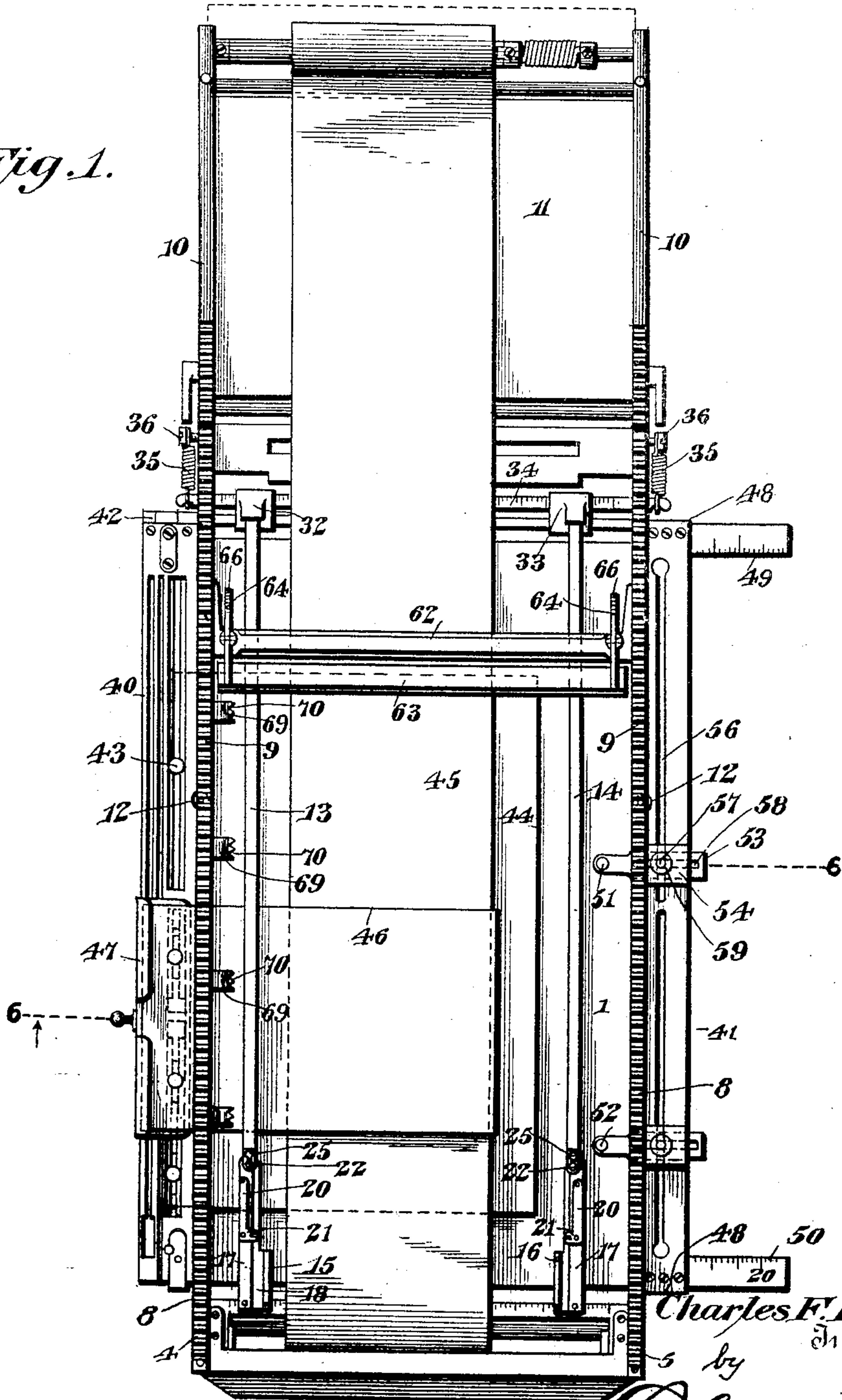


C. F. LAGANKE.
TYPE WRITING MACHINE.
APPLICATION FILED OCT. 15, 1903.

4 SHEETS—SHEET 1.

Fig. 1.



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4 SHEETS—SHEET 2.

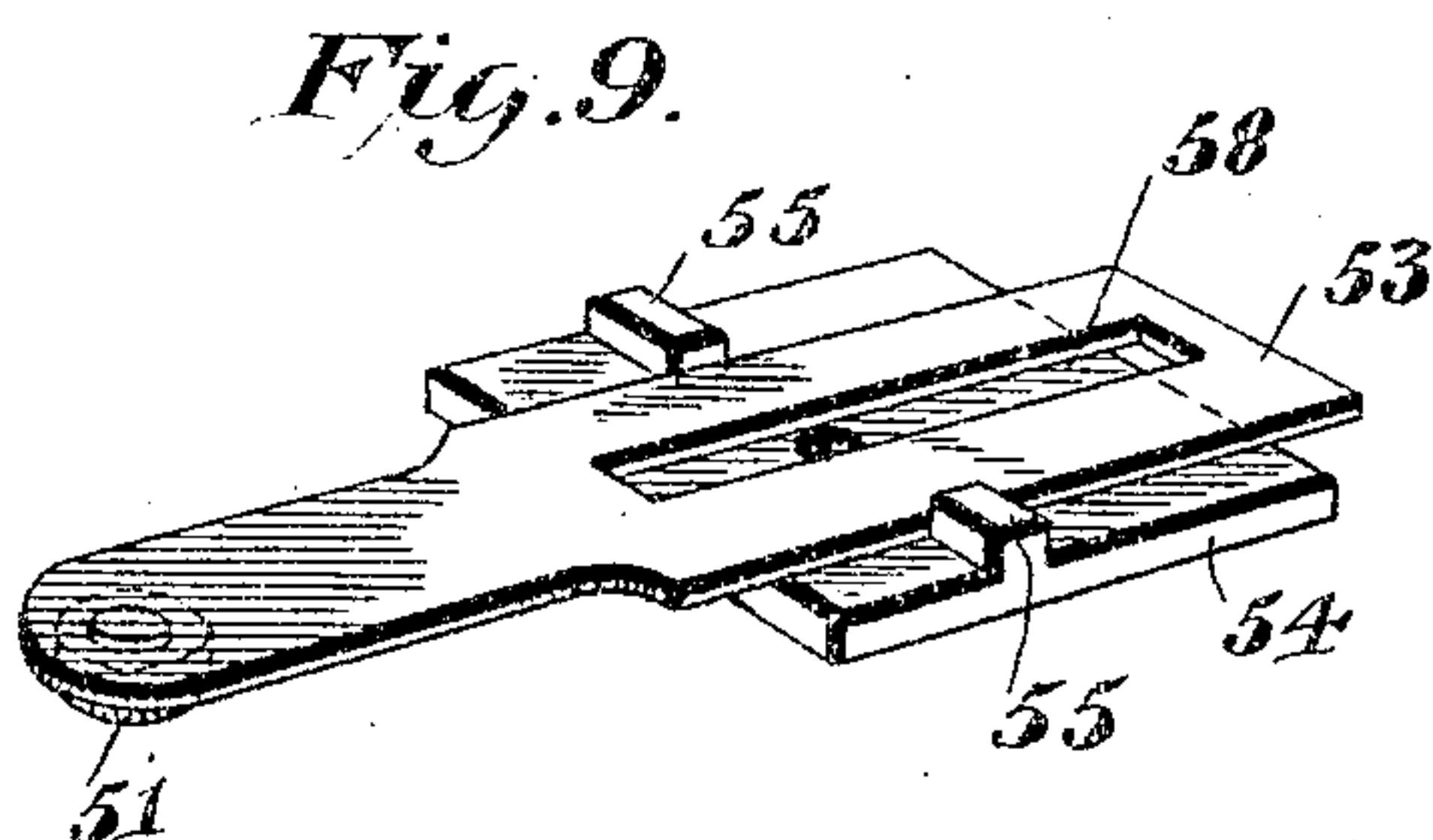
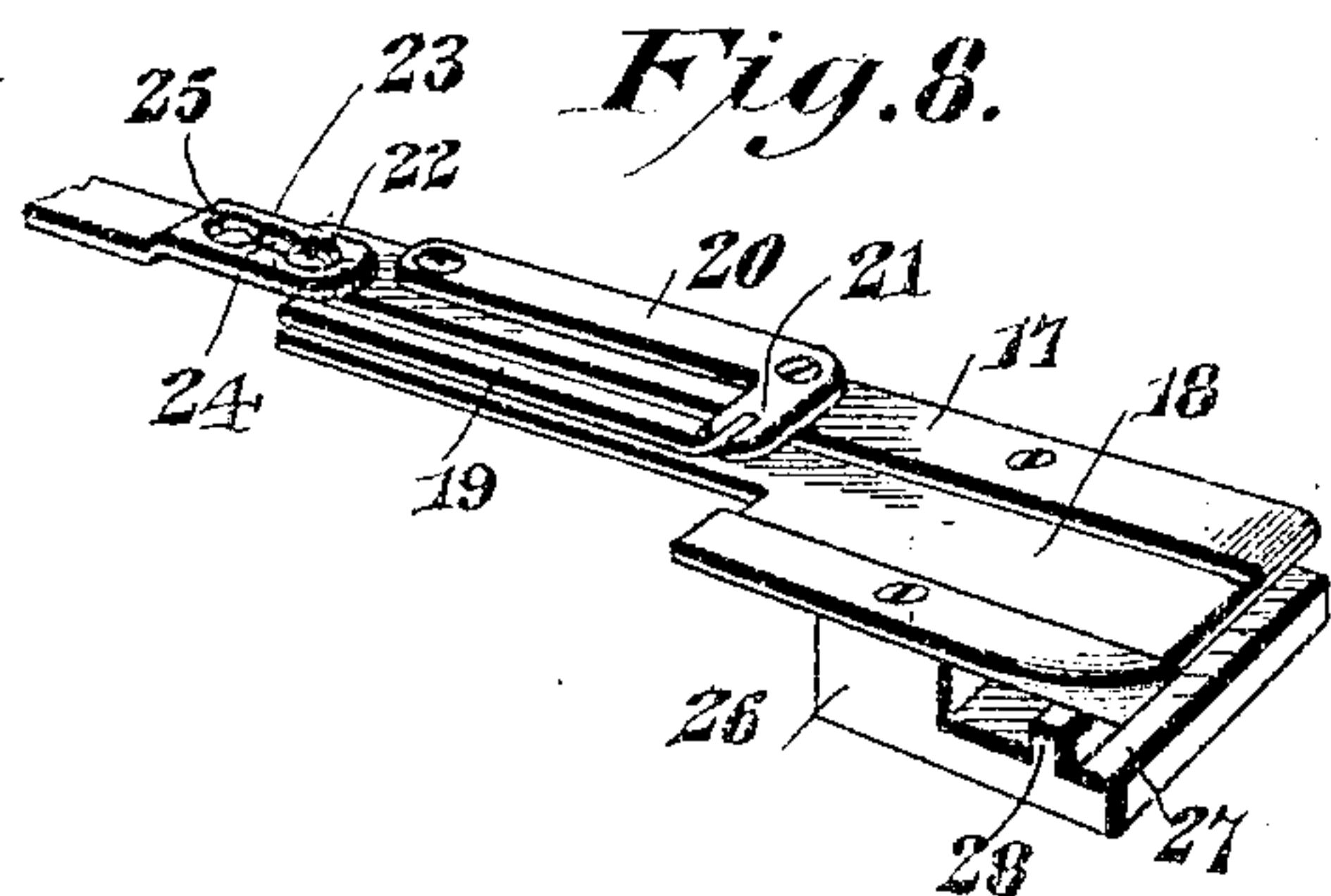
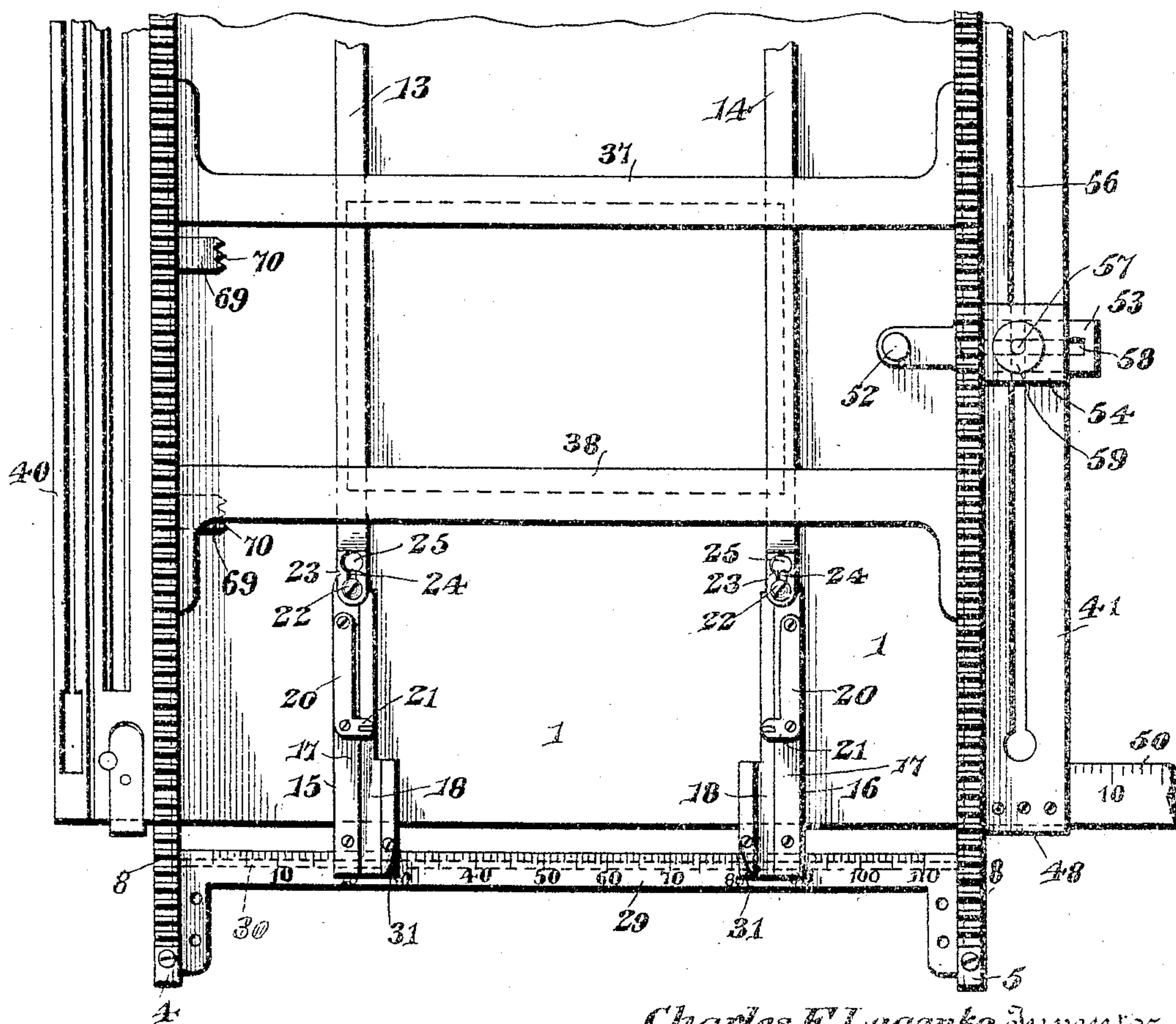


Fig. 2.



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PATENTED DEC. 27, 1904.

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TYPE WRITING MACHINE.
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4 SHEETS—SHEET 3.

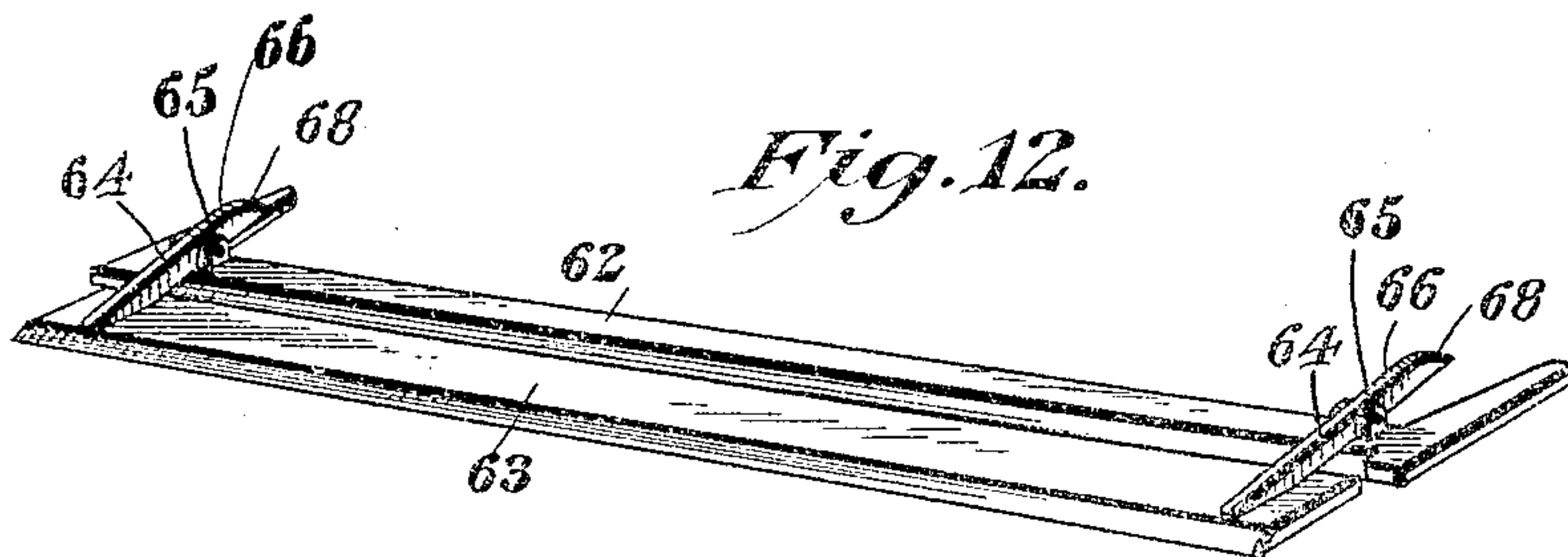


Fig. 10.

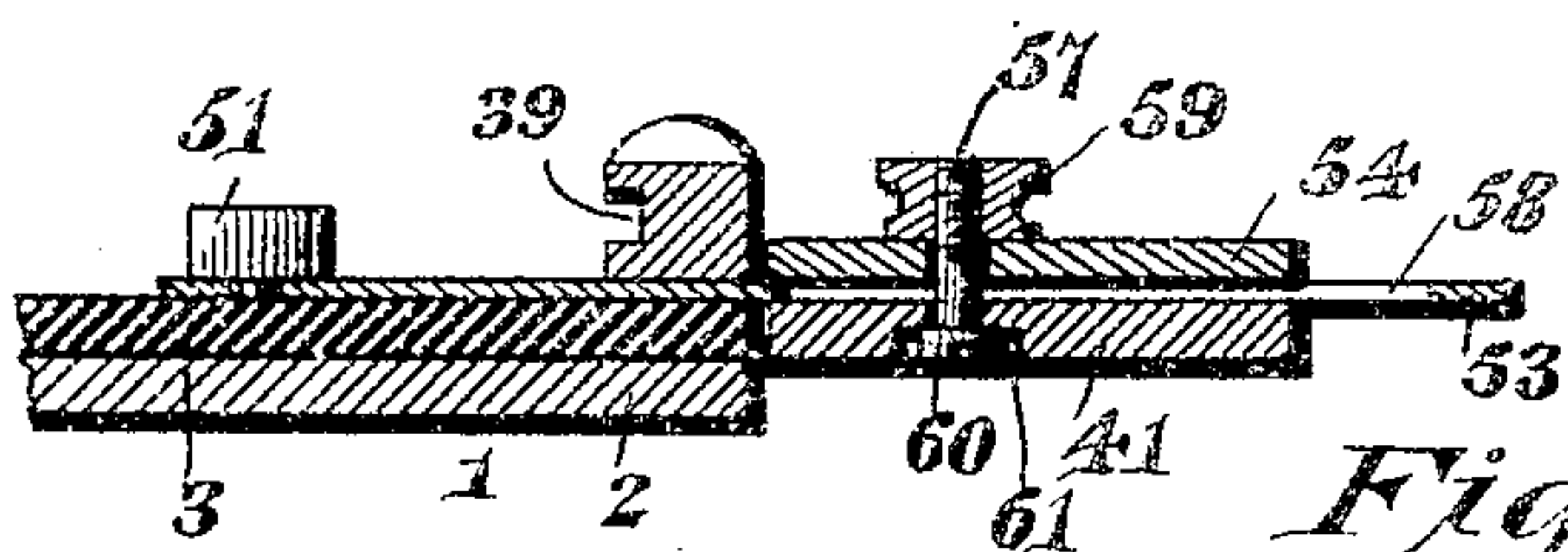


Fig. 11.

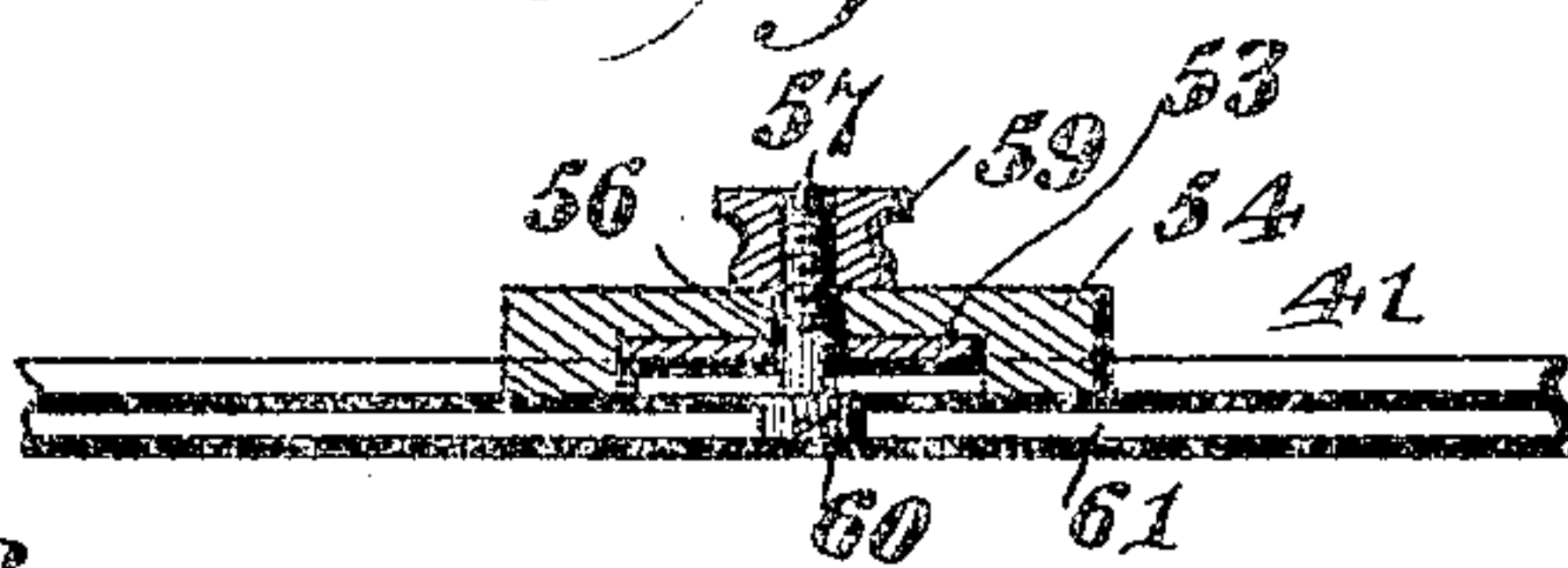
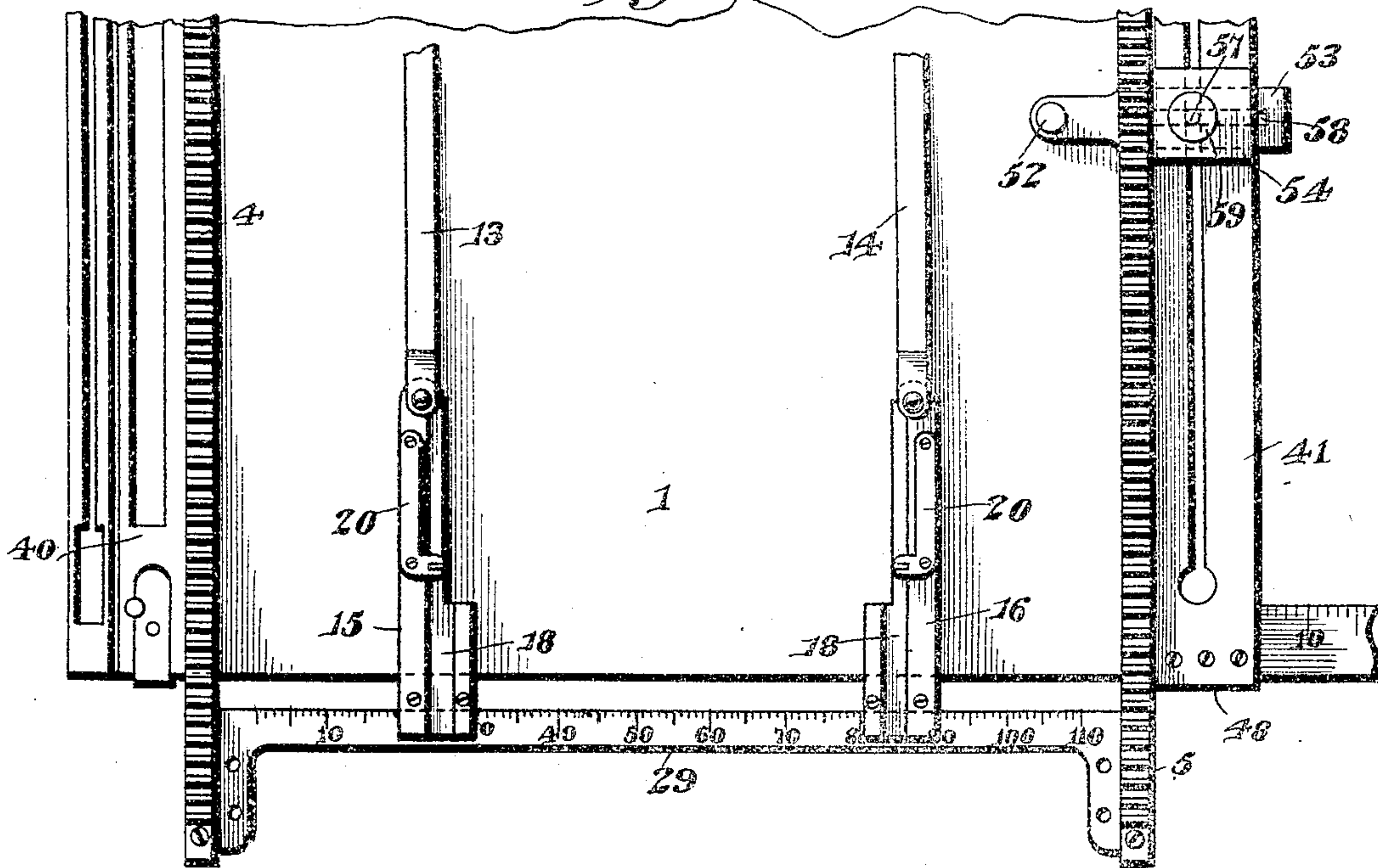


Fig. 3.



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4 SHEETS—SHEET 4.

Fig. 4.

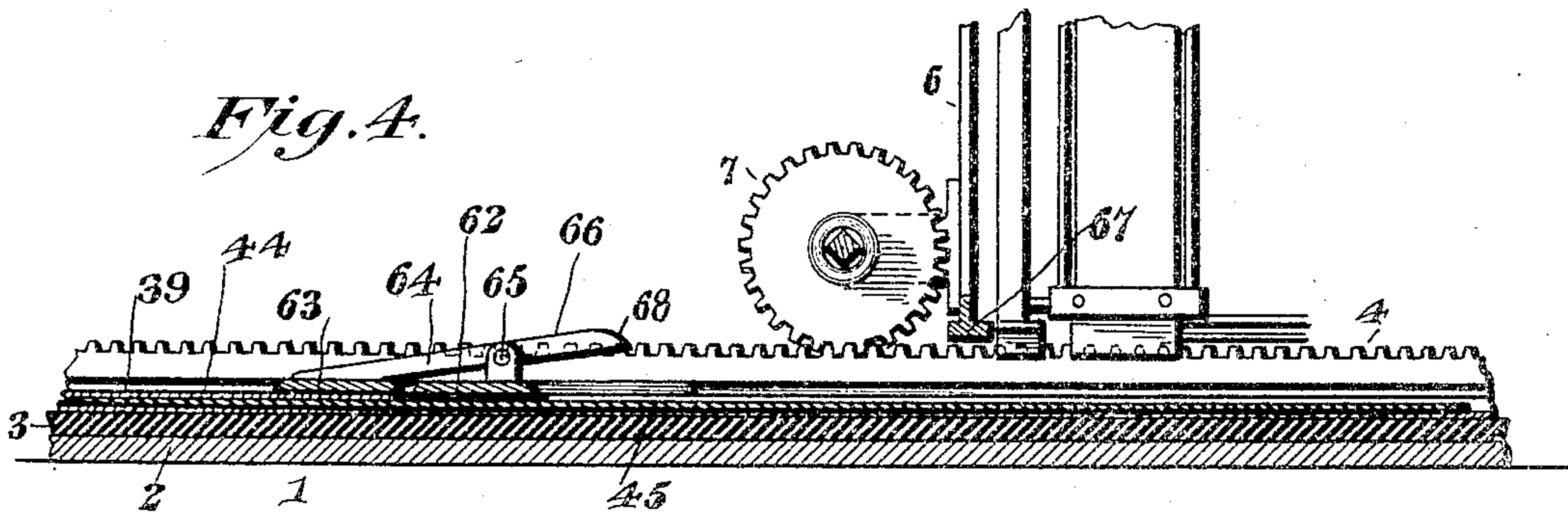


Fig. 5.

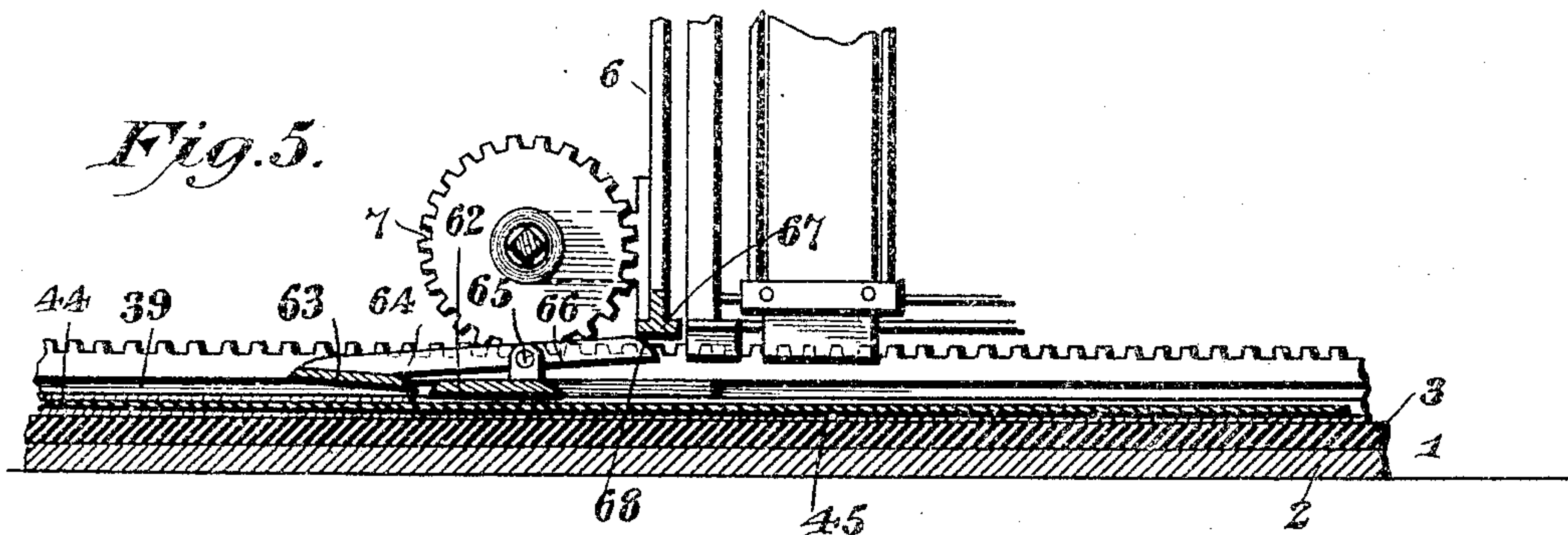


Fig. 6.

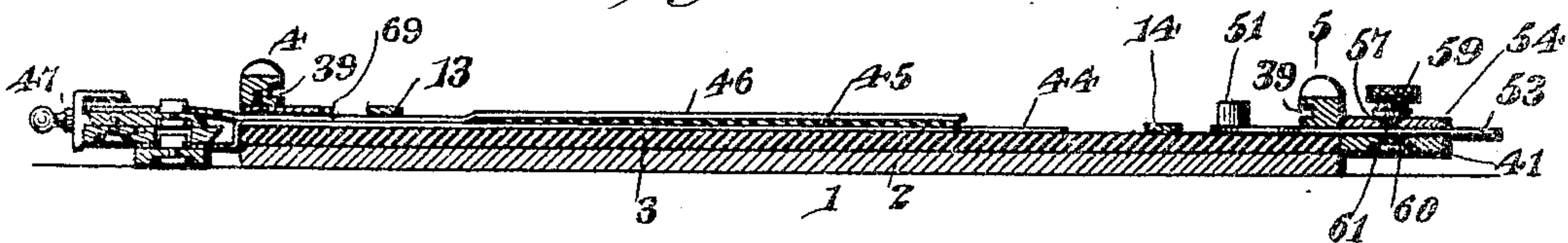
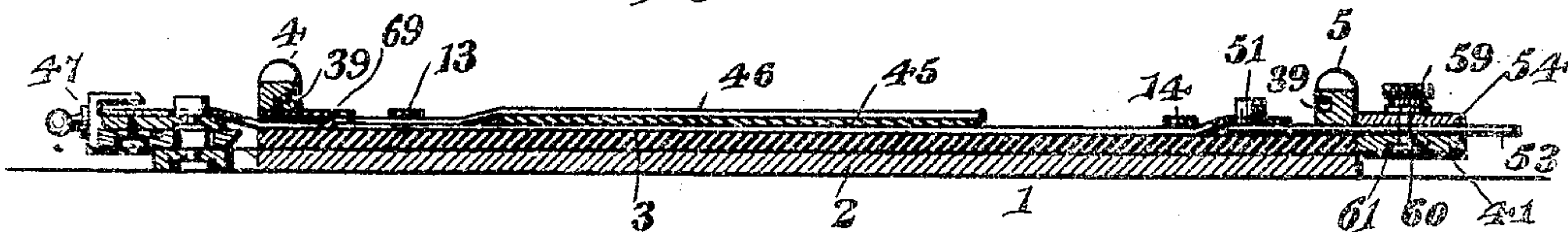


Fig. 7.



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UNITED STATES PATENT OFFICE.

CHARLES FREDERICK LAGANKE, OF CLEVELAND, OHIO, ASSIGNOR TO
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OF DELAWARE.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 778,454, dated December 27, 1904.

Application filed October 15, 1903. Serial No. 177,184.

To all whom it may concern:

Be it known that I, CHARLES FREDERICK LAGANKE, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a new and useful Type-Writing Machine, of which the following is a specification.

This invention relates to type-writing machines exemplified in Patents Nos. 562,625 and 573,868, to R. J. Fisher, and characterized by a flat platen over which printing mechanism travels longitudinally and transversely for line and letter spacing. This type of machine is adapted to writing in books or on loose sheets or cards and for making up records and reports and copies thereof, the work element of whatever character being supported in a flat spread-out condition upon the writing-surface of the platen.

Broadly, the object of the present invention is to improve the platen equipment consisting of various devices which facilitate the location of the various work elements in their proper positions on the platen and the retention of said elements to prevent the accidental displacement thereof during the operation of the machine or the recording of any desired matter on the work-sheet by a pencil, stylus, or other instrument. Subordinate to this general object of the invention are others, one of which is to provide simple and efficient card guiding and holding means adjustable to accommodate cards of different sizes and comprising one or more thin flexible strips or tapes extending longitudinally of the platen and equipped at their front ends with entrance or card guides designed to guide a card to its proper position on the platen with one or both side edges guarded and retained by the strip or strips. This feature of the invention is in one aspect thereof a further development of the invention disclosed in the application of Joram Ziegler, Serial No. 117,717, renewed July 30, 1902, since it contemplates in lieu of the single flexible strip employed by Ziegler a plurality of such strips relatively adjustable transversely of the platen and equipped with card-guides, as stated.

Another object of the invention is to im-

prove that portion of the platen equipment which is designed with special reference to the reproduction upon a sales-sheet of a condensed record made up of copies of bills or the like successively retained opposite different portions of the sales-sheet. This feature is a development of the invention of John A. Smith, disclosed in his application, Serial No. 67,346. In the Smith application the billing-strips are shown at opposite sides of the platen. These billing-strips are equipped with gage-pins and designed for the retention of the sales-sheet. The sheet is provided along one edge with file-holes, which are first engaged by the pins of one billing-strip, preferably the one at the left of the platen. A series of bills are then made out, a condensed record thereof filling one side of the sales-sheet. In order that the reverse side of the sales-sheet may be utilized for the entry of an additional record, the sheet is reversed and is retained by the other billing-strip—for instance, the one at the right of the platen. It is well understood that in billing and other work requiring tabulation the location of various data on the work-sheet is determined by tabulating mechanism, including stops, which are adjusted to properly locate the machine. This mechanism is of course initially adjusted in accordance with the position of the sales-sheet, and as the position of said sheet with reference to the platen is changed when the sheet is reversed it is necessary to readjust the tabulating mechanism in order to secure corresponding margins at both sides of the sheet. This readjustment of the tabulating mechanism is undesirable, since it involves more or less calculation to properly determine the exact location of the stop or stops thereof, and the present improvement therefore resides in the provision of adjustable means for retaining the sales-sheet in its reversed position in order that it may be properly disposed with reference to the column-stops of the tabulating mechanism, thus avoiding the necessity for rearranging said stops when the sales-sheet is reversed. To this end I mount one of the billing-strips for transverse adjustment, preferably outside of the printing area, and equip it with gage

pins or studs disposed within the limits of the platen and capable of individual adjustment both longitudinally and transversely of the platen.

5 Another object of the invention is to provide the platen with a work clamp or guard shiftable over the platen in the direction of line-spacing and automatically movable toward and
10 the work. This feature is a development, combination, and advance of the inventions disclosed in the applications of Herman F. Eckert, Serial No. 38,806, filed December 5, 1900, and Robt. J. Fisher, Serial No. 46,362, filed Febru-
15 ary 7, 1901, (clamp-plate,) since the Eckert application discloses a work-guarding member disposed transversely of the platen and shiftable in the direction of line-spacing, while the Fisher application shows a machine-operated
20 work-clamp. The present invention will be seen to not only involve the idea of a shiftable work-guard and a machine-operated clamping or guarding member, as shown in the Eckert and Fisher applications, but in ad-
25 dition to comprehend a machine-operated work clamp or guard shiftable over the platen in the direction of line-spacing to permit of its being properly positioned with reference to the work-sheets disposed in various po-
30 sitions and also to permit its advance in the direction of line-spacing as the work progresses, if desired.

A still further object of the invention is to insure the retention of loose sheets by pro-
35 viding resilient clips movable toward and from the writing-surface and arranged to engage and hold the sheets. To the accomplishment of this object, one of the tracks or guides is equipped at intervals with spring clips or
40 claws, which when the track is lowered upon the platen engage the work-sheet and serve to securely retain the same whether or not the track or guide rests solidly upon the platen throughout its length.

45 The invention resides, furthermore, in the various details of construction and arrangement to be hereinafter described, illustrated in the accompanying drawings, and defined in the appended claims.

50 In the said drawings, Figure 1 is a plan view of what is known as an extensible platen equipped with the various features of my invention. Fig. 2 is a similar view of the front
55 end of the platen on a somewhat enlarged scale, designed more particularly to show the manner in which a card is held on the platen with its edges properly guarded. Fig. 3 is a view similar to Fig. 2, designed more particularly to illustrate the various adjustments
60 of the reverse billing-strip and the gage pins or studs carried thereby. Fig. 4 is a longitudinal section of a portion of the platen, designed particularly to show the shiftable clamp or guard in its depressed position. Fig. 5 is
65 a similar view showing the clamp or guard

elevated by the machine. Fig. 6 is a transverse section on the line 6 6 of Fig. 1. Fig. 7 is a similar view showing the sales-sheet reversed. Fig. 8 is a detail perspective view of one of the card-guides. Fig. 9 is a similar view of one of the stud-adjusting devices. Fig. 10 is an enlarged sectional view of the reverse billing-strip, the adjacent portion of the platen, one of the studs, and the mounting for the latter. Fig. 11 is a section through
75 the stud-mounting at right angles to Fig. 1, and Fig. 12 is a detail perspective view of the shiftable spring-operated work clamp or guard.

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

For the purpose of this disclosure I have illustrated the invention in connection with the extensible platen described and claimed
85 in the application of Hiram J. Halle, Serial No. 109,738, although it will of course be understood that the various novel features claimed may be employed in connection with any "Fisher" platen or, in fact, with any flat
90 platen or support.

The support or platen 1 comprises, as usual, a metallic base 2, covered by a rubber or other suitable writing-surface 3. The main tracks or guides 4 and 5, designed for the support of
95 the traveling machine-frame 6, extend continuously along the opposite side edges of the platen and are imposed upon the surface thereof. These tracks or guides are toothed, as usual, for the greater portion of their length
100 for engagement with toothed wheels 7, constituting elements of the line-spacing mechanism of the machine, and are composed of three sections—to wit, the swinging front sections 8, arranged at opposite sides of the nor-
105 mal printing area of the platen and hingedly connected at their rear ends to the front ends of the rear sections 9, which are normally stationary and beyond which are located the auxiliary track or guide sections 10, carried by
110 the drop extension 11 of the platen. The auxiliary sections 10 of the tracks or guides constitute a machine-support, to a position over which the machine is moved to facilitate the adjustment of the work elements when
115 the normal platen extension defined between the rear track-sections 9 is utilized as an extension of the normal printing area defined between the front track-sections 8. The rear track-sections 9 are hinged at their rear ends,
120 so that when desired the swinging frame structure may be extended, in which event the front and rear rail-sections may be rigidly connected for movement in unison by rail-locks 12. The structure thus far described is
125 disclosed and claimed in the Halle application above identified and appears to require no further explanation for the purposes of this disclosure.

Extending longitudinally of the platen be- 130

tween the tracks or guides are a pair of thin flexible strips or tapes 13 and 14, constituting guarding and retaining members capable of performing these functions in connection with various classes of work elements, but particularly designed to retain a card and to guard the opposite side or end edges thereof. (See Fig. 2, wherein the card is indicated in dotted lines.) These work holding and guarding strips 13 and 14 are secured at their front ends to entrance or card guides 15 and 16. These card-guides are of identical construction and one only will be described in detail. Each guide comprises a metal plate 17, formed in its upper face with an open-ended guide groove or way 18. Above the rear end of this groove is disposed a longitudinal spring 19, defining the upper yielding wall of the way and retained—as, for instance, by a bracket 20, screwed or otherwise secured to the upper side of the plate 17—and having a laterally-disposed end 21 bifurcated for the reception of the front end of the spring 19. (See Fig. 8.) At its front end the plate 18 is provided with a headed stud 22, designed for the attachment of the tape, the latter being provided with a slotted end 23, slightly offset above the main portion of the tape, so that the latter will lie flat upon the platen, notwithstanding the location of its end in a plane above the plate 17. The slot 24 in the end 23 of the tape is disposed longitudinally thereof and is enlarged at its rear end, as indicated at 25, to permit the passage of the head of the stud 22. When the tape has been passed over the stud and drawn taut, the head of the stud will be disposed opposite the narrow end of the slot to prevent the accidental detachment of the tape from the card-guide.

At its front end the plate 17 is screwed or otherwise secured to a slide 26, having a horizontal flange 27 parallel with the rear end portion of the plate 17 and formed with a vertically-disposed tongue 28. This slide 26 serves as a means for adjustably connecting the card-guide to a graduated bar 29, located beyond the front end of the platen and connecting the front ends of the main tracks or guides. The rear end of the plate 17 and the flange 27 of the slide 26 are disposed, respectively, above and below the bar 29, the latter being provided in its under side with a longitudinal guide-groove 30, which slidably receives the tongue 28. The inner front corner of each of the plates 17 is rounded off, as indicated at 31, to prevent the corners of the cards from catching thereon. It will now be understood that the card-guides are disposed longitudinally of the platen in opposed parallel relation, as shown in Fig. 2, and that said guides are relatively adjustable transversely of the platen to accommodate cards of different widths, the scale-graduations on the bar 29 serving to facilitate this adjustment of the

guides and preferably corresponding to the letter-space scale on the machine-frame.

The rear ends of the strips 13 and 14 are secured to slides 32 and 33, adjustably mounted on the transversely-disposed tension-bar 34, preferably graduated in accordance with the graduations on the bar 29 and having its ends disposed under the rear rail-sections 9 adjacent to their rear ends and capable of slight movement longitudinally of the platen. The extremities of the tension-bar 34 are extended beyond the outer sides of the rails to engage the front ends of tension-springs 35, secured at their rear ends to studs 36, projecting from the rails or from the hinged supports therefor. These springs and the bar 34 constitute tension mechanism common to both tapes, and besides holding the latter taut create sufficient friction between the slides and the graduated bar to prevent accidental lateral displacement of the tapes. It should be noted at this point, however, that the tension mechanism just described constitutes no part of my present invention, but is described and claimed in the concurrent application of Joram Ziegler, Serial No. 177,768, filed October 20, 1903.

In order to place a card in position on the platen, its opposite side or end edges are disposed in the grooves 18 of the card-guides, and the card is then pushed forward under the springs 19 and beyond the same to locate its side edges under the tapes, as shown in dotted lines in Fig. 2, it being observed that the inner edges of the tapes project slightly over the guideways to insure the extension of said tapes over the edges of the card as the latter issues from the guides. In connection with these longitudinal tapes or work holding and guarding members which guard the side edges of the card it is preferable to employ transverse work holding or guarding members 37 and 38, relatively adjustable longitudinally of the platen and serving to guard the top and bottom edges of the card, as shown in Fig. 2. The transverse members 37 and 38 are preferably in the form of light metal plates having their opposite end edges slidably received within guide-grooves 39, formed in the inner sides of the tracks or guides. As the card-guides are connected to the tapes, it will be observed that each tape and its associated guide are adjustable at the same time or in unison.

Immediately beyond the opposite side edges of the platen are located billing-strips 40 and 41, corresponding, broadly, to the billing-strips disclosed in the Smith application before identified. The strip 41 is mounted to swing vertically from a hinge 42 and is provided with depending gage-pins 43, designed to engage the file-holes in the left-hand margin of the sales-sheet 44. The billing-strip 40 constitutes, in effect, a clamping member which when swung down engages the edge of the sales-

sheet extending over the writing-surface. The pins 43 constitute a gage which serves to accurately position the sales-sheet, and the billing-strip 40 may therefore be said with equal truth to be a gage-strip.

Upon the sales-sheet is imposed a carbon or other transfer element or web 45, upon which is in turn imposed the bill 46, retained at its left-hand edge by a bill-slide or invoice-holder 47, slidably mounted on the billing-strip 40 to position the bill over any desired portion of the sales-sheet. The billing-strip 40 and the bill-slide 47 lie outside of or beyond the adjacent track or guide, and the latter when lowered serves as an additional clamping member, assisting in the retention of the sales-sheet and bill in their proper positions on the platen. This arrangement of the billing-strips and bill-slide was originated by John A. Smith, as heretofore stated, and, as has been premised, my invention relates to means whereby the billing or gage strip 41 at the right-hand side of the plate is rendered capable of adjustment, and the means whereby gage pins or studs, located between the tracks or guides, are made adjustable with the strip and are also capable of individual adjustment both longitudinally and transversely of the platen.

At its opposite ends the billing-strip 41 is provided with guides 48, slidably fitted upon a pair of graduated supporting-bars 49 and 50, extending laterally from the platen at or adjacent to its opposite ends. The billing-strip 41, which is thus made laterally adjustable outside of or beyond a track or guide, carries a pair of gage pins or studs 51 and 52, located between the tracks or guides or within the printing area of the platen and designed to engage the file-holes of the sales-sheet when the latter is reversed in order to utilize the reverse side thereof for the entry of a condensed record. Each of these gage pins or studs is carried at the inner end of a thin longitudinally-slotted plate or shank 53, extended under the adjacent rail and interposed between the billing-strip 40 and a plate 54, constituting a slide adjustable longitudinally of the billing-strip. The plate or slide 54 is provided with a pair of dependent lugs 55, received within a longitudinal slot 56 in the strip 41 to prevent the lateral displacement of the slide and also to insure the movement therewith of the slotted plate or shank 53 of the stud. Normally the plates 53 and 54 are retained rigidly by a binding-screw 57, extending upwardly through the slot 56 in the strip, through the slot 58 in the plate 53, and through an opening in the slide 54. A thumb-nut 59 is screwed upon the upper end of the screw 57, and as the head 60 of said screw engages the under side of the billing-strip the plates 53 and 54 will be securely clamped to each other and to the strip. The head 60 of the screw 57 is received within and accommodated by a longitudinal groove 61 in

the under side of the strip 41. (See Figs. 10 and 11.)

When one side of the sales-sheet has been filled, it is disengaged from the pins of the billing-strip 40 in an obvious manner and is reversed, its file-holes being engaged by the pins or studs 51 and 52. The adjustment of these pins to accommodate the location of the holes in the sheet is effected by loosening the thumb-nuts 59 and shifting the plates 53 and 54 in the required directions, after which the pins are fixed in their relative positions by screwing up the nuts. If now the sales-sheet is not in proper position to receive the record without a rearrangement of the column-stops on the machine, the billing-strip 41 is adjusted laterally for the purpose of effecting the proper location of the sheet.

The next feature to be described is the shiftable machine-operated work clamp or guard.

Within the grooves 39 of the tracks or guides are slidably received the opposite ends of a transversely-disposed follower-plate 62, similar to the follower plate or web disclosed in the Eckert application aforesaid. This plate is shiftable over the platen in the direction of line-spacing as the work progresses and at its front side is equipped with a work holding or guarding member or clamp 63, carried by operating-levers 64, fulcrumed upon the plate 62, as indicated at 65, and having their rear ends 66 extending upwardly into the path of the front bar 67 of the machine-frame. The clamp or member 63 is designed to be shifted to any desired point on the platen to protect and guard the top edge of a work element and is also movable toward and away from the platen for the purpose of engaging or releasing the work, the engagement being effected automatically by gravity and the elevation of said member to release the work being automatically effected by the machine when the latter is moved back from over the work. The rear ends of the operating-levers 64 are rounded or cam-shaped, as indicated at 68, so that when the machine, having previously been moved back beyond said levers, is moved forward the latter will be depressed by the machine-frame instead of opposing an obstruction thereto.

As is well understood by those skilled in the art, the swinging sections of the tracks or guides are ordinarily employed as work holding or clamping members, since they usually rest solidly upon the platen, and therefore serve to clamp and securely retain a loose sheet in position to be printed upon.

The final feature of my present invention comprehends a simple but highly-efficient arrangement whereby the clamping action of the tracks is greatly augmented.

To one or both of the tracks are secured a series of laterally-extending spring clips or claws 69, having their inner toothed extremities 70 bent down slightly below the plane of

the track, so that when said track is lowered upon the platen these clips will be forced to yield or flex, and thus exert a distinct gripping action upon a work element engaged thereby. These clips or claws not only augment the clamping action of the tracks, but they insure the retention of a work-sheet in the event that the track does not rest solidly upon the platen, and therefore fail to exert any clamping action whatever on a very thin sheet. Furthermore, since these clips extend inwardly from the track they are capable of engaging and retaining a work-sheet which when in proper position upon the platen would not be of sufficient width to extend under the tracks.

It has been stated that certain of the structural features—such, for instance, as the tension mechanism for the tapes 13 and 14—are described and claimed in the concurrent application of Joram Ziegler, Serial No. 177,768. Attention may now be called to the fact that various other features of the illustrated structure were originated by the said Ziegler and that I make no claim to any of the subject-matter claimed in the Ziegler application. Furthermore, I desire to direct special attention to the fact that while the invention in certain aspects thereof relates to type-writing machines it is specifically directed to the equipment of a platen or support with improved means for retaining a work element or work elements in place, and it is therefore within the purview of the invention to utilize the novel platen equipment independently of the type-writing machine, instead of which a pencil, pen, stylus, or other recording instrument may be employed.

It is thought that from the foregoing the construction, operation, and advantages of my improvements of the platen equipment will be clearly understood; but while the present embodiment of the invention is believed at this time to be preferable I reserve the right to effect such changes, modifications, and variations thereof as may come fairly within the scope of the protection prayed.

What I claim is—

1. The combination with a platen; of a work-guarding tape, and work-guiding means associated therewith.

2. The combination with a platen; of a flexible work-guarding tape, and an entrance-guide at one end thereof.

3. The combination with a platen; of a flexible work-guarding tape, and a card-guide attached thereto to guide the edge of a card under the tape.

4. The combination with a platen; of a flexible work-guarding tape and work-guiding means, adjustable in unison.

5. The combination with a platen; of a flexible work-guarding tape and associated work-

guiding means movable toward and away from the platen in unison.

6. The combination with a platen; of a flexible work-guarding tape and a work-guide adjustable over the platen and toward and from the same.

7. The combination with a platen and a vertically-movable track or guide; of a flexible work-guarding strip and work-guiding means, both movable with said track or guide.

8. The combination with a platen and a vertically-movable track or guide; of a flexible longitudinal work-guarding strip, and a card-guide connected to the strip to guide a card thereto and also connected to the track or guide for movement therewith.

9. The combination with a platen; of a plurality of relatively adjustable work-guarding tapes, and card-guides associated therewith.

10. The combination with a platen; of a plurality of relatively adjustable card-guides, a plurality of work-guarding tapes extending rearwardly from said guides, and means adjustably retaining the rear ends of said tapes.

11. The combination with a platen; of transverse bars at or adjacent to the opposite ends thereof, a card-guide shiftable along one bar, and a tape connected to the card-guide and having shiftable connection with the other bar.

12. The combination with a platen; of transverse bars at or adjacent to the opposite ends thereof, opposed card-guides independently adjustable along one bar, and tapes adjustable along the other bar and connected to the guides.

13. The combination with a platen and a vertically-movable machine-supporting frame; of transverse bars carried by and movable with said frame, card-guides adjustably carried by one bar, and tapes adjustable along the other bar and connected at their front ends to the card-guides.

14. The combination with a platen, and a vertically-movable machine-supporting frame; of opposed relatively adjustable card-guides mounted on the frame and movable in unison therewith, and work-guarding tapes extending rearwardly from the guides.

15. The combination with a platen and a vertically-movable machine-supporting frame; of card-guides and guarding-tapes supported wholly by said frame.

16. The combination with a platen; of a card-guide having a guideway adjustable to different thicknesses of work, and a guarding-tape extending from the guide and detachably connected thereto.

17. In a type-writing machine, the combination with a platen, and the tracks or guides, of a work-gage including gage-pins independently adjustable longitudinally of the platen, and provision whereby said gage-pins may be independently adjusted transversely of the

platen at any point within the range of their adjustment longitudinally thereof.

18. In a type-writing machine, the combination with a flat platen and the tracks or guides; 5 of a laterally-adjustable billing or gage strip located outside of a track and equipped with work-engaging means located between the tracks or guides and adjustable with the strip.

19. In a type-writing machine, the combination with a flat platen and the tracks or guides; 10 of a billing or gage strip adjustable transversely and equipped with gage-pins adjustable therewith and also capable of individual adjustment both longitudinally and transversely of the platen.

20. In a type-writing machine, the combination with a flat platen and the tracks or guides; 20 of a billing or gage strip, a slide adjustable longitudinally thereof, and a gage-pin movable with the slide and adjustable independently thereof.

21. In a type-writing machine, the combination with a flat platen and the tracks or guides; 25 of a transversely-adjustable billing or gage strip, a slide adjustable longitudinally thereof, and a gage-pin adjustable with the strip and slide respectively and also having individual adjustment.

22. In a type-writing machine, the combination with a flat platen and the tracks or guides; 30 of a gage-pin located at one side of a track and a thin plate or shank supporting the pin and extended under said track or guide.

23. In a type-writing machine, the combination with a flat platen and the tracks or guides; 35 of a billing or gage strip located outside of a track, gage-pins located between the track, and thin plates or shanks extended under a track or guide from the pins and adjustably 40 connected to the strip.

24. An attachment for flat-platen type-writing machines comprising a slotted billing or gage strip, a slide having lugs engaging the slot therein, a gage-pin, a thin slotted plate 45 or shank therefor, embraced by the lugs of the slide, a binding-screw passed through the slide and through the slots in the strip and shank, and a thumb-nut screwed upon the binding-screw to clamp the parts together.

50 25. In a type-writing machine the combination with a flat platen and the tracks or guides; of a work-guarding member shiftable over the platen in the direction of line-spacing and automatically movable away from the writing- 55 surface independently of the tracks or guides.

26. In a type-writing machine, the combination with a flat platen, tracks or guides, and a traveling carriage, of a swinging work-guarding member shiftable over the writing- 60 surface of the platen, and means for automatically swinging said member independently of the tracks or guides.

27. In a type-writing machine, the combination with a flat platen, tracks or guides, and

a traveling machine; of a machine-operated 65 work-guarding member shiftable over the platen and mounted to swing independently of the tracks or guides.

28. In a type-writing machine the combination with a flat platen and the tracks or guides 70 for a traveling machine; of a machine-elevated work-guard shiftable over the writing-surface.

29. In a type-writing machine, the combination with a flat platen and the tracks or guides 75 for a traveling machine; of a transverse machine-elevated work-guard shiftable over the writing-surface in the direction of line-spacing.

30. In a type-writing machine, the combination with a flat platen having main tracks or guides for a traveling machine; of a work-guard arranged to permit the machine to travel thereover and shiftable over the writing-surface of the platen, and means for au- 85 tomatically moving the work-guard away from the writing-surface independently of the tracks or guides.

31. In a type-writing machine, the combination with a flat platen having main tracks or guides for a traveling machine, of a shiftable transverse work-guarding member disposed directly over the writing-surface of the platen to guard the work thereon, and arranged to permit the machine to travel thereover, and 95 machine-operated means for automatically moving said guarding member away from the writing-surface.

32. In a type-writing machine, the combination with a flat platen having main tracks or guides; of a machine movable thereover, a work-guard independently shiftable over the writing-surface and movable away from the platen by the machine. 100

33. In a type-writing machine, the combination with a flat platen having tracks or guides; of a work-guarding member shiftable over the platen and automatically movable away from the writing-surface thereof independently of the tracks or guides, and means for 110 guiding said member when shifted.

34. In a type-writing machine, the combination with a flat platen; of a shiftable work-guard including relatively movable members, one of which is independently movable to- 115 ward and from the platen.

35. In a type-writing machine, the combination with a flat platen and guiding means; of a shiftable web or plate guided by said means and shiftable over the platen, and a work-guarding member shiftable with the web or plate and movable independently thereof to- 120 ward and from the writing-surface of the platen.

36. In a type-writing machine, the combination with a flat platen; of a work-guard comprising connected members movable in unison toward and from the platen, one of said 125

members being also arranged for independent movement toward and from the platen.

37. In a type-writing machine, the combination with a flat platen; of a work-guard comprising a web or plate shiftable longitudinally of the platen, and a work-guarding member hinged thereto.

38. In a type-writing machine, the combination with a flat platen and a vertically-movable machine-supporting frame; of a work-clamp movable toward and from the platen with said frame or independently thereof and shiftable on the frame.

39. In a type-writing machine the combination with a flat platen and a vertically-movable machine-supporting frame; of a work-clamping member shiftable over the platen and movable toward and from the platen with the frame or independently thereof.

40. In a type-writing machine, the combination with a flat platen and the tracks or guides; of a transverse web or plate shiftable engaging said tracks, and a work-clamping member hinged to said plate or web.

41. In a type-writing machine, the combination with a flat platen and a vertically-movable machine-supporting frame; of a transverse web or plate shiftable carried by said frame, and a work-clamping member hinged to said web or plate.

42. In a type-writing machine, the combination with a flat platen and a traveling machine; of a work-guarding member shiftable over the platen, and movable toward and from the same, and means arranged to be operated by a part of the machine to move the guarding member away from the platen.

43. In a type-writing machine, the combination with a flat platen, a vertically-movable machine-supporting frame, and a traveling machine; of a swinging machine-operated work-guarding member carried by the frame.

44. In a type-writing machine, the combination with a flat platen, and a vertically-movable machine-supporting frame; of a work-guarding member shiftable upon the frame and movable toward and away from the platen independently thereof, and machine-operated means for moving said member.

45. In a type-writing machine, the combination with a flat platen, a vertically-movable machine-supporting frame, and a traveling machine; of a work-guarding member shiftable carried by the frame and mounted to swing independently thereof, and machine-operated means for swinging said member.

46. In a type-writing machine, the combination with a flat platen, a vertically-movable machine-supporting frame, and a traveling machine; of a web or plate shiftable along said frame, a swinging work-guarding mem-

ber shiftable with said web or plate, and an operating-lever for said member extended into the path of the machine.

47. In a type-writing machine, the combination with a flat platen and guiding means, of a shiftable web or plate guided by said means and shiftable over the platen, and a clamp mounted on the plate.

48. In combination, a flat support, a vertically-movable work-holding frame disposed thereover, and a transverse clamp vertically movable with the frame or independently thereof and shiftable over the support.

49. In combination, a support, a hinged open frame, a transverse member within the frame and slidably engaging the same, and a clamp movable with said member.

50. In combination, a support, a longitudinal work-holder, and a transverse clamp movable toward and away from the support independently of the work-holder and shiftable longitudinally thereof.

51. In combination, a support for the work element, a vertically-movable work-holder, and an independently vertically movable clamp disposed transversely of the work-holder and shiftable longitudinally thereof.

52. In combination, a support for the work element, a work-holder movable toward and away from the support, a clamp shiftable longitudinally of the work-holder and movable toward and away from the support with the work-holder or independently thereof.

53. In combination, a support for the work element, guiding means, and a clamp shiftable along the guiding means and independently movable toward and away from the support.

54. In combination, a support, guiding means, a bar shiftable over the support and guided by said means, and a clamp mounted on the bar.

55. In combination, a support, guiding means, a clamp shiftable along the guiding means and movable toward and away from the support independently of the guiding means, and means for automatically moving the clamp in one direction.

56. In combination, a flat support for the work element, an open frame hinged at its rear end to the support, a transverse member shiftable engaging the side members of the frame, and a clamp hinged to said transverse member.

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

CHARLES FREDERICK LAGANKE.

Witnesses:

H. J. HALLE,
GEORGE C. RUSSELL.