No. 705,536. Patented July 22, 1902.

C. F. LAGANKE.

WORK GAGE AND CLAMP FOR TYPE WRITING MACHINES.

(Application filed Mar. 21, 1901.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

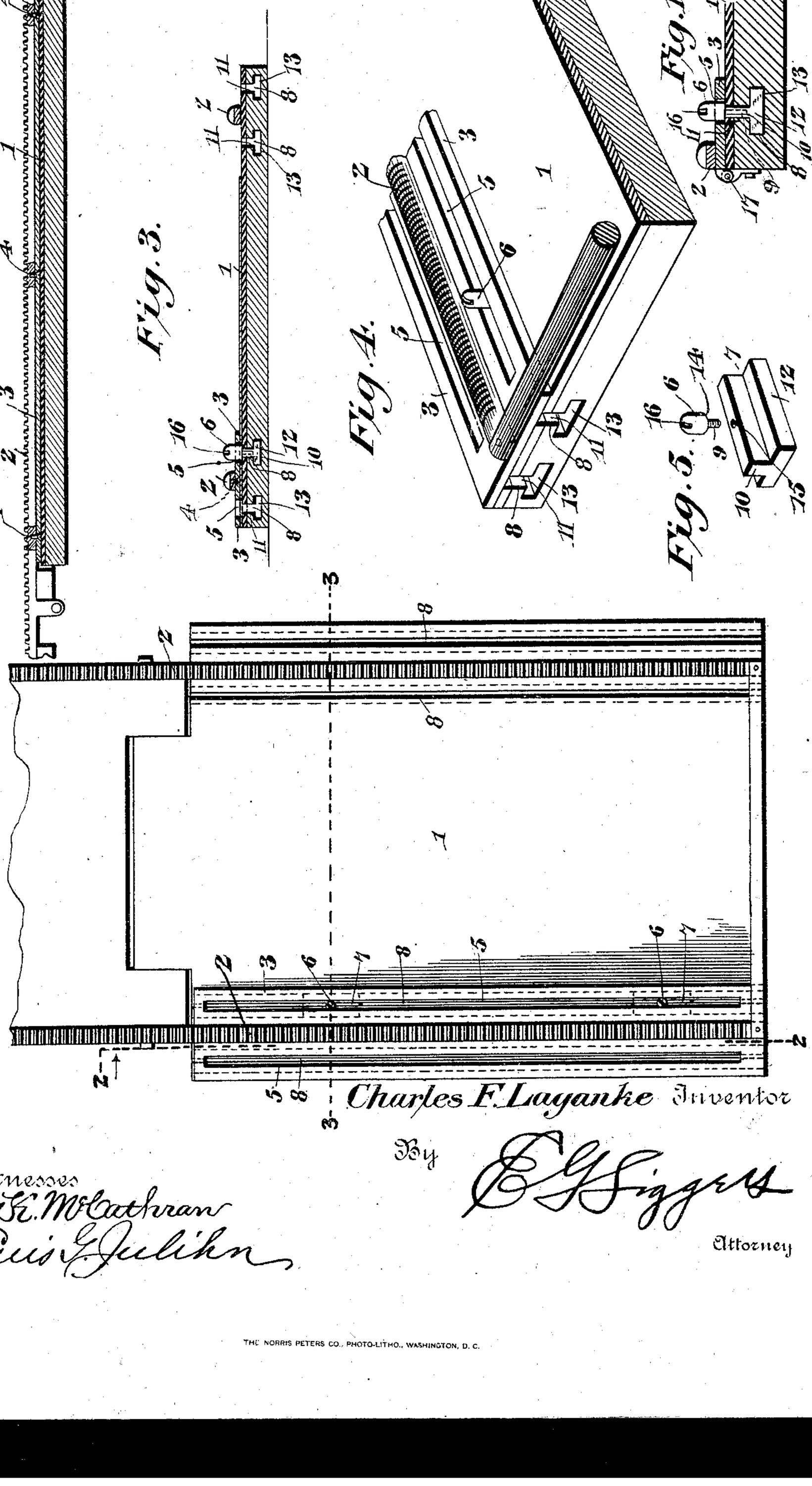

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

Fig. 6.

Witnesses
Jas. E. McCathran
Louis G. Julihn

Charles F. Laganke Inventor

By E. G. Siggers

Attorney

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(No Model.) 2 Sheets—Sheet 2.

Fig. 11.

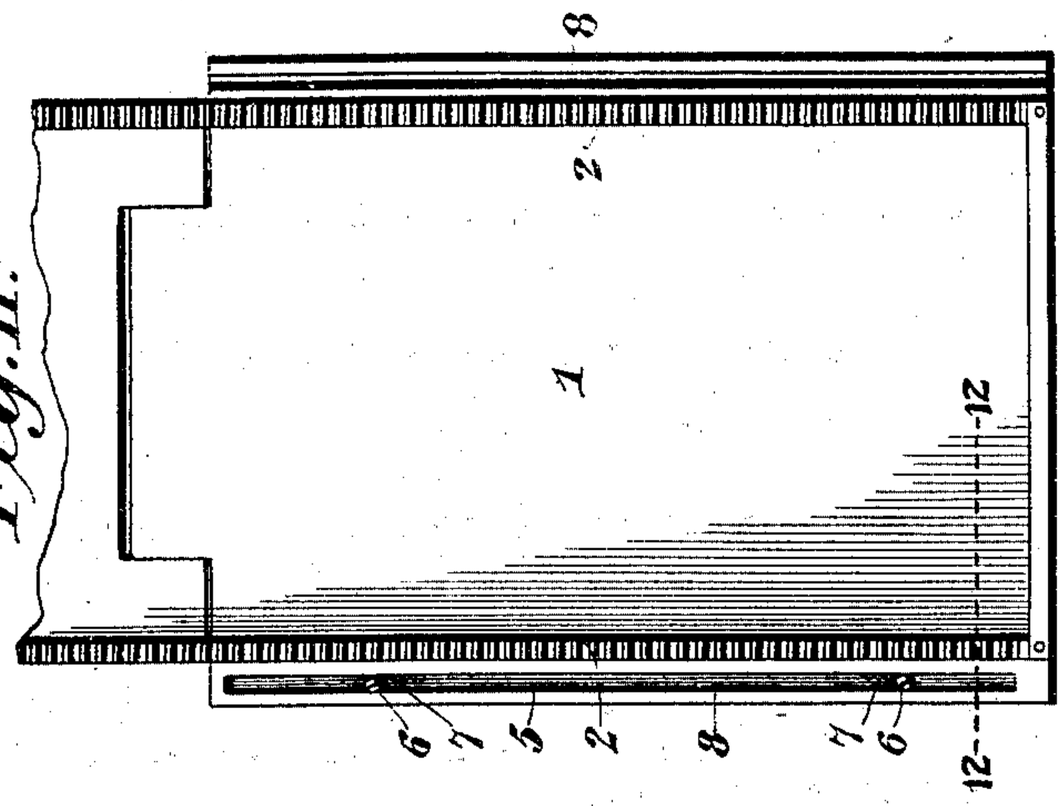


Fig. 10.

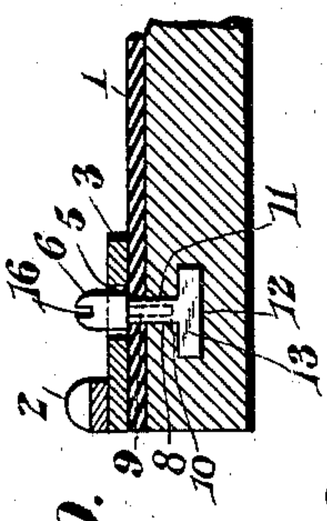


Fig. 12.

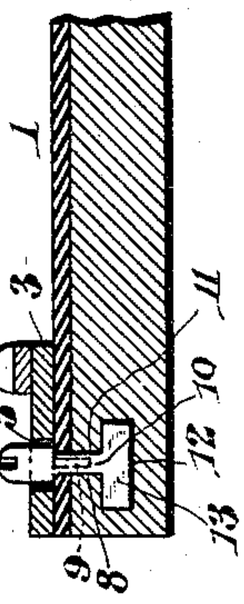


Fig. 9.

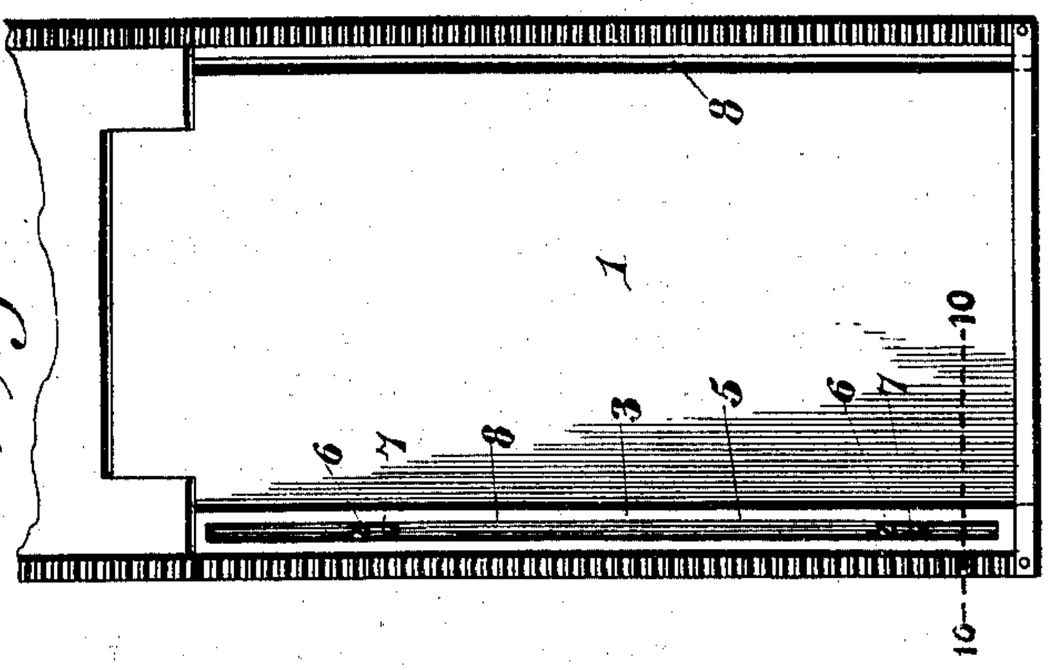


Fig. 7.

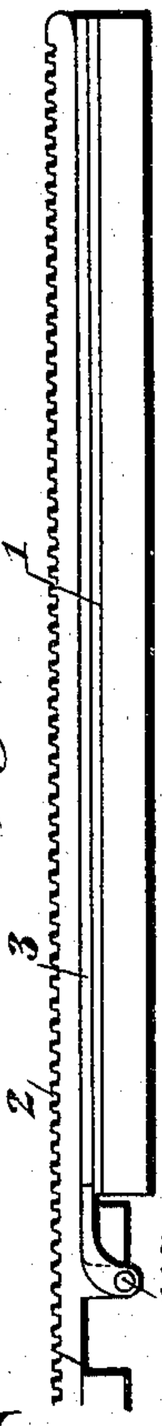


Fig. 8.

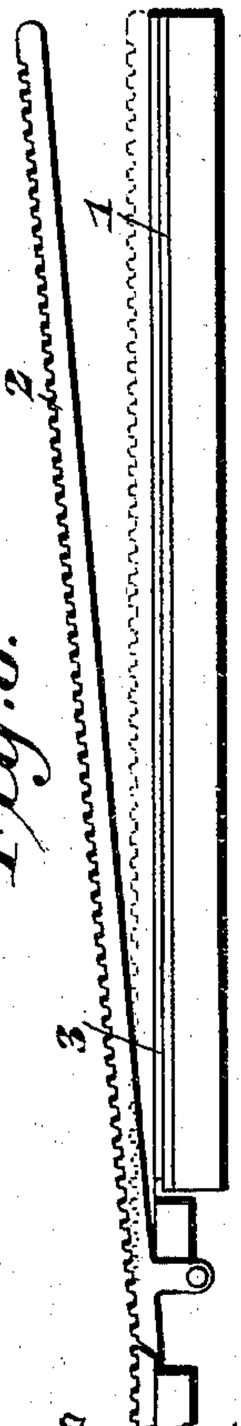
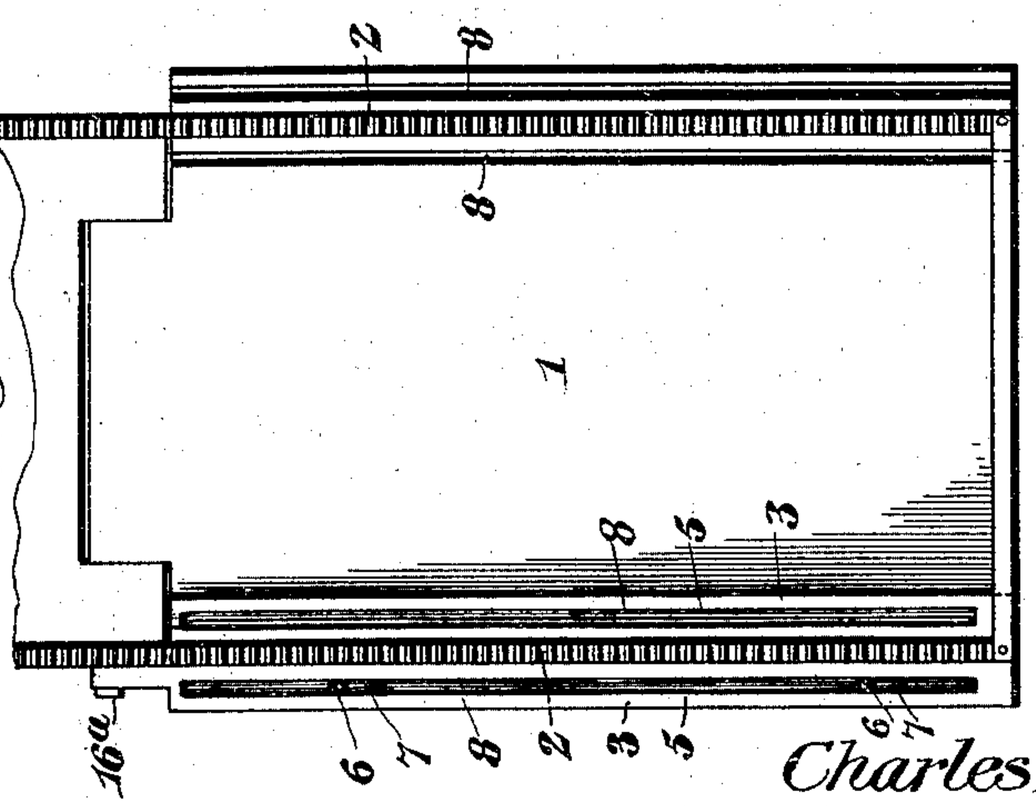


Fig. 6.



Charles F. Laganke, Inventor

By E. G. Siggers

Attorney

Witnesses
Jas. K. McCathran
Louis G. Julihn

UNITED STATES PATENT OFFICE.

CHARLES FREDERICK LAGANKE, OF CLEVELAND, OHIO, ASSIGNOR TO THE FISHER BOOK TYPEWRITER COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF DELAWARE.

WORK GAGE AND CLAMP FOR TYPE-WRITING MACHINES.

SPECIFICATION forming part of Letters Patent No. 705,536, dated July 22, 1902.

Application filed March 21, 1901. Serial No. 52,221. (No model.)

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 Work Gage and Clamp for Type-Writing Machines, of which the following is a specification.

This invention relates to type-writing machines, particularly of that class distinguished by a flat platen upon which the sheet or work is held in a flat or spread-out condition during the printing operation, and has special reference to an improved work gage and clamp associated with the platen to provide means for locating and holding the work in the proper printing position and also for protecting the edge of the work retained by the gage.

To this end the present invention contemplates in one form thereof a work-gage designed to be associated with the platen by direct attachment thereto for effecting the registering of the work in the printing position, the gage proper or the element or elements thereof constituting the work-abutment being located outside the vertical plane of the track-rails and adjustable to various positions upon the platen; and the invention further contemplates a clamp member or plate coöperating with the work-gage to insure the retention of the work by the gage and to protect the edge of the work over which the plate is disposed.

Another object of the invention is to provide a work-gage especially useful in connection with bills or other sheets having file-holes and in this aspect to provide for suitable adjustment of the gage to conform to the variations in the styles and spacing of these file-holes which will be found in different classes of work.

A further object of the invention is to provide a clamp-plate designed for coöperation with the work-gage and capable of movement toward and away from the platen for the purpose of engaging or releasing the work properly located and alined or held by the gage, and, furthermore, to provide a clamp-plate of this character with means permitting its employment in connection with a work-gage adjustable to various positions upon the platen to conform to the variations in the spacing of the file-holes of the work to be alined by the gage and held and protected by the clamp.

With these and other objects in view, which will more readily appear to those familiar with the art as the nature of the invention is better understood, the same consists in the novel construction, combination, and relation of parts hereinafter more fully described, illustrated, and claimed.

The essential features of the invention, involving the provision of an adjustable gage directly carried by a platen, the location of the gage proper or gage-abutment outside the vertical plane of the adjacent rail or guide, and a clamp adapted for coöperation with the work-gage, are susceptible of a wide range of modification without departing from the spirit or scope of the invention; but the preferred embodiments of the latter are shown in the accompanying drawings, in which—

Figure 1 is a plan view of a type-writing-machine platen, showing one embodiment of the invention, in which the platen is grooved at both sides of each rail or guide to permit the gage-abutment to be carried directly by the platen either inside or outside of either rail—that is to say, adjacent to either rail and between them or adjacent to either rail and beyond their outer sides—the work-gage in this figure being shown in coöperative relation with the clamp-plate carried by a swinging rail-section and extending beyond both sides thereof. Fig. 2 is a longitudinal sectional view on the line 2 2 of Fig. 1. Fig. 3 is a transverse sectional view on the line 3 3 of Fig. 1. Fig. 4 is a detail view in perspective of a portion of the platen and immediately-adjacent parts. Fig. 5 is a detail view of one of the gage members or pins and its block. Fig. 6 is a plan view similar to Fig. 1, showing a modification in which the clamp-plate instead of being connected to a rail or guide is independently hinged to the platen.

Fig. 7 is a side elevation of the subject-matter of Fig. 6. Fig. 8 is a side elevation of a further modification which contemplates the employment of a loose clamp-plate. Fig. 9 is a modification which contemplates the location of the gage at the inside only of the track, the clamp-plate in this construction being secured to the track and extending along the inner side only thereof. Fig. 10 is a transverse sectional view, on a somewhat-enlarged scale, on the line 10 10 of Fig. 9. Fig. 11 is a further modification contemplating the employment of a gage and a clamp-plate beyond the outer sides only of the tracks. Fig. 12 is a transverse sectional view, on a somewhat-enlarged scale, on the line 12 12 of Fig. 11; and Fig. 13 is a transverse sectional view similar to Fig. 12, illustrating a further modification consisting in hinging the clamp-plate at one side edge thereof instead of at the end of the plate, as in the construction illustrated in Figs. 6 and 7.

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

The improvements forming the subject-matter of this application present in one aspect a different embodiment of the invention disclosed in the application of C. F. Laganke, filed August 29, 1900, Serial No. 28,441, and in another aspect present a further variation of the invention disclosed in the application of Hiram J. Halle, filed December 13, 1900, Serial No. 39,720. In the Laganke application is disclosed the idea of a work-gage arranged to lie in a plane beneath a clamping member—as, for instance, a track or guide—whereas the present application contemplates a work-gage for similar purposes which is designed to lie in the vertical plane of a clamp-plate distinct from the track or guide carried thereby or mounted independent of the track. In this aspect of the invention I desire to be understood as not being limited to any particular form of work-gage, as the broad idea of a clamp-plate distinct from the rail and cooperating with a work-gage may be carried into effect without reference to the particular location of the plate or the precise character of work-gage employed for the alinement and retention of the work-sheet. For examples of forms of work-gages capable of adoption in connection with the present invention in the aspect stated see the applications of Laganke and Halle referred to.

In the Halle application aforesaid is disclosed the idea of a work-gage arranged to be located wholly outside the vertical plane of the rail or guide and adjustably carried by a supporting member designed for detachable connection to the platen, whereas the present application contemplates a work-gage which while located wholly outside the vertical plane of the rail or guide and capable of adjustment is carried directly by the platen and when adjusted to its proper position is clamped immediately to the platen.

In addition to these general improvements the invention also has in view the provision of an adjustable gage capable of being lined up with perfect trueness with reference to the platen and comprising means for adapting the same to the variations in the styles of the file-holes and the spacing thereof, also the provision of means for locating the gage or clamp-plate, or both of them, either at the inside or outside of a rail or guide to accommodate bills or other work-sheets having binding-margins of various widths.

The invention also provides for locating the gage and clamp-plate adjacent to either side edge of the platen in order to properly aline and hold the work-sheet in a manner to permit the printing mechanism to operate on both sides thereof—that is to say, the platen is constructed in a manner to permit the gage to be located thereon adjacent to either its right-hand or left-hand edge—as it is sometimes necessary to operate on both sides of the sheet—to wit, the face and back thereof—and as the file-holes are usually provided at one edge only of the bill or sheet the reversal of the sheet upon the platen is necessary to the attainment of the desired end.

In the accomplishment of the several objects mentioned the invention may obviously be embodied in a variety of different forms; but in such variations it is essential in one aspect of the invention that the gage-abutment or the several abutment members be mounted directly upon or within the platen for adjustment with reference thereto or in another aspect that a clamp-plate be provided distinct from the rail or guide and disposed to protect the adjacent edge of the work-sheet alined by the gage.

In carrying out the invention the preferred features just stated are preserved in various forms, as illustrated in the drawings, and a preferred additional feature is the idea of mounting the work-clamp in a manner to permit it to be moved toward the platen to engage the work or away from the platen to release the work and permit it to be withdrawn from the gage-abutment. In some forms of the invention is involved the additional idea of hinging the clamp-plate upon the platen, either directly or by the attachment of the plate, to a swinging rail-section, so that while the clamp-plate is associated with the platen as an attached part thereof it may be swung to a position to hold the work or elevated to effect the release of the work-sheet when its removal or replacement is desired.

The improvements forming the subject-matter of the present application are especially designed for use in connection with that class of type-writing machines coöperating with a flat platen for holding the work in a flat or spread-out condition. Machines of this type are largely intended for writing in books, on letter-sheets, on cards, or for making up records and reports, and in the later development thereof have been found very

useful for commercial billing purposes. This is especially true of the Fisher type-writing machine and its platen, a form of which machine is illustrated in the patent to R. J. Fisher, No. 573,868, and inasmuch as the work gage and clamp contemplated by the present invention are very useful and important adjuncts to the platen of a machine of the Fisher type the different forms of the invention are shown in the drawings for illustrative purposes as associated with one form of platen which is used in connection with some forms of the Fisher machine and which is illustrated in the patent to H. J. Halle, No. 621,660. However, it will of course be understood that the particular kind of platen and the special type of printing mechanism forms no part of the present invention and are simply shown to illustrate the preferred ways of carrying out the same. Therefore the only parts of the type-writing machine to which special reference need be made are the flat platen 1, upon which are designed to be placed the swinging track-rails 2, which support the usual traveling printing mechanism. (Not illustrated.) It should be observed, however, that the invention in some aspects thereof may be carried out in connection with a platen equipped with track-rails fixed thereto instead of being hinged for movement toward and away from the platen and that relative movement of the platen and rails can be effected by employing fixed rails and a movable platen.

Referring first to the form of the invention shown in Figs. 1 to 5, inclusive, of the drawings, the track rails or guides 2, which support the traveling printing mechanism, are designed in some uses of the machine to be lowered flat upon the platen for the purpose of presenting the clamp-plate 3 over the adjacent longitudinal edge of the work to hold the same upon the platen during the printing operation, this being especially desirable in bookwork, where the platen is inserted beneath the page to be printed upon and the latter is held to the platen by the plate when lowered thereon.

In the form of the invention illustrated in the first five figures of the drawings the clamp-plate 3 is secured by suitable means—as, for instance, screws 4—to the under side of the left-hand rail 2 and extends beyond both sides of the rail to permit the plate to coöperate with the gage-abutment projected from the platen and located adjacent to the rail either between the track-rails or beyond the outer side of the rail upon which the plate is mounted. The clamp-plate 3 is designed, as stated, to lie flat upon the edge of the work engaged by the work-gage, and as the gage-abutment projects above the surface of the platen in a vertical plane with the plate provision must be made for the reception of the gage-abutment within the plate when the latter is lowered to its holding position. The means employed to attain this end will of course vary in accordance with the character of the gage provided for the retention of the sheet; but in the several illustrated embodiments of the invention the clamp-plate 3 is provided with an elongated slot 5 at one or both sides of the rail for the reception of a gage-abutment and of sufficient length to permit proper coöperation of the plate with the gage in any position to which the latter may be adjusted upon the platen.

The distinction between the described construction and that illustrated in the Laganke application aforesaid will now be apparent, as the gage instead of being located directly beneath a track or guide and within the vertical plane thereof is located without the vertical plane of the track or guide, but in a vertical plane with a clamp member in the form of a plate distinct from the rail whether secured thereto or not, the inclusion of these two desirable characteristics—to wit, a gage located without the vertical plane of a rail and a gage coöperating with a clamp member—being made possible only by the provision of a clamp-plate distinct from the rail and projecting beyond the plane thereof.

While the clamp-plate constructed as described may be used with any form of work-gage—as, for instance, those forms illustrated in either the Laganke or Halle applications hereinbefore referred to—it is preferred to employ in connection with said plate a novel work-gage comprehending a gage-abutment carried directly by the platen and adjustable thereon to conform to various classes of work. The work-gage proper or gage-abutment preferably consists of a plurality of alined gage pins or projections 6, carried by gage-blocks 7, slidably mounted in a groove 8, formed in the platen 1 for the reception of the gage-blocks. The form of the pins or blocks or the number of projections employed may be varied within wide limits, as the essential feature of the gage is the adjustable mounting of the gage projections or elements directly upon or within the platen as distinguished from the mounting of said projections upon a support distinct from the platen and designed for attachment thereto, as in the Halle application. One embodiment of these elements is illustrated in the drawings and consists in imparting to the slidable gage-blocks 7 an inverted-T shape in cross-section to conform to the similar contour of the grooves 8 in the platen 1, the pin or projection 6 being preferably of cylindrical form and having at one end a threaded shank 9. By forming the gage-block 7 in the manner described it is made to comprise a slide 10, disposed within the narrow vertical portion 11 of the groove 8, and a flat head 12, disposed within the comparatively wide horizontal portion 13 of the groove 8 and serving to prevent upward displacement of the block.

As it is contemplated to adjust the gage projections with reference to the platen for the purpose of accommodating them to the

variously-spaced file-holes in certain classes of work, various expedients may be adopted to effect the adjustable retention of the gage projection or projections upon the platen. However, a convenient mode of securing or holding the pin at any desired point upon the platen is illustrated and comprehends the employment of a pin slightly wider than the slide 10 of the gage-block to form a clamp-shoulder 14, designed to seat upon the face of the platen 1 when the shank 9 of the pin is screwed into a threaded socket 15, provided for its reception in the top edge of the slide 10. To facilitate the screwing and unscrewing of the pin, the latter is provided in its upper end with a kerf 16 for the reception of a screw-driver or other tool, and it will be noted that by screwing up or unscrewing the gage projection 6 the gage block and pin may be caused to bind against the platen for the purpose of holding the abutment projection securely or may be caused to release the platen in order to permit the block and pin to be shifted to any position upon the platen in conformity to the location of the file-holes in the edge of the work-sheet to be engaged. The several gage projections 6, constituting one form of gage-abutment, as shown in Fig. 1 of the drawings, are alined longitudinally of the platen, and any number of such projections may be utilized as may be found necessary or desirable; but in the successful carrying out of the invention it is only important that a sufficient number of said projections be employed to form a gage-abutment with which may be engaged the edge of the bill or sheet to be alined or located in the printing position upon the platen. It will be noted, furthermore, that the said gage elements or pins 6 project above the writing-surface of the platen, so that when the clamp-plate 3 is elevated it is only necessary to slip the bill or other sheet upon the writing-surface and engage the edge thereof with the alined series of gage pins or projections, thus securing a correct alinement and positioning of the sheet, so that when the clamp-plate is lowered upon the platen the same in connection with the gage pins or projections will serve to properly hold the work in place.

By reason of the projection of the pins or elements 6 above the top surface of the platen the bill or sheet may not only be engaged at its edge against the inner sides of said pins or projections, but also in bills or sheets which are provided with file-holes in their edges. The same may have these holes arranged directly over the pins or projections, as illustrated in Fig. 3 of the drawings, which are thus made to interlock with the bill to positively hold the work-sheet, so as to prevent the possibility of its slipping or twisting out of position when the printing mechanism is worked thereover.

In the embodiment of the invention now under consideration provision has been made for the alinement and retention upon the platen of bills or work-sheets having binding edges or margins of different widths by equipping the left-hand rail with a clamp-plate extended beyond both sides of the rail and provided at both sides thereof with a slot 5 and by forming the platen with a pair of elongated gage seats or grooves 8, registering with the slots in the clamp-plate and designed to permit the gage-abutment to be positioned upon the platen at the right-hand or inner side of the left-hand rail to engage the work-sheets having narrow margins or to permit said gage to be located in registering relation with the slotted clamp-plate at the left hand or outside of the track when work-sheets having comparatively wide margins are intended to be held in the printing position.

In this embodiment of the invention provision is made also for retaining the work-sheet in the reversed position, in order that the printing mechanism may be operated upon the back of the sheet, as well as upon the face thereof, when the sheet is held by the retaining and positioning devices at the left-hand side of the platen. While any suitable means might be provided for holding the sheet in the reversed position, this may be and preferably is accomplished by forming in the platen 1 adjacent to the right-hand edge thereof a second pair of grooves 8, similar to the grooves located at the left-hand side of the track and bearing a similar relation to the adjacent track or rail 2. Under ordinary circumstances the clamp-plate and gage are mounted at the left-hand side of the platen, as illustrated in the first four figures of the drawings, to hold the work-sheet in position for the printing mechanism to operate upon the face of the sheet; but it will be evident that by removing the gage and clamp-plate from the platen and rail at the left-hand side and by replacing them upon the platen and rail at the right-hand side the work-sheet may be alined and held securely in reversed position to present its back for the imprinting of the type-written characters.

In the described construction one feature thereof resides in the connection of the clamp-plate to a swinging track-rail to cause the plate to move toward and away from the platen as the track-rails are depressed or elevated. In Figs. 6 and 7 is illustrated a different mode of accomplishing the same result—that is to say, a different character of mounting for the clamp-plate, which permits said plate to be moved toward the platen for engagement with the work or away from the platen to permit the displacement of the sheet and its replacement by another. The variation disclosed in these figures involves the idea of hinging the clamp-plate independent of the rail—as, for instance, by a hinge connection 16ª between the platen or a part in fixed relation thereto and the clamp-plate 3 at the rear end of the latter.

An even simpler embodiment of the idea of a clamp-plate movable toward and away

from the platen to coöperate with the gage in the alinement and retention of the work in the printing position is illustrated in Fig. 8 of the drawings. This variation consists in providing a clamp-plate which is not only separate and distinct from the track-rail, but which is connected to neither the rail nor platen and is placed loosely upon the platen, where it is designed to be retained either by its own weight or by the weight of the track-rail, which is preferably though not necessarily imposed thereon.

In the several embodiments of the invention to which reference has been made the clamp-plate is extended laterally beyond the track-rail at both sides thereof and is provided with slots at both sides of the rail for the accommodation of a work-gage disposed upon the platen in position to aline sheets of different classes. Such duplication of the clamp-plate or such extension thereof at both sides of the rail while it adapts the platen to a wide range of use is not essential to the successful carrying out of the invention, and in Figs. 9 and 10 is illustrated a platen equipped with a clamp-plate extending laterally beyond the track-rail at the inner side only thereof and designed for coöperation with a work-gage which is preferably capable of being disposed at either side of the platen, but is incapable of location beyond the outer sides of the track-rails, as in those embodiments of the invention which contemplate the employment of a plurality of grooves adjacent to each side of the platen.

In Figs. 11 and 12 is illustrated a further variation similar to the construction illustrated in Figs. 9 and 10, except that the clamp-plate extends beyond the track-rail at the outer side only thereof and is designed for coöperation with a work-gage, which, like the gage shown in Figs. 9 and 10, is capable of being located at the opposite side of the platen, but not at the opposite side of the adjacent track-rail. The manner of mounting the clamp-plates shown in Figs. 9 and 11 is not essential and may be effected by connecting the said plates to the track-rails or to the platen, or the plates may be loosely mounted, as in the construction illustrated in Fig. 8 of the drawings.

A possible variation of the means for mounting the clamp-plate upon the platen is illustrated in Fig. 13 of the drawings, and consists in forming a hinged connection 17 between the plate and platen at the outer side edges of these elements. It will be observed that in each of the several illustrated embodiments of the invention is preserved the idea of a clamp-plate extending outside the vertical plane of the track-rail and coöperating with the work-gage, also a work-gage adjustably carried by the platen immediately or directly, and that, furthermore, each of these embodiments embraces the thought of an adjustable work-gage or a work-gage comprehending adjustable members forming an abutment disposed for reception within a clamp-plate movable toward and away from the platen to engage or release a work-sheet properly alined in the printing position by being abutted against or by having an interlocking engagement with the work-gage. It will therefore be understood that while the several novel features of the illustrated structure are preferably employed in connection with each other, still it may be desirable in some connections to employ the clamp-plate in connection with various forms of work-gages—as, for instance, those illustrated in the Laganke and Halle applications aforesaid—or it may be equally desirable to employ the work-gage illustrated and described in this application in coöperative relation with a track-rail disposed to perform the function of a clamping member, as in Laganke, or without the coöperation of any clamp-plate whatever.

Several modifications of the preferred embodiments of the invention have been shown in order to illustrate a few of many variations which may be resorted to in carrying the invention into practical effect; but inasmuch as other constructions might be utilized for the purpose of accommodating the gage and clamp to various conditions of use without changing or altering the principle involved it will be understood that various changes in form, proportion, and structural detail may be resorted to without departing from the scope of the invention or sacrificing any of the advantages thereof.

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 flat platen, the tracks or guides, and a work-gage, of a clamp member distinct from the rails and disposed to coöperate with the work-gage.

2. In a type-writing machine, the combination with the flat platen, tracks or guides, and a work-gage, of a clamp-plate disposed at one side of a track or guide and in coöperative relation with the work-gage.

3. In a type-writing machine, the combination with the flat platen, the tracks or guides, and a work-gage, of a clamp-plate distinct from the rails or guides and movable toward and away from the platen, said clamp-plate being disposed in coöperative relation with the work-gage.

4. In a type-writing machine, the combination with the flat platen, a work-gage, and the machine-rails, of a clamp-plate coöperating with the rails and gage to aline and hold the work.

5. In a type-writing machine, the combination with the platen, the machine-rails and work-gage, of a clamp-plate carried by one of the rails and coöperating with the work-gage to hold the work.

6. In a type-writing machine, the combination with a flat platen, a track or guide, and

a clamp-plate connected to one of said elements for movement toward and away from the platen, of a work-gage disposed in coöperative relation with said platen.

7. In a type-writing machine, the combination with the flat platen, a track or guide, and a clamp-plate having hinged connection with one of said elements, of a work-gage disposed in coöperative relation with the clamp-plate.

8. In a type-writing machine, the combination with the flat platen, the tracks or guides, and the work-gage, of a clamp-plate distinct from the tracks or guides and disposed directly over the work-gage to clamp and protect the edge of the sheet alined by said gage.

9. In a type-writing machine, the combination with the flat platen, the tracks or guides, and a work-gage carried by the platen, of a clamp member arranged without the plane of a track or guide and designed to have interlocking engagement with the work-gage.

10. In a type-writing machine, the combination with the flat platen, and the tracks or guides, of a work-clamp distinct from but associated with one of said tracks.

11. In a type-writing machine, the combination with the flat platen, and the tracks or guides, of a clamp-plate disposed intermediate of the platen and one of said tracks.

12. In a type-writing machine, the combination with the flat platen, and the swinging tracks or guides, of a work-clamp directly carried by one of said tracks and extended outside the vertical plane thereof.

13. In a type-writing machine, the combination with the tracks or guides, a work-gage, and a platen provided with means for retaining the work-gage upon the platen at either side of said track, of a clamp arranged to cooperate with the work-gage in either position of the latter.

14. In a type-writing machine, the combination with the flat platen, a track or guide, and a work-gage designed to be located upon the platen at either side of said track, of a clamp extended beyond both sides of the track for coöperation with the work-gage in either position of said gage.

15. In a type-writing machine, the combination with the tracks or guides, a work-gage, and a platen provided with means for locating the work-gage upon said platen adjacent to either side edge of the latter, of a clamp designed to be located in coöperative relation with the work-gage in either position of the latter.

16. In a type-writing machine, the combination with a flat platen, and an adjustable work-gage disposed longitudinally of the platen, of a clamp arranged to coöperate directly with the work-gage in any position of the latter.

17. In a type-writing machine, the combination with a flat platen, and a work-gage member, of a clamp provided with a slot for the reception of the gage member.

18. In a type-writing machine, the combination with a flat platen, and a work-gage adjustable thereon, of a clamp movable toward and away from the platen and provided with a slot designed to receive the gage and to accommodate the adjustment thereof.

19. In a type-writing machine, the combination with a flat platen, and a work-gage composed of a series of alined pins, of a clamp provided with a slot to receive said pins.

20. In a type-writing machine, the combination with the flat platen, and a work-gage composed of a series of alined individually-adjustable pins, of a clamp provided with a slot to receive said pins.

21. In a type-writing machine, the combination with the flat platen, and a work-gage composed of an alined series of pins individually adjustable upon the platen, of tracks or guides for the machine-frame, and a clamp carried by one of said tracks and provided with a slot to receive said pins.

22. In a type-writing machine, the combination with a platen, of an adjustable work-gage consisting of an alined series of pins, and supporting and guiding means for said pins, said supporting and guiding means being formed as a permanent part of the platen.

23. In a type-writing machine, the combination with a flat platen and the tracks or guides for the traveling machine, of a work-gage comprising gage-pins adjustable longitudinally of the platen, and supporting and guiding means for said pins, said supporting and guiding means being formed as a permanent part of the platen.

24. In a type-writing machine, the combination with a platen, and a track or guide, of a work-gage carried directly by the platen outside of the vertical plane of said track or guide and adapted to be arranged on either side thereof.

25. In a type-writing machine, the combination with a platen, of a work-gage comprising a plurality of alined gage members mounted directly upon the platen and individually adjustable to conform to the positions of the file-holes in the margins of the work-sheet, and adapted to be arranged on either side of the platen.

26. In a type-writing machine, the combination with the platen formed with a guide-groove and the main tracks or guides for the support of the traveling machine, of a gage-pin supported and guided within said groove.

27. In a type-writing machine, the combination with a platen formed with a guide-groove and the main tracks or guides disposed longitudinally of the platen for the support of the traveling machine, of a work-gage comprising an alined series of individually-adjustable pins supported and guided within said groove.

28. In a type-writing machine, the combination with a platen formed with a guide-groove and the main tracks or guides for the traveling machine, of a work-gage comprising a plurality of separate gage-blocks slidable

within the groove, and gage-pins carried by said blocks and extended above the writing-surface of the platen.

29. In a type-writing machine, the combination with a platen provided with a groove and the main tracks or guides for the traveling machine, of a work-gage comprising a gage-block slidably mounted within the groove, and a gage-pin carried by and having an adjustable connection with the gage-block, whereby the pin and block may be caused to bind against oppositely-disposed faces of the platen to retain the gage in its adjusted positions.

30. In a type-writing machine, the combination with a platen formed with a plurality of parallel guide-grooves, of a track or guide disposed above the platen intermediate of said grooves, and a work-gage designed to be supported and guided within either of the grooves in the platen.

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:
ALBERT E. FEIHL,
GEORGE R. SHAW.