

No. 747,958.

PATENTED DEC. 29, 1903.

R. J. FISHER.

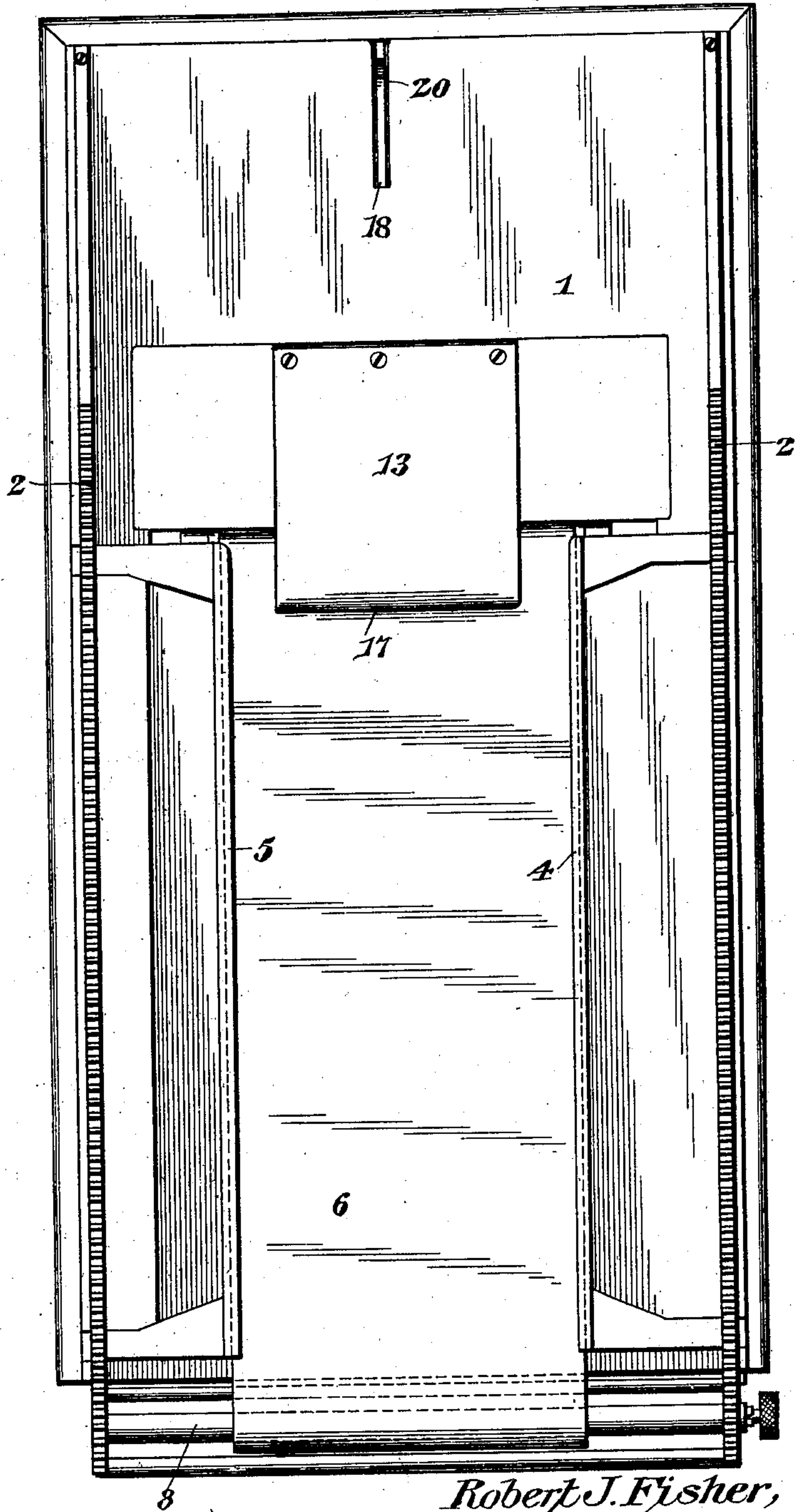
WORK CLAMP OR GUARD FOR TYPE WRITING MACHINES.

APPLICATION FILED FEB. 7, 1901.

NO MODEL.

4 SHEETS—SHEET 1.

*Fig. 1.*



*Robert J. Fisher, Inventor*

By

*E. G. Siggers*

Attorney

Witnesses

*Jas. E. McLaughlin*

*Louis E. Juhl*

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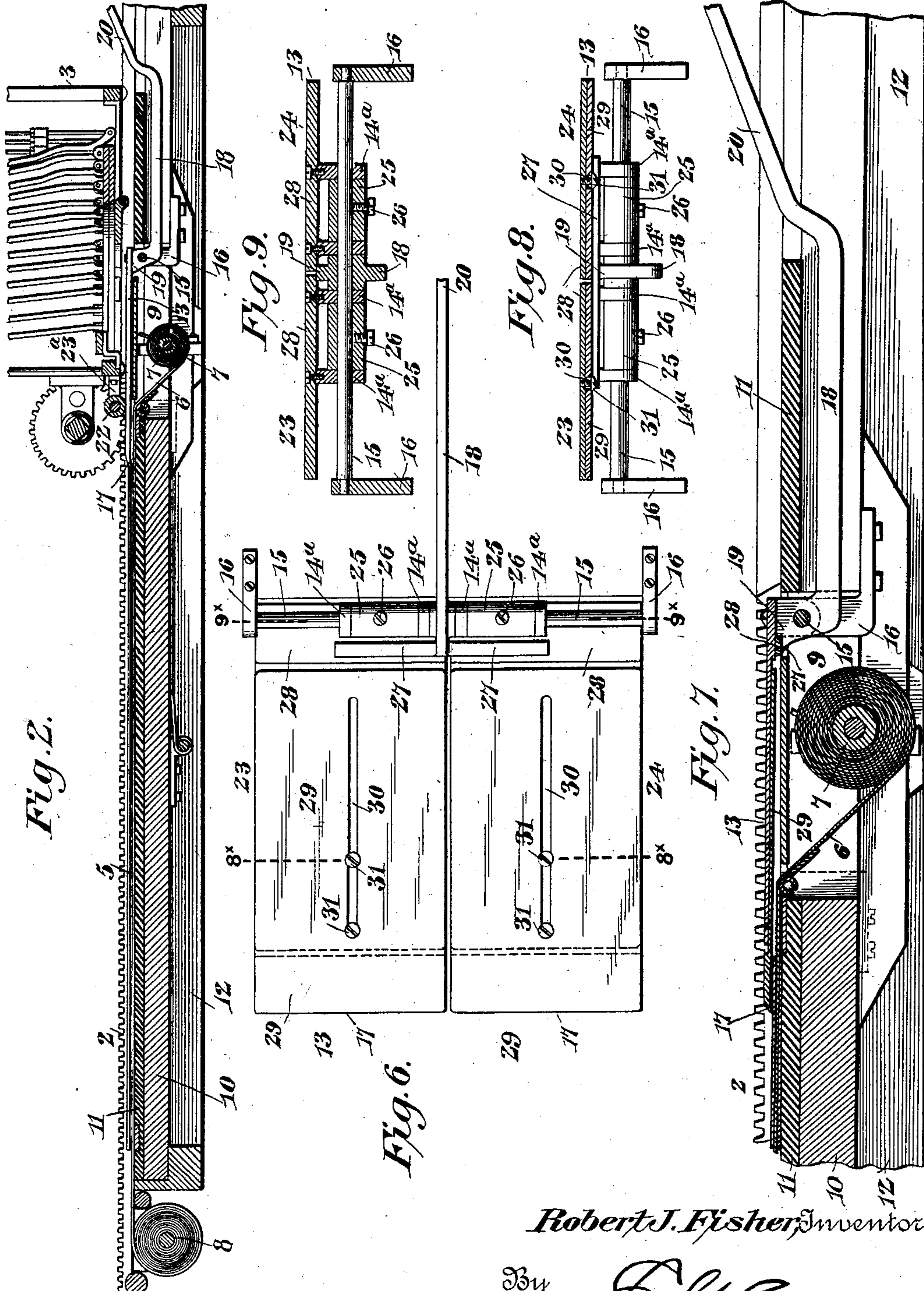
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4 SHEETS—SHEET 2.



Witnesses

Jas. E. McEachran  
Louis E. Julihn

Robert J. Fisher, Inventor

By

E. G. Siggers

Attorney



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4 SHEETS—SHEET 3.

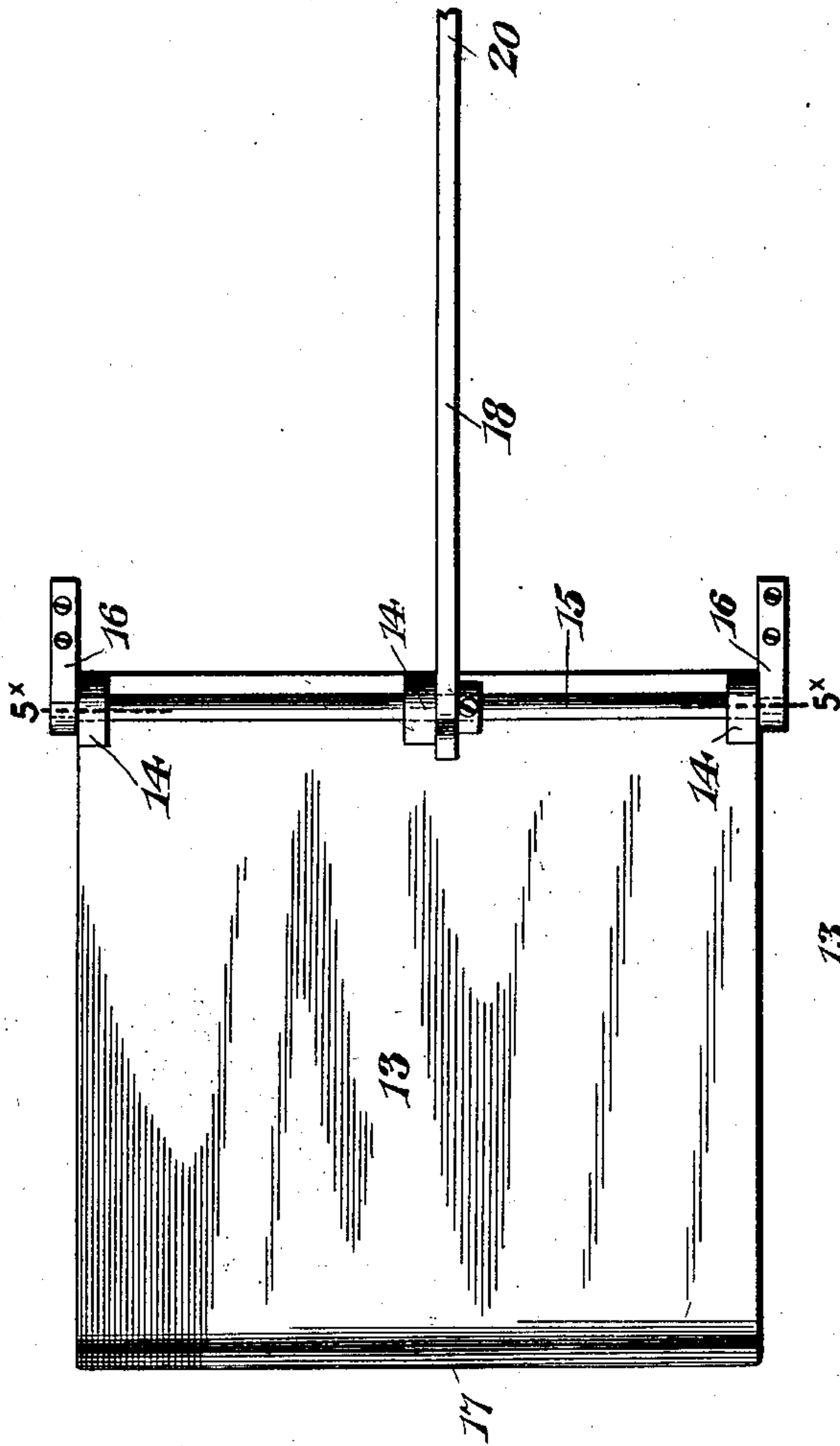


Fig. 3.

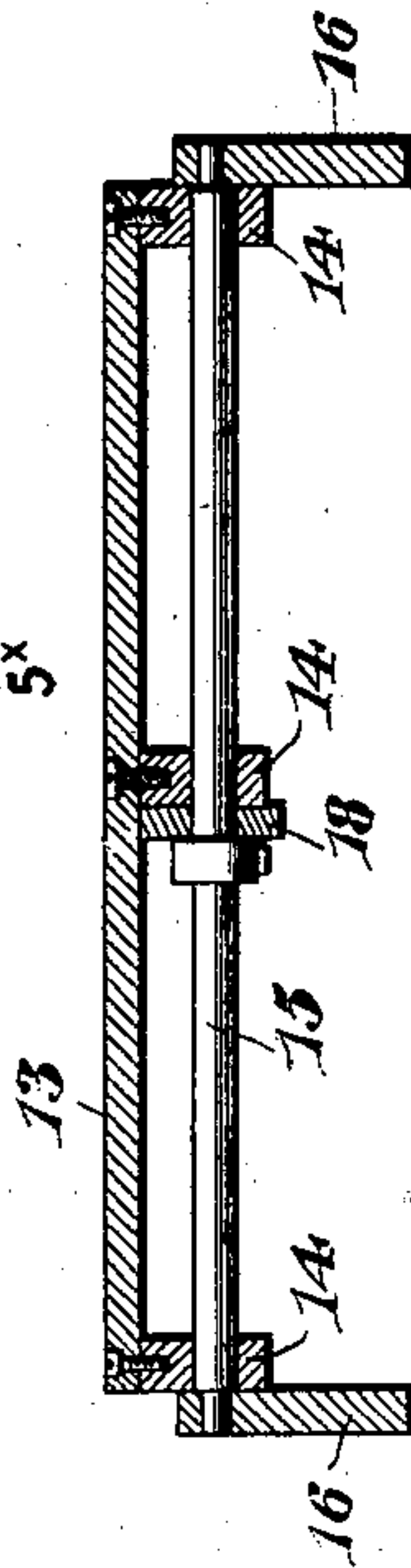


Fig. 5.

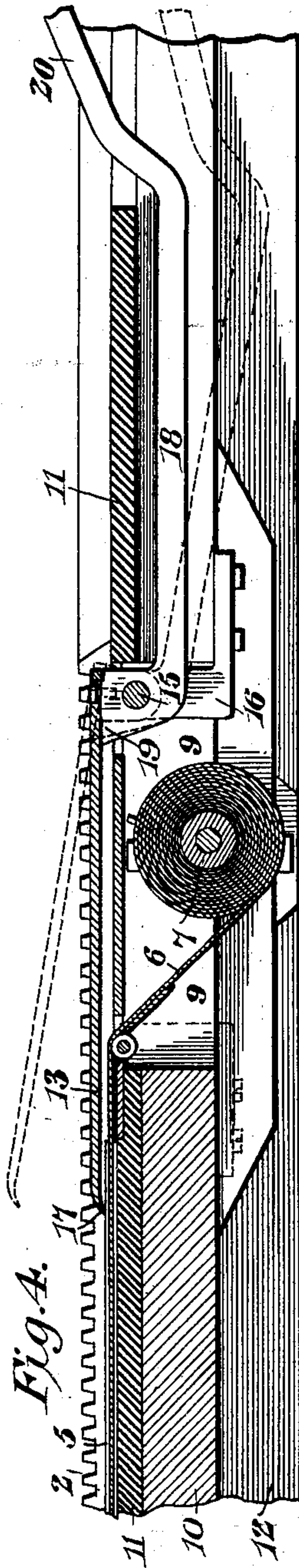


Fig. 4.

Robert J. Fisher, Inventor

By

*E. G. Siggel*

Attorney

Witnesses

*Jas. E. McCreath*  
*Louis G. Julihn*

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4 SHEETS—SHEET 4.

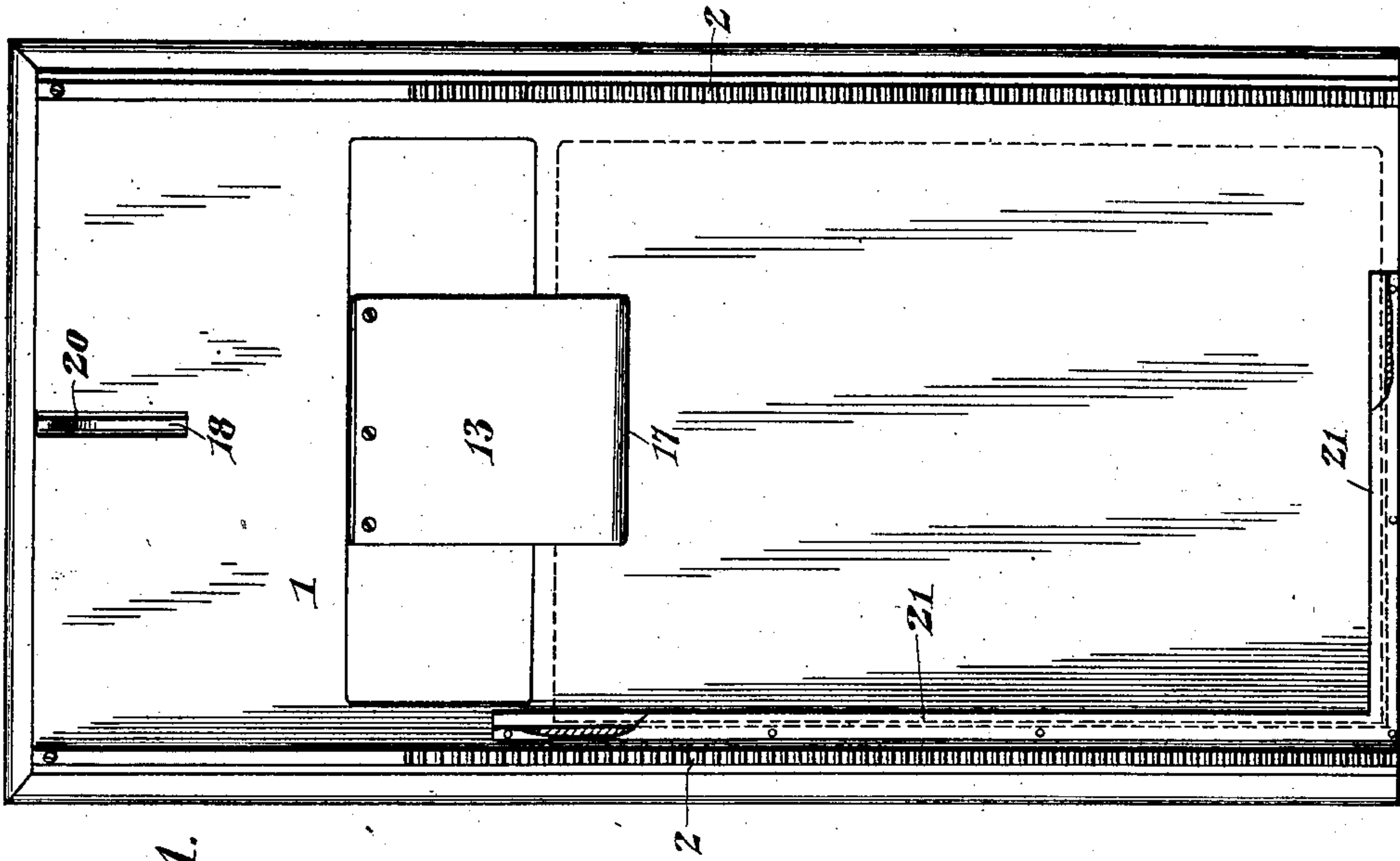


Fig. 11.

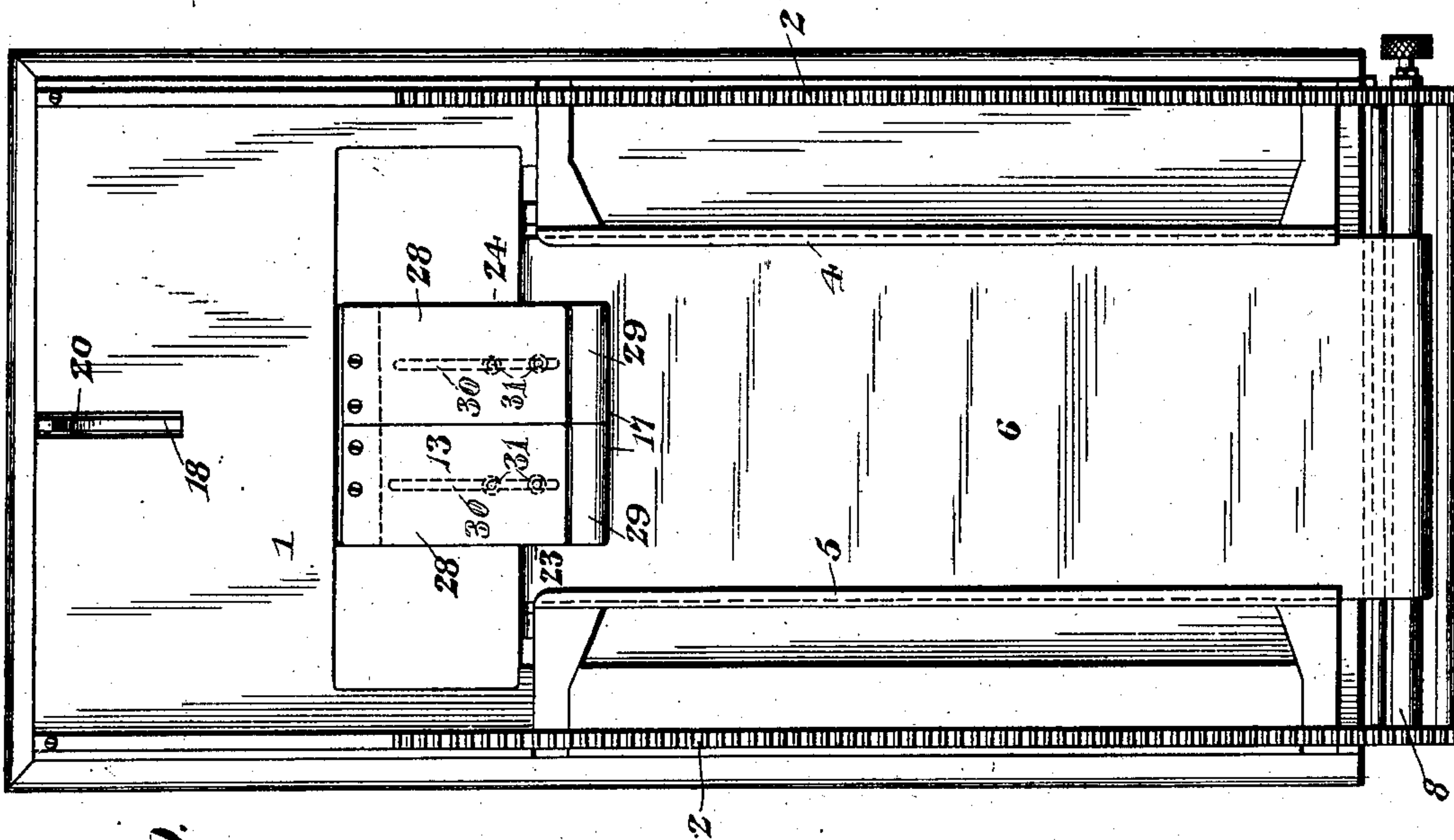


Fig. 10.

Robert J. Fisher, Inventor.

By

*E. G. Siggers*

Attorney

Witnesses  
*Jas. E. McLaughlin*  
*Louis G. Juhn*



# UNITED STATES PATENT OFFICE.

ROBERT JOSEPH FISHER, OF ATHENS, TENNESSEE, ASSIGNOR, BY MESNE ASSIGNMENTS, TO ELLIOTT-FISHER COMPANY, A CORPORATION OF DELAWARE.

## WORK CLAMP OR GUARD FOR TYPE-WRITING MACHINES.

SPECIFICATION forming part of Letters Patent No. 747,958, dated December 29, 1903.

Application filed February 7, 1901. Serial No. 46,362. (No model.)

*To all whom it may concern:*

Be it known that I, ROBERT JOSEPH FISHER, a citizen of the United States, residing at Athens, in the county of McMinn and State of Tennessee, have invented a new and useful Work Clamp or Guard for Type-Writing Machines, of which the following is a specification.

This invention relates to type-writing machines, and has special reference to means for protecting or holding or for assisting in holding a card, sheet, page, or other work in the printing position.

To this end the invention primarily contemplates a work clamp or guard for type-writing machines adapted to cover or engage with the edge or other portion of the work to serve as a protector therefor during the printing operation, as well as a holder or auxiliary holder designed to hold or to assist in holding the work in proper position to be printed upon by the type-writing machine.

A further object of the invention is to provide a work guard or clamp of the character specified possessing special utility with book and loose-sheet work in connection with book type-writing machines of that type embodying a flat platen and a traveling printing mechanism working thereover. When employed in connection with machines of this character, the device contemplated by the present invention may serve to clamp or grip the top edge of the sheet or other piece of work to prevent slipping or shifting thereof, besides serving to protect the edge of the work from contact with the traveling frame of the machine or any of the mechanism carried thereby.

Another object of the invention is to provide means automatically controlled by the movement of the machine for clamping the bill, sheet, or other work and preventing any shifting thereof during the travel of the machine thereover, as well as to protect the top edge of the same, the said means being disposed for actuation by the machine to release the work when said machine has been shifted from its position directly over the work at the completion of the writing.

A still further object of the invention is to

provide work-clamping means constructed in a manner to permit both longitudinal and lateral adjustment or extension thereof for the purpose of accommodating its dimensions and position to the character of the bill, sheet, card, or leaf which is designed to be clamped in position and protected against accidental displacement.

Many other objects and advantages will more readily appear as the nature of the invention is better understood during the course of the following description of the novel construction, combination, and arrangement of parts illustrated in the drawings and embraced within the scope of the appended claims.

The several instrumentalities comprising the invention and the fundamental features of the latter are necessarily susceptible to a wide range of modification without departing from the sphere or scope of the invention in its generic aspect. The preferred embodiment of the invention, however, is shown in the accompanying drawings, in which—

Figure 1 is a plan view of a billing-platen equipped with the work clamp, guard, or grip-plate contemplated by the present invention, the type-writing machine being removed from the platen. Fig. 2 is a longitudinal sectional view of the platen and a portion of the machine, showing those parts which constitute an embodiment of this invention in the positions illustrated in Fig. 1. Fig. 3 is a bottom plan view of one embodiment of the guard or grip-plate and its immediately-connected parts. Fig. 4 is a sectional view, on a somewhat-enlarged scale, of a portion of the platen, illustrating more clearly the relation of the grip-plate, its operating member, and mounting and showing in dotted lines the released or raised position of the plate. Fig. 5 is a sectional view on the line 5<sup>x</sup> 5<sup>x</sup> of Fig. 3. Fig. 6 is a bottom plan view of a mechanical variation of the grip-plate and the plate-operating lever. Fig. 7 is a sectional view similar to Fig. 4 of a portion of a platen equipped with that form of grip-plate illustrated in Fig. 6. Fig. 8 is a sectional view on the line 8<sup>x</sup> 8<sup>x</sup> of Fig. 6. Fig. 9 is a similar sectional view on the line 9<sup>x</sup> 9<sup>x</sup> of Fig. 6.



6. Fig. 10 is a plan view of a billing-platen equipped with that form of grip-plate or work-clamp illustrated in Figs. 6 to 9, inclusive, of the drawings; and Fig. 11 is a plan view of a platen equipped with that form of grip-plate or work-clamp illustrated in Figs. 1 to 5, inclusive, of the drawings, said plate or clamp being associated with work-alining means secured directly upon the platen.

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

The present invention contemplates the idea of utilizing, in connection with a type-writing machine, a work guard or clamp arranged to protect, as well as to hold or assist in holding, the sheet or other work in position to receive the imprinted characters. This idea may be embodied in a variety of structures and utilized in connection with different types of machines, although the same possesses special utility in connection with the flat platen of a book type-writing machine of the type disclosed in the patent to R. J. Fisher, No. 573,868. Hence for illustrative purposes the several embodiments of the invention are shown in the drawings in connection with the flat platen and the guide-rails of a book type-writing machine, said platen and guide-rails being designated, respectively, by the numerals 1 and 2. This type of machines involves printing mechanism supported for travel over the flat platen by a traveling frame 3, supporting the carriage of the printing mechanism and working upon the main tracks 2, which are toothed for engagement with the pinions of the line-spacing mechanism. These features enter into the general organization of the Fisher type-writing machine, which is largely intended for writing in books, on letter-sheets, and for making up records and reports; but inasmuch as the same provides for printing upon a sheet in a flat or spread-out condition it is necessarily well adapted for printing upon folded or double bills, such as are used in commercial billing. For the purpose of illustrating the application of my present invention, therefore, it is shown in connection with a Fisher type-writing machine equipped with a billing-platen of the type illustrated and described in the concurrent application of Charles F. Laganke and Ralph D. Stackpole, Serial No. 52,213. Such type of platens involves the employment of a work-holder or work-holding frame consisting of a pair of oppositely-located frame members 4 and 5, constructed so as to not only hold a bill of the double or folded type, but also to hold the carbon sheet or element which is interposed between the leaves of the bill. This work-holder is adapted to occupy a position beneath the printing mechanism and may be associated with the track-rails, which in this event are of the swinging type, so as to be movable in a direction toward or from the writing-surface of the platen.

In the type of machine here shown the continuous carbon element 6 is carried by the oppositely-located winding-spools 7 and 8, arranged, respectively, beyond the rear and front edges of the work-holding members 4 and 5, the rear winding-spool 7, which contains the roll of carbon-paper, being housed within a spool-pocket 9, formed in the platen contiguous to the rear ends of the members 4 and 5 and of a sufficient depth to accommodate therein the spool 7 and the roll of carbon thereon.

The platen 1 of the machine is usually constructed of a metal body 10, having applied to the upper side thereof the usual writing-surface 11, flat and unobstructed throughout, to provide for the even support of the work placed thereon, and, to facilitate handling of the work, the said platen may be seated in the upper side of a suitable base or bed 12.

The several instrumentalities thus far described are constructed and arranged as in the Fisher type-writing machine now on the market or as described and claimed in the application of Laganke and Stackpole hereinbefore referred to, and while these instrumentalities or structural features constitute no part of my present invention they will serve the purpose of illustrating one application thereof and will lend perspicuity to the succeeding description of the said invention and to the exposition of its several functions and advantages.

In a broad aspect the invention has for its object to provide, in connection with work-holding means—such, for instance, as has been described—a work-guard or a work-clamp coöperating with such work holding or positioning means to retain the work securely in the printing position. In a more restricted aspect the invention has for its object to provide a work clamp or guard which will be automatically moved to its operating or clamping position to hold the work when the printing mechanism is moved to a position directly over said work and which will be automatically moved to its releasing or inoperative position to permit the removal of the work from the platen when the printing mechanism is shifted away from the work at the completion of the printing operation. In adapting the invention to a flat-platen type-writing machine for the purpose of accomplishing these objects there is employed a work-engaging member located in a plane intermediate of the platen and printing mechanism and movable toward and from the platen to engage or release the work disposed in the printing position. This work-engaging member or clamp is preferably in the form of a swinging grip-plate 13, which is arranged to swing over the spool-pocket 9 and clamp at its free edge upon the top edge of the folded bill or sheet which is held within the right-hand holding-frame 4. The swinging plate 13 is provided upon its under side adjacent to its rear edge with a plurality of hinge-lugs 14,



receiving a hinge-rod 15, supported at the rear edge of the spool-pocket 9, and thereby permitting said plate to swing forwardly over the spool-pocket and cover the same and also to clamp upon the top edge of the bill or sheet.

A convenient, and therefore preferable, mode of mounting the hinge-rod 15 is shown in the drawings and consists in mounting the opposite ends of said rod in the upstanding arms of a pair of angular brackets 16, the horizontal arms of which are bolted or otherwise secured to the under side of the platen in rear of the spool-pocket 9. The swinging work-clamping plate 13 is preferably provided with a gripping edge 17, which engages with the top edge of the folded bill or sheet with sufficient firmness to hold the same against slipping and also prevents the machine when slid backward or forward from catching the top edge of the bill, which otherwise might be caught or damaged.

Any suitable means for manually, automatically, or otherwise operating the work-clamping plate 13 may be resorted to; but the preferable operating means for said plate is shown in Figs. 2, 3, and 4 of the drawings, which means includes an operating-lever 18. This operating-lever is arranged within the rear portion of the platen, and the front end thereof is provided with a flattened head 19, loosely mounted on the hinge-rod 15 and bearing against the under side of the plate 13. The rear end of said lever is formed into an inclined upwardly-curved cam-arm 20, projecting upwardly through the platen to a point above the writing-surface thereof and lying in the path of the machine-frame 3 between the tracks 2 and adjacent to the rear end of the platen, the frame 3 constituting a machine part movable independently of the tracks or guides to operate the clamp. When the machine is pushed back upon the rear ends of the tracks 2, the traveling frame 3 thereof engages with the inclined upwardly-curved cam-arm 20, thereby depressing this arm and causing the flattened head 19 of the operating-lever 18 to carry the plate 13 to an elevated or work-releasing position in front of the machine, as indicated in dotted lines in Fig. 4 of the drawings. The plate 13 is thus caused to automatically release its hold from the top edge of the bill or sheet, whereby the same may be readily removed and another bill or sheet put in the place thereof. By reason of the independent connection of the head 19 of the operating-lever 18 with the hinge-rod 15 the plate 13 may be swung manually to a more nearly vertical position when it is desired to remove the rear spool 7, carrying the roll of carbon-paper.

The invention has been described in connection with an approved type of billing-platen for the reason that it is possessed of special utility in connection with commercial billing upon book type-writing machines; but it should be understood that the character of

work-holding means cooperating with the clamping-plate described is not essential to the effective utilization of the invention, nor, in fact, is it necessary that any cooperating work-holding means be provided, as it is evident that in many connections—as, for instance, in printing upon index-cards—the clamping element would be entirely sufficient for the purpose of retaining the work in its printing position without the aid of other work-holding means. In another aspect of the invention it will be seen to include, broadly, the idea of associating with a flat platen a plurality of work-holding devices cooperating therewith and disposed longitudinally and transversely thereof. It has also been suggested that the work-holders, aside from their functions as retaining means for the work element, constitute protectors or guards for the edge or edges of the sheet to prevent the machine from contacting with the latter. In a still further aspect, therefore, the invention will be seen to comprehend the idea of providing a flat platen with a plurality of work guards or protectors distinct from the tracks or guides and disposed longitudinally and transversely of the platen. Furthermore, since the clamp 13 also constitutes a guard the invention will be seen to comprehend a swinging machine-operated work-guard as distinguished from a machine-operated work-clamp, it being obvious that while in the illustrated embodiment of the invention the guard serves in addition as a clamp it need not perform any function other than the protection of the work element. In Fig. 11 of the drawings I have exemplified such an adaptation of the structure, as the clamping element or plate illustrated in this figure is shown upon a platen equipped simply with an angular work-alining guide 21, carried directly by the platen and serving merely to properly aline the work and to retain it in its flat or spread-out condition over the writing-surface.

After a folded bill, sheet, or other piece of work is placed in the printing position above the platen, whether with or without the aid of work holding or alining means, the drawing forward of the machine permits the work-clamping plate to assume by gravity its lowered position over the spool-pocket 9 and flat upon the top edge of the bill or sheet, and to insure the proper depression of the work-clamping plate 13, as well as the smoothing out of the bill or sheet, the traveling machine-frame is preferably equipped with a horizontal contact-roller 22. The said contact-roller 22 is journaled at its extremities in suitable bearings 23<sup>a</sup>, applied to the lower portion of the machine-frame 1, as illustrated in Fig. 2 of the drawings.

For the purpose of exemplifying the scope of the invention, as well as to disclose a further development thereof, I have illustrated in Figs. 6 to 10, inclusive, of the drawings a structural variation of which the clamping-plate is capable without departing from the



principle or sacrificing any of the advantages of the invention. This variation consists in making the clamping-plate extensible, and while provision might be made for effecting this extensibility in a lateral or longitudinal direction only the illustrated structure makes it possible to extend the plate both laterally and longitudinally to any desired extent for the purpose of accommodating its dimensions to the dimensions and character of the work to be clamped. The adjustment or extension of the clamping means might be effected in a large variety of ways which would naturally suggest themselves to a skilled mechanic; but said plate is preferably formed in a plurality of sections 23 and 24, arranged side by side, as shown, and mounted upon the hinge-rod 15 in a manner to permit said sections of the clamping-plate to be moved laterally and secured at any desired point upon the rod for the purpose of adjusting the plate transversely to accommodate the varying conditions of use. This character of mounting is secured by providing each of the plate-sections with a pair of hinge-lugs 14<sup>a</sup>, pierced by the rod 15 and opposed to the opposite ends of the adjusting sleeve or collar 25, designed to be shifted longitudinally upon the hinge-rod 15 and to be secured in its adjusted position by a set-screw 26 or other suitable securing means. In order to regulate the width of the clamping-plate, it is simply necessary to release the adjusting members or collars 25, which may then be shifted to any desired position and resecured to retain the plate-sections in their laterally-adjusted positions without interfering with their swinging movement upon the hinge-rod 15. It is evident that the head 19 of the operating-lever 18 (illustrated in the first five figures of the drawings) would be inadequate to effect the operation of the sectional clamping-plate in such adjustments of said plate as would effect a considerable separation of its sections. To accommodate this lateral adjustment, therefore, the front end of the flat head 19 of the operating-lever 18, employed in connection with the sectional clamping-plate, is formed with a more or less extended cross-bar 27 of sufficient length to insure the retention of the operating-lever in operative relation with the sections of the clamping-plate, irrespective of the lateral adjustment of said sections. In addition to the provision for this adjustment of the grip-plate laterally or transversely of the platen the employment of means for effecting its adjustment longitudinally thereof is also contemplated; but said means may be employed either with or without those instrumentalities which contribute to the lateral adjustment, as may be desired in individual instances. One embodiment of means for accomplishing such longitudinal adjustment or extension of the grip-plate is illustrated in Figs. 6 to 10, inclusive, of the drawings, and consists in forming each of the grip-plate sections 23 and 24 with a plurality

of relatively adjustable members. These members (designated by the numerals 28 and 29) may be and preferably are a pair of thin metal plates in lapping relation and retained in their relatively adjusted positions by suitable retaining means, which permits the plates or members of the grip-plate sections to be adjusted to any desired relative positions and retained securely against accidental displacement. One embodiment of such retaining means comprehends the formation of a longitudinal slot 30 in each of the under or lower plates or members to accommodate the play of depending elements—as, for instance, retaining-screws 31, screwed into the under sides of the uppermost plates 28. The overlapping members or plates of the grip-plate sections are preferably of rabbeted formation, as shown more clearly in Fig. 7 of the drawings, in order to provide comparatively heavy portions of the plates at those points where the pivotal mounting is effected and where the work is gripped.

From the foregoing it will be apparent that the several forms of the invention which have been illustrated and described all embrace not only a work-clamp which retains the work and protects it from contact with any portion of the traveling frame or mechanism carried thereby during the shifting of the frame to its various positions over the platen, but that these several forms of the invention also embody the thought of a work-clamp movable toward and from the platen to engage or release the work and disposed for control and automatic actuation by the traveling frame or some element movable therewith, so that the work is securely gripped and held while the printing mechanism is disposed thereover, but is automatically released to facilitate the displacement and replacement of the work when the printing mechanism has been shifted to its position away from the work and at the rear end of the platen.

Various modifications other than those illustrated or suggested will naturally occur to those skilled in the art, and, as many forms of grip members and actuating mechanism therefor may be resorted to in carrying out the invention, it will be understood that various changes in the form, proportion, and structural details of the present embodiments of the device may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. In a type-writing machine, the combination with the relatively stationary flat platen having the main tracks or guides for the traveling machine, of a transverse work-clamp disposed directly over the writing-surface of the platen to clamp the work thereon, said transverse work-clamp being arranged to permit the machine to travel thereover, and means for automatically moving the work-



clamp away from the writing-surface to release the work.

2. In a type-writing machine, a relatively stationary flat platen having the main tracks or guides for the traveling machine, and a transverse work-clamp disposed directly over the writing-surface of the platen to clamp the work thereon, said transverse work-clamp being arranged to permit the machine to travel thereover, means for automatically moving the work-clamp toward the writing-surface to clamp the work, and separate means for automatically moving said clamp away from the writing-surface to release the work.

3. In a type-writing machine, the combination with the stationary flat platen having the main tracks or guides, of a traveling machine movable thereon, and a work-clamp disposed directly over the writing-surface of the platen to clamp the work thereon, and movable toward and away from the platen, said work-clamp being disposed for actuation by the machine.

4. In a type-writing machine, the combination with the relatively stationary flat platen having the main tracks or guides, and a traveling machine mounted on said main tracks or guides for travel over the platen, of a swinging transverse work-clamp arranged to permit the machine to travel thereover and disposed to clamp the work against the writing-surface, and means for automatically actuating the work-clamp by the machine.

5. In a type-writing machine, the combination with the stationary flat platen having the main tracks or guides, of a traveling machine mounted thereon for travel over the platen, a transverse work-clamp disposed between the tracks in a plane below the printing mechanism and movable toward the writing-surface to clamp the work thereon, and a clamp-actuating member located intermediate of the ends of the platen and extended into coöperative relation with the machine.

6. In a type-writing machine, the combination with the stationary flat platen having the main tracks or guides arranged thereover, of a traveling machine mounted thereon for movement over the platen, a transverse work-clamp disposed between the tracks or guides and movable toward the writing-surface to clamp the work thereon, said work-clamp being located entirely below the machine to permit the latter to travel freely thereover, and a clamp-actuating member located under the platen but projecting above the writing-surface at a point removed from the clamp for actuation by the machine.

7. In a type-writing machine, the combination with the stationary flat platen having the main tracks or guides, of a machine mounted to travel thereon, a work-clamp having its mounting below the writing-surface of the platen and disposed to rest flat upon said writing-surface to clamp the work thereon, and a clamp-actuating member also having

its mounting below the writing-surface and extended upwardly through the platen, intermediate of the ends thereof, for actuation by the machine.

8. In a type-writing machine, the combination with the stationary flat platen having the main tracks or guides, and a machine mounted to travel thereover, of a transverse work-clamp disposed to rest upon the writing-surface of the platen at a point intermediate of the ends of the latter, and a clamp-actuating member extended above the writing-surface at a point removed from the clamp for actuation by the machine.

9. In a type-writing machine, the stationary platen, a machine-frame disposed to travel over the platen, a pivoted work-clamp disposed to engage the work resting on the platen, and a clamp-actuating lever disposed to engage the clamp and having a cam portion located in the path of the traveling machine-frame for actuation thereby.

10. In a type-writing machine, the combination with the stationary flat platen, and the tracks or guides for the traveling machine, of the flat unobstructed transverse work-clamp disposed to lie flat upon the platen between the tracks or guides to permit the machine to travel freely thereover, and an operating-lever disconnected from but operatively related to the clamp, whereby said clamp may be moved independently or through the medium of the lever.

11. In a type-writing machine, the stationary platen, the work-clamp disposed to clamp the top edge of the work, a pivot-bar located below the writing-surface and supporting the clamp, an operating-lever mounted on said pivot-bar and having a head opposed to the clamp, and a cam extension projecting above the platen.

12. In a type-writing machine, a work-engaging member composed of relatively adjustable swinging sections, each of said sections consisting of relatively adjustable members disposed for adjustment in a direction at right angles to the adjustment of the sections.

13. In a type-writing machine, the stationary flat platen, a traveling machine-frame, a work-clamp arranged to engage and protect the top edge of the work, and a contact-roller carried by the machine-frame and disposed to insure the depression of the work-clamp and the smooth spread-out condition of the work.

14. In a type-writing machine, the stationary flat platen, the traveling machine-frame, a work-holder arranged over the platen, and a movable work-guard supported by the platen and automatically actuated by the movement of the machine-frame.

15. In a type-writing machine, the traveling machine-frame, the stationary flat platen, a work-holder arranged over the platen, a swinging work-clamping plate supported by the platen and adapted to engage with the



top edge of the work, and means actuated by the traveling machine-frame for automatically operating said clamping-plate.

16. In a type-writing machine, the traveling machine-frame, the stationary platen, a work-holder arranged over the platen, a swinging work-clamping plate having a hinge-support at one edge of the platen and adapted to engage and protect the edge of the work, and an operating-lever having an operative connection with said plate and also having a cam portion lying in the path of the traveling machine-frame.

17. In a type-writing machine, the stationary flat platen, a work-holder arranged over the platen, a separate swinging work-clamp adapted to move to a position upon the top edge of the work, and a traveling machine-frame carrying a contact movable over the work as the machine progresses.

18. In a type-writing machine, the combination with a stationary flat platen, and the main tracks or guides, of a traveling machine mounted thereon for movement over the platen, a work-clamp disposed to clamp the work on the platen, and an operating-lever disconnected from, but operatively related to the clamp, and extended into the path of movement of the machine for actuation thereby, whereby said clamp may be moved independently of the lever or through the medium thereof when said lever is operated by the machine.

19. In a type-writing machine, the combination with a flat platen, of tracks or guides, a machine movable along the tracks or guides, and a transverse work-clamp arranged to be operated by a machine part movable independently of the tracks or guides.

20. In a type-writing machine, the combination with a flat platen, and tracks or guides, of a transverse work-clamp to clamp the work on the platen, and a machine movable over the clamp and having a part arranged to operate the same.

21. In a type-writing-machine, the combination with a flat platen, of a plurality of work-engaging devices for retaining separate sheets disposed one above the other, said devices being disposed longitudinally and transversely of the platen and both hinged thereto.

22. In a type-writing machine, the combination with a flat platen, and the tracks or guides, of a plurality of work-engaging devices, one disposed longitudinally of the platen and the other transversely thereof, the transverse work-engaging device being movable toward and from the platen independently of the tracks or guides.

23. In a type-writing machine, the combination with a flat platen, and the machine tracks or guides supported by the platen, of a plurality of work-engaging devices cooperating with the writing-surface of the platen and disposed longitudinally and transversely thereof.

24. In a type-writing machine, the combi-

nation with a flat platen, and the machine tracks or guides, of a plurality of work-engaging devices cooperating with the platen, one of said devices being connected with the tracks or guides and the other being independent thereof.

25. In a type-writing machine, the combination with a flat platen, and the machine tracks or guides, of a plurality of work-engaging devices cooperating with the writing-surface of the platen and disposed longitudinally and transversely thereof, one of said devices being connected with the tracks or guides and the other being independent thereof.

26. In a type-writing machine, the combination with a flat platen, and the machine tracks or guides, of a plurality of work-engaging devices cooperating with the writing-surface of the platen and disposed longitudinally and transversely thereof, one of said devices being movable toward and away from the platen.

27. In a type-writing machine, the combination with a flat platen, and the machine tracks or guides, of a plurality of work-engaging devices cooperating with the writing-surface of the platen and disposed longitudinally and transversely thereof, one of said devices being movable toward and away from the platen by or through the movement of the machine along said tracks or guides.

28. In a type-writing machine, the combination with a flat platen, and the tracks or guides, of a plurality of work-engaging devices, one disposed longitudinally of the platen and the other transversely thereof, the transverse work-engaging device being movable toward and from the platen.

29. In a type-writing machine, the combination with a flat platen, and the machine tracks or guides, of a plurality of work-engaging devices cooperating with the writing-surface of the platen and disposed longitudinally and transversely thereof, and independently movable toward and away from the platen.

30. In a type-writing machine, the combination with a flat platen, and the machine tracks or guides, of a plurality of work-engaging devices cooperating with the writing-surface of the platen and disposed longitudinally and transversely thereof, and movable toward and away from the platen.

31. In a type-writing machine, the combination with a flat platen and the machine tracks or guides, of a plurality of work-holding devices cooperating with the platen, said devices being disposed longitudinally and transversely of the latter and movable toward and away from the same.

32. In a type-writing machine, the combination with a flat platen, and main tracks or guides for a traveling machine, of a transverse machine-operated swinging work-guard.

33. In a type-writing machine, the combi-



nation with a flat platen having main tracks  
or guides for a traveling machine, of a trans-  
verse work-guard arranged to permit the ma-  
chine to travel thereover, and means for  
5 automatically moving the work-guard away  
from the writing-surface of the platen.

In testimony that I claim the foregoing as

my own I have hereto affixed my signature in  
the presence of two witnesses.

ROBERT JOSEPH FISHER.

Witnesses:

EDWARD K. HOAK,  
ARTHUR C. ROGERS.