

No. 778,392.

PATENTED DEC. 27, 1904.

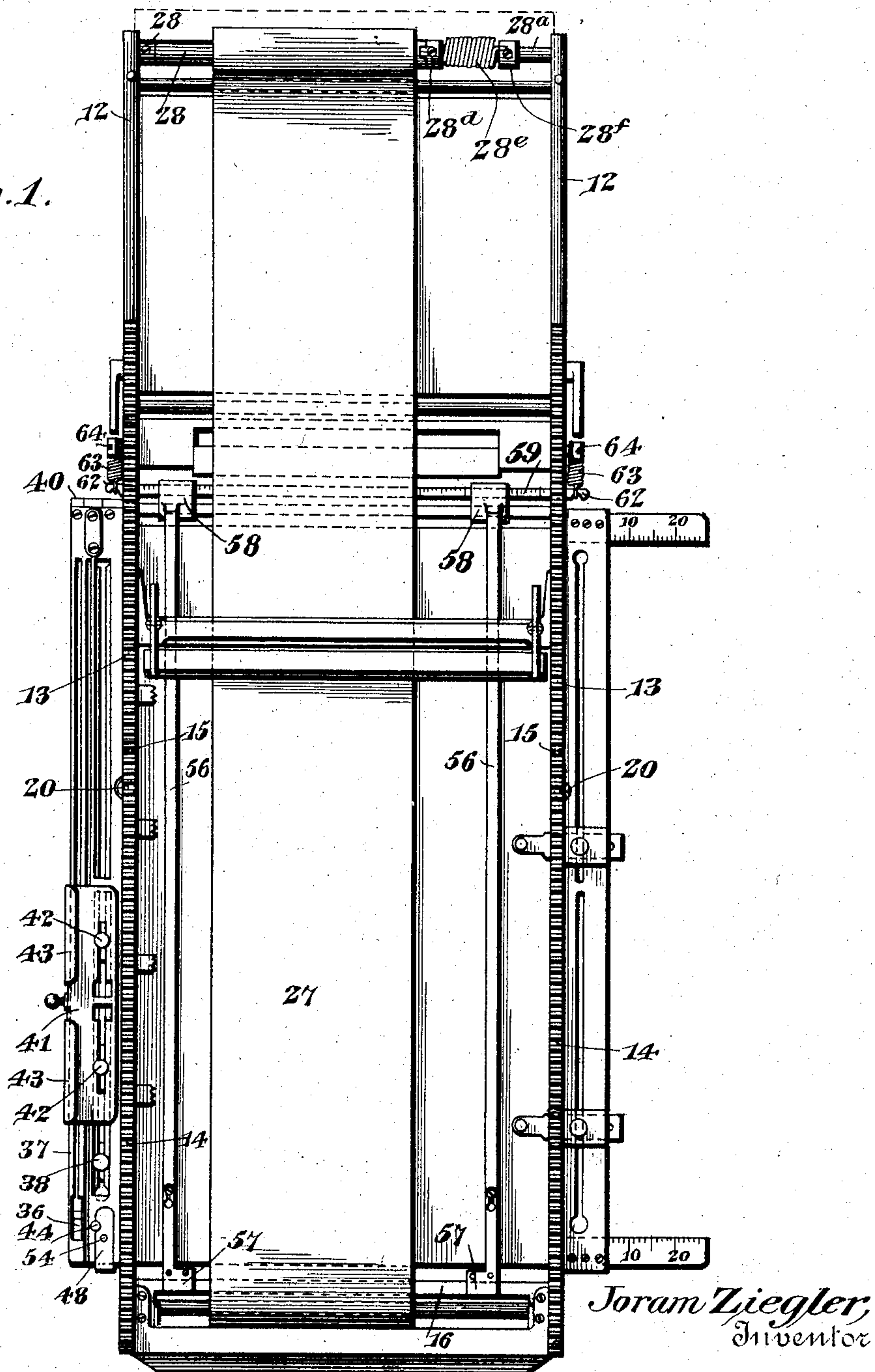
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PLATEN EQUIPMENT FOR TYPE WRITING MACHINES.

APPLICATION FILED OCT. 20, 1903.

4 SHEETS—SHEET 1.

Fig. 1.



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4 SHEETS—SHEET 2.

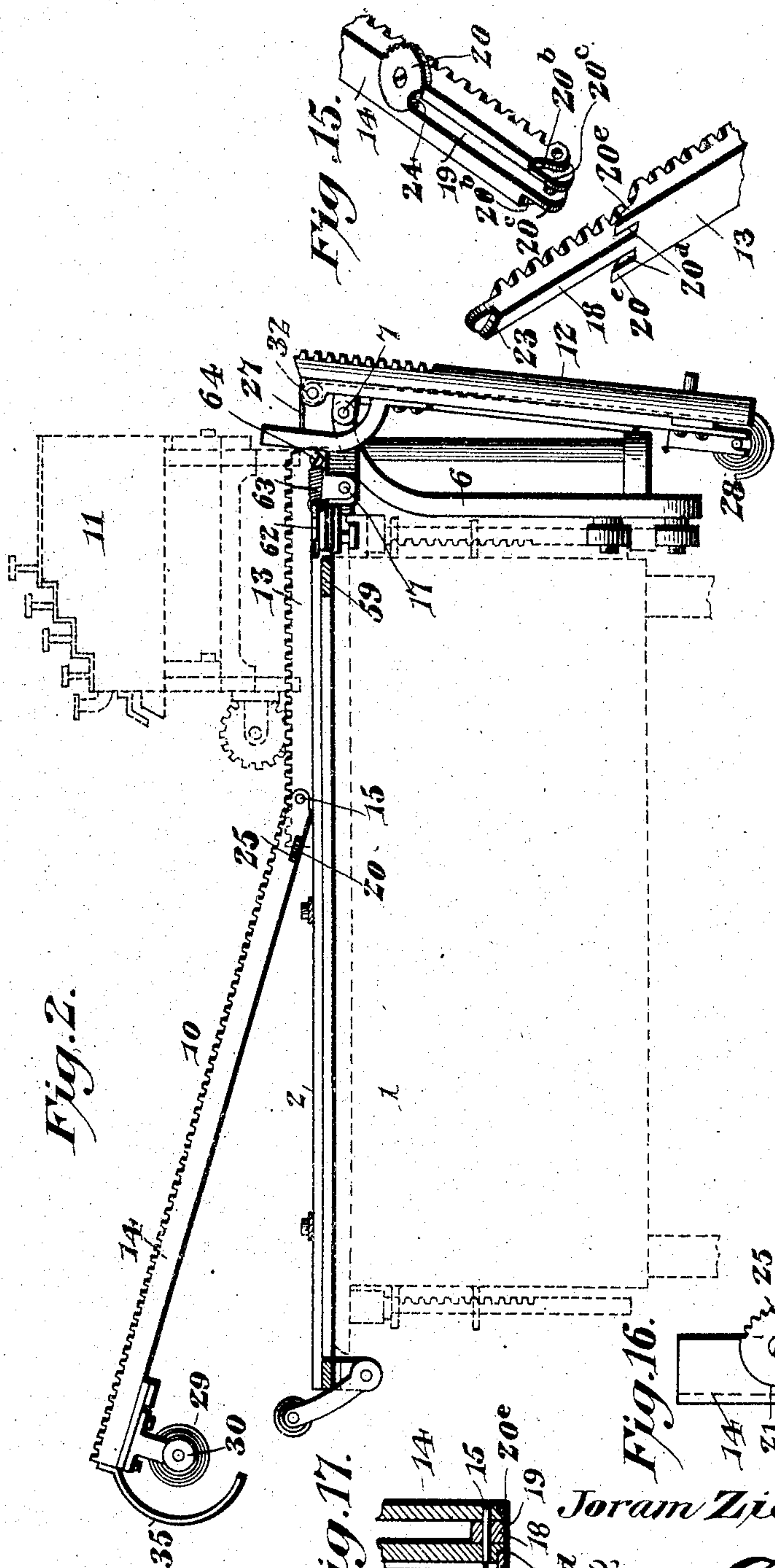


Fig. 2.

Fig. 11.

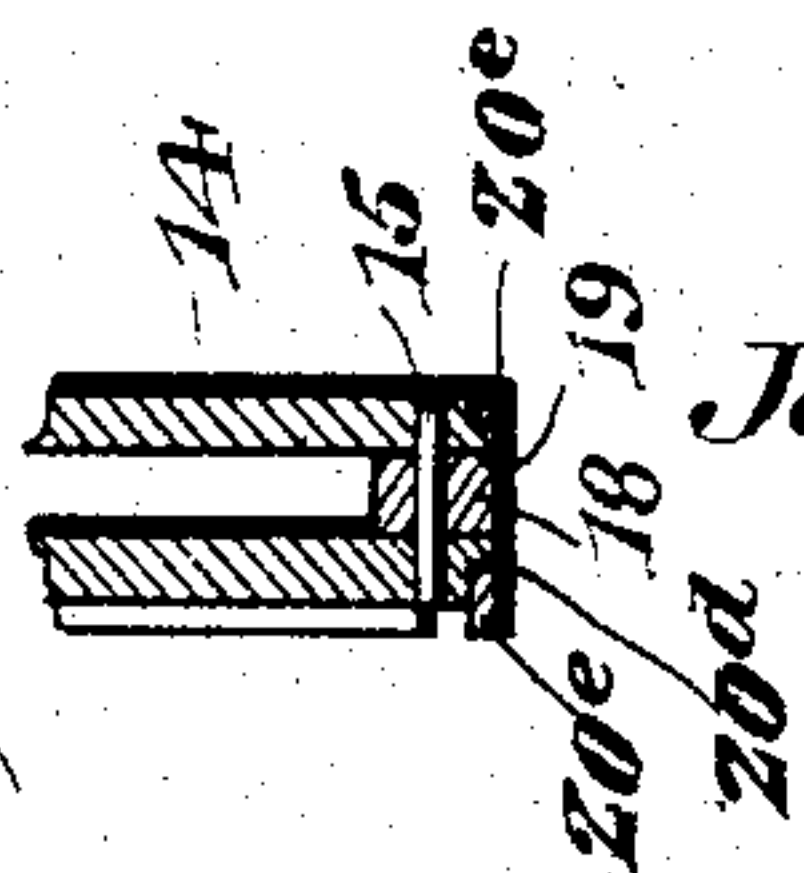


Fig. 16.

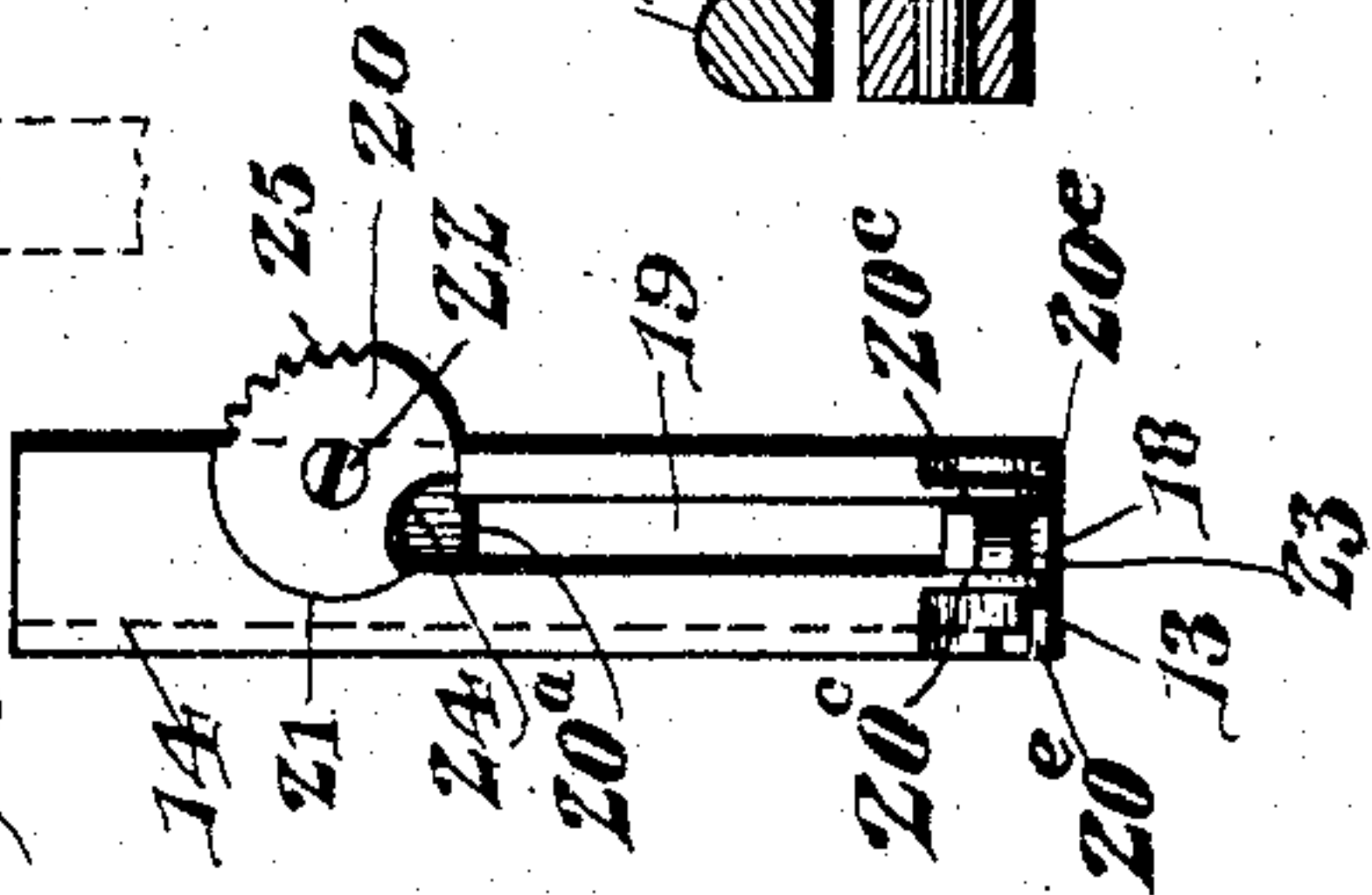
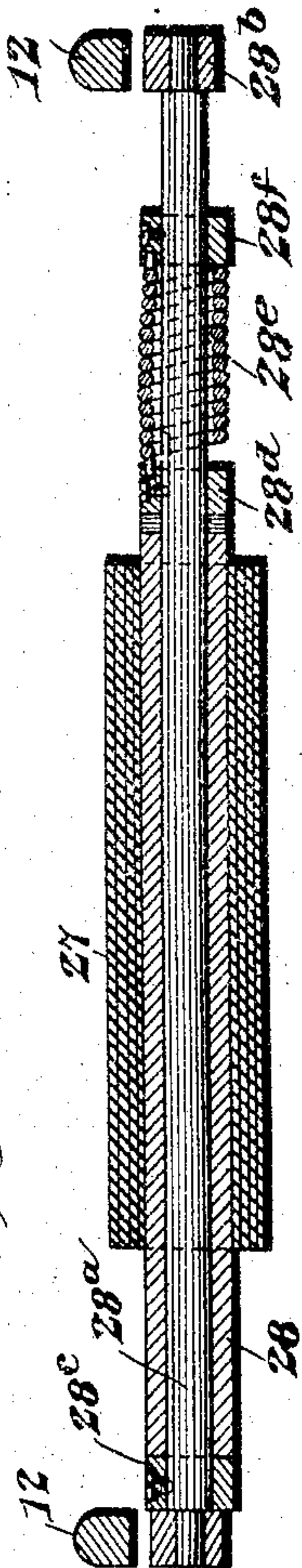


Fig. 9.



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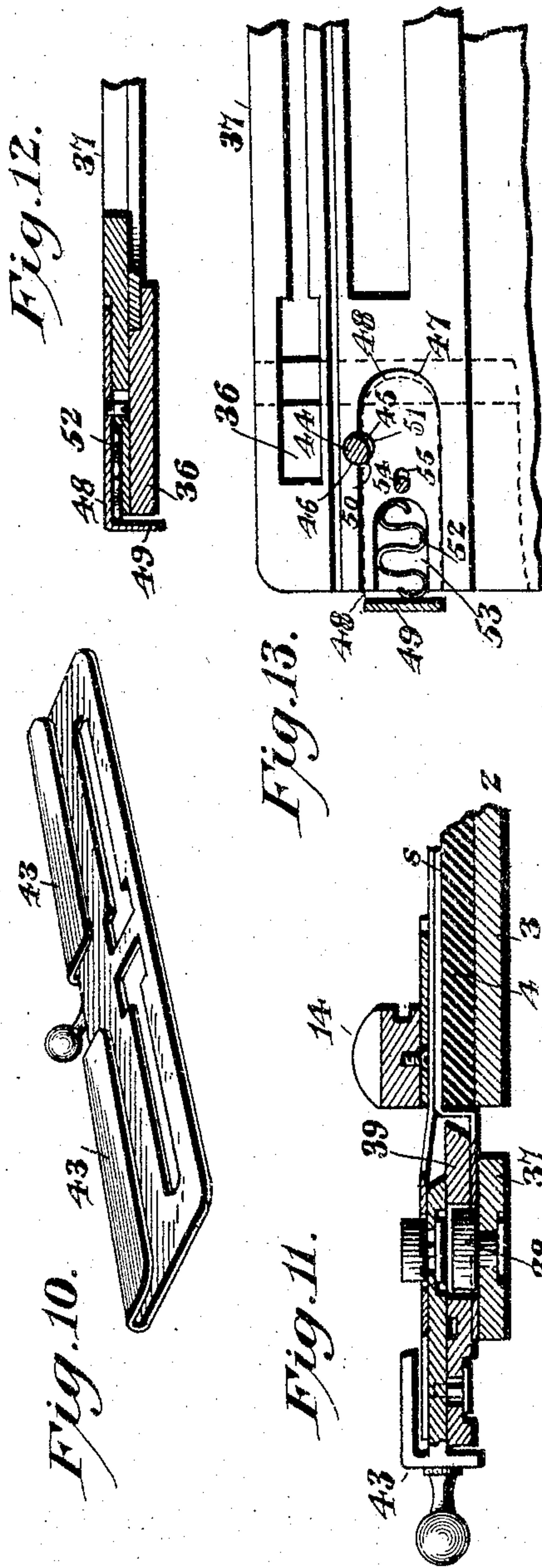
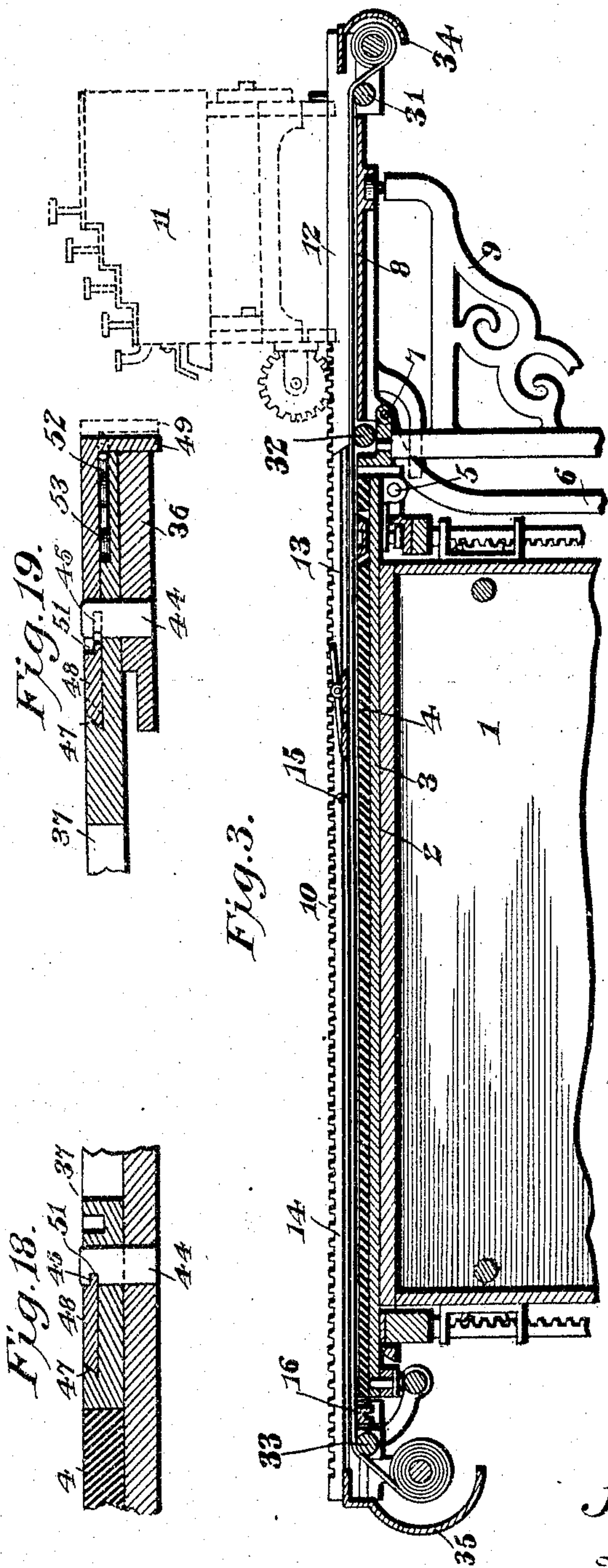
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4 SHEETS—SHEET 3.



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4 SHEETS—SHEET 4.

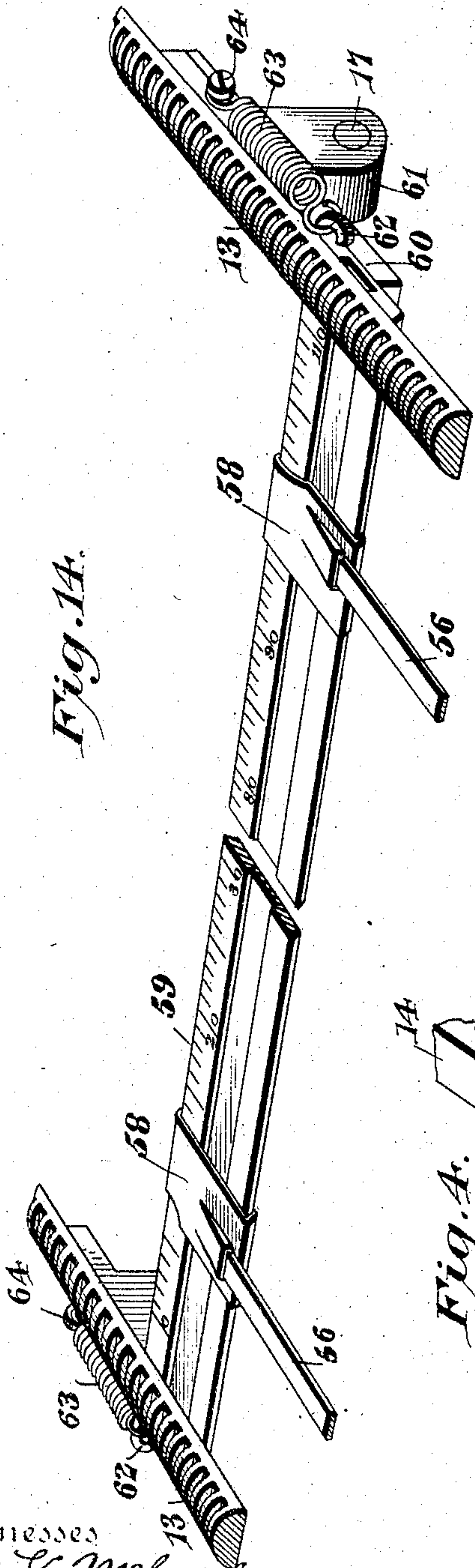


Fig. 14.

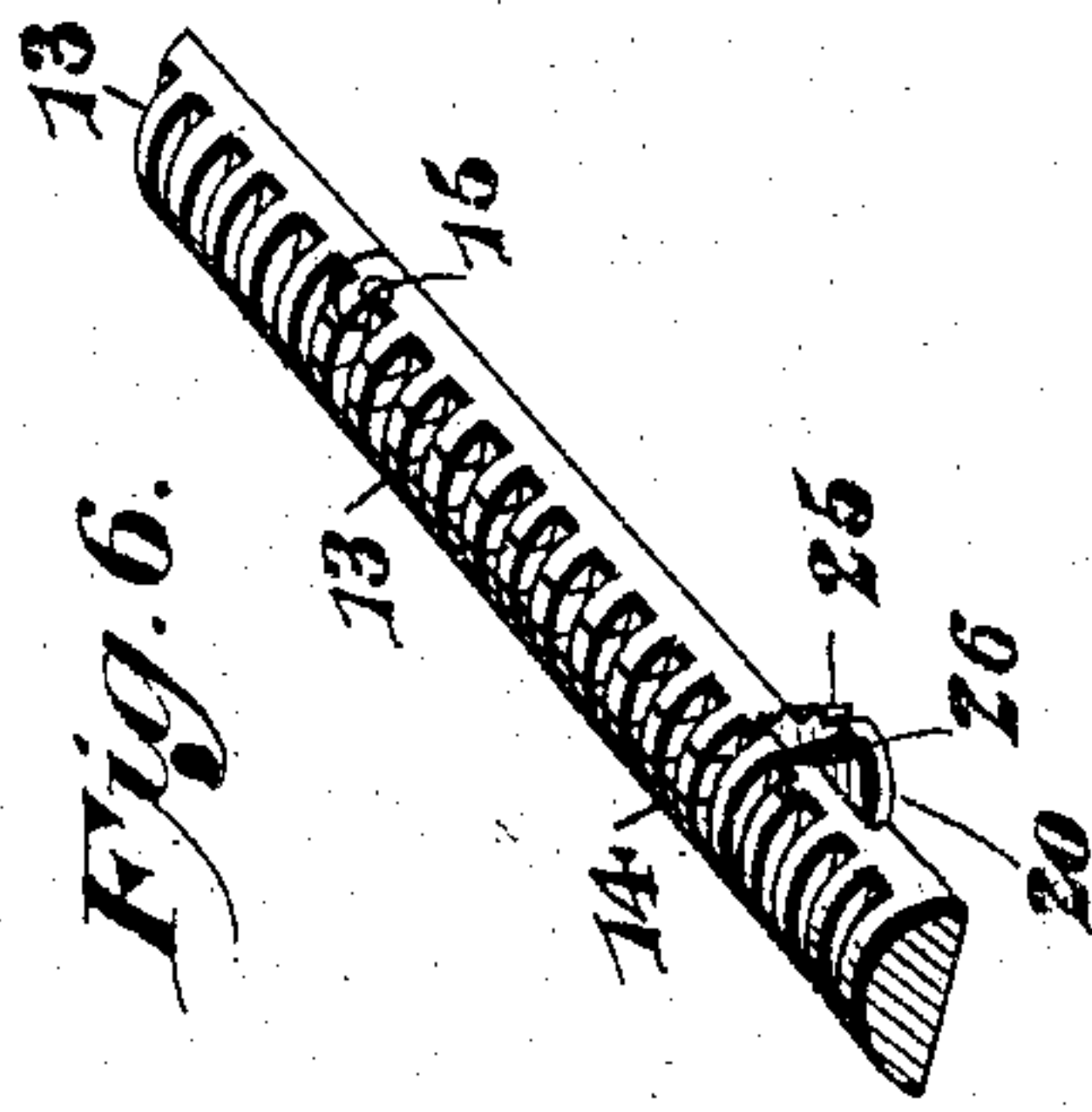


Fig. 6.

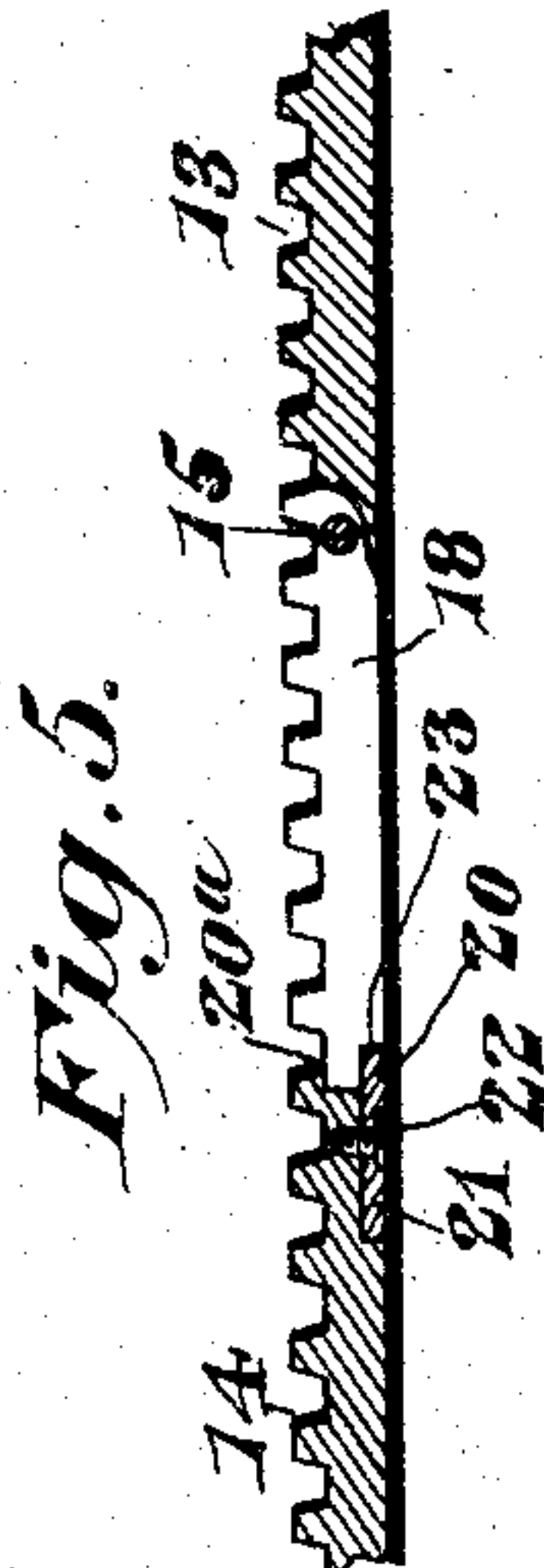


Fig. 5.

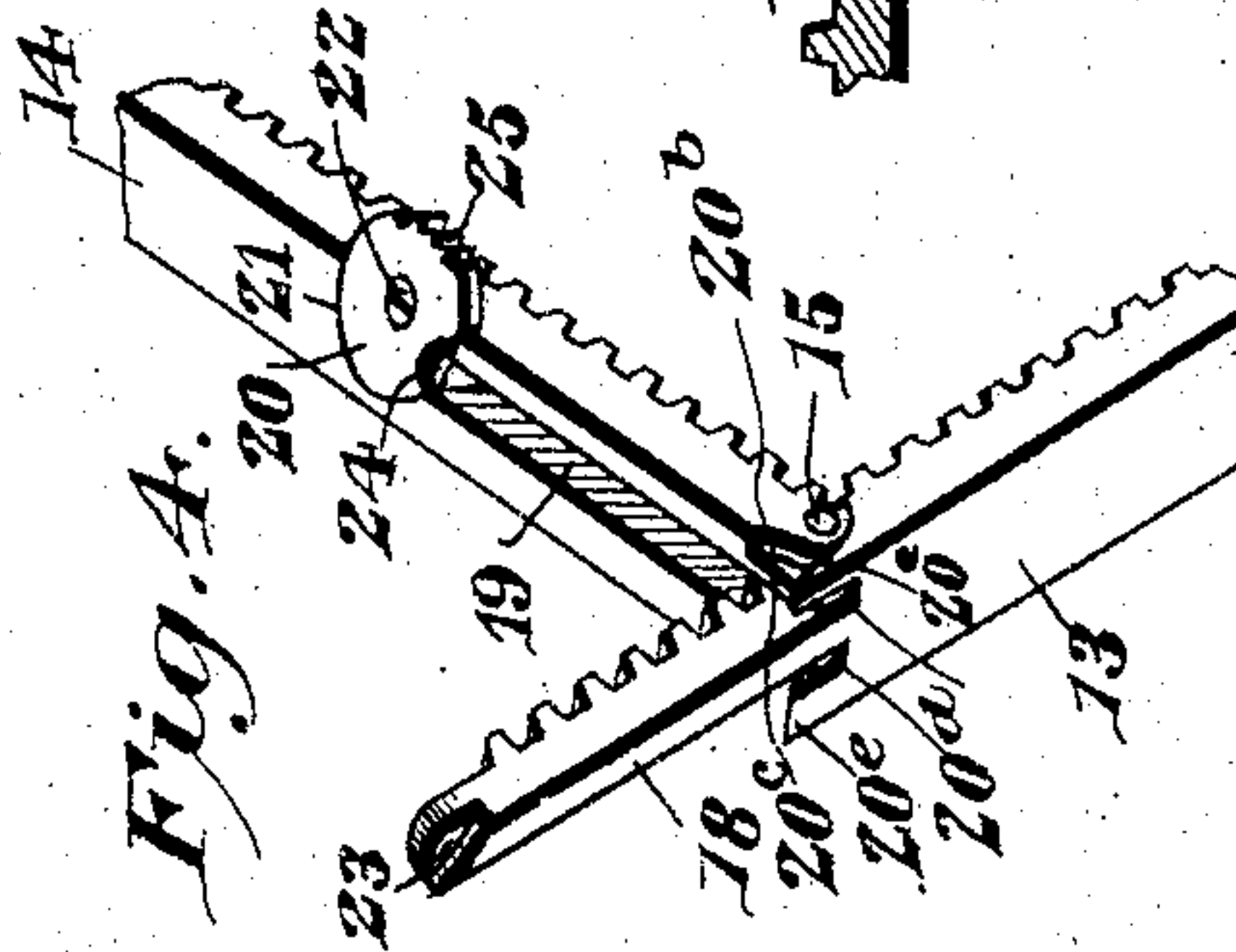


Fig. 4.

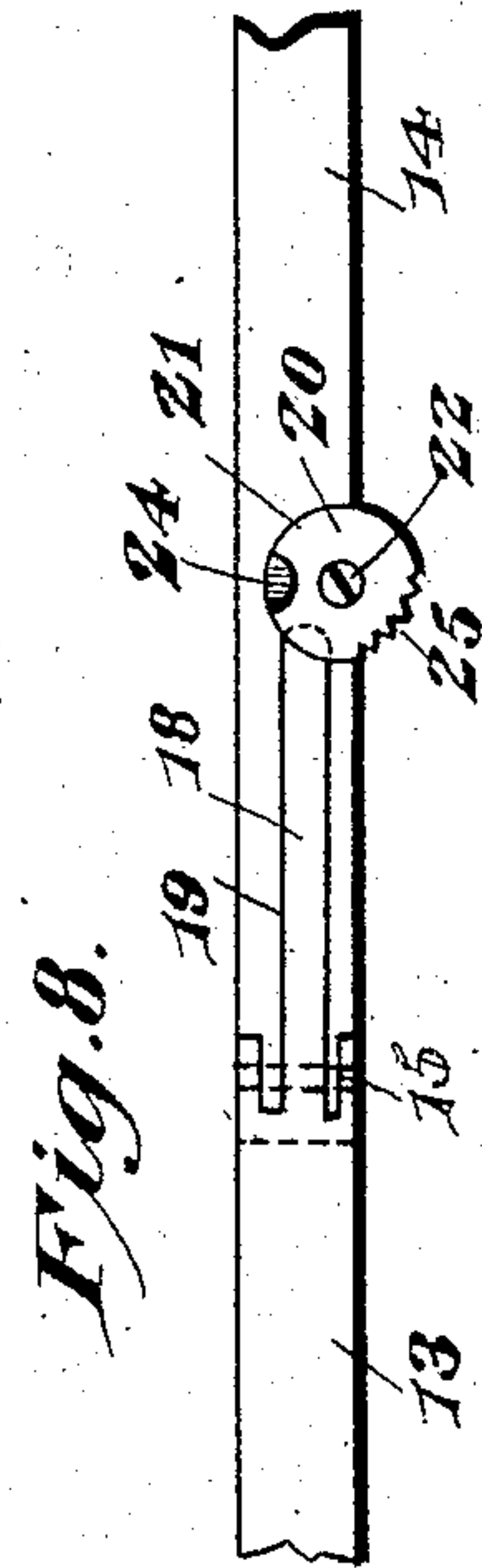


Fig. 8.



Fig. 7.

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UNITED STATES PATENT OFFICE.

JORAM ZIEGLER, OF CLEVELAND, OHIO, ASSIGNOR TO ELLIOTT-FISHER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF DELAWARE.

PLATEN EQUIPMENT FOR TYPE-WRITING MACHINES.

SPECIFICATION forming part of Letters Patent No. 778,392, dated December 27, 1904.

Application filed October 20, 1903. Serial No. 177,768.

To all whom it may concern:

Be it known that I, JORAM ZIEGLER, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have
5 invented a new and useful Platen Equipment for Type-Writing Machines, of which the following is a specification.

This invention relates to an improved platen equipment, designed more particularly for use
10 in connection with type-writing machines of the class exemplified in Patent No. 573,868, to Robert J. Fisher and distinguished by a flat platen over which the printing mechanism travels longitudinally and laterally for
15 line and letter spacing. Machines of this type are especially adapted for use in connection with a wide variety of work elements, and the platen is equipped with a number of devices more or less intimately related for
20 facilitating commercial billing, card-indexing, letter-writing on loose sheets, and recording on sales or record sheets and in books. This extensive platen equipment has been made up by the contributions of several inventors; and
25 the object of my invention, considered in a broad aspect, is to improve this equipment by adding thereto certain features which increase the general efficiency of the platen and facilitate the manipulation of the various de-
30 vices associated therewith.

Viewed somewhat more specifically, one object of the invention is to facilitate the re-organization of the extensible platen disclosed and claimed in the application of Hi-
35 ram J. Halle, Serial No. 109,738, filed May 31, 1902, by equipping the sectional rails or main tracks or guides thereof with a simple, efficient, and secure rail-lock for rigidly connecting the front and rear rail-sections when
40 an extension of the normal printing area is desired.

Another object of the invention, also directed more particularly to the improvement of the Halle platen, is to provide means for
45 properly supporting and guiding a transfer element or web by providing carbon-carriers associated with the platen and platen extension, respectively, and a guide-roller disposed

to properly guide the transfer element or web in an angular direction when the platen 50 extension is moved out of the plane of the platen.

A further object is to improve those features of the platen equipment designed with special reference to commercial billing and 55 to the production of condensed records, and disclosed and claimed in the application of John A. Smith, Serial No. 67,346, filed July 6, 1901. This object is attained by providing the invoice-holder or bill-slide with one or 60 more overhanging flanges or abutments, which facilitate the attachment of the bill to the slide, and also by equipping the vertically-swinging billing-strip with an improved lock, serving to rigidly hold the strip in its de- 65 pressed position, and arranged for convenient manipulation to release the billing-strip when it is desired to raise the latter.

Still another object of the invention is to provide improved tension mechanism for the 70 flexible work-guarding tape or tapes disclosed in my pending application, Serial No. 117,717, renewed July 30, 1902, and in the concurrent application of Charles F. Laganke, Serial No. 177,184, filed October 15, 1903, this object 75 being attained by attaching the rear end or ends of the tape or tapes to a tension-bar disposed laterally of the platen and constantly urged by springs or the like to draw the tapes close against the writing-surface of the platen. 80

Preferred embodiments of the several features of the invention are hereinafter described, illustrated in the accompanying drawings, and succinctly defined in the appended 85 claims.

In the said drawings, Figure 1 is a plan view of an extensible platen provided with an equipment including the several features of my present invention. Fig. 2 is a side elevation of the platen, showing the extension 90 thereof dropped and the front track or guide sections raised, the supporting table or stand being indicated in dotted lines and the traveling machine being likewise indicated above the normal machine-support in rear of the 95 normal printing area. Fig. 3 is a longitudi-

nal sectional view of the platen and the upper portion of the stand, the supplemental platen extension being in its raised position and a machine being indicated thereover in dotted lines. Fig. 4 is a detail perspective view of the contiguous portions of two rail-sections and illustrating the elements of the rail-lock. Fig. 5 is a detail sectional view of the same subject-matter. Fig. 6 is a detail perspective view of the subject-matter of Fig. 4 viewed from the upper side of the rail and showing the rail-sections locked. Figs. 7 and 8 are bottom plan views of the contiguous portions of two rail-sections and showing the lock in its locked and unlocked positions, respectively. Fig. 9 is a sectional view through the rear carbon-carrier and its mounting. Fig. 10 is a detail perspective view of the invoice-holder or bill-slide. Fig. 11 is a transverse sectional view on a somewhat larger scale, showing a portion of the platen and the relative arrangement of the billing-strip and the invoice-holder or bill-slide. Fig. 12 is a sectional view through one end of the billing-strip and its lock. Fig. 13 is a bottom plan view of a portion of the billing-strip. Fig. 14 is a detail view of the tension mechanism for the work-guarding tapes. Fig. 15 is a perspective view of the contiguous portions of front and rear track-sections in juxtaposition. Fig. 16 is an elevation of a track-hinge with the front track-section swung up; Fig. 17 is a vertical section of the lower portion of the structure shown in Fig. 16, and Figs. 18 and 19 are additional detail views illustrating the locking device for the left-hand billing-strip.

Like numerals of reference designate corresponding parts in the several figures of the drawings.

Since certain of these improvements are designed with special reference to the equipment of an extensible platen, I have illustrated in the accompanying drawings the extensible platen disclosed in the Halle application aforesaid and will first describe briefly the general characteristics thereof.

1 indicates a suitable support or stand, upon which is mounted the platen 2, comprising, as usual, a metallic base 3, covered by a rubber or other suitable writing-surface 4. The platen proper is hinged, as indicated at 5, to a drop-frame 6, disposed vertically at the rear end of the platen and suitably supported, provision being preferably made in a manner which need not be described for the bodily vertical and horizontal movement of the platen. To this drop-frame is also hinged, as indicated at 7, a supplemental platen extension 8, normally dropped down to a vertical position, as illustrated in Fig. 2, but serving when in its horizontal position as a continuation of the platen 2, as shown in Fig. 3. When a platen of abnormal length is required, the extension 8 is supported in a horizontal plane by a

swinging supporting-bracket 9, which may be swung back from under the platen extension to permit the latter to drop when no longer required. The main tracks or guides 10, designed for the support of the traveling machine-frame 11, extend continuously along the opposite side edges of the platen and the extension 8 and project slightly beyond the front end of the platen and the rear end of the extension. These tracks or guides are toothed, as usual, for the greater portion of their length for engagement with toothed wheels constituting elements of line-spacing mechanism and are composed of three sections—to wit: extension or auxiliary sections 12, rigidly connected to the supplemental platen extension 8, normally stationary rear sections 13, located at opposite sides of the normal platen extension or machine-support, and front sections 14, disposed at opposite sides of the normal printing area of the platen and hingedly connected at their rear ends to the front ends of the rear sections 13 by hinges 15. Normally the supplemental platen extension 8 is dropped down at the rear end of the platen, and the machine when not in use is disposed over the rear end of the platen constituting the normal platen extension and is supported by the rear track-sections 13, as shown in Fig. 2. That portion of the platen lying in advance of this normal platen extension constitutes the normal printing area, and the hinging of the front track-sections 14 is designed to permit their elevation to facilitate the displacement of a work-sheet from the platen or its replacement and adjustment thereon when the machine has been moved back beyond the normal printing area, these front track-sections 14 being connected for movement in unison toward and away from the platen by a transverse bar 16, as usual. If a printing area of abnormal length is desired, the normal platen extension is utilized as a part of the printing area, and the supplemental platen extension 8 serves as a support for the machine when the latter is moved back therefrom. Since it is desirable to raise and lower so much of the tracks or guides as are disposed at opposite sides of the printing area, the rear track-sections 13 are hinged at their rear ends, as indicated at 17, and provision is made for locking the front and rear track-sections 14 and 13 rigidly together in proper alinement, so that what are normally the fixed and swinging sections of the main tracks or guides become swinging sections disposed along the opposite sides of the abnormal printing area, including both the normal printing area and the normal platen extension.

The foregoing constitutes a sufficient description of the Halle extensible platen to enable those skilled in the art to comprehend the utility of the improved features which I have added to the complementary devices constituting the platen equipment. The first of

these features embraces a simple and effective rail-lock for rigidly connecting the front and rear sections 14 and 13 of the rails or tracks or guides when an extension of the platen is desired. (See Figs. 4 to 8, inclusive.) At their front ends the rear track-sections 13 are provided with toothed extensions 18 in the form of narrow tongues, for the reception of which the adjacent ends of the front sections 14 are bifurcated. When the front and rear sections are in alinement, as shown in Figs. 5 and 6, the tongues 18 fit snugly within the slots or openings 19 in the front ends of the rear sections. These rear rail-sections are formed in a manner to produce stop-shoulders 20^a overhanging the rear ends of the slots 19 to engage the ends of the tongues, and thus arrest the rail-sections in accurate alinement. In order to securely lock the front sections 14 against independent swinging movement, said sections are provided with locking-disks 20, each of which is seated in a recess 21 in the under side of the rail and is mounted to rotate on a bearing-screw 22, screwed into a front rail-section adjacent to its outer side edge and in proper position to cause one edge of the locking-disk to project beyond the adjacent end of the slot 19. The free end of each tongue 18 is formed with a recess 23, into which the edge of the locking-disk extends, so that while the tongue is locked securely within the slot the under faces of the tongue, the locking-disk, and the front rail-section will be disposed in the same plane or flush. The locking-disk 20 is provided in its edge with a notch 24, which when in alinement with the slot 19 permits the front rail-section 14 to move independently of the rear rail-section 13 for the reason that said notch permits the tongue to enter and leave the slot without restriction. When, however, the locking-disk is rotated to bring the notch 24 therein out of coincidence with the slot, as indicated in Fig. 8, the edge of the disk extends under the extremity of the tongue, and said tongue is therefore rigidly secured between the locking-disk and the shoulder 20^a. To facilitate the rotation of the locking-disk, the outer exposed edge thereof is knurled, as indicated at 25, and in order to limit its movement for the purpose of insuring the alinement of the notch 24 with the slot 19 or the complete removal of said notch from coincidence with the slot the locking-disk is provided upon its upper side with an angular stop 26, disposed to engage the side of the rail-section 14, as indicated in Fig. 6. Normally the locking-disk 20 is in the position indicated in Fig. 4, and the front rail-sections are therefore free to swing vertically to facilitate the displacement, adjustment, or replacement of work elements on the platen. When, however, an extension of the platen is desired, the locking-disks are turned to the position indicated in Fig. 8 to lock the front and rear rail-sections and to

compel their movement in unison toward and from the platen, as heretofore explained. In this connection attention may be directed to the specific character of the track-hinge. By reference more particularly to Figs. 4, 15, 16, and 17 it will be noted that the front section of each track is formed at its opposite sides with recesses 20^b, located beyond and below the hinge to define fins or projections 20^c, opposed to the opposite sides of the tongue 18 of the rear track-section and extended into recesses 20^d, defined between the tongue and parallel projections 20^c, extended below and in advance of the hinge. The desirability of this specific construction will be apparent by an examination of Fig. 17, wherein it will be noted that aside from the interfitting relation effected between the front and rear track-section by means of the slot 19 and the tongue 18 a further interfitting relation is established by reason of the extension of the projections 20^c of the front section into the recesses 20^d of the rear section. This latter interfitting relation is maintained at all times irrespective of the position of the front track-section, and therefore when said section is swung up, as indicated in Figs. 16 and 17, it is braced in a manner to take the strain off of the pin 15 to a very large degree and to resist any tendency to lateral vibration of the hingedly-connected parts.

Type-writing machines of the class under consideration are used extensively for commercial purposes, and it is usually desirable to obtain a copy of the letter, bill, record, or the like printed by the machine. Such reproduction necessitates the employment of a transfer element between the original and the subjacent or record sheet. While loose carbon-sheets might be employed for this purpose, I have equipped the Halle platen with a carbon or other transfer web 27, extending between carbon-carriers 28 and 29, mounted at the rear end of the drop extension 8 and at the front end of the platen, respectively. As the carbon element becomes worn it is unwound from the delivering-roll upon the carrier 28 and is wound upon the front carrier 29 by the rotation of the latter through the medium of a thumb-wheel 30, suitable guide-rollers 31, 32, and 33 being mounted at the opposite ends of the drop extension 8 and at the front end of the platen, respectively. (See Fig. 3.) It will be noted that the location of the guide-roller 32 at the front end of the drop extension permits the carbon element to be shifted longitudinally with equal facility whether said extension is in its horizontal or vertical position, as in the latter position the roller 32 will serve to guide the web in an angular direction, as shown in Fig. 2. While the front guide-roller 33 and the front carbon-carrier 29 are located at the front end of the platen, they are not carried thereby, but are sustained by the track-frame for movement therewith through the medium of suit-

able brackets, as shown, it being noted that both of the carbon-carriers are disposed below the writing-surface and that the several guide-rollers are so mounted that their upper sides will be in position to sustain and guide the carbon-web lying close to the writing-surface of the platen. The carbon rolls are preferably protected by guards 34 and 35, detachably connected to the supplemental rail-sections 12 and to the front rail-sections 14, respectively, as shown in Fig. 3. In connection with the carbon-web mounted in the manner described I also employ tension mechanism, which serves to hold the web taut in order to prevent undue movement thereof, which would perhaps interfere with the removal and replacement of the work elements on the platen. The rear carbon-carrier 28 is in the form of a sleeve, as shown in Fig. 9, rotatably mounted upon a spindle 28^a, having its opposite reduced ends extended into brackets 28^b, secured to the rear ends of the supplemental track-sections 12, at the under sides thereof. One end of the sleeve or carrier 28 bears against a thrust-collar 28^c, fixed to the spindle by a set-screw, as shown. The opposite end of the spindle is notched, as shown in Fig. 1, for engagement with a clutch-collar 28^d, loosely mounted on the spindle and urged toward the sleeve 28 by a tension-spring 28^e, the opposite extremity of which is connected to a collar 28^f, rigidly secured to the spindle. The spring 28^e serves not only to urge the clutch-collar 28^d into engagement with the sleeve or carrier 28, but also tends to rotate the collar 28^d and the sleeve 28 in a direction to wind the carbon on the rear carbon-carrier, this tendency serving to prevent slacking of that portion of the carbon-web which extends over the writing-surface of the platen. The mechanism thus described will thus be seen to constitute tension mechanism for the carbon-web, as distinguished from a mere knob or handle, which may be manually operated to turn a carrier, and thus wind the web thereon.

The two features thus far described—to wit, the rail-lock and the mounting for the carbon element or web—are those features which are designed with special reference to the equipment of an extensible platen. I shall now proceed to describe those features which constitute improvements of the general platen equipment and which are equally useful in connection with platens of the non-extensible type.

At one side of the platen the metal base thereof is formed with transverse extensions or supports 36, to which are connected the opposite ends of a slotted gage-strip 37, equipped with gage pins or projections 38, adjustable along the strip and designed to coincide with and engage the file-openings of a sales-sheet *s*, as indicated in Fig. 11. In co-operative relation with this gage-strip is disposed a billing-strip 39, hinged to the exten-

sion or support 36, located adjacent to the rear end of the platen, the hinge being indicated at 40. (See Fig. 1.) The billing-strip is slotted for the reception of the studs or pins 38, and when swung down upon the gage-strip it constitutes a work holder or clamp, preventing the accidental disengagement of the sales-sheet from the gage-pins. It is designed to employ the sales-sheet for the entry of a condensed record of a series of bills, as is fully described in the Smith application before identified. The billing-strip 39 is therefore equipped, as described in the Smith application, with a slide 41, shiftable along the billing-strip and provided with gage pins or studs 42, which engage the file-holes in the bill and serve to retain the latter in proper position above the sales-sheet, with the carbon element or web interposed. I consider it unnecessary for the purpose of this disclosure to specifically describe the bill-slide or invoice-holder 41, except to call attention to the fact that it is in the form of a metal plate considerably shorter than the bill-slide. The improvement of the slide or holder 41 is, however, one of the objects of the present invention, as has been stated heretofore, and this improvement resides in providing the slide, at the outer edge thereof, with an abutment in the form of flanges 43, formed by turning up the outer edge of the plate and bending the same back over the plate in parallel relation therewith, as shown in Fig. 10, so that said flanges will overhang and protect the outer edge of a bill engaged by the slide. These flanges not only serve as protections for the edge of the bill, but they greatly facilitate its attachment to the slide, since it is merely necessary to slip the edge of the bill under the flanges, the vertically-disposed portions of which constitute an abutment which accurately locates the bill, so that the gage-pins 42 readily enter the file-openings. My improvement, of this billing attachment originated by John A. Smith, also includes a novel form of billing-strip lock, which while rigidly retaining the billing-strip in its normally depressed position facilitates the convenient release of the latter when its elevation becomes necessary in order to place a new sales-sheet in position. This lock is clearly illustrated in Figs. 12 and 15. From the front support 36 extends vertically a locking-stud 44, formed at one side thereof with a recess 45. The locking-stud is disposed for reception within a corresponding opening 46 in the billing-strip. In its upper face the billing-strip 39 is provided adjacent to its front end with a recess 47, within which is guided a locking-plate 48, the front extremity of which is bent down to form a finger-piece 49. Adjacent to its rear end the locking-plate 48 is formed with a semicircular notch 50, which in one position of the plate is coincident with one side of the opening 46 in the billing-strip. Within this notch at a

point slightly below the upper surface of the plate 48 is formed a substantially semicircular or arcuate tongue 51. In the releasing position of the plate 48 the locking-tongue 51 is disposed concentric with the opening 46 and will therefore permit the locking-stud 44 to pass through the opening when the billing-strip is lowered. As soon, however, as the strip reaches its normal position the locking-plate is urged forward by a spring 52, and the tongue 51 moves into the recess 45 in the locking-stud, this interlocking engagement between the locking plate and stud serving to securely lock the billing-strip in its depressed position until the locking-plate has been pressed back against the resistance of the spring 52 to release the tongue 51 from the notch 45. The spring 52 is preferably located in a depressed spring-seat 53, formed in the bottom wall of the depression 47 and bearing at one end against the rear wall of its seat and at its opposite end against the finger-piece 49, as shown. The longitudinal movement of the locking-plate 48 is limited by a stop-pin 54, depending from the plate and received within a slot 55 in the billing-strip. (See Fig. 12.) As shown in Fig. 18, the opposite side walls of the recess 47 are undercut or dovetailed, and the opposite sides of the locking-plate 48 are similarly formed. It will be noted that the construction of this lock for the billing-strip is extremely simple, that the movement of the locking-strip is very slight, and that the finger-piece 49 is so disposed that the operator by placing his thumb against the latter may release the billing-strip and elevate it with the same motion. When the billing-strip is swung down, it is automatically locked, because the upper end of the locking-stud 46 is rounded, so that in passing through the opening in the strip it will move back the locking-plate and permit the latter to snap back to its locking position as soon as the tongue 51 and notch 45 coincide.

The next feature to be described is designed with special reference to the provision of simple and efficient tension mechanism for holding taut one or more work-guarding tapes of the character shown in my former application and in the concurrent application of Charles F. Laganke. This tension mechanism is equally effective regardless of the number of tapes employed and without regard as to whether or not the tape or tapes are associated with card-guides, as in the Laganke application. In the accompanying illustration, however, (see particularly Fig. 1,) I have shown a pair of work-guarding tapes 56 disposed longitudinally of the platen between the tracks or guides and detachably connected at their front ends to slides 57, mounted for relative adjustment transversely of the platen on the bar 16, which connects the front ends of the two front track-sections to form a rigid vertically-movable machine-supporting frame. At their rear ex-

tremities the tapes 56 are connected to slides 58, adjustably carried by a tension-bar 59, disposed transversely of the platen adjacent to the rear end thereof and designed to have limited movement longitudinally of the platen for the purpose of taking up the slack of the tapes 56. The tension-bar 59 may be mounted and guided in any suitable manner; but by preference the opposite ends of this bar are received within guides 60, formed between the under sides of the rear track-sections and the bearing-brackets 61, by means of which these track-sections are hingedly mounted. (See Fig. 14.) The outer ends of the bar are provided with hooks 62, to which are attached the front ends of tension-springs 63, secured at their rear extremities to studs 64, relatively fixed with respect to the tracks. These springs constantly urge the tension-bar 59 toward the rear end of the platen, and the springs and bar therefore constitute a tension device common to a plurality of work-guarding tapes adjustable transversely of the platen to position them for the guarding of the side edges of work elements of various sizes. It will be noted that the tension-bar is disposed in advance of the hinges of the rear track-sections 13 and that in consequence of this arrangement both of the bars to which the opposite ends of the tapes are connected move vertically with the machine-supporting frame when the front and rear track-sections are rigidly connected. On the contrary, when the vertically-movable machine-supporting frame is confined to the front track-sections the bar to which the front ends of the tapes are connected swings with the frame, while the bar 59, to which the rear ends of said tapes are connected, remains in a stationary position, except that it moves more or less under the pull exerted by the springs 63 when the tapes are slacked by the elevation of the front track-sections.

Throughout the foregoing description I have laid special stress upon the utility of the various features of my invention as elements of the equipment of a type-writing-machine platen. It is obvious, however, that viewed in a somewhat broader aspect the invention relates to means for equipping a platen or support with improved devices for facilitating the application and retention of a work element or work elements upon which desired matter may be recorded in any desired manner, whether by means of printing mechanism or by the use of a pen, pencil, stylus, or other recording instrument.

It is thought that from the foregoing the several features of my improved platen equipment will be readily understood; but while the present embodiment of the invention is now thought to be preferable I desire to reserve the right to effect such changes, modifications, and variations thereof as may fall fairly within the scope of the protection prayed.

What I claim is

1. In a type-writing machine, the combination with a platen; of the main tracks or guides one of which is sectional, and means including
5 a rotary element for locking the track-sections against relative movement.

2. In a type-writing machine, the combination with a platen and the tracks or guides one of which comprises relatively movable front
10 and rear sections; of a locking-disk carried by one section and disposed to engage the other section to lock said sections against relative movement.

3. In a type-writing machine, the combination with a platen, and the tracks or guides one of which is sectional; of means for locking
15 said sections, said means including a rotary locking element and a stop limiting the movement thereof.

4. In a type-writing machine, the combination with a platen, and the main tracks or guides one of which is sectional; of means for locking
20 the sections together, said means including a rotary locking-disk carried by one section, and having an angular stop disposed to engage said track-section to limit the movement of the disk.

5. In a type-writing machine, the combination with a platen, and the main tracks or
30 guides, one of which is composed of front and rear hingedly-connected sections; of a tongue extended beyond the hinge from one section, and a locking member movably mounted on the other section and arranged to engage the
35 tongue.

6. In a type-writing machine, the combination with a platen and the main tracks or guides one of which comprises front and rear sections hingedly connected; of a tongue extended be-
40 yond the hinge from one section and arranged for reception by the other section, and a rotary locking member carried by the last-named section to engage and lock the tongue.

7. In a type-writing machine, the combination with a platen, and the main tracks or
45 guides one of which is composed of hingedly-connected sections one having a tongue and the other an opening for the reception thereof; of a shoulder limiting the movement of the
50 tongue to insure the alinement of the sections, and a locking-disk for rigidly locking the tongue against the shoulder.

8. In a type-writing machine the combination with a platen and the main tracks or
55 guides one of which comprises hingedly-connected sections; of a locking-tongue extended from one section, and a rotary locking element carried by the other section and having a notch movable into and out of coincidence
60 with the tongue.

9. In a type-writing machine the combination with a platen and the main tracks or
65 guides one of which comprises hingedly-connected sections; of a locking-tongue extended from one section, a rotary locking element

carried by the other section and having a notch movable into and out of coincidence with the tongue, and a stop carried by said locking element to limit the movement thereof.

10. In a type-writing machine, the combination with a platen having a movable extension; of a web-carrier mounted on and movable with said extension. 70

11. In a type-writing machine, the combination with a platen comprising relatively
75 movable sections; of web-carriers associated with the respective sections of the platen.

12. The combination with a type-writing-machine platen having an extension beyond the normal printing area, and a machine-support designed to receive the machine when
80 said extension is utilized as a part of the printing area of the platen; of a web-carrier mounted on said support.

13. The combination with a type-writing-machine platen having an extension beyond the normal printing area, and a displaceable machine-support designed to receive the machine when said extension is utilized as a part
85 of the printing area of the platen; of a web-carrier mounted on said support. 90

14. The combination with a type-writing-machine platen having an extension beyond the normal printing area, and a drop-support designed to receive the machine when said
95 extension is utilized as a part of the printing area of the platen; of a web-carrier mounted on and movable with the drop-support, and means for guiding the web in an angular direction when the support is in its dropped
100 position.

15. The combination with a type-writing-machine platen, and a hinged machine-support at the rear end thereof; of a web-carrier carried by and movable with the support, a guide-
105 roller adjacent to the hinge to guide the web when the support is disposed out of the plane of the platen, and means for retaining the front end of the web.

16. The combination with a type-writing-machine platen, and a hinged machine-support at the rear end thereof; of front and rear web-carriers associated with the support and
110 platen respectively, and a guide-roller located at the rear end of the platen to guide the web
115 thereover.

17. The combination with a type-writing-machine platen having a displaceable extension; of means located at the front end of the platen and at the rear end of the displaceable
120 extension to retain the opposite ends of a web.

18. The combination with a type-writing-machine platen having a displaceable extension; of a web-carrier located at the rear end of the extension, a guide-roller located at the
125 juncture of the platen and the extension thereof, and means located at the front end of the platen to retain the front end of the web.

19. The combination with a type-writing- 130

machine platen having a displaceable extension; of web-carriers located at the front end of the platen and at the rear end of the extension respectively to receive a web passed over both the platen and its extension, and a guide-roller located at the rear end of the platen to guide the web.

20. The combination with a type-writing-machine platen having a displaceable extension; of web-carriers located at the front end of the platen and at the rear end of the extension respectively to receive a web passed over both the platen and its extension, a guide-roller located at the rear end of the platen to guide the web, and other guide-rollers located immediately adjacent to the carriers.

21. The combination with a platen having a displaceable extension, and a vertically-movable machine-supporting frame; of web-carriers mounted on and movable with the platen extension and the machine-supporting frame respectively.

22. The combination with a platen having a displaceable extension, and a vertically-movable machine-supporting frame; of web-carriers mounted on and movable with the platen extension and the machine-supporting frame respectively, and a guide-roller located at the rear end of the platen to guide the web.

23. The combination with a type-writing-machine platen; of a web extended thereover, a movable carrier for one end of the web, means for retaining the opposite end thereof, and a tension device normally urging the carrier to hold the web taut.

24. The combination with a type-writing-machine platen; of a web extended thereover, a rotary carrier for one end of the web, means for retaining the opposite end thereof, and a tension-spring urging the carrier to hold the web taut.

25. The combination with a type-writing-machine platen, of a web disposed thereover, a spindle supporting one end of the web, a tension-spring for the web, mounted on the spindle and means also mounted on the spindle for adjusting the spring.

26. The combination with a type-writing-machine platen, of a slidable bill-holder having at its outer edge an abutment-flange provided with a portion which overhangs the holder.

27. The combination with a type-writing-machine platen, of a bill-holder having an overhanging abutment-flange rising from one edge thereof, and gage pins or studs extended above the holder to engage a bill, the edge of which is protected by the overhanging portion of the abutment-flange.

28. The combination with a type-writing-machine platen, of a bill-slide disposed longitudinally thereof and provided at its outer edge with an abutment-flange.

29. The combination with a type-writing-

machine platen and the main tracks or guides; of a movable work-holder, locking means therefor, and a finger-piece by means of which the locking means may be first released and the work-holder subsequently moved away from the platen.

30. The combination with a type-writing-machine platen and the main tracks or guides; of a movable work-holder, and locking means therefor including a fixed member rigid with the platen, and a cooperating movable member carried by the work-holder.

31. The combination with a type-writing-machine platen and the tracks or guides; of a movable work-holder, a slidable locking-plate carried thereby, and a fixed member disposed for engagement with the plate.

32. The combination with a type-writing-machine platen and the tracks or guides; of a movable work-holder, a spring-urged locking-plate carried thereby, and a recessed stud disposed to be engaged by the plate.

33. The combination with a type-writing-machine platen and the tracks or guides; of a recessed locking-stud, a vertically-movable work-holder having an opening to receive the stud, and a locking-plate movably carried by the holder and arranged to extend into the recess in the stud.

34. The combination with a type-writing-machine platen and the tracks or guides; of a swinging billing-strip, a locking-plate movable thereon and having a finger-piece located at the free end of the strip, and a cooperating locking member disposed to engage the plate.

35. The combination with a type-writing-machine platen and the tracks or guides; of a vertically-movable work-holder having an opening, a locking-stud arranged to enter the same, and a locking-plate slidably mounted on the holder and designed to engage the stud.

36. The combination with a type-writing-machine platen and the tracks or guides; of a vertically-movable work-holder having an opening, a locking-stud arranged to enter the same, and a locking-plate slidably mounted on the holder, said plate having a notch in one side thereof, and a tongue located within the notch to engage the stud.

37. The combination with a type-writing-machine platen and the tracks or guides; of a plurality of relatively adjustable flexible work-guarding strips disposed over the platen, and tension mechanism common to said strips.

38. The combination with a type-writing-machine platen and the tracks or guides; of a relatively adjustable flexible work-guarding strip, a tension mechanism therefor comprising a transverse bar attached to one end of the strip, and means for shifting the bar laterally.

39. The combination with a type-writing-machine platen, the tracks or guides and the traveling machine; of a pair of transverse bars, a flexible work-guarding strip extend-

ing between the bars, and means independent of the machine for shifting one of said bars bodily to produce a tension on the strip.

40. The combination with a type-writing-machine platen and a vertically-movable machine-supporting frame; of a pair of transverse bars carried by said frame, and a flexible work-guarding tape extending between said bars.

41. The combination with a type-writing-machine platen and a vertically-movable machine-supporting frame; of a pair of transverse bars carried by said frame, a flexible work-guarding tape extending between said bars, and a spring urging one of said bars to put the tape under tension.

42. The combination with a type-writing-machine platen and the tracks or guides; of a pair of transverse bars, a flexible work-guarding strip extending between the bars, and springs connected to the opposite ends of one of the said bars to place the strip under tension.

43. The combination with a type-writing-machine platen and the tracks or guides; of a pair of relatively movable transverse bars, a

pair of work-guarding tapes adjustably connected at their opposite ends to said bars, and springs for urging one of said bars to place the tapes under tension.

44. A track or guide for type-writing machines comprising hingedly-connected sections, one having a tongue and the other an opening for the reception thereof, and projections extended from the open section and engaging recesses in the other section at opposite sides of the tongue.

45. A track or guide for type-writing machines comprising hingedly-connected sections, one having a pair of projections disposed beyond the hinge, and the other a pair of recesses disposed to receive the projections for the purpose of bracing the parts against lateral movement when the sections are swung into angular relation.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JORAM ZIEGLER.

Witnesses:

A. R. WARNER,
W. T. McELROY.