatably supported at each end by brackets 29 and 30, which are attached by set-screws to the top of the carriage 12. The shaft at one end has a collar 31 secured to the shaft by a pin. The other end of the shaft is held against endwise motion by collars 32 and 33, which are attached to the shaft by set-screws or pins. The bracket 29 carries a bolt 34 which holds, and acts as a fulcrum for, a holding pawl 35. The latter engages the ratchet-wheel 26, and prevents back-lash. Attached by one end to the holding pawl 35, is a contractile spring 36 which has its other end attached to the bracket 29 and holds the pawl on the ratchet. The brackets 29 and 30 also support a shaft 37, which is easily removable and replaceable. This shaft primarily carries a tally-strip supply-roll 38, wound on a fiber-core 39, which at each end receives metal spool-heads 40 having split tubes 41 which expand and grip the inner surface of the core. The peripheries of the spool-heads 40 are knurled for the retardant engagement of spring-pressed brakes 42 and 43. The shaft 37 also acts as a bearing for floating end plates 44 and 45 of the tally-roll attachment.

Parts of the mechanism so far described may be substantially the same as disclosed in the patent to Hart 1,281,160, dated October 8, 1918. Conveniently operated means are provided in the present invention to disconnect the driving shaft from the tally-strip mechanism, and also for safeguarding a driving gear rotated by the shaft against slipping sideways out of operative engagement with a driven gear on the tally-strip winding spindle. The driving gear is equipped with a hub having a series of peripheral slots which can be engaged by registering teeth of a spring-pressed clutch-member. Said clutch, which is slidably mounted, can be held in disengagement by first forcing it back against its spring, and by then giving it a slight rotation. It so functions through a pin in its hub traversing a slot in its axle or sleeve, which slot makes a right-angle turn. This clutch can be very readily engaged or disengaged, and is a positive mechanism. As the clutch and spring are mounted on a sleeve, the whole may be integrally moved along the driving shaft, and may be attached thereto by a set-screw. It thus becomes possible to fixedly and readily position the clutch to operate at any point fixed by the adjustments required to accommodate the different widths of tally-strip. Through use of such clutch and fixed gears, the line spacing of the winder is made positive. There are no paper-feed rollers that permit slippage.

On the driving shaft 27, and contiguous to the end plate 44, is a slidably mounted clutch-sleeve 46, formed at one end into a flange 47 which is held by a set-screw. The end of this screw when set up presses on a saddle 48, which in turn acts to hold the clutch-sleeve securely to the shaft. On the clutch-sleeve is a compression-spring 49 which abuts the flange and a slidably mounted hub 50, having peripheral knurling on an annular flange 51. The latter can be grasped for forcing the hub against the spring, and also for partly rotating the hub. In the latter, and projecting inwardly from its wall, is a pin 52 which can travel in a slot 53 cut through the wall of the sleeve 46.

The slot 53 forms a right angle, so that the

hub when pushed back can be rotated and be held against its spring by the pin resting in that portion of the slot which is at right angles to the axis of the sleeve. Projecting from one end of the hub 50, are a series of equidistantly spaced teeth 54, having wedge-shaped points. These teeth register with, and can engage, a series of slots 55 in an annular portion of a gear-hub 56. The latter is formed with a shoulder 57, against which abuts a driving gear 58. The latter can be pinned, or be secured by means of a tight fit, on another portion 60 of the hub 56. Said portion 60 forms a shoulder 61, which abuts the end plate 44. A reduced portion 62 of said hub 56 passes through and beyond the end plate 44, and is held against backing out by a washer or collar 63, against which the portion 62 may be riveted or expanded. Through the web of the gear 58 is a hole 59 that can register with certain underlying telescopic bar screw-heads, and through which orifice the screws may be passed and turned. The hub 56 can rotate on the driving shaft 27, and can also rotate in the end plate 44, to which it is attached as described. Said hub could also be held in the end plate by the abutting end of the clutch-sleeve 46. While the end plate 44 carries the hub 56, it is also apparent that the hub in turn supports said end plate on the driving shaft 27.

The end plates 44 and 45 are identical as to form, and have an equal number of holes bored through same. The plate 45, however, rides directly on the driving shaft 27. Both plates, with their component parts can be thrown forward, when said shaft will act as a fulcrum. Such a forward movement makes possible the disengagement of shaft 37 from the brackets 29 and 30, and permits the ready insertion or withdrawal of a tally-strip supply-roll. On the outside of each end plate are pins to which are attached contractile springs 64 and 65.

The springs 64 and 65 are also attached to studs 66 and 67 which pass through clearance holes in the plates and are carried by frictional brake-members 42 and 43, which act on the spool-heads 40 and which are fulcrumed on a cross-bar between the plates. These brake-members function to keep the tally-strip taut as it is advanced by the winder. Such members as are described in this paragraph are well-known, and are covered by previous patents.

It is a feature of the present invention to space the end plates of the tally-roll attachment apart by bars, each having a variable length. The latter are each formed of a rod or member slidable in a superimposed tube, and can be longitudinally fixed at predetermined points by a set-screw extending through one of a series of holes in the tube and engaging in a threaded hole in the rod. Normally extending between the end plates 44 and 45, is a telescopic spacing bar having a tube 68, and a rod or member 69 which can slide within the tube. The tube 68 is closed at one end by a cap 70, having a lug 71 forced into, and being secured by, the tube. An opposite opposed lug 72 abuts an end plate, and is held thereagainst by a set-screw 73 threaded into the cap and riding in a hole in the end plate. The tube 68 has at its opposite end a countersunk hole for the reception of a filister-head set-screw 74, which can engage a threaded hole in the encompassed rod 69. The latter abuts an opposite end plate, and is riveted or attached thereto by a set-screw at 75. The rod 69 has a series of threaded holes 76 which are equidistant and permit of its being held at various locations by the set-screw 74. The tube 68 and the rod 69 are therefore telescopically adjustable, and can be put in fixed relation at such locations as are governed by the distance between the holes 76. Such limits can respectively accommodate tally-strips from 2½ inches to 4½ inches, from 5 inches to 8 inches, and from 8½ inches to 11 inches in width. To the above-described telescopic spacing bar is ascribed the number 77, which includes its component parts. The number 78 is used to designate a second and like telescopic spacing bar, whose component parts individually carry the same numbers as the first, and is hereby concurrently described. The rods 69 could also be hollow. One rod carries a collar for holding a brake-member 42.

Extending parallel with the spacing bars and with the shafts, is a third telescopic bar or arbor 79 carried by the end plates 44 and 45. This bar 79 serves as a winder for advancing the tally-strip, which is drawn from the supply-roll 38 by means of a driven gear 80 which is actuated by the driving gear 58. The gear 80 can be separate, or be integrally formed with a hub 81 having a flange 82 and a lug. The latter is tightly engaged by an encompassing sleeve 83 which passes through, and is easily rotatable in a hole in the end plate 44. Attached to and within the sleeve 83 is a rod or a tube 84 having a threaded plug 85. The tube 84 slides within a tube 86. The latter has a series of countersunk holes 87 for the reception of a filister-head set-screw 88, which can engage the threaded plug 85. The tubes 84 and 86 are therefore telescopically adjustable, and can be unified. The tube 86, near its other end, passes through the end plate 45 in which it can easily turn. The tube 86 is normally held against backing out of the end plate 45 through a circumferential channel 89, being engaged by a tensional split ring 90 which abuts the outside of the plate.

Located between the plates 44 and 45, and carried respectively by the sleeve 83 and the tube 86, are saddle-pieces 91 and 92 which

carry the ends of a revoluble paper-clip 93. It is in one piece, and non-extensible, but is interchangeable with strips of other lengths. It can be furnished by the factory in various standard lengths, or in one long piece which may be cut off to fit and be applied to the machine. Set-screws pass through the clip and the saddles and attach both to the telescopic arbor. When so attached there is left a space between the arbor and the overlying clip, into which the leading end of a tally-strip may be inserted. When so inserted and wound it is frictionally held, or, for greater security, the leading end may be bent back over the edge of the clip. The latter throughout its length is curved to be concentric with the arbor, conducing to rigidity when tearing off the tally-strip.

The tearing operation usually occurs along the rearward edge of the clip, which is left tangential. The forward edge of the clip is bent outward from the arbor. This outward bend facilitates the insertion of paper, but is not great enough to adversely affect the winding thereof. Furthermore, the clip aids in the even winding of a tally-strip because its area or width maintains a more uniform diameter of the roll.

The user may provide himself with a number of clips 93 of assorted lengths, for use interchangeably, the telescoping adjustment being first made and then secured by screws 74, and then the clip 93 of appropriate length selected and fastened upon the arbor to revolve therewith. At Figure 5 is shown the use of the machine without the clip 93.

Carried by the end plates 44 and 45, is a cut-off knife 94, which is attached to the plates by set-screws. Said knife has a series of holes along its center, which are spaced the same distance apart as are the set-screw holes in the telescopic tubes. When used for narrower tally-strips, this knife is not necessarily cut off. One end can overhang an end plate and be attached thereto by one of the set-screws passing through the proper hole in the knife. The latter also serves as a tie-rod and spacer for the end plates, and insures greater rigidity for the same. Furthermore, said knife may be used at times as a cut off for an independent work-sheet in use on the platen. Finally, this knife can be furnished in long strips having a continuous series of equidistant holes. An agency could then cut off the proper lengths as required. Spaced equidistantly along the center of this knife are a series of holes 95, which have the same spacing as the series of holes in the telescopic bars 77, 78 and 79. By means of these holes and a set-screw, the cut-off knife can be attached to, and will be held by, an end plate located at a preselected position.

The knife 94 has sufficient width and thickness to be relatively rigid, which insures that paper can be cut or torn off along an approximately straight line. This knife is spaced far enough above the winder to permit a large roll of paper being wound. Should such roll assume too great a diameter, the knife will then become a retardant and thus give warning. As said knife gradually retards the paper it still will not tear the same, owing to the rounded forward edge 94[a]. The rear or tearing edge 96 of the knife 94 is formed into saw-teeth which are undercut, to form a sharp point and thus insure a sharper cutting edge.

Carried on the driving shaft 27, is a collar 97 having a set-screw. The purpose of this collar is to hold the assembled tally-roll frame against the clutch. If not so held said frame might back off along its supporting shafts such distance that the clutch would not engage the slots of the driving gear, and the winder would become inoperative. This result can be an advantage when the tally-strip winder is not used for long periods. By so sliding the frame out of engagement, it is not necessary to compress the clutch-spring to disengage its teeth. This saves the tension in said spring. The same disengaging result can, of course, be attained by side slipping the clutch-sleeve. The clutch-sleeve and the collar 97, both being adjustable along the driving shaft, permit the fixed positioning of the tally-roll frame at innumerable points along its shafts and over its paralleling platen. A tally-strip therefore can be readily positioned to receive its record from variously located columns on differently arranged work-sheets.

In assembling the tally-roll attachment for use with any particular width of tally-strip, the shortest standard set of telescopic bars is always chosen that can within their extensional limits include such width of strip. This insures that when the end plates have been finally set they will abut the spool-heads of the tally-strip supply-roll. Such an abutment would not occur if the minimum lengths of the telescopic bars was greater than the length of the supply-roll. In the latter case, the supply-roll might slip endwise of its shaft, or the leading end of the tally-strip might slip endwise of its winding bar. If such slippage were permitted, the tally-strip might cease to register with the proper column on an overlying work-sheet. In such case the tally-record would be faulty, or would not exist. Another disadvantage of side slipping is found when the tally-strip side-slips on the winding bar. In this case the strip winds on the bias, and its edge becomes jammed by an end plate, or torn by the knurling on a spool-head.

In the accompanying drawings, the clutch and the gears are shown as being at the left end of the tally-roll frame. From the description covering the driving gear 58, it is seen that this gear could readily be posi-

tioned on the reverse side of the end plate 44. Furthermore, it is apparent that the positions of the end plates 44 and 45 could easily be reversed. With such reversed positioning of the respective end plates, it is obvious that the two gears and the clutch could then be made to function at the opposite or right end of said frame. Such a possibility has an advantage should one face of the gear-teeth become badly worn. In this event, and by positioning the gears at the right end of the frame, the gears would then become operative in reversed rotation. In such reversed rotation, the teeth of either gear would then engage the unworn faces of the teeth of the other. This lengthens the useful life of the gears. Also such right-end placement of the gears permits the tally-roll frame to be positioned if required, nearer to the left-hand end of the platen.

When the winding bar 79 is actuated by its line-spacing mechanism, the surface of the bar always travels a fixed circumferential distance. In winding a tally-strip onto said bar, this circumferential travel of the strip will gradually increase as its plies become further from the axis of the winder. This, of course, increases the spacing of the typed lines on the tally-strip. In order to minimize this variation in line spacing, the winder-tubes have relatively large diameters. This effects to decrease the number of plies on the winder, because each ply will then have a relatively greater circumference. Having fewer plies, there is less variation between said axis and an inner and an outer ply. This radial distance being more nearly equal, in turn makes less variable the line spacing of said tally-strip. Besides functioning as above, the large winding tubes also give greater rigidity. When using said winder, it is customary to remove certain pressure rollers from the platen, as is well known.

It is a feature of the present invention that the tally-strip can be conveniently line-spaced without line-spacing the platen. This result is attained by providing for the ratchet-wheel 26 to be advanced a step ahead by a shorter travel of the slide 15 than is required for advancing the ratchet-wheel 13 one step. This slide 15 also carries the pawl 14 for rotating the platen, which is actuated in a well-known manner by means of the line-spacing lever 16. When this lever is fully operated the slide always travels the same distance, irrespective of whether the platen is rotated one or more line-spaces. During such travel the slide, through its link, will always advance by one line-space the ratchet which actuates the tally-roll driving shaft. For independently actuating the last-mentioned ratchet, the slide is moved rearwardly but a part of the distance necessary to actuate the platen. Such a partial rearward travel of the slide is sufficient to line-space the winder, but is not limited by any special stopping means. In effect, however, such travel is limited when a pronounced resistance is met to the further movement of the finger-piece. Such resistance occurs after the tally-roll ratchet has been sufficiently actuated, and is caused by the pawl on the slide engaging the ratchet which rotates the platen.

To rotate the platen by means of the finger-piece takes a very considerable pressure. As the tally-roll ratchet is very easily rotated by the finger-piece, the much greater resistance set up by the platen-ratchet in effect constitutes an intermediate stop for the slide. Such a retardant acts in practice to prevent an undesired rotation of the platen.

When the finger-piece 20 is to be operated for rotating the tally-strip winding shaft without affecting the platen, a usual line-space regulator lever 98 will be set for advancing the platen one line-space. Then as is well known to those skilled in the typewriter art, the pawl 14 on the slide 15 will move idly as regards the platen line-spacing mechanism over a large portion of its full travel before it engages the ratchet 13. During this portion of its travel, the slide operates the ratchet 26.

It will be noted that the above-described easily operable means for varying the length of the winding shaft to accommodate different widths of tally-strips keeps the end plates 44 and 45 accurately true and parallel so that they do not bind the drive-shaft 27, which would be very objectionable, if it occurred, and would require the services of a skilled mechanic to correct.

Variations may be resorted to within the scope of the invention, and portions of the improvements may be used without others.

Having thus described my invention, I claim:

1. In a tally-strip device for a typewriting machine having a revoluble platen, the combination of a driving shaft for said device, a cross-rod parallel to said shaft, two end plates supported on said shaft and said rod, one plate permanently positioned thereon and the other plate having lateral adjustment therealong, for different widths of tally strips, means for mounting a tally-strip supply-roll between said end plates, and a spindle journaled in said end plates for winding up the tally strip after it has passed around said platen, said spindle including tubes that telescope for varying lengths, whereby the same spindle can be used with different widths of tally strips, determined by the spacing of the two end plates.

2. In a typewriting machine having a revoluble platen, the combination with a carriage-frame and a line-space mechanism, of a tally-strip device having an upreaching

bracket mounted on each end of said frame, a lateral mounting rod supported between said brackets, a drive-shaft extending between said brackets, an operative connection between said line-space mechanism and said drive-shaft, two upright end plates supported on said rod and said shaft between said brackets, said end plates being adjustable laterally along said rod and said shaft, means for mounting tally-strip feed-rolls of varying widths between said end plates, a winding spindle for said tally strips extending between said end plates and being operatively connected to said drive-shaft, and means for varying the lengths of said winding spindle, whereby it may be used with varying widths of tally-strip feed-rolls.

3. In a typewriting machine having a revoluble platen, the combination with a carriage-frame and a line-space mechanism, of mounting brackets on each end of the carriage-frame, a drive-shaft journaled on said brackets, an operative connection between said line-space mechanism and said drive-shaft, a cross-rod fastened between said brackets, a frame, including two parallel vertically disposed end plates, mounted on said shaft and said rod, each end plate being laterally adjustable, spool-head devices disposed against said end plates and supported on said rod for rotatably mounting therebetween a tally-strip supply-roll, said devices being effective with tally strips of varying widths, a winding spindle for said tally strip journaled in said end plates, an operative connection between said spindle and said drive-shaft, telescopic means effective for increasing or decreasing the length of said winding spindle, a plurality of brace rods fastened between said end plates for stiffening said frame, and telescoping means effective for increasing or decreasing the lengths of said brace rods the same amounts of the length said winding spindle is changed.

4. The structure described in claim 3, wherein the means for varying the lengths of the winding spindle and the brace rods is effective to vary the length of each extensible member by a short predetermined amount, or a multiple thereof, whereby parallelism of the end plates can be accurately maintained irrespective of the adjustment of said extensible shaft and rod members, and binding of the drive-shaft by said end plates is prevented.

5. In a device of the character described, a winding spindle for tally strips of varying widths, including a cylindrical tube having a plurality of countersunk holes through its shell, spaced apart along the length of the tube, a tube arranged to slide snugly into the first-named tube, said second-named tube having one end plugged by a solid member fastened therein, the plugged end portion of said last-named tube having a threaded hole arranged to extend on a diametrical line through the wall of the tube and the solid plug-member, and a screw for extending through any one of said countersunk holes and engaging in said threaded hole for fastening the two tubes together, said screw having a substantially countersunk head arranged for fitting snugly in said countersunk holes substantially flush with a curved periphery of said first-named tube.

6. In a tally-strip device for a typewriting machine, a winding spindle for a tally strip, including an outer cylindrical tube, an inner tube movable into and out of said outer tube, and a concave-roll-convex strip extending lengthwise of said spindle and nestably disposed with relation to said outer tube, whereby the leading edge of said strip may be inserted between said clip and said spindle and folded back over said clip for attaching the tally strip to said spindle.

7. The structure described in claim 6 characterized by one side of the strip, being formed with a cutting edge for severing said tally strip.

8. In a tally-strip device for a typewriting machine, a winding spindle for a tally-strip, including an outer cylindrical tube, an inner member slidable within said tube, and a strip extending lengthwsie of said spindle and nestably disposed with relation to said tube, one edge of said strip being formed with means for severing said tally-strip and said strip eccentrically disposed to the spindle to provide a throat for entering said tally-strip between said strip and said spindle.

9. In a tally-strip mechanism for a typewriting machine having a revoluble platen, the combination of devices for rotatably supporting a supply-roll from which a tally strip may extend around said platen, a winding spindle on which the tally strip is wound as it is fed beyond the printing line, means for varying the length of said spindle, whereby it may accommodate supply-rolls of different widths, said supporting devices being effective for use with different widths of supply-rolls which can be accommodated by said spindle, and a frame in which said devices and said winding spindles are mounted, said frame having end plates adjustably fastened together for co-operation with the different lengths of said winding spindle.

10. The structure described in claim 9, having a cut-off knife mounted on the end plates of the frame, said knife having means for securing it to said end plates when the latter are disposed at different distances apart, one end of said knife being arranged for extending beyond the associated end of said frame when the tally-strip mechanism is adjusted for a tally strip whose width is less than the length of said knife.

11. In a typewriting machine having a revoluble platen, the combination of a line-

spacing mechanism of said platen, a tally-strip mechanism including a winding spindle for the tally strip, a permanently-connected train of mechanism between said line-spacing mechanism and said winding spindle and effective for rotating said spindle a fixed amount when said platen is line-spaced, and means for operating said train of mechanism to variably rotate said winding spindle without line-spacing said platen.

12. In a typewriting machine having a revoluble platen, the combination of a line-spacing mechanism effective upon full operative movement thereof for line-spacing said platen, a tally-strip mechanism including a winding spindle for the tally strip, connecting instrumentalities between said line-spacing mechanism and said winding spindle, effective for rotating said spindle one step upon a partial operative movement of said line-spacing mechanism, means for moving said instrumentalities and rotating said spindle a step ahead, and means retarding the operative movement of said instrumentalities after said spindle has been rotated one step and before said platen has been line-spaced, whereby the operative movement is warned against further movement of the connecting instrumentalities.

13. In a typewriting machine having a revoluble platen, the combination with a platen-carriage and line-spacing instrumentalities, of a tally-strip device having a pair of brackets, one fastened on each end of said carriage, a drive-shaft journaled in said brackets, mechanism for rotating said drive-shaft by operation of said line-spacing intrumentalities, a rod supported between said brackets at the rear of said drive-shaft, two end plates journaled on said shaft and resting on said rod for sidewise movement, means for mounting tally-strip supply-rolls of varying widths on said rod between said end plates, a telescopic winding spindle extending between said plates and journaled therein, an operative connection between said drive-shaft and said spindle for rotating the latter to wind up said tally strip after it passes around said platen, and means disposed between said end plates effective for telescoping said winding spindle, whereby said tally-strip device can be employed with tally-strip supply-rolls of different widths.

14. In a tally-strip device for a typewriting machine, in combination, a drive-shaft, a frame for said device having two end plates having apertures through which said drive-shaft passes, a driving gear rotatably fastened to one of said end plates, being concentric with said driving shaft and rotatable independently thereof, and a releasable connection between said driving shaft and said driving gear including a sleeve fast on said shaft, a laterally movable clutch-member engaging around said sleeve and rotatable therewith, a connection between said sleeve and said shaft, and means for engaging said clutch-member to said gear, said engaging means being made ineffective upon moving said clutch-member laterally away from said gear.

15. The structure described in claim 14 characterized by means for locking said clutch-member in ineffective position, said means including a pin fastened in said clutch-member and extending inwardly through said sleeve, said sleeve having a slot for receiving said pin, said slot having a lengthwise portion and a portion transversely disposed to the axis of said sleeve which joins said lengthwise portion at its end farthest from said gear, and a spring urging said clutch-member toward said gear, said spring being arrested by said pin being disposed in said transverse portion of said slot.

16. In a tally-strip device for typewriting machines, the combination of a line-space mechanism, end supports, a drive-shaft journaled in said end supports, a mechanism connected to said line-space mechanism for operating said drive-shaft, intermediate end supports supported on said shaft for a tally-roll, telescoping members connecting said intermediate end supports, a telescopic arbor journaled in said intermediate end supports for winding a tally-strip thereon, and means for driving said tally-winding arbor from said drive-shaft.

17. In a tally-strip device for a typewriting machine, the combination of a platen line-space mechanism, a telescoping frame, a revoluble telescoping arbor around which the tally-strip may wind, said arbor mounted in said frame, an actuating shaft, permanent operative connections between said line-space mechanism and said actuating shaft, mechanism operatively connecting said shaft and said tally-strip arbor and means for rendering said line-space mechanism operative or inoperative at will.

18. In a tally-strip device for a typewriting machine, the combination of a platen, line-space mechanism, a telescoping frame, a revoluble telescoping arbor around which the tally-strip may wind, said arbor mounted in said frame, an actuating shaft, permanent operative connections between said line-space mechanism and said actuating shaft, mechanism operatively connecting said shaft and said tally-strip arbor, and a manually-released clutch-member between the operating shaft and the tally-strip winding arbor.

19. In a tally-attachment for a typewriting machine, the combination of a two-part arbor telescoping for different widths of tallies, and a two-part telescoping frame for supporting said arbor.

20. In a tally-roll attachment for a typewriting machine, the combination of a frame having end plates to support a tally-supply

roll and a tally-receiving arbor, and end-plate-spacing-apart means arranged to telescope when the two plates are adjusted to the width of the tally-supply roll.

21. In a tally-roll attachment for a typewriting machine, the combination of a frame having end plates to support a tally-supply roll and a revoluble tally-receiving arbor, and end-plate-spacing-apart means arranged to telescope when the two plates are adjusted to the width of the tally-supply roll, said tally-receiving arbor having telescoping portions mounted respectively upon the end plates.

22. In a tally-roll attachment for a typewriting machine, the combination of a pair of spaced-apart end supports, telescoping members for spacing said end supports, and a telescoping tally-receiving member rotatably mounted within said supports.

23. In a tally-roll attachment for a typewriting machine, the combination of a pair of spaced-apart end supports, telescoping members for spacing said end supports, and a telescoping tally-receiving member rotatably mounted within said supports, said telescoping members including a tube carried by one end support and a rod carried by the other end support to telescope with the tube and determine the spacing of the two supports for the tally-member.

24. In a tally-roll attachment for a typewriting machine, the combination of a pair of spaced-apart end supports, a plurality of telescoping members for spacing said supports in parallelism, and a telescoping tally-receiving member mounted between said supports.

25. In a typewriting machine having a carriage provided with ends, the combination of a shaft supported by the ends of the carriage, a frame mounted upon said shaft and having telescoping means to vary the size of said frame, and a revoluble tally-receiving member having telescoping means to adjust said member to a tally-roll size, and mountable within the telescoped frame to be driven by said shaft.

26. In a typewriting machine having a carriage provided with ends, the combination of a shaft supported by the ends of the carriage, a rod paralleling said shaft and secured to each carriage-end, frame-ends mounted upon said rod and providing bearings for said shaft, tie-rods telescoping with each other for a predetermined spacing-apart of said frame-ends, and a revoluble tally-receiver mounted within said frame-ends and driven by said shaft.

27. In a typewriting machine having a carriage provided with ends, the combination of a shaft supported by the ends of the carriage, a rod paralleling said shaft and secured to each carriage-end, frame-ends mounted upon said rod and providing bearings for said shaft, tie-rods telescoping with each other for a predetermined spacing-apart of said frame-ends, and a revoluble tally-receiver mounted within said frame-ends and driven by said shaft, said receiver having telescoping means to adjust the receiver to the width of the tally-roll and to the width of the telescoped frame.

28. In a typewriting machine having a carriage, the combination of a tally-strip-receiving mechanism supported by means on the carriage and including a pair of mechanism-supporting side plates, a revoluble arbor for the strips supported between said plates, said arbor including a pair of telescoping tubes, one tube secured to each side plate and operable when telescoped for a tally-strip length of arbor, to automatically determine the spacing-apart of the two side plates, and telescoping means also secured to each side plate and having means to hold the spaced relation of the two plates.

29. In a typewriting machine having a carriage, the combination of a tally-strip-receiving mechanism supported by means on the carriage and including a pair of mechanism-supporting side plates, a revoluble arbor for the strip supported between said plates, said arbor including a pair of telescoping tubes, one tube secured to each side plate and operable when telescoped for a tally-strip length of arbor, to automatically determine the spacing-apart of the two side plates, telescoping means also secured to each side plate and having means to hold the spaced relation of the two plates, and a driving shaft supported by the carriage and having connections to rotate one tube of the arbor irrespective of the telescoping adjustments of the tally-receiving mechanism.

30. In a typewriting machine having a carriage, the combination of a tally-strip-receiving mechanism having a revoluble arbor made in two sections to telescope one with the other in proportion to the width of the tally-strip, mechanism for supporting the tally-receiving mechanism, including a pair of end plates supported from the carriage and each plate carrying a section of said arbor, and telescoping means for securing the two plates together for the spaced-apart relation determined by the telescoping of the arbor to the size of the tally-strip.

31. In a tally-roll attachment for a typewriting machine having a carriage with carriage-ends, the combination of a driving shaft supported at each carriage-end for rotation, a rod paralleling said shaft and secured to each carriage-end, frame-ends mounted upon said rod and shaft, one frame-end stationary with said rod and the other frame-end slidable along said rod and said shaft to determine a working space between said frame-ends, telescoping ties to operably hold the spaced position of the slidable frame-end, and a revoluble tally-receiving member assem-

bled for operation between the spaced end frames and which predetermines the spacing-apart of said ends.

32. A tally-strip winding device for mounting upon the platen-frame of a typewriting machine and adjustable to use strips of various widths, including a pair of side-heads, means for supporting said side-heads, including a device extending along the platen and having at its ends means whereby it is attached to the platen-frame, one of said side-heads being independently adjustable along said supporting device, to vary the distance between said side-heads, a spool-winding arbor journaled in one side-head, line-spacing mechanism connected to drive said arbor to wind strips upon cores of various lengths, means projecting inwardly from the other side-head and adjustable therewith, to support the opposite end of the core for rotation, and means for tying the side-heads together in different spaced relations.

33. A tally-strip winding device for mounting upon the platen-frame of a typewriting machine and adjustable to use strips of various widths, including a pair of side-heads, means for supporting said side-heads, including a device extending along the platen and having at its ends means whereby it is attached to the platen-frame, one of said side-heads being independently adjustable along said supporting device, to vary the distance between said side-heads, a spool-winding arbor journaled in one side-head, line-spacing mechanism connected to drive said arbor to wind strips upon cores of various lengths, means projecting inwardly from the other side-head and adjustable therewith, to support the opposite end of the core for rotation, a clip being provided to catch the end portion of the strip, to connect the latter to the core, and means for tying the side-heads together in different spaced relations.

24. A tally-strip winding device for mounting upon the platen-frame of a typewriting machine and adjustable to use strips of various widths, including a pair of side-heads, means for supporting said side-heads, including a device extending along the platen and having at its ends means whereby it is attached to the platen-frame, one of said side-heads being independently adjustable along said supporting device, to vary the distance between said side-heads, a spool-winding arbor journaled in one side-head, line-spacing mechanism connected to drive said arbor to wind strips upon cores of various lengths, means projecting inwardly from the other side-head and adjustable therewith, to support the opposite end of the core for rotation, one of said side-heads being also provided with a manually-rotatable arbor for winding a second core, and the other side-head having a companion device projecting inwardly to support the other end of the second core for rotation, and means for tying the side-heads together in different spaced relations.

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