

No. 843,057.

PATENTED FEB. 5, 1907.

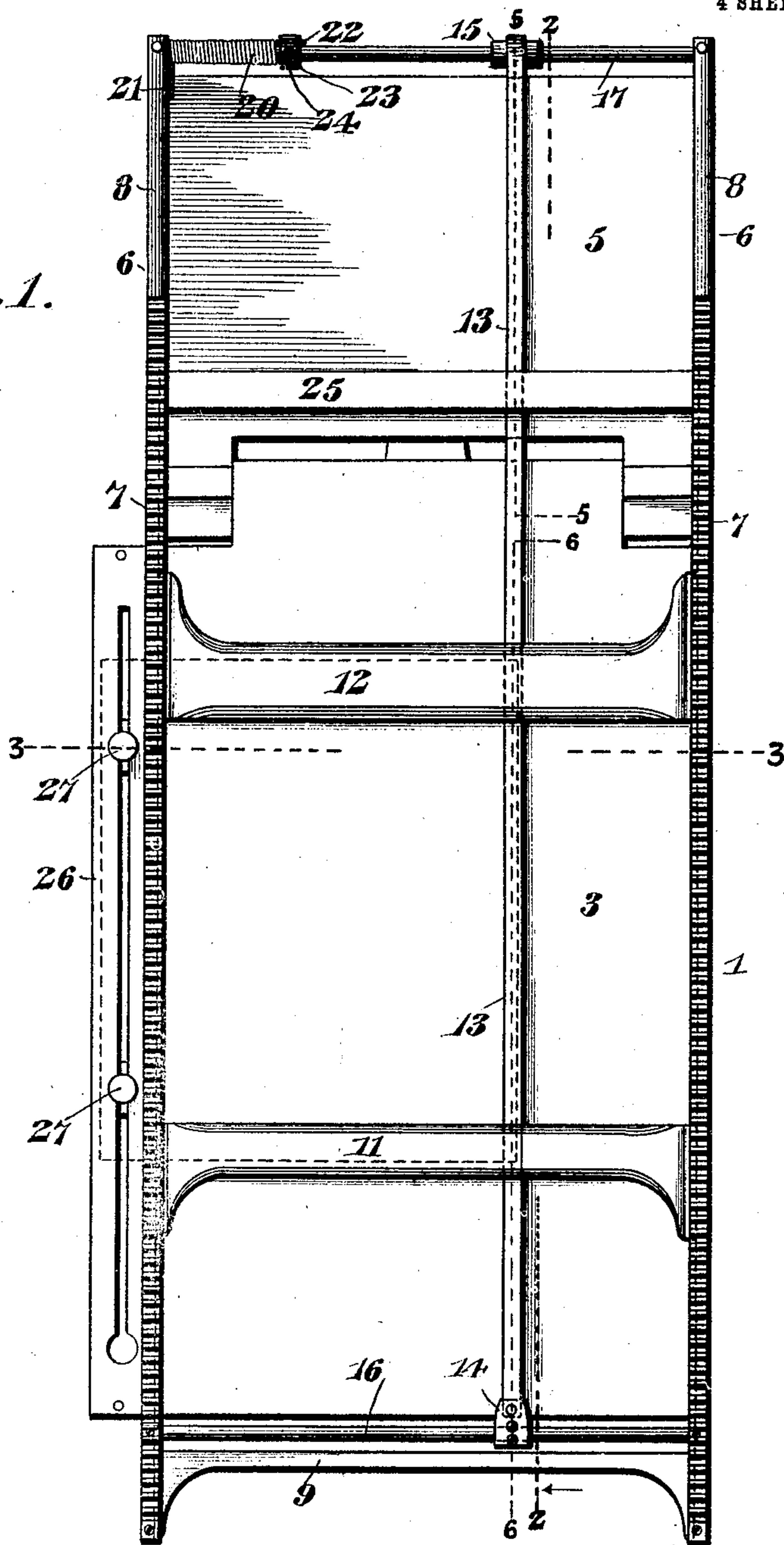
J. ZIEGLER.

PLATEN FOR TYPE WRITING MACHINES.

APPLICATION FILED JUNE 21, 1901. RENEWED JULY 30, 1902.

4 SHEETS—SHEET 1.

Fig. 1.



Joram Ziegler, Inventor

By

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Witnesses
Jas. E. McClathran
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4 SHEETS—SHEET 2.

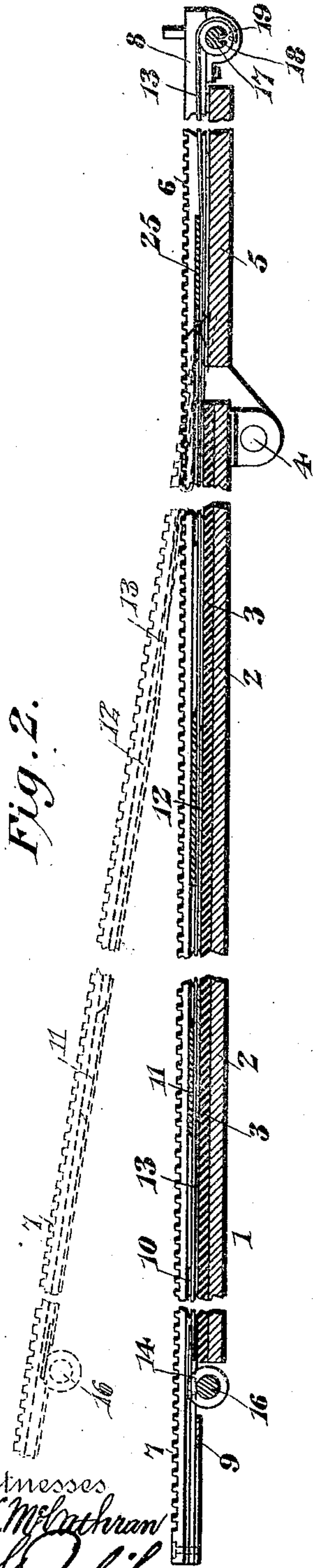


Fig. 3.

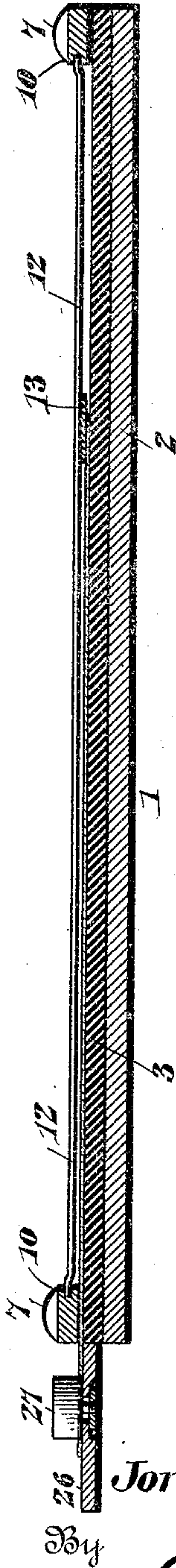
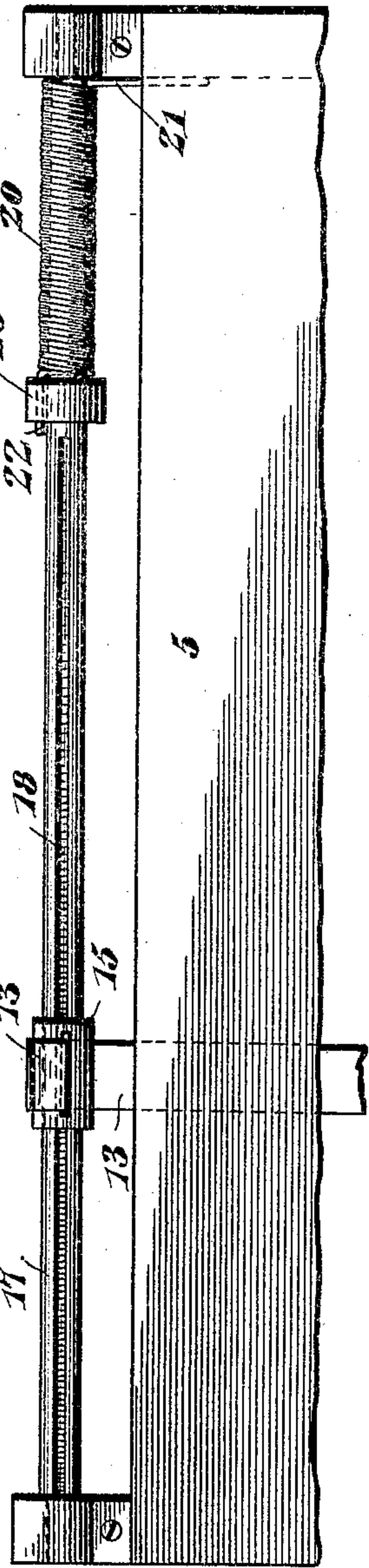


Fig. 4.



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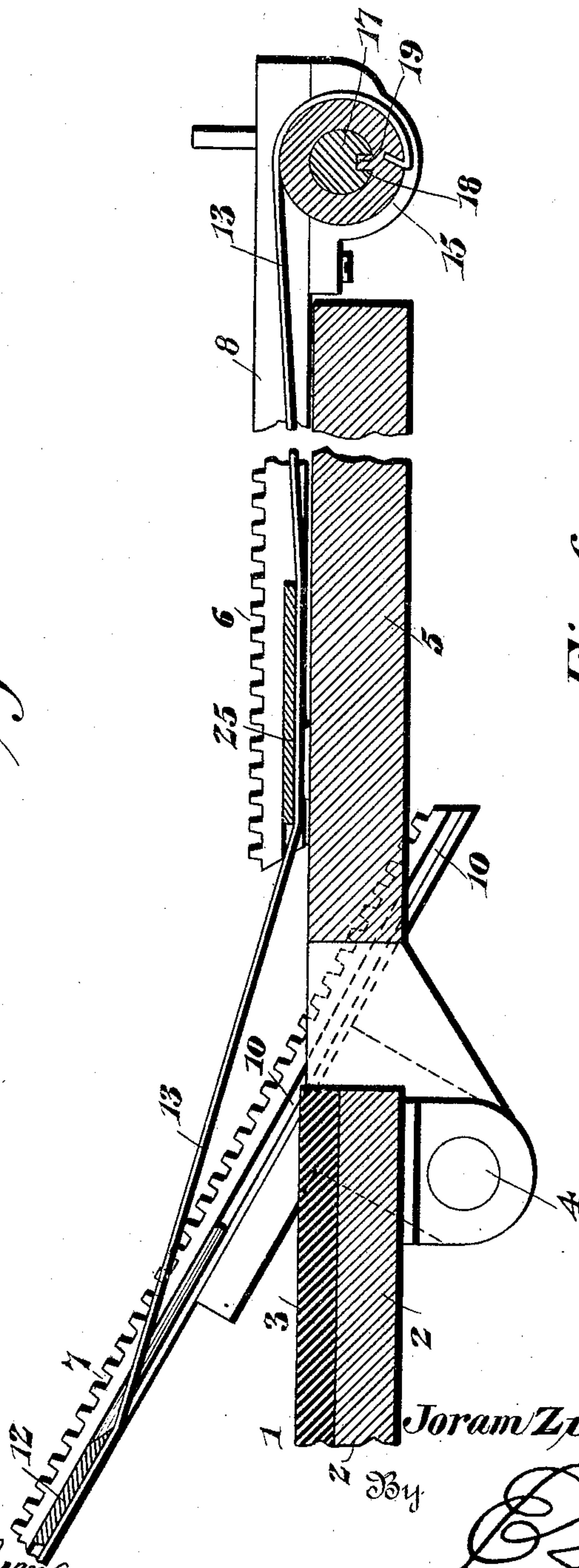
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4 SHEETS—SHEET 3.

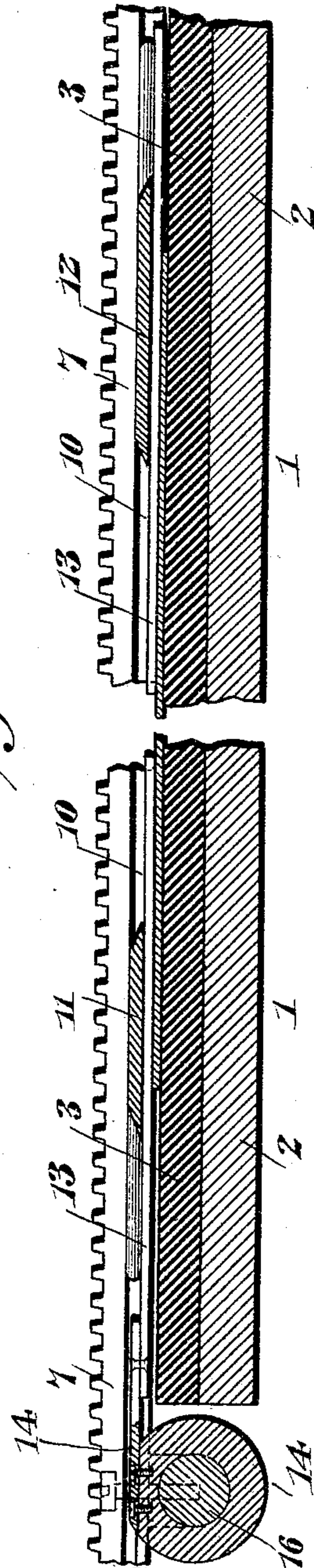


Joram Ziegler, Inventor

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Fig. 6.



Attorney

No. 843,057.

PATENTED FEB. 5, 1907.

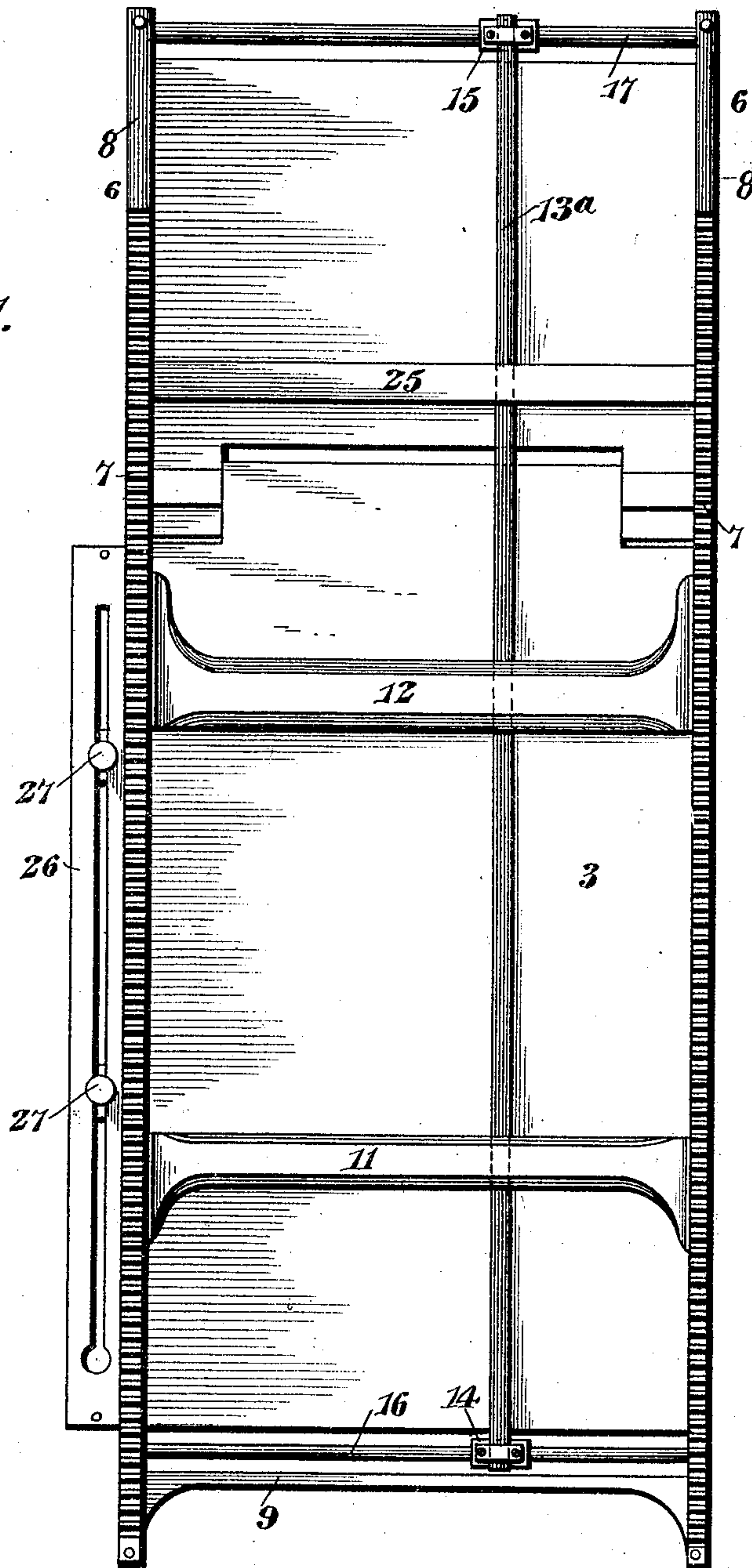
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APPLICATION FILED JUNE 21, 1901. RENEWED JULY 30, 1902.

4 SHEETS—SHEET 4.

Fig. 7.



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UNITED STATES PATENT OFFICE.

JORAM ZIEGLER, OF CLEVELAND, OHIO, ASSIGNOR, BY MESNE ASSIGNMENTS,
TO ELLIOTT-FISHER COMPANY, A CORPORATION OF DELAWARE.

PLATEN FOR TYPE-WRITING MACHINES.

No. 843,057.

Specification of Letters Patent.

Patented Feb. 5, 1907.

Application filed June 21, 1901. Renewed July 30, 1902. Serial No. 117,717.

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 invented a new and useful Platen for Type-Writing Machines, of which the following is a specification.

This invention relates to type-writing machines of that type wherein a flat platen is associated with printing mechanism mounted to travel thereover, and has special reference to the equipment of such a platen with means for protecting and holding or assisting in the holding of cards, sheets, or other work elements of different sizes in the printing position.

To this end the invention contemplates in one aspect thereof the equipment of the flat platen with work holding and guarding members disposed both transversely and longitudinally of the platen and adjustable both laterally and longitudinally thereof for the purpose of presenting said guarding and holding members above both the end and side edges of the card, sheet, or bill to be written upon. In this aspect of the invention it comprehends an advance of the idea disclosed in the application of Herman F. Eckert, Serial No. 38,806, filed December 5, 1900. The Eckert application, however, embodied merely a guard-plate designed to cover and protect the top edge or other portion of the sheet and movable in the direction of line-spacing, thus permitting the retention and protection of the work-sheet by a transversely-disposed guard capable of being located at any point on the platen within the printing area.

As distinguished from the Eckert construction the present invention involves, as already stated, the idea of work-holding strips disposed both transversely and longitudinally of the platen and adjustable, so as to locate them for the retention of sheets of any length or width within the area of the platen, the transversely-disposed holding and guarding member being preferably duplicated to insure the guarding and retention of both the top and bottom edges of the sheet.

In another aspect of the invention it comprehends the employment of the guarding and holding strips as component parts of a frame movable toward and from the writing-surface of the platen and preferably in-

cluding as elements of said frame the swinging sections of the main tracks or guides for the traveling machine-frame.

To the attainment of this end—that is to say, the equipment of the platen in the manner specified—the invention consists, in the illustrated embodiment thereof, in disposing a series of thin metal strips, webs, or plates transversely of the platen and in sliding engagement at their opposite ends with the main tracks or guides and in disposing below said webs or plates a longitudinal holding member in the form of a thin flexible metal tape or band having its front end adjustably connected at the front end of the platen to a frame-bar extending between the front ends of the rails, the rear end of the longitudinal holding member or tape being likewise secured for lateral adjustment with respect to the platen and associated with suitable mechanism for taking up the slack in the tape when the frame is moved with respect to the platen.

The invention consists, furthermore, in certain details of construction and arrangement to be hereinafter described, illustrated in the accompanying drawings, and succinctly defined in the appended claims.

In said drawings, Figure 1 is a top plan view of a flat platen equipped with work holding and guarding means in accordance with my invention. Fig. 2 is a longitudinal sectional view on the line 2 2 of Fig. 1, showing the frame elevated in dotted lines. Fig. 3 is a transverse sectional view on the line 3 3 of Fig. 1. Fig. 4 is a bottom plan view of the rear end of the platen, illustrating the construction of the mechanism for taking up the slack in the longitudinal holding member or tape. Fig. 5 is a longitudinal sectional view, on a somewhat enlarged scale, of the rear portion of the platen on the line 5 5 of Fig. 1, showing the work-holding and machine-supporting frame swung away from the platen. Fig. 6 is a similar view of the front end portion of the platen on the line 6 6 of Fig. 1. Fig. 7 is a plan view similar to Fig. 1, but showing a modified form of longitudinal work holding and guarding member.

Like numerals of reference are applied to corresponding parts throughout the views.

The invention is of course applicable for use in connection with type-writing machines of any kind provided they comprehend a flat

platen upon which the work is to be held in a flat or spread-out condition in the printing position. Inasmuch, however, as the improvements contemplated are intended primarily for use in connection with what is known commercially as the "Fisher" type-writing machine, I have shown in the accompanying drawings one form of Fisher platen such as is now on the market equipped in accordance with my invention with improved work-holding means.

The platen (indicated by the numeral 1) comprises a metal or other suitable base-plate 2, having a covering of rubber or other suitable material 3 and hinged at its rear end, as indicated at 4, to the platen extension 5. The platen proper defines the maximum printing area, and upon completion of the work the machine (not illustrated) is moved back to a position above the platen extension 5, ordinarily secured to a suitable supporting structure. (Not shown.) The traveling machine is mounted upon the main tracks or guides 6 for longitudinal movement over the platen—that is to say, in the direction of line-spacing—forward or backward, and for the purpose of illustrating the invention now under consideration I have selected a platen of that type wherein the main tracks or guides for the traveling machine-frame are composed of hinged sections 7, mounted above the platen proper, and fixed sections 8, disposed above the platen extension 5. In platens of this type the hinged sections 7 of the main tracks or guides are designed to swing from a center or pivot coaxial with the axis of movement of the platen, but are connected for simultaneous movement independently of the platen—as, for instance, by means of a connecting-bar 9, extending between the hinged sections 7 of the main tracks or guides at the front of the platen. (See Figs. 1 and 2.) The hinged tracks thus connected and movable toward and away from the writing-surface constitute a vertically-swinging frame.

The construction thus far described is not novel.

In carrying out the present invention the inner or adjacent side faces of the swinging tracks-sections 7 are formed with longitudinal grooves 10 for the reception of the opposite ends of a pair of transversely-disposed work-holding plates, guards, or webs 11 and 12, which are adjustable longitudinally of the platen to present them at various points within the printing area. The purpose of these plates is to cover, clamp, and guard the top and bottom end edges of the work-sheet irrespective of the dimensions of the latter, so that the sheet will be held in a flat smoothly-spread-out condition during the printing operation and will be guarded against such contact with a portion of the machine as might tend to displace or rumple the sheet. The

employment of a transverse guard or web extending between a pair of swinging rail-sections is not novel, since this construction is disclosed in the application of Eckert, hereinabove identified; but it is novel to provide a plurality of such transversely-disposed work-holding members, guards, or webs capable of relative adjustment to accommodate work-sheets of various lengths. As premised, however, the present invention contemplates the employment not only of a plurality of transversely-disposed holding members or guards, but also a longitudinally-disposed work-holding member capable of adjustment transversely of the platen and located between the main tracks or guides, so that a side edge of the work-sheet may be held and guarded, as well as the end edges thereof, irrespective of the width of the sheet, and, as will be hereinafter explained, this longitudinal member is possessed of special utility, either when employed alone or in connection with the transverse holding members.

In one illustrated embodiment of the invention the longitudinal work-holding member (indicated by the numeral 13) is preferably in the form of a thin flexible strip or tape, preferably metallic, and secured at its opposite ends to adjustable carriers 14 and 15, located, respectively, at the front end of the platen and at the rear end of the platen extension 5. The tape when used in connection with the other holding members is preferably passed under, and thus disposed in crossing relation with the transverse holding and guarding members 11 and 12, which insure the retention of the tape against the platen to securely hold and guard one longitudinal edge of the work-sheet—that is to say, one edge disposed longitudinally of the platen. The carriers 14 and 15 for the longitudinal holding member or tape 13 are preferably in the form of sleeves, as shown, and are mounted for adjustment along transversely-disposed supporting members or bars 16 and 17, the bar 16 being of cylindrical form and secured at its opposite ends to the swinging rail-sections 7 adjacent to their front ends. The supporting member or bar 17 is also preferably of cylindrical form, but is provided with a longitudinal slot or recess 18, which is engaged by an internal lug or feather 19 formed in the sleeve 15, the purpose of this construction being to permit free movement of the sleeve longitudinally of the supporting-bar 17 and to prevent its independent rotation upon said bar. The supporting member or bar 17 is preferably mounted for rotation, and may therefore be said to be a rock-shaft constantly urged in one direction by the spiral spring 20 encircling the shaft 17 adjacent to one end thereof and having its opposite ends 21 and 22 engaged with the extension 5 of the platen and a collar 23 held in fixed position upon the

shaft 17, as by a set-screw 24. This mechanism provided for the rotation of the sleeve 15 may be designated as "tension" mechanism for the tape 13, since the purpose of the spring-urged shaft-supported carrier 15 is to subject the tape to a continual tension sufficient to hold it taut. The provision of tension mechanism for the tape 13 is made necessary by reason of the fact that the elevation of the swinging frame would produce more or less slack in the tape, which slack would be highly objectionable, first, because the tension of the tape is relied upon to some extent to hold the carriers 14 and 15 in their adjusted positions, and also because the dropping of the tape below the frame would interfere with the displacement of the printed sheet from the platen and its replacement by a blank sheet. In the event of the stretching or expansion of the tape to any appreciable extent the tension may be increased by loosening the set-screw 24 and turning the collar 23 upon the shaft 17 in a manner which will be obvious, and likewise the tension on the tape may be relieved, or, more properly, may be adjusted so as to exert just sufficient tension upon the tape to hold the latter in its proper position.

The retention of the tape in its position close to the platen is preferably further insured by the mounting of the transverse bar or strip 25 across the surface of the platen extension 5 adjacent to the front end thereof, the tape or longitudinal holding member being passed under the strip so as to minimize the tendency of the tape to slack when the rails are elevated. It will now appear that the platen is equipped with a work-holding and machine-supporting frame movable toward and away from the writing-surface and comprising the machine tracks or guides and a plurality of work-holding members located between the tracks or guides and disposed both transversely and longitudinally over the platen, these members being in crossing relation and individually or independently adjustable along each other, so that the end and side edges of the work-sheet may be guarded and clamped irrespective of the size of the sheet, the location thereof, or the relative dimensions of its end and side edges. In fact, in the drawings I have illustrated means for retaining all four edges of the work-sheet, inasmuch as I have shown not only the transverse holding members or guards 11 and 12 and the longitudinal holding member 13, but also a work-gage attachment constructed in accordance with the invention of Hiram J. Halle, disclosed in his concurrent application Serial No. 39,720. This gage attachment comprises a detachable slotted plate 26, carried by the platen beyond the left-hand track or guide and supporting a plurality of adjustable gage members 27, which either form an abutment for the left-hand edge of the

work-sheet or engage file-openings therein in a manner well understood in the art. Aside from the work-gage attachment, however, the left-hand swinging rail-section 7 constitutes holding means for one side edge of the work-sheet, so that in one aspect of the invention, considered entirely aside from the work-gage of Halle, it comprehends a frame movable toward and away from the writing-surface and comprehending a pair of longitudinal holding members and a pair of transverse holding members, both the longitudinal and transverse holding members being relatively adjustable to accommodate a card, bill, or sheet of any size within the capacity of the platen.

It should be understood, however, that while the invention includes in one aspect both longitudinal and transverse holding and guarding members; it also contemplates as a complete embodiment a longitudinally-disposed member of novel form which is possessed of special utility without reference to the other members usually, but not necessarily, employed in connection therewith—that is to say, the flexible member 13 is possessed of special utility without reference to the members 11 and 12, inasmuch as it retains the work-sheet upon the platen and protects the edge of said sheet from contact with any part of the type-writing machine which might otherwise come in contact therewith. Another independent feature of novelty resides in the utilization of a flexible holding member under tension, whether such tension be produced by separate tension mechanism or by the inherent elasticity of the member. Thus, while the preferred form of the member 13 and its mounting is shown in Fig. 1 of the drawings, I have illustrated in Fig. 7 a possible variation which comprehends the employment of a rubber band 13^a in lieu of the flexible metallic tape 13, but likewise capable of individual transverse adjustment to accommodate it to work-sheets of various sizes. In conclusion it may be remarked that while the rear end of the tape is shown as secured to the platen extension, which is fixed relative to the machine-supporting frame, it is obvious that it might be attached to the platen, to the table supporting the platen, or at any other convenient point.

It is thought that from the foregoing the construction, operation, and utility of my improved platen will be obvious; but while the present embodiment of the invention is believed at this time to be preferable I wish to reserve the right to effect such changes, modifications, and variations as may be necessitated by the application of the invention to different types of machines or may be suggested by experience and experiment, provided such variations of the illustrated structure are properly embraced within the scope of the protection prayed.

What I claim is—

1. In a type-writing machine, the combination with a flat platen and a vertically-movable machine - supporting frame, of a work holding or guarding member disposed longitudinally over the printing area of the platen and spaced from the side members of the frame, said longitudinal work holding or guarding member being terminally connected with the machine-supporting frame to insure its movement therewith and adjustable transversely of the platen independently of the frame to dispose it along the edge of the work sheet or element, regardless of the location thereof.

2. In a type-writing machine, the combination with a flat platen and a machine-supporting frame hinged at its rear end and comprising side rails and a transverse bar connecting the front ends thereof, of a work holding or guarding member disposed longitudinally over the platen between the side rails of the machine-supporting frame and spaced from both of said rails, said member having adjustable connection at one end with the front bar of the machine-supporting frame and adjustable connection at its opposite end with a relatively fixed part, whereby said longitudinal work holding or guarding member will swing vertically with the frame and will be independently adjustable transversely across the printing area of the platen to dispose it along one edge of a work sheet or element, regardless of the particular location of the latter.

3. In a type-writing machine, the combination with a flat platen and tracks or guides for a traveling machine, of a work holding or guarding device comprising separate members in crossing relation, each of said members being independently adjustable along the other, whereby the work holding or guarding device may be positioned to hold or guard an end edge and a side edge of a work-sheet.

4. In a type-writing machine, the combination with a flat platen and a vertically-movable machine - supporting frame, of a work holding or guarding device comprising separate members in crossing relation and movable toward and away from the writing-surface with the machine-supporting frame, each of said members being independently adjustable along the other, whereby the work holding or guarding device may be positioned to hold or guard an end edge and a side edge of a work-sheet regardless of the size or location of the latter.

5. In a type-writing machine, the combination with a flat platen and a vertically-movable machine - supporting frame, of a work holding or guarding device movable toward and from the platen with the frame and including two transverse members, independently adjustable longitudinally of the platen, and a longitudinal member in crossing rela-

tion with the transverse members and independently adjustable transversely of the platen, the independent adjustment of the several members permitting the work holding or guarding device to be adjusted in size to accommodate work-sheets of various sizes and to be positioned for holding or guarding work-sheets at various points within the printing area.

6. In a type-writing machine, the combination with a flat platen to support the work-sheet, and the vertically-movable main tracks or guides for the printing mechanism, of the transversely-disposed work holding or guarding member having sliding connection with said main tracks or guides, and a longitudinally-disposed transversely-adjustable work holding or guarding member located between the tracks or guides.

7. In a type-writing machine, the combination with a flat platen to support the work-sheet, of a pair of swinging main tracks or guides connected for movement in unison, a plurality of transversely-disposed work holding or guarding members having sliding connection at their ends with said tracks or guides and movable therewith, and a longitudinally-disposed, transversely-adjustable work holding or guarding member located between the tracks or guides and also movable therewith toward and from the writing-surface.

8. In a type-writing machine, the combination with a flat platen, and the swinging main tracks or guides, of an adjustable transverse work holding or guarding member having sliding engagement with said tracks or guides, and a longitudinally-disposed work holding or guarding member in crossing relation with the transverse member and adjustable transversely of the platen.

9. In a type-writing machine, the combination with a flat platen, and the main tracks or guides formed with longitudinal grooves, of transverse work holding or guarding members slidably engaging said grooves, a supporting-bar extending between the main tracks or guides, and a longitudinally-disposed work-holding member adjustably supported by said bar.

10. In a type-writing machine, the combination with a flat platen to support the work-sheet, of a flexible work holding or guarding member or strip disposed over the platen, and tension mechanism for said strip.

11. In a type-writing machine, the combination with a flat platen, and a swinging frame disposed thereover, of a flexible work holding or guarding member or strip secured at its opposite ends to the frame and platen respectively, and means for automatically taking up the slack in said strip when the frame is elevated.

12. In a type-writing machine, the combination with a flat platen, and a swinging

frame disposed thereover, of a longitudinally-arranged flexible work holding or guarding member or strip connected at one end to the frame, and means located beyond the opposite end of the frame for automatically taking up the slack in said strip.

13. In a type-writing machine, the combination with a flat platen to support the work-sheet, of a flexible work holding or guarding strip disposed over the platen, carriers supporting the opposite ends of the strip and mounted for adjustment transversely of the platen, and means for urging one of the carriers in a direction to take up the slack in said flexible member or strip.

14. In a type-writing machine, the combination with a flat platen for the support of the work-sheet, of a flexible work holding or guarding member or strip disposed over the platen, supporting-bars retaining the opposite ends of the strip, one of said bars being movable, and reactive means for urging said movable bar in a direction to automatically take up the slack in the strip.

15. In a type-writing machine, the combination with a flat platen to support the work-sheet, of a flexible work holding or guarding member or strip disposed thereover, supporting-bars adjustably supporting the opposite ends of the strip, one of said bars being mounted for rotary movement, and a spring disposed to urge the bar in a direction to wind one end of the strip and thereby automatically take up the slack therein.

16. In a type-writing machine, the combination with a flat platen to support the work-sheet, of a flexible work holding or guarding member or strip disposed over the platen, carriers located at the opposite ends of the strip, supporting-bars adjustably supporting said carriers to permit the lateral adjustment of the strip across the platen, one of said supporting-bars being mounted for rotary movement, means for preventing independent rotary movement of the carriers supported by the rotary supporting-bar, and a spring arranged to rotate said bar for the purpose of automatically taking up slack in the flexible member or strip.

17. In a type-writing machine, the combination with a flat platen, and a swinging machine-supporting frame disposed thereover, of the flexible work holding or guarding member or strip disposed over the platen and movable toward and away from the writing-surface, said flexible strip being connected to the machine-supporting frame for movement therewith and being mounted for transverse adjustment.

18. In a type-writing machine, the combination with a flat platen to support the work-sheet, of a swinging supporting-frame for the printing mechanism, and individually-adjustable transverse and longitudinal work holding or guarding members movable to-

ward and away from the writing-surface with the machine-supporting frame, one of said work holding or guarding members being flexible.

19. In a type-writing machine, the combination with a flat platen to support the work-sheet, of a swinging supporting-frame for the printing mechanism, individually-adjustable transverse and longitudinal work holding or guarding members movable toward and away from the writing-surface of the machine-supporting frame, one of said work holding or guarding members being flexible, and tension mechanism for said flexible member.

20. In a type-writing machine, the combination with a flat platen to support the work-sheet and the swinging main tracks or guides, of an extensible work holding or guarding member disposed over the platen and capable of individual lateral adjustment, said member having one end movable with the tracks or guides and having its opposite end secured at a relatively fixed point.

21. In a type-writing machine, the combination with a flat platen to support the work-sheet, of the main tracks or guides for the printing mechanism, and a longitudinally-disposed flexible work holding or guarding member adjustable transversely of the platen, said member being under tension.

22. In a type-writing machine, the combination with a flat platen to support the work-sheet, of a frame vertically movable thereover, and a flexible work holding or guarding member or strip connected to said frame, said member being under tension.

23. In a type-writing machine, the combination with a flat platen, of work holding or guarding members disposed transversely and longitudinally of the platen, respectively, one of said members being flexible and under tension, and each of said members being mounted for individual adjustment.

24. In a type-writing machine, the combination with a flat platen, and the swinging main tracks or guides, of an adjustable transverse work holding or guarding member having sliding engagement with said tracks or guides, and a longitudinally-disposed work-holding member in crossing relation with the transverse member, and adjustable transversely of the platen, said longitudinal member also having connection with the main tracks or guides for movement therewith.

25. In a type-writing machine, the combination with a flat platen, and the swinging main tracks or guides, of a plurality of adjustable transverse work holding and guarding members having sliding engagement with the tracks or guides, and a longitudinally-disposed work holding or guarding member in crossing relation with the transverse members and adjustable transversely of the platen, the several work holding or guarding

members being movable with the tracks or guides.

26. In a type-writing machine, the combination with a flat platen, and a movable machine-supporting frame; of a flexible work 5 holding or guarding member under tension and connected to the machine-supporting frame for movement therewith.

27. In a type-writing machine, the combination with a flat platen, of a flexible work 10 holding or guarding member disposed over the platen, means for mounting said member so as to permit it to be swung toward and away from the platen, and means for automatically taking up the slack in said member, 15 when the latter is elevated.

28. In a type-writing machine, the combination with a flat platen, of a flexible work 20 holding or guarding strip disposed over the platen, and retaining devices for the opposite ends of the strip, one of said devices being fixed relative to the platen and the other

device being movable to swing the strip away from the platen and thus facilitate the manipulation of the work, said strip being 25 under tension to cause the slack therein to be automatically taken up when the strip is elevated.

29. In a type-writing machine, the combination with a flat platen, of a flexible work- 30 guarding strip disposed over the platen, and retaining devices for the opposite ends of said strip, one only of said devices being movable to separate the strip from the platen and thus facilitate the manipulation of the work, 35 said strip being under tension to compel the same to remain taut.

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:

R. J. FISHER,
A. R. WARNER.