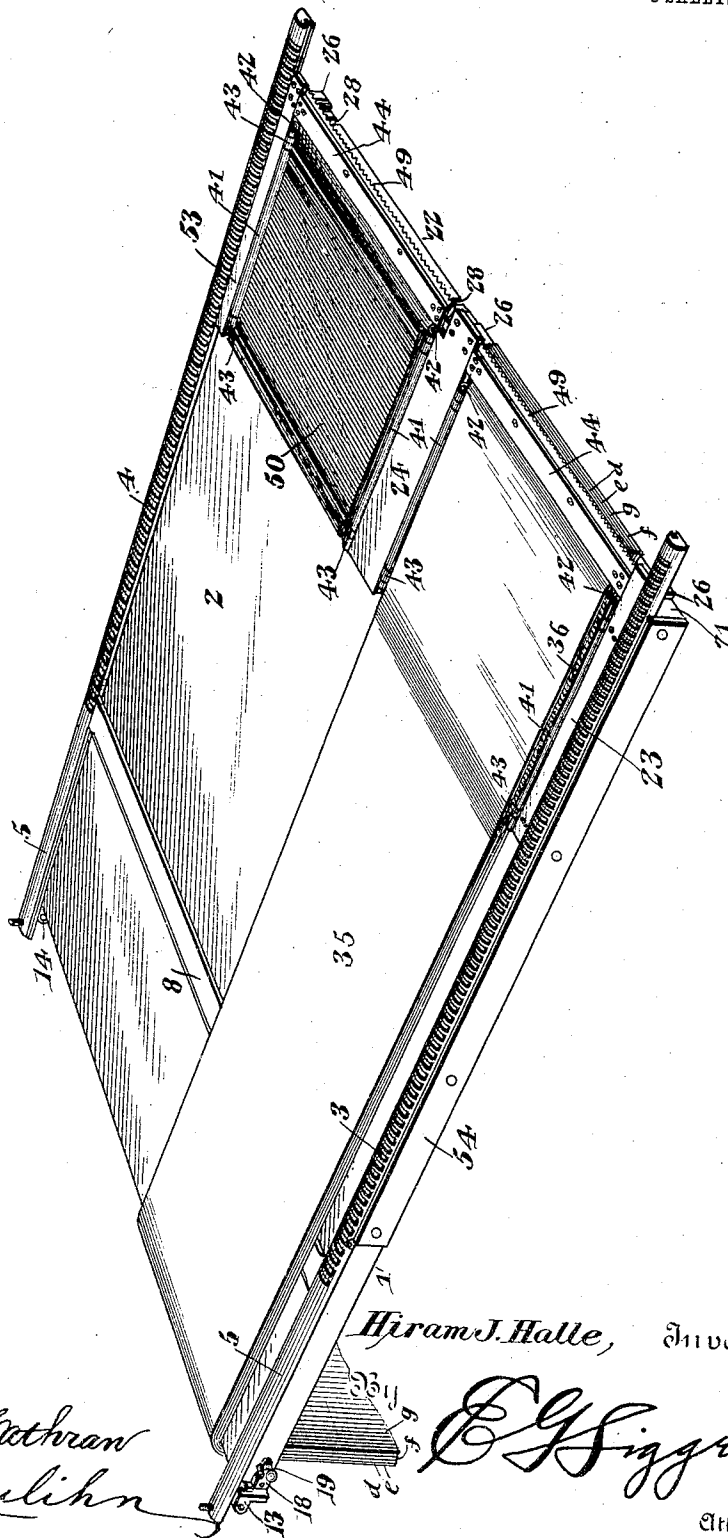


H. J. HALLE.
TYPE WRITING MACHINE.
APPLICATION FILED NOV. 10, 1903.

NO MODEL.

5 SHEETS—SHEET 1.

Fig. 1.



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No. 773,287.

PATENTED OCT. 25, 1904.

H. J. HALLE.
TYPE WRITING MACHINE.
APPLICATION FILED NOV. 10, 1903.

NO MODEL.

5 SHEETS—SHEET 3.

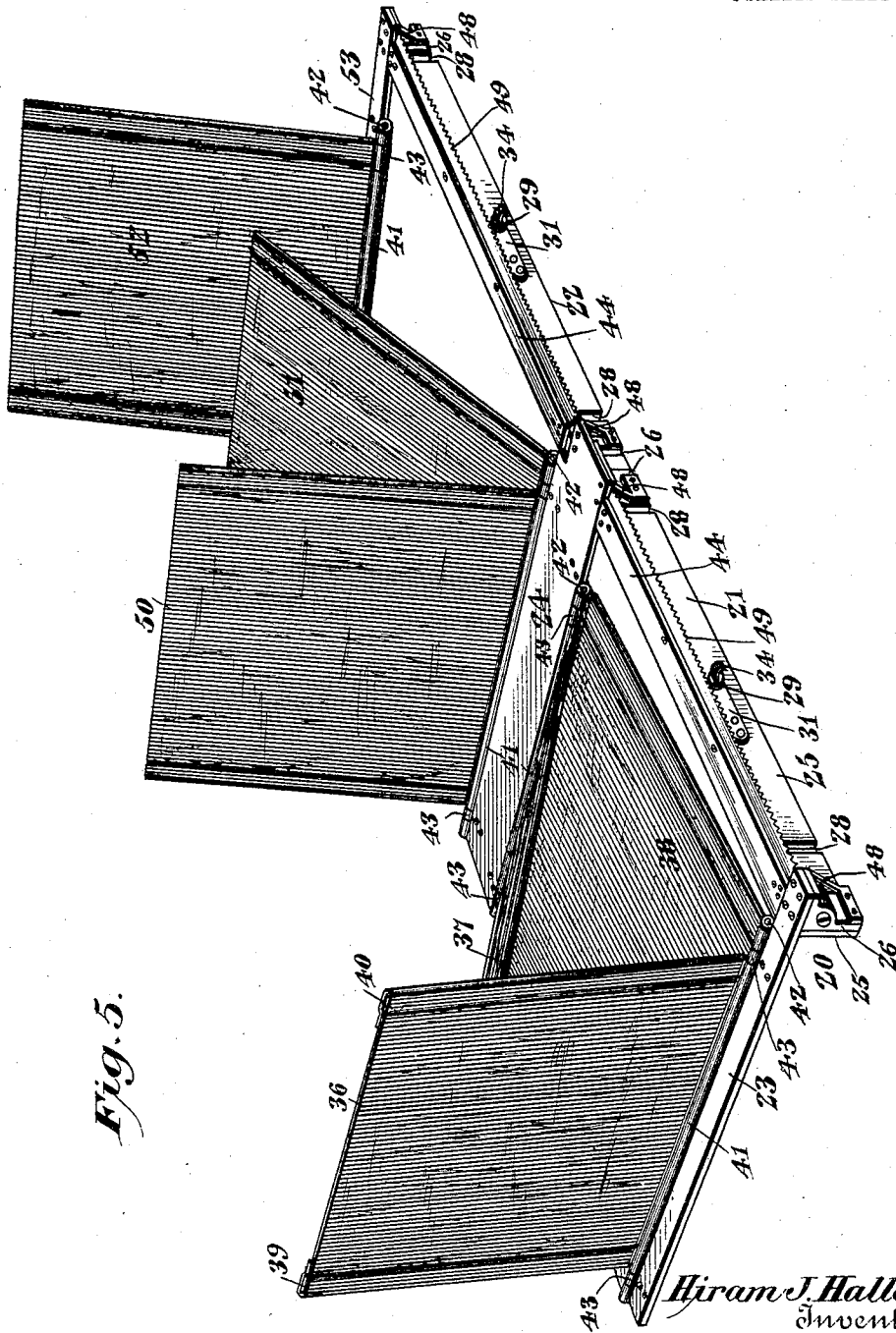


Fig. 5.

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5 SHEETS—SHEET 2.

Fig. 2.

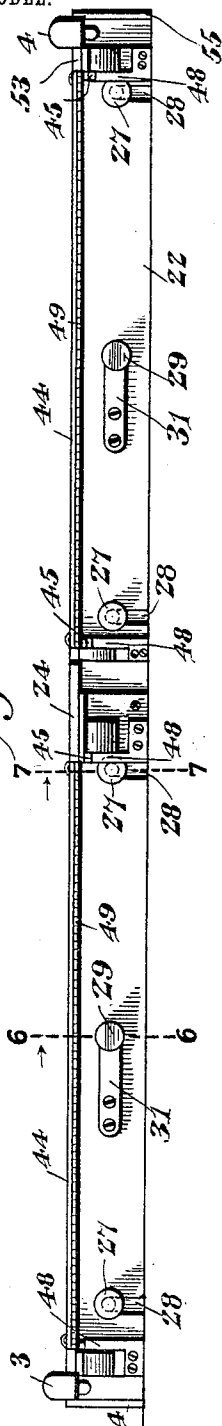


Fig. 3.

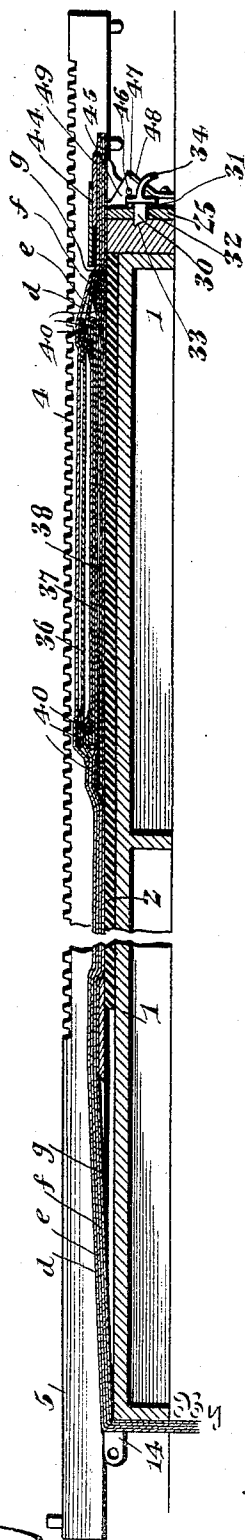
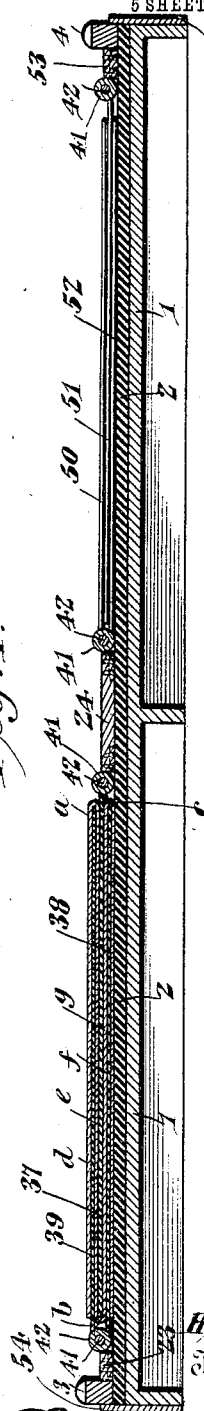


Fig. 4.



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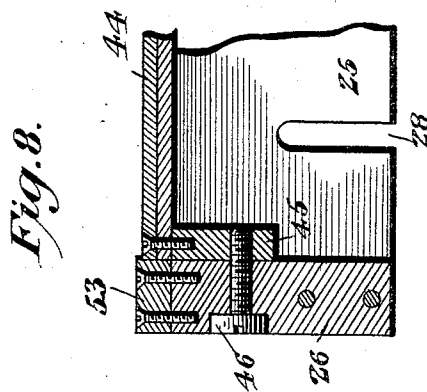
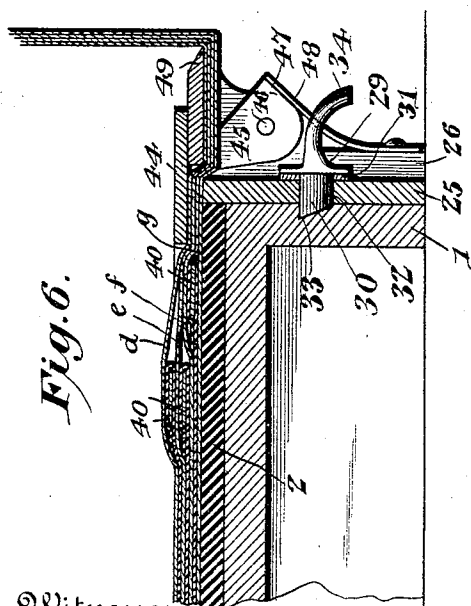
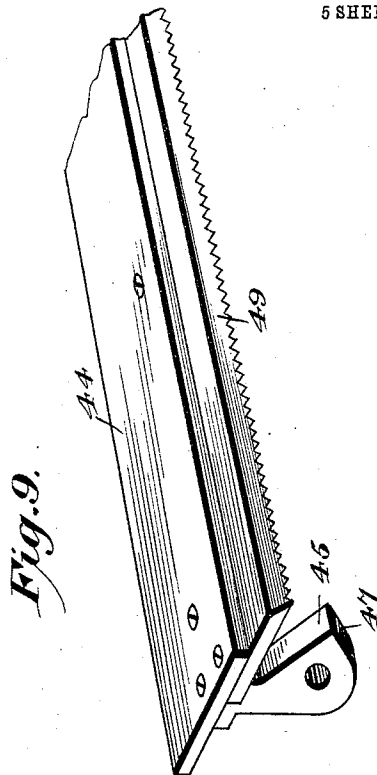
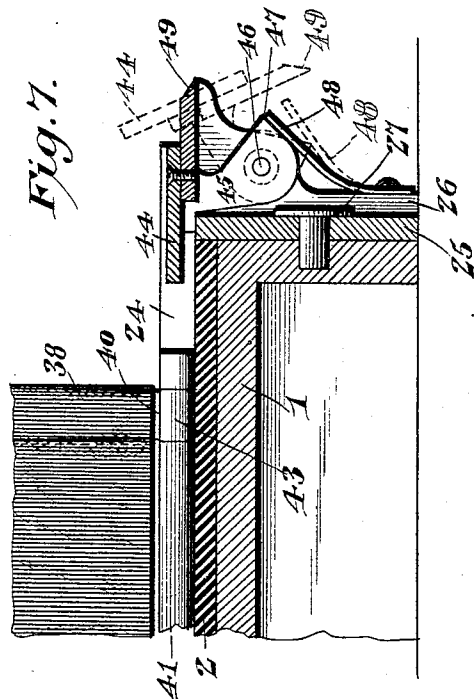
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TYPE WRITING MACHINE.
APPLICATION FILED NOV. 10, 1903.

NO MODEL.

5 SHEETS—SHEET 4.



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Attorney

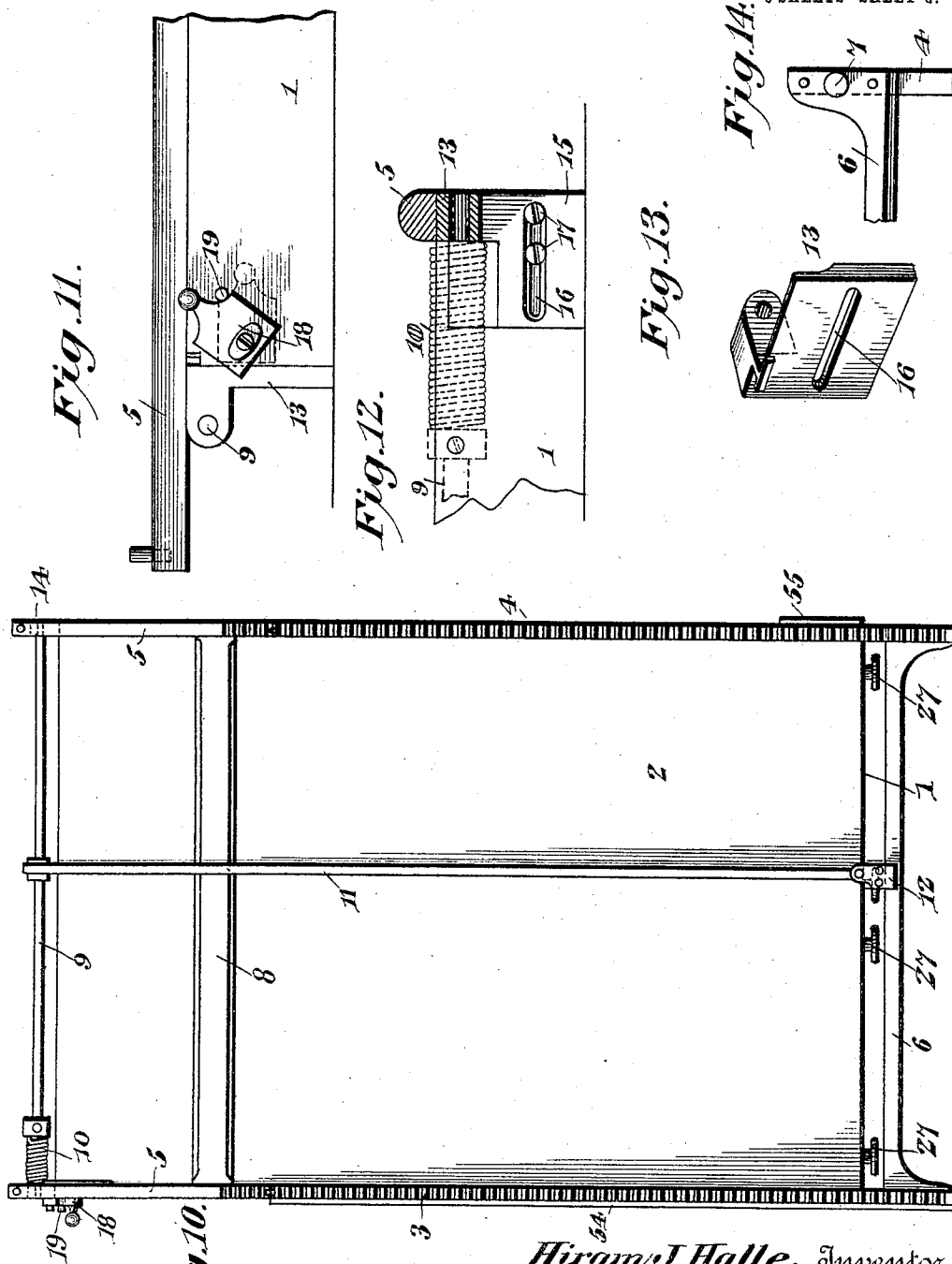
No. 773,287.

PATENTED OCT. 25, 1904.

H. J. HALLE.
TYPE WRITING MACHINE.
APPLICATION FILED NOV. 10, 1903.

NO MODEL.

5 SHEETS—SHEET 5.



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UNITED STATES PATENT OFFICE.

HIRAM J. HALLE, OF NEW YORK, N. Y., ASSIGNOR TO ELLIOTT-FISHER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF DELAWARE.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 773,287, dated October 25, 1904.

Application filed November 10, 1903. Serial No. 180,566. (No model.)

To all whom it may concern:

Be it known that I, HIRAM J. HALLE, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented a new and useful Type-Writing Machine, of which the following is a specification.

My present invention relates to type-writing machines, and more particularly to machines of that class which employ a flat platen over which the printing mechanism is movable laterally and longitudinally for letter and line spacing.

The object of the invention is to provide means for facilitating the production of manifold-records of extensive statements or accounts—such, for instance, as the shipping and expense accounts of railroads.

To the accomplishment of this object the invention contemplates in one embodiment thereof the equipment of a type-writing-machine platen with transfer elements arranged for disposal within the folds or between the layers or plies of an extended manifold sheet or strip capable of being advanced over the platen independently of the transfer elements to present successive portions of said sheet or strip in the printing position.

In a somewhat more specific aspect the invention comprehends the employment of a platen attachment, including supporting means and a plurality of hinged transfer elements or leaves carried thereby and movable in opposite directions to facilitate their insertion between opposite folds of the manifold-sheet and their displacement therefrom to permit the removal of the sheet from the platen.

A further development of the invention comprehends the provision of a combined clamping and cutting device located at the front edge of the platen and normally clamping the front edge of a manifold-sheet thereto, but permitting the printed portion of the sheet to be drawn forward and severed from the remainder of the sheet when desired.

Certain other objects subordinate to those enumerated and various novel features of construction and arrangement will appear during

the course of the following description of the illustrated embodiment of the invention.

In the accompanying drawings, Figure 1 is a perspective view of a Fisher platen equipped in accordance with my invention. Fig. 2 is a front end elevation thereof. Fig. 3 is a longitudinal section with a portion of the structure broken away. Fig. 4 is a transverse section. Fig. 5 is a perspective view of the manifolding attachment. Fig. 6 is a longitudinal section of the front end of the platen on the line 6 6 of Fig. 2 and showing the manifold sheet or strip advanced and presented to the cutter. Fig. 7 is a similar view on the line 7 7 of Fig. 2, showing one of the transfer-leaves swung up and also indicating in dotted lines the open position of the clamp. Fig. 8 is a detail sectional view of one end of the attachment, illustrating the pivotal mounting of one of the clamps. Fig. 9 is a perspective view of a portion of one of the combined clamps and cutters. Fig. 10 is a plan view of the platen with the manifolding attachment removed and with certain features of the usual platen equipment in place to facilitate the use of the platen for ordinary work. Fig. 11 is a side elevation of the rear end of the platen. Fig. 12 is a rear end elevation of a portion of the platen, certain of the parts being in section; and Fig. 13 is a detail perspective view of the adjustable bearing-bracket for the shaft. Fig. 14 is a detail view illustrating the connection between one of the tracks or guides and the connecting-bar.

Like characters of reference designate corresponding parts in the several views.

While the invention, construed broadly, is directed to the provision of means for facilitating the production of manifold-records and may therefore be carried out in connection with any form of type-writing machine, the illustrated embodiment, nevertheless, is designed with special reference to a machine of the flat-platen type and for the purpose of this disclosure is illustrated as an attachment to the platen of what is known commercially as the "Fisher book type-writer," exemplified in Patents Nos. 562,625 and 573,868 to R. J. Fisher. This type of machine is well adapt-

ed for writing in books or on loose sheets or for making up records and reports and copies thereof. The Fisher platen comprises a metal base 1, upon which is imposed a hard-rubber or other suitable writing-surface 2. In the particular form of platen selected for illustrative purposes the writing-surface 2 terminates short of the rear end of the base, for the reason that the extension of the platen beyond the printing area is utilized as a machine-support, over which the machine is disposed when moved back to facilitate the adjustment, displacement, or replacement of the work element or elements.

Located at the opposite side edges of the platen are the main tracks or guides 3, comprising swinging sections 4, disposed at opposite sides of the printing area, and rear fixed sections 5 at opposite sides of the platen extension and serving as a machine-support when the machine is moved back from over the work. The swinging sections of the tracks or guides are extended beyond the front end of the platen and are connected by a transverse bar 6, which instead of being permanently attached to the tracks is detachably secured thereto, as by thumb-screws 7. The rear edge of the writing-surface is protected by a transverse guard-plate 8, and immediately beyond the rear extremity of the platen is located a shaft 9, constantly urged in one direction by a tension-spring 10 for the purpose of taking up the slack in a work-guarding tape 11, disposed longitudinally of the platen between the tracks or guides and connected at its rear end to the shaft 9. The front end of the tape 11 is connected to a slide 12, adjustable along the bar 6. Since the connection of the tape to the shaft 9 is likewise adjustable transversely of the platen, the tape may be shifted to accommodate it to various work elements.

The platen, organized as described, is one of the several ordinary forms of the Fisher platen, and in order to facilitate its conversion into an "expense-billing platen" the bar 6 and the shaft 9 are made easily detachable to provide a stripped platen for the reception of the manifolding attachment. It has already been stated that the bar 6 is retained in place by the thumb-screws 7, and the detachable mounting of the shaft 9 is clearly illustrated in Figs. 10 to 13, inclusive. The opposite ends of the shaft 9 are reduced and extended into bearing-brackets 13 and 14, secured to the rear end of the platen immediately below the extended rear extremities of the lamps or guides. The bracket 14 is preferably fixed, but the bracket 13 is adjustable laterally for the purpose of releasing or engaging the shaft 9. As shown in Fig. 12, this bracket is provided with the supporting-plate 15, formed with a horizontal slot 16 for the reception of one or more projections 17, preferably in the form of screws extend-

ing from the platen, the slot 16 being of sufficient length to permit the bearing-bracket 13 to be shifted out of engagement with the shaft 9. Normally the bracket is rigidly retained against movement by a locking-cam 18, pivoted upon the side of the platen adjacent to its rear extremity, as shown in Fig. 11, and arrested at the opposite limits of its movement by a stop 19. In the locking position of the cam 18 the latter projects beyond the rear end of the platen and prevents the movement of the bearing-bracket 13; but when the cam is turned to the position indicated in dotted lines in Fig. 11 it is withdrawn from engagement with the bracket, and the latter may be shifted to release the shaft 9, and thus permit the latter, together with the tape 11 and the bar 6, to be entirely removed from the platen.

It is now in order to describe the novel platen equipment constituting the basic feature of my present invention. Before proceeding farther, however, it may be well to recite briefly, by way of premise, the conditions which this development of the art is designed to meet. In certain large commercial establishments, particularly railroad-offices, it is necessary to record a vast number of transactions grouped in various ways and necessitating work elements of many different lengths, ranging from a few inches, required for an individual bill, to several feet or even yards for the extensive expense-accounts or shipping statements—as, for instance, of the various divisions or of the entire railway system. Aside from the variety of work elements required, it is necessary to obtain manifold copies of all transactions, three copies and one original being ordinarily demanded. To meet these conditions, it is proposed to utilize a long manifold sheet, strip, or web of paper having any desired number of alternately-reversed longitudinal folds, producing connected plies arranged one above another and adapted to receive the original printed matter and the required copies thereof, the latter being transferred to the several plies or layers subjacent to the top or original ply or layer by means of transfer elements inserted in the folds of the manifold-strip.

It is proposed to lead the manifold strip or sheet over the platen from a receptacle or holder located beyond the rear end thereof, and the present invention is directed more particularly to the equipment of the platen with transfer elements supported at opposite sides of the manifold-sheet and shiftable in different directions to facilitate their insertion in the folds of the sheet or their withdrawal therefrom. The invention is also directed to the provision of means for clamping the manifold-sheet in position to be printed upon and for severing the printed portion thereof from the body of the sheet when desired.

In Fig. 1 of the drawings the platen is

shown equipped with a manifolding attachment of double form—that is to say, it includes two complete sets of transfer elements designed for simultaneous use with two manifold sheets or strips, which may be led over the platen in parallel relation, so that a single operator may make alternate entries on the sheets, which may, for instance, be devoted to different divisions of the road or for different classes of business, &c.

The attachment includes in its organization a supporting-frame 20, comprising separate sections 21 and 22 for convenience of manipulation; but the frame may obviously be embodied in a single rigid structure, if desired. The left-hand section 21 of the frame comprises a pair of parallel plates or bars 23 24, resting upon the platen and connected adjacent to their front ends by a transverse attaching-plate 25, disposed vertically and imposed against the front face or edge of the platen. The manner of connecting these elements to the frame is not material; but by preference bearing-brackets 26 are screwed to the front side of the plate 25 at opposite ends thereof, and the plates 23 and 24 are in turn screwed to these brackets.

It is desirable to provide means for effecting the rigid though detachable connection of the frame-sections to the platen, and a simple embodiment of such means includes headed studs 27, projecting from the front edge of the platen and arranged for reception within open-ended slots 28 in the plate 25. When the frame-section is imposed upon the platen, the shanks of the studs will be received within the slots 28, and the heads thereof being of greater diameter than the slots the frame will be retained against movement except in an upward direction. Movement of the frame in this direction is prevented by a latch 29, comprising a bevel-ended tongue 30, carried at the free end of a spring 31 and passed through an opening 32 in the plate 25 and into a recess 33 in the platen. (See Fig. 6.) The spring is preferably attached to the plate 25, as shown in Fig. 2, and the latch is provided with a handle or finger-piece 34, by means of which the tongue may be drawn out of engagement with the recess in the platen when the removal of the attachment is desired. It will be noted that the disposition of the beveled end of the tongue is such that the latter will automatically move back when the frame-section is moved to its proper place and will then spring into engagement with the platen to prevent the raising of the frame, except by design.

The manifold sheet or strip 35 is led over the platen from the rear end thereof, as shown in Fig. 1, and is of a proper width to lie between the bars or plates 23 and 24 of the frame, the particular sheet illustrated in the drawings having three longitudinal folds *a*, *b*, and *c*, preferably perforated or otherwise

weakened and defining four plies or layers *d e f g*. The upper ply or layer is designed to be printed upon directly by the machine, and the matter thus printed is transferred to each of the subjacent layers or plies *e*, *f*, and *g* through the medium of transfer elements, which in the present embodiment of the invention are in the form of hinged leaves 36, 37, and 38, of inked fabric. It is to be distinctly understood, however, that I do not confine myself to the use of any particular transferring medium and that in the broader aspects of the invention the form, dimensions, and manner of mounting the transfer elements are unimportant. In the illustrated attachment, however, the transfer-leaves 36, 37, and 38 are stretched taut between the side bars 39 and 40 of carriers or frames, each including a pair of these thin side bars or strips, preferably connected to each other by a hinge element—as, for instance, a sleeve 41 or a hinge-rod 42—serving to hingedly connect the carrier or frame of the transfer element to one of the bars or plates of the supporting-frame.

As shown in Fig. 5, the side strips 39 and 40 of the carrier for the leaf 36 are connected to the sleeve 41, rotatable upon the rod 42, connecting the side strips of the transfer element 38 and mounted to rotate in hinge-collars 43, secured to the bar 23 in any suitable manner and preferably located beyond the opposite ends of the sleeve 41. It will be noted that by this arrangement the transfer-leaves 36 and 38 are coaxially but independently hinged to the frame-bar 23 and that the side strips of these leaves are located out of coincidence, so that when the leaves are turned down the transfer elements will be disposed in closely-adjacent relation.

The transfer-leaf 37 is hinged to the frame bar or plate 24 in a manner similar to the connection between the leaf 38 and the bar 23 and is designed to be swung down between the leaves 36 and 38, as shown in Figs. 4 and 5. The described arrangement of the transferring-leaves facilitates their movement in opposite directions to effect their insertion within opposite folds of the manifold sheet or strip. It will of course be understood that when the manifold-sheet is led over the platen it is already folded, and it will be observed that by separating these folds more or less the transfer-leaves may be swung to positions between the layers or plies thereof and the whole then pressed down flat against the platen to present the upper layer or ply of the manifold-sheet in position to be printed upon by the writing mechanism.

It is desirable to associate with each set of transfer elements means for compressing and retaining the layers of the manifold-sheet in a smooth spread-out condition and in closely-adjacent relation, and to this end the attachment is equipped with a hinged paper-clamp 44 in the form of a clamp-plate overlying the

front edge of the platen between the frame-bars 23 and 24 and provided with depending terminal bearing-lugs 45, connected to the brackets 26 by pintles 46 and having cam projections 47, against which are disposed to bear a pair of detaining-springs 48, fixed at their lower ends to the bearing-brackets 26. The cam projections are formed with angularly-related faces, whereby the springs are caused to yieldingly retain the clamp 44 in either of two positions, as illustrated in Fig. 7, the clamp serving in its normal position to clamp the front end or edge of the manifold-sheet and designed when swung back to the position indicated in dotted lines to facilitate the insertion of the front end of the strip between the platen and the clamp.

It will now be observed that when that portion of the manifold-sheet coincident with the transfer elements has been filled the operator may grasp the front end of the sheet and draw the same forward to displace the printed portion and to present an unused portion thereof in the printing position, it being noted that while the clamp is urged toward the platen with sufficient force to properly clamp the sheet its holding power is not sufficient to prevent said sheet from being drawn forward in the manner described. In order that the printed portion of the manifold-sheet may be severed when desired, I provide a paper-cutter 49 at the rear edge of the clamp 44. This cutter may be produced by sharpening the rear edge of the clamp; but by preference it is in the form of a separate plate screwed to the edge of the plate 44, as shown, and having a sharpened and finely-serrated cutting edge, as shown in Fig. 9. It will thus be noted that having printed the desired matter on the manifold-sheet the operator may draw the latter forward and by presenting the sheet to the cutter at the proper point may sever the printed section, which will comprise an original and three copies connected for convenience in handling, but capable of easy disconnection, if desired.

Since the carbon elements are held stationary during the independent advance of the manifold sheet or strip, the attachment will be seen to comprehend means for retaining transfer means within opposite folds of a manifold-sheet during the independent adjustment of the latter, and it will also be obvious that the transfer elements are oppositely disposed and are movable in opposite directions to facilitate their presentation to opposite folds of the sheet.

I have specifically described one section only of the attachment for the reason that said section constitutes a complete embodiment of the invention, considered broadly, and is effective without reference to the other section, which, however, is preferably employed. The section 22 of the attachment is identical in essen-

tial parts with the section 21. There is this difference, however, it lacks the frame-bar corresponding to the bar 24, for the reason that two of its transfer-leaves 50 and 51 are hinged to the edge of the bar 24 in a manner similar to the connection of the leaves 36 and 38 with the bar 23. The intermediate leaf 52, however, is hinged to a separate frame-bar 53, corresponding to the bar 23 of the section 22, but located adjacent to the opposite side edge of the platen. In all other particulars the construction of the right-hand section of the attachment is identical with that described in connection with the left-hand section and reiteration is deemed unnecessary.

Considering both sections of the attachment as a unit it will be seen to embrace a frame comprising side bars and an intermediate bar secured to the platen and equipped with two sets of independently-hinged transfer-leaves, certain leaves of each set being oppositely disposed and movable in opposite directions for presentation within the opposite folds of a manifold sheet or strip.

As has been explained, the frame-bar 6, ordinarily connecting the front sections of the rails to produce a vertically-swinging machine-supporting frame, is removed when the manipulating attachment is in use. In order to prevent lateral vibration of the swinging track-sections when thus disconnected, the platen is provided at its opposite sides with plates 54 and 55, projected slightly above the writing-surface to form flanges opposed to the outer sides of the tracks to the inner sides of which are opposed the outer side edges of the frame-bars 23 and 53, as clearly shown in Fig. 4. The plate 55 is located exclusively at the front end of the platen to prevent interference with the work-sheets which in the ordinary use of the platen are manipulated from the right-hand side thereof.

While the utility of the invention, considered as a type-writing-machine platen, has been given special prominence in the specification, its identity is obviously the same, whether a type-writing machine or some other form of marking instrument—as, for instance, a stylus or pencil—is employed in making the original record. It is to be understood, therefore, that I regard the invention as a manifold mechanism which, though particularly useful in connection with type-writing machines, is adapted for general manifolding purposes, regardless of the special character of the recording instrument.

It is thought that from the foregoing the construction, mode of manipulation, and many advantages accruing from the use of my improved platen equipment will be clearly apparent; but while the present embodiment of the invention appears at this time to be preferable I desire to be distinctly understood as reserving the right to effect such changes,

modifications, and variations of the illustrated structure as may fall fairly within the scope of the protection prayed.

What I claim as new is—

- 5 1. The combination with a flat platen; of transfer-leaves having coaxial hinged connection.
2. The combination with a flat platen; of transfer means including hinged strips, and a
10 transfer element extending between the same and having different edges engaged thereby.
3. The combination with a flat platen; of transfer means including hinged side strips connected for movement in unison, and a transfer
15 element extending between the strips and having that portion which lies between the strips arranged for disposal over a printing area of the platen.
4. The combination with a flat platen; of a
20 plurality of hinged transfer-leaves having interfitting hinge elements.
5. The combination with a flat platen; of a manifolding attachment including a detach-
25 able support, and a plurality of movable transfer elements carried thereby and arranged for disposal within opposite folds of a manifold sheet or strip.
6. The combination with a flat platen; of a
30 manifolding attachment including a detachable support, and a plurality of relatively movable transfer elements carried thereby and arranged for disposal within opposite folds of a manifold sheet or strip.
7. The combination with a flat platen; of a
35 manifolding attachment including a detachable support, and transfer elements carried thereby and movable in different directions to positions one above another within opposite
40 folds of a manifold sheet or strip.
8. The combination with a flat platen; of a
45 manifolding attachment including a detachable support, and a plurality of swinging transfer elements carried thereby and arranged for disposal within the folds of a manifold sheet or strip.
9. The combination with a flat platen; of a
50 manifolding attachment including a detachable support, and hinged transfer-leaves carried thereby and designed to be swung down to positions one above another opposite the
55 printing area of the platen.
10. The combination with a flat platen; of a manifolding attachment including a detach-
60 able support, and hinged transfer-leaves carried thereby at opposite sides of a printing area and arranged to be swung to positions one above another opposite said area.
11. The combination with a flat platen; of a manifolding attachment including a detach-
65 able supporting-frame having frame-bars extended over the platen, and transfer-leaves hinged to said bars.
12. The combination with a flat platen; of a manifolding attachment including a sectional
70 supporting-frame, and transfer elements carried by the respective sections of said frame and movable to positions one above another.
13. The combination with a flat platen; of transfer elements having hinged connection
75 with the platen longitudinally thereof, and a paper-clamp disposed transverse to the hinge connection.
14. The combination with a flat platen; of transfer-leaves hinged longitudinally thereof,
80 and a paper-clamp disposed transversely of the platen at or adjacent to its front end.
15. The combination with a flat platen; of a manifolding attachment carried thereby and including a supporting-frame, and a transfer-
85 leaf and paper-clamping means both carried by the frame.
16. The combination with a flat platen; of a manifolding attachment including a support-
90 ing-frame, hinged leaves carried thereby and movable to positions one above another, and a combined paper clamp and cutter also carried by the frame and disposed adjacent to the
95 leaves.
17. The combination with a flat platen; of a manifolding attachment including a detach-
95 able frame having side bars and an intermediate bar, and two sets of transfer-leaves, the leaves of each set being hinged to the inter-
100 mediate bar and to one of the side bars, respectively.
18. The combination with a flat platen; of a manifolding attachment including a detach-
105 able frame having side bars and an intermediate bar, and two sets of transfer-leaves, the leaves of each set being hinged to the inter-
110 mediate bar and one of the side bars, respectively, and an independent paper-clamp associated with each set of leaves.
19. The combination with a flat platen and the tracks or guides; of a manifolding attach-
115 ment including a frame interposed between said tracks or guides and opposed to the inner sides thereof, and flanges located at the opposite side edges of the platen and opposed
120 to the outer sides of the tracks or guides.
20. A manifolding attachment for type-
125 writing machines including a frame, transfer means carried thereby, a swinging paper-clamp mounted on the frame, means for yieldingly retaining the paper-clamp at opposite
130 limits of its movement and means for effecting the attachment of said frame to a type-writing-machine platen.
21. The combination with a flat platen provided with headed studs projecting from the
135 front end thereof; of a manifolding attachment including a frame provided with slots disposed to receive the studs, a latch carried by the frame and engaging the platen, and transfer means likewise mounted on the
140 frame.
22. The combination with a flat platen, of a manifolding attachment including a detach-
145 able supporting-frame having frame-bars and transfer-leaves hinged to said bars.

23. The combination with a flat platen, a manifolding attachment including a detachable supporting-frame having parallel frame-bars, and transfer-leaves hinged to said bars and movable in opposite directions to positions one above another.
24. The combination with a flat platen, of a series of transfer-leaves each hinged along one edge disposed longitudinally of the platen, said leaves being designed to swing down over the writing-surface for disposal within folds of a manifold sheet or strip.
25. The combination with a flat platen, of transfer-leaves located at opposite sides of a printing area and designed to swing down to positions one above another for reception within the opposite folds of a manifold sheet or strip.
26. The combination with a flat platen, of transfer-leaves located at opposite sides of a printing area and designed to swing down to positions one above another for reception within the opposite folds of a manifold sheet or strip, each of said leaves being hinged along one edge thereof disposed longitudinally of the platen.
27. In a type-writing machine, as a means for producing manifold-records, the combination with a flat platen and tracks or guides for a traveling machine, of means for retaining transfer-webs within opposite folds of a manifold sheet or strip disposed over the platen between the tracks or guides.
28. In a type-writing machine as a means for producing manifold-records, the combination with a flat platen, tracks or guides, and a traveling machine, of means for retaining transfer-webs within the opposite folds of a manifold sheet or strip disposed over the platen between the tracks or guides and arranged for independent adjustment.
29. In a type-writing machine, as a means for producing manifold-records, the combination with a flat platen, and the tracks or guides for a traveling machine, of a plurality of transfer elements carried by the platen between the tracks or guides and independently movable to positions one above another within the folds of a manifold sheet or strip.
30. In a type-writing machine, as a means for producing manifold-records, the combination with a flat platen, the tracks or guides for a traveling machine, and oppositely-disposed transfer elements located above the platen between the tracks or guides for reception within the opposite folds of a manifold sheet or strip.
31. In a type-writing machine, the combination with a flat platen, and the main tracks or guides for the traveling machine, of transfer elements mounted at opposite sides of the printing area and movable to positions one above another opposite said area.
32. In a type-writing machine as a means for producing manifold-records, the combination with a flat platen, and tracks or guides for the traveling machine, of a plurality of transfer elements each hinged along one edge and arranged to be swung down over the platen for disposal within the folds of a manifold sheet or strip.
33. In a type-writing machine, as a means for producing manifold-records, the combination with a flat platen, and the tracks or guides for the traveling machine, of vertically-swinging transfer elements mounted at different sides of a printing area located between the tracks or guides and movable to positions over said printing area for reception within the opposite folds of a manifold sheet or strip.
34. In a type-writing machine, as a means for producing manifold-records, the combination with a flat platen, and the tracks or guides for a traveling machine, of a plurality of independently-hinged carbon-carriers intermediate of the tracks or guides.
35. In a type-writing machine as a means for producing manifold-records, the combination with a flat platen, and the tracks or guides for a traveling machine, of independently-movable carbon-carriers located between the tracks or guides and each having a hinged mounting parallel therewith.
36. The combination with a flat platen, and the tracks or guides for a traveling machine, of a plurality of independently-hinged transfer-leaves at each side of a printing area located between the tracks or guides, said leaves being arranged to swing down in opposite directions and in alternating arrangement for disposal within opposite folds of a manifold sheet or strip disposed over the writing-surface of the platen.
37. In a type-writing machine as a means for producing manifold-records, the combination with a flat platen, and the tracks or guides for a traveling machine, of a supporting-frame secured to the platen between said tracks or guides, and a plurality of independently-movable transfer elements carried by said frame.
38. In a type-writing machine as a means for producing manifold-records, the combination with a flat platen, and the tracks or guides for a traveling machine, of a supporting-frame secured to the platen between said tracks or guides, and a plurality of independently-movable oppositely-disposed transfer elements carried by said frame.
39. In a type-writing machine, as a means for producing manifold-records, the combination with a flat platen, and tracks or guides for a traveling machine, of means for retaining transfer-webs within opposite folds of a manifold sheet or strip disposed over the platen, and a clamp for said sheet or strip.
40. In a type-writing machine, as a means for producing manifold-records, the combination with a flat platen, and tracks or guides for a traveling machine, of means for retaining transfer elements within opposite folds of

a manifold sheet or strip disposed over the platen, and a cutter for said strip.

41. In a type-writing machine, as a means for producing manifold-records, the combination with a flat platen, and tracks or guides for a traveling machine, of means for retaining transfer elements within opposite folds of a manifold sheet or strip disposed over the platen, and a combined clamp and cutter for said strip.

42. The combination with a flat platen, and tracks or guides for a traveling machine, of a transfer-leaf movable transversely of the platen to and away from a position over a printing area thereof.

43. The combination with a flat platen, and tracks or guides for a traveling machine, of a transfer element maintained intermediate of the tracks or guides and movable transversely of the platen to and away from a position over a printing area thereof.

44. The combination with a flat platen, and tracks or guides, of a transfer element mounted to swing from an axis parallel with a track or guide.

45. The combination with a flat platen, and tracks or guides, of a transfer element mounted to swing from an axis located between and parallel with the tracks or guides.

46. The combination with a flat platen, of a pair of substantially parallel strips hinged to the platen, and a transfer element stretched between the strips and having its opposite edges engaged therewith.

47. The combination with a flat platen, of a pair of connected hinged strips, and a transfer element stretched between the strips and having its edges engaged therewith.

48. The combination with a flat platen, and tracks or guides, of a manifolding attachment secured at one end of the platen between the tracks or guides and including a plurality of independently-movable transfer elements.

49. The combination with a flat platen, of a carrier or frame made up of spaced, substantially parallel, thin bars or strips connected at one end by a hinge element, and mounted on the platen, and a transfer element stretched between the strips and having its opposite edges engaged therewith.

50. The combination with a flat platen, of hinged transfer-leaves mounted on the platen, said leaves being coaxially but independently hinged, and each including spaced strips connected by a hinge element, and a transfer element stretched between the strips and having its opposite edges engaged therewith.

51. The combination with a flat platen, of hinged transfer-leaves mounted over the platen and coaxially but independently hinged.

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

HIRAM J. HALLE.

Witnesses:

CHAS. F. LAGAUKE,

C. J. HALLE.