

No. 705,522.

Patented July 22, 1902.

R. J. FISHER.

TALLY SHEET ATTACHMENT FOR BILLING PLATENS.

(Application filed May 18, 1901.)

(No Model.)

4 Sheets—Sheet 1.

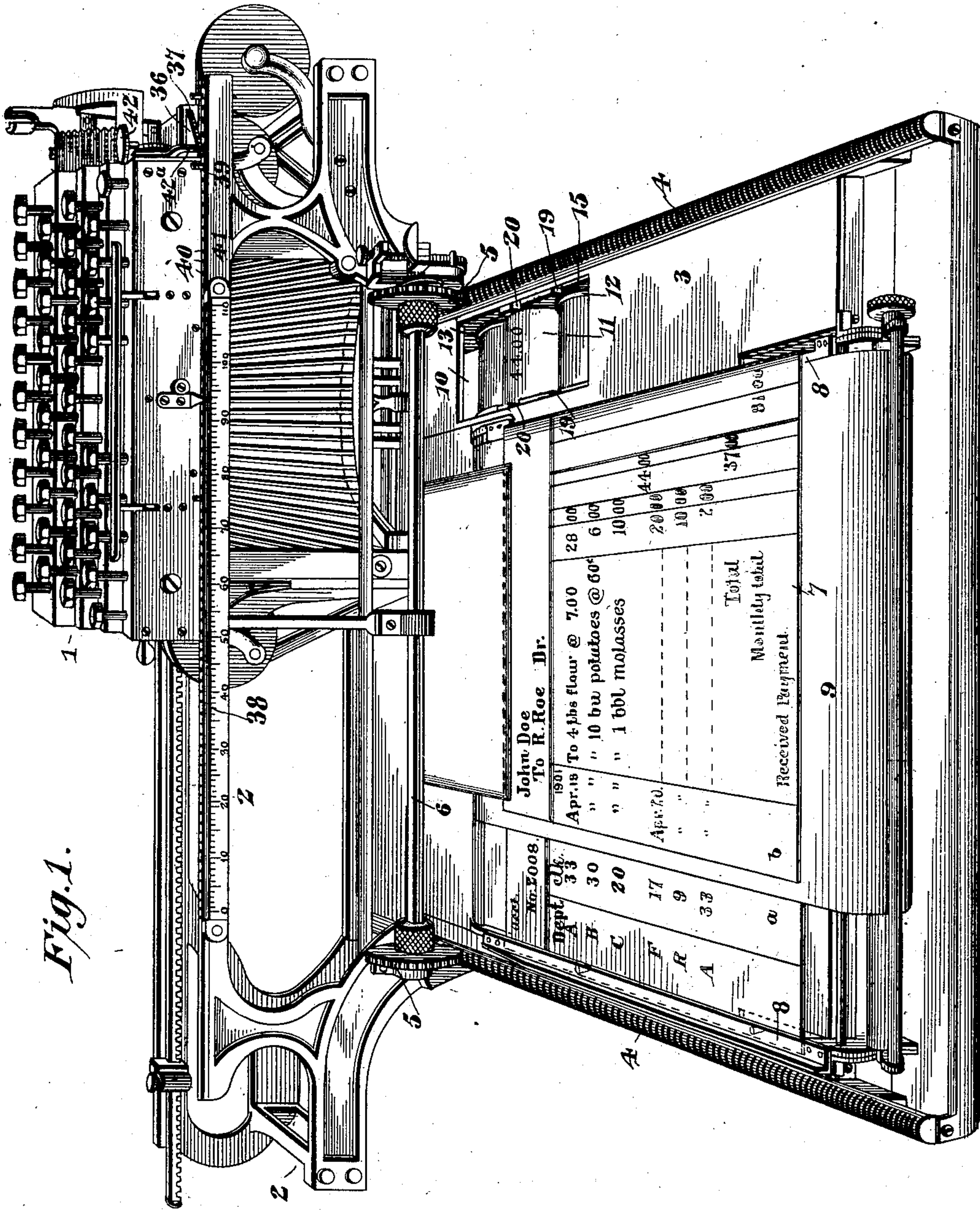


Fig. 1.

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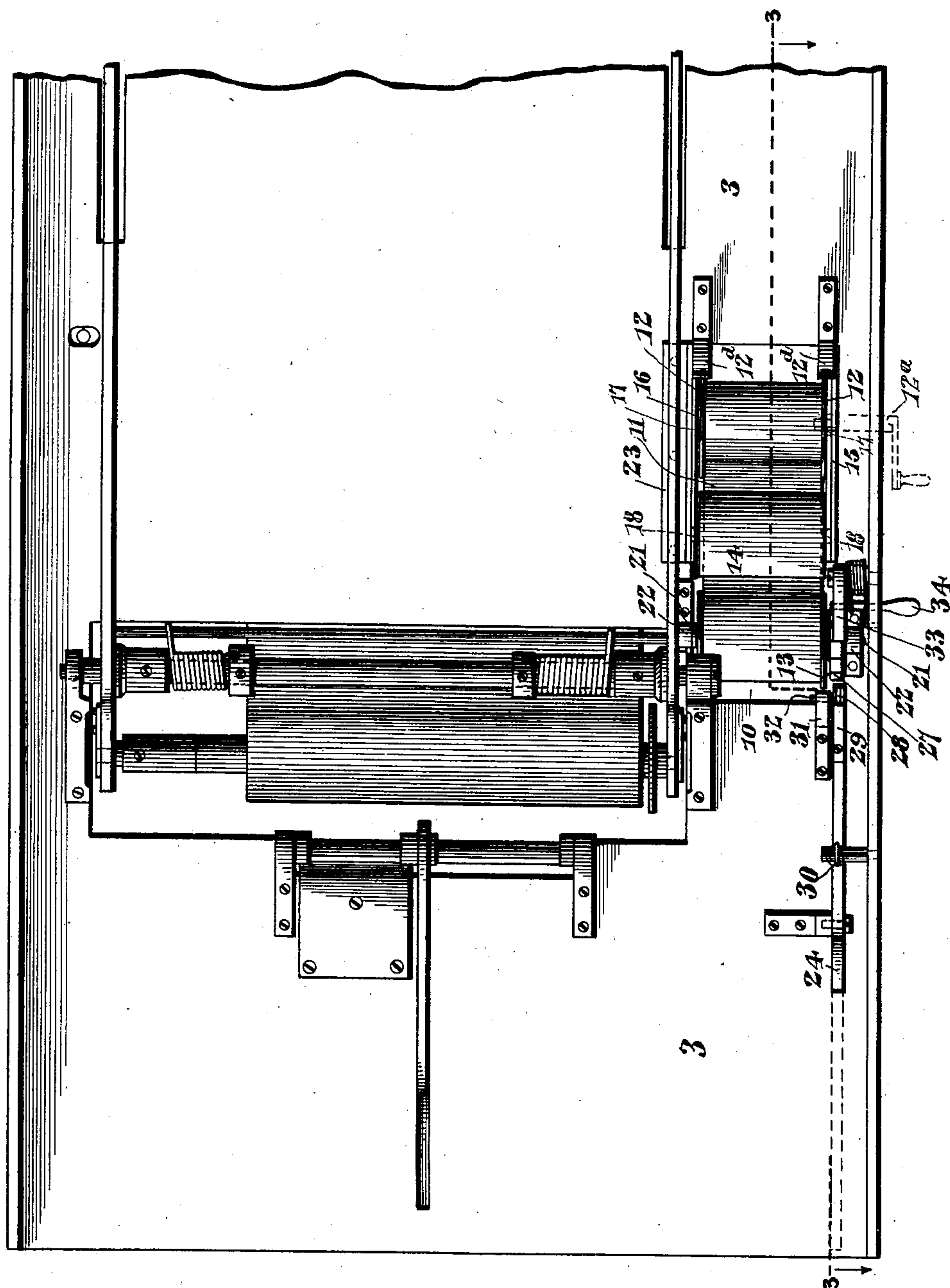
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4 Sheets—Sheet 2.

Fig. 2.



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4 Sheets—Sheet 3.

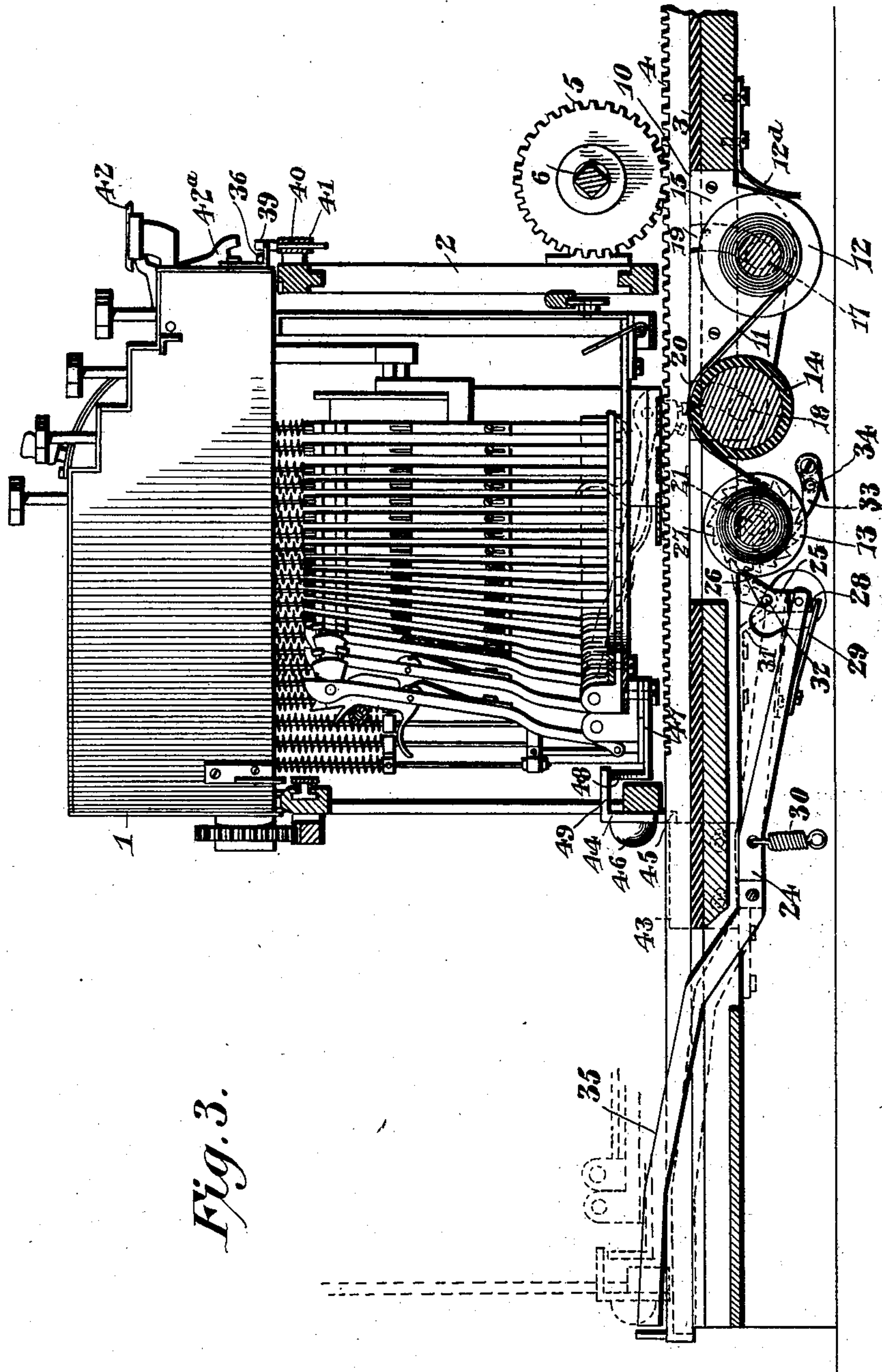


Fig. 3.

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4 Sheets—Sheet 4.

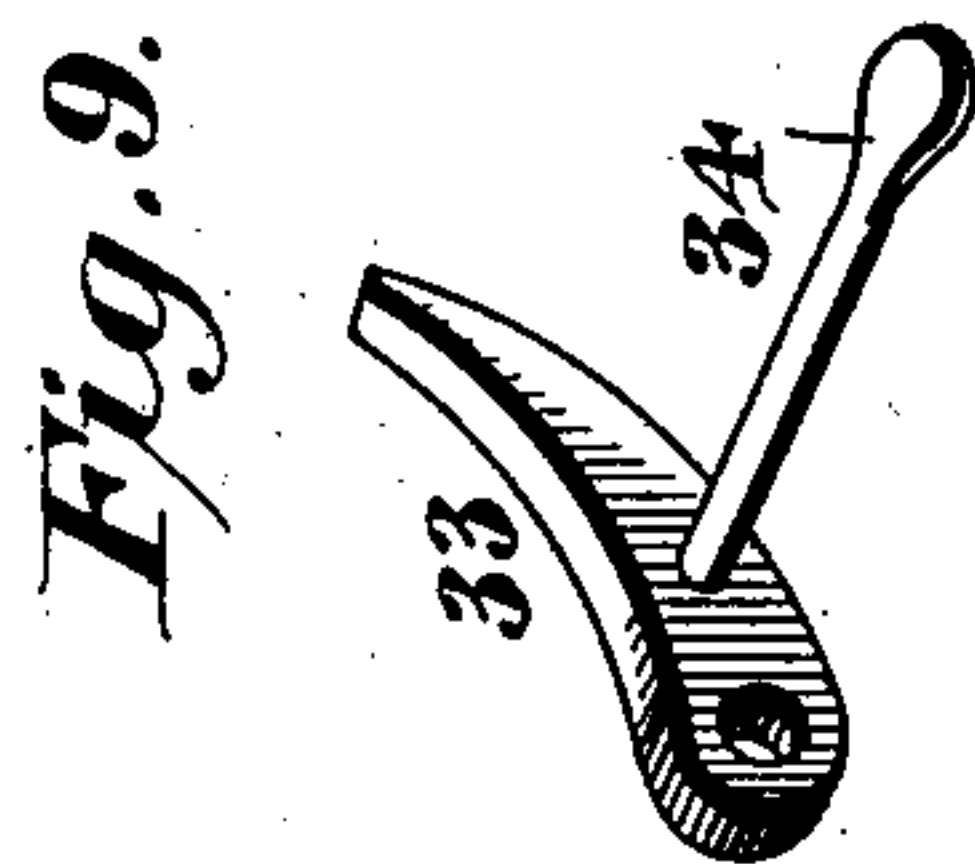
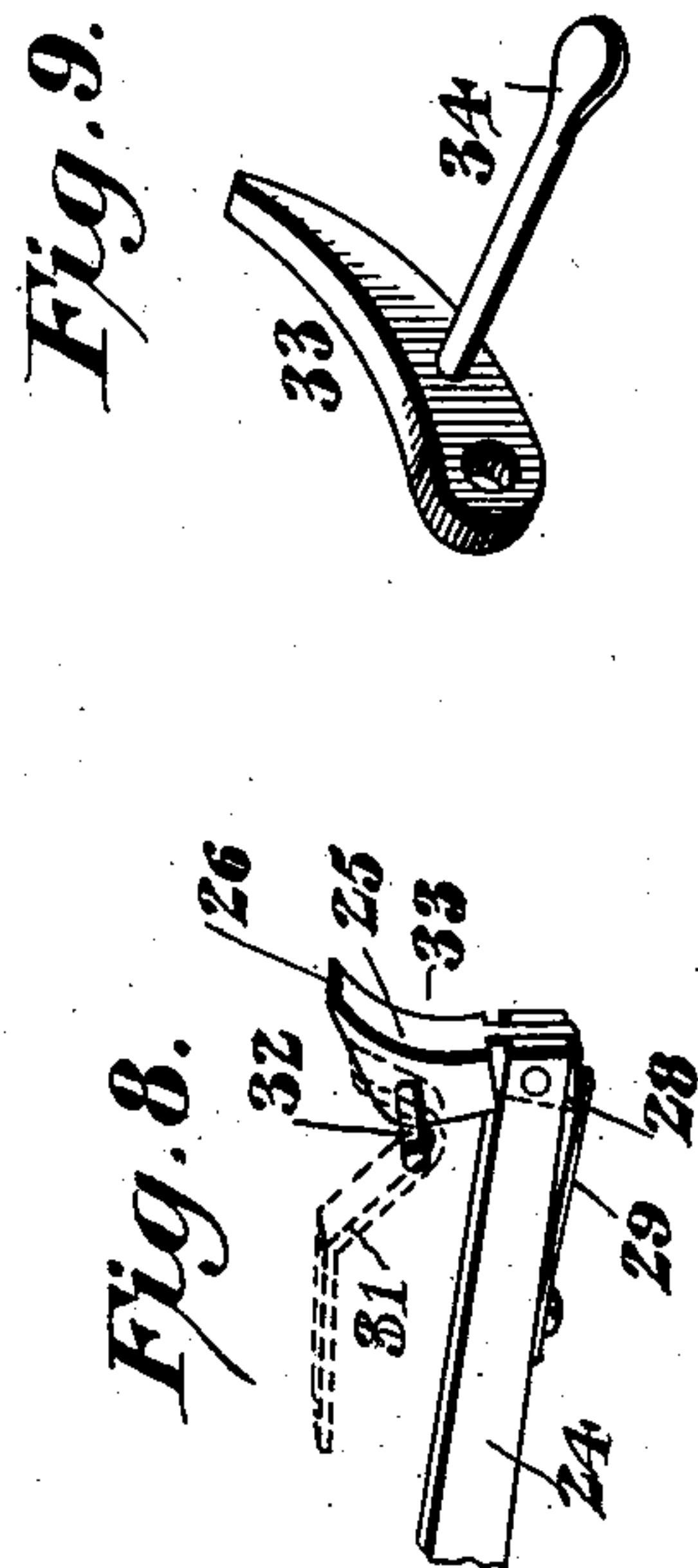
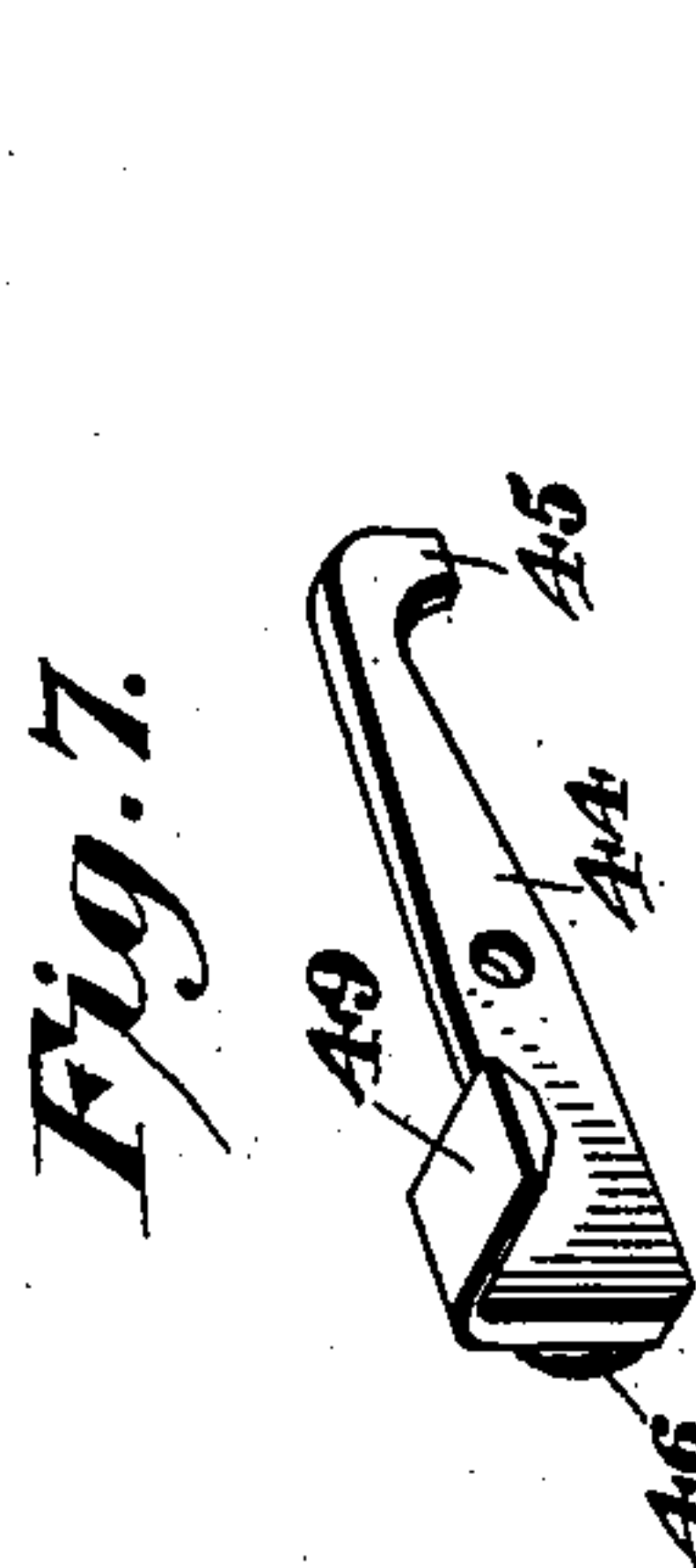
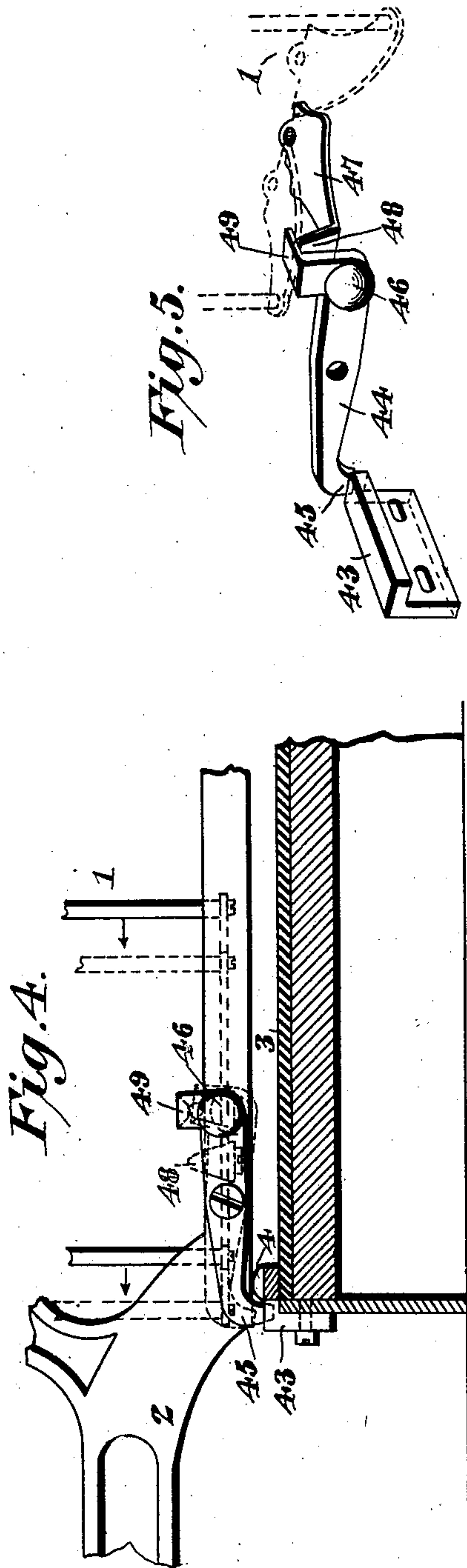
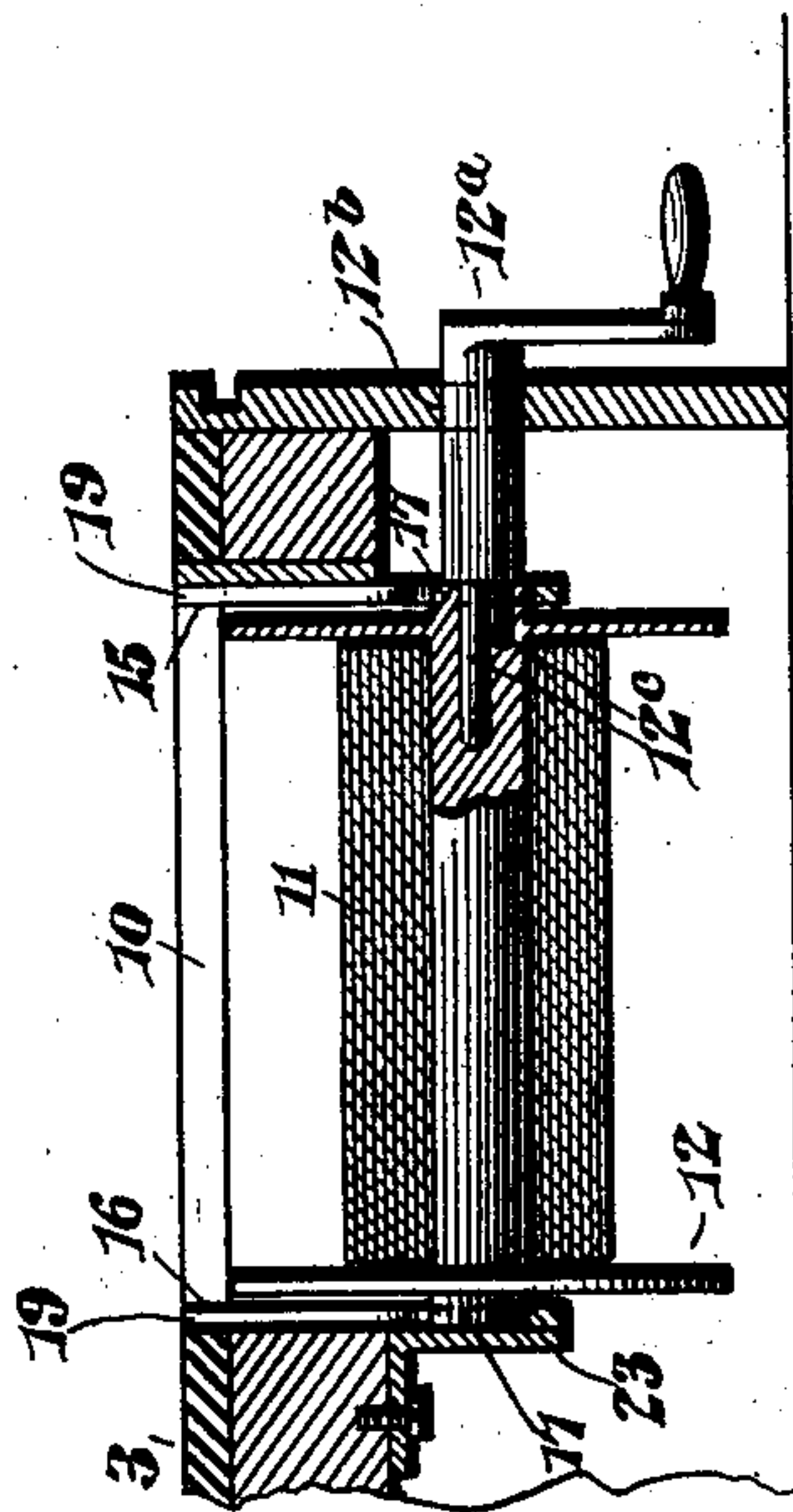


Fig. 6.



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UNITED STATES PATENT OFFICE.

ROBERT JOSEPH FISHER, OF ATHENS, TENNESSEE, ASSIGNOR TO THE FISHER BOOK TYPEWRITER COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF DELAWARE.

TALLY-SHEET ATTACHMENT FOR BILLING-PLATENS.

SPECIFICATION forming part of Letters Patent No. 705,522, dated July 22, 1902.

Application filed May 18, 1901. Serial No. 80,906. (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 Tally-Sheet Attachment for Billing-Platens, of which the following is a specification.

This invention relates to type-writing machines, but more particularly to that class which print upon a sheet, card, or other work element in a spread-out or flat condition, which class of type-writing machines are associated with a flat platen upon which the work is supported while the machine proper or the printing mechanism is permitted to travel thereover during the printing operation.

Primarily the invention contemplates the association with the platen of appliances especially useful in connection with commercial billing, but possessing utility in connection with other classes of work, particularly such as necessitate the keeping of a record independent of the work itself.

To this end the invention resides in one aspect thereof in the provision of a tally-sheet support, so that the record or tally may be imprinted upon the tally-sheet by the traveling printing mechanism, the latter thus serving to print directly upon a plurality of sheets or work elements.

A further object of the invention is to provide means for facilitating the accurate positioning of the printing mechanism opposite the auxiliary or tally sheet, so that when—as, for instance, in billing—an entry or a series of entries have been made on the bill or primary work-sheet the printing mechanism may be readily shifted to a proper position for printing upon the tally-sheet without necessity for calculation or for the use of the line-finder by the operator.

In a further and somewhat subordinate aspect the invention comprehends the employment of a shiftable auxiliary work element or tally-sheet disposed to be line-spaced, so that the successive entries thereon may be properly spaced by the shifting of the tally-sheet as distinguished from the line-spacing of the machine over the printing-surface of

the platen—as, for instance, in the line-for-line advance of the printing mechanism over the primary work element or bill.

A still further object of the invention is to effect the shifting or advance of the auxiliary work element or tally-sheet automatically through the manipulation of the machine or printing mechanism and to automatically effect the release of the stop mechanism which positions the machine over the tally-sheet by such movement of the type-carriage as is incidental to an entry upon the record or tally sheet, so that while the machine is stopped at the proper point to facilitate the entry the printing of the record item will effect the release of the machine to permit its movement to its initial position preparatory to the reinitiation of the printing operation in connection with the primary work element or bill.

Many other objects and advantages will more fully appear as the nature of the invention is better understood, and while the fundamental features of the latter are necessarily susceptible to a wide range of modification without departing from the scope of the invention a preferred embodiment thereof is shown in the accompanying drawings, in which—

Figure 1 is a perspective view of a type-writing machine and its platen, the latter being equipped with the improvements contemplated by the present invention and showing a bill or primary work element retained in position above the writing-surface. Fig. 2 is a bottom plan view of the platen equipped with a tally attachment in accordance with my invention. Fig. 3 is a longitudinal sectional view on the line 3 3 of Fig. 2. Fig. 4 is a detail sectional elevation illustrating the location and arrangement of the stop mechanism for insuring the accurate positioning of the printing mechanism over the tally attachment. Fig. 5 is a detail perspective view showing the relation of the fixed and movable stop members and of the trip or actuator carried by the type-basket to throw the movable stop element into its effective position when the type-carriage has been moved transversely of the platen to the plane of the tally-

sheet. Fig. 6 is a detail sectional elevation illustrating the construction and mounting of one of the spools and the manually-operated actuating means therefor. Fig. 7 is a detail perspective view of the movable stop member or lever detached. Fig. 8 is a detail perspective view of one end of the line-spacing lever and the actuator constituting elements of the line-spacing mechanism for the tally-sheet attachment, and Fig. 9 is a detail perspective view of the pawl controlling the movement in one direction of the winding-spool.

Before proceeding with a detailed description of the illustrated embodiment of the invention it may be well by way of premise to state briefly those considerations which have led to the conception of the idea involved and to recite the general utility of the invention in its relation to commercial billing, to facilitate which it is primarily designed.

Type-writing machines of the flat-platen type, the improvement of which is particularly contemplated, are especially adapted to and have been successfully employed for commercial billing, and by reason of the special efficiency of this class of machines for this particular purpose their use has led to the origination of what is, in effect, a novel business system, more particularly a novel system of bookkeeping or accounting. In practice the platen of the machine is equipped with a work-holder for the proper retention in the printing position of the folded bill comprising original and copy sheets, the manifold printing being facilitated by the employment of an intermediate carbon element or web. (See Fig. 1 of the drawings.) The transverse dimensions of the copy-sheet of the bill is usually somewhat greater than that of the original sheet or bill proper, and one edge of the copy-sheet therefore extends beyond the edge of the original sheet and carbon element to present within the printing area an exposed portion of the copying-sheet. Upon this exposed portion of the copy-sheet is designed to be printed an original record of private concern to the commercial establishment, but having special reference to the various items which appear upon both the original and copy sheets of the bill. To make this perfectly clear, the platen shown in Fig. 1 of the drawings has been equipped with a work-holder, the specific form of which constitutes no part of the present invention, and a bill made out in accordance with the system being explained is shown in its usual position. Upon the exposed edge or strip of the copy-sheet *a* at the left-hand side of the platen will be seen, for instance, the number of the account, assuming that the various individual accounts of the establishment are designated by numbers. This exposed strip is furthermore provided with two columns, which for the purpose of this illustration are used for the designation of the department and the clerk concerned in the sale recorded by an

item on the original sheet *b* of the bill. Thus assuming that John Doe has purchased four barrels of flour and that the number of his account is 2008, the number "2008" will appear at the top of the exposed strip of the copy-sheet and below this will appear the letter "A" and the number "33" in the appropriate columns, indicating that clerk No. 33 has sold in department A the subject-matter of the corresponding item on the original sheet of the bill, said item consisting, as usual, of the date, the subject-matter of the sale, and the amount thereof. By reason of the provision for manifold printing the item entered on the bill will be reproduced on the covered portion of the copy-sheet. It necessarily follows that two records will be produced—the first an original record or bill containing, as usual, the names of the debtor and creditor and the different items, and the other—to wit, the copy-sheet—containing the account-number, a carbon copy of the bill, and original entries of the department and clerk concerned with the sale involved in each particular item. Thus while the customer receives a type-written bill bearing only the usual entries of dates, subject-matter, and cost items a corresponding carbon record is produced for retention by the accounting department of the house making the sale, and such copy of the bill is augmented by such other memoranda as may be essential to the business system adopted—as, for instance, designations of departments and clerks. By this means if any particular item of a bill is disputed the corresponding copy-sheet of that bill will indicate the department in which the purchase was made and the clerk concerned in the sale. It is of course understood that ordinary business systems necessitate extensive bookkeeping departments, and it has always been a matter of more or less concern in large commercial establishments to secure prompt rendition of bills and statements at the end of each month. Such promptness has been practically impossible by reason of the fact that the daily purchases of the customer have been entered up in the journal, and at the end of each month the ledger is posted and the bill made out in accordance therewith. The novel system, which is made possible by the use of the Fisher type-writing machine, overcomes the necessity for this delay. The manifold bill of the character described is, in the practice of this system, retained by the operator of the machine—as, for instance, in a properly numbered or otherwise identified envelop. The salesmen's charge-slips are delivered to the operator each day, and the items are entered on the bill in the manner indicated, and the daily totals—that is to say, the total charge for the several items bearing the same date—is entered up in the daily total column on the bill, and at the end of the day the several charge-slips entered by the operator are forwarded to the bookkeeper. The great economy of the system will now appear,

since it will be noted that the bill instead of being made out after the accounts are balanced at the end of each month are made out from day to day, and, furthermore, the entry of the items on the bill effects a simultaneous entry on a copy or record sheet, which may obviate the necessity for the use of the ordinary journal. In order, however, that this copy or record of the bill may be relied upon and that the bookkeeper may have a proper check on the operator to insure the entry of the charges in accordance with the charge-slips, it is necessary for the operator to keep what is called a "tally" of the daily totals entered up in the several accounts. This tally has ordinarily been autographic and consists in the entry upon a suitable slip by the operator of the daily totals entered up by her in the several accounts over which she has supervision. To make this perfectly clear, we will suppose that the operator finds in the batch of charge-slips delivered to her three for the account of John Doe, all of said slips being dated April 18. She proceeds to select Doe's bill and to enter the items, the total amount of which is, for instance, forty-four dollars. This amount is entered up in the daily-total column on the bill, and after a comparison of the charge-slips with the items and a proper proving of the total the latter is entered upon the tally-sheet. The bill is now removed from the machine and restored to its envelop or other appropriate container, and the daily items of another account are in like manner entered upon another bill in accordance with other charge-slips, and, as before, the daily total is entered upon both the bill and tally. It therefore appears that the tally-sheet containing, as it does, the totals of each of the daily entries on the several bills must correspond when totaled to the total amount of the various charge-slips. At the end of the day the charge-slips and tally-sheet are forwarded to the bookkeeping department, the totals are entered up in the books of the department in the usual manner, and any omission on the part of the operator to enter an item will be discovered by the bookkeeper by reason of the discrepancy between the total obtained by him from the charge-slips and the total indicated by the operator's tally. At the end of the month it is simply necessary to add the daily totals and insert the monthly total on the bill. This is done by the operator without reference to the bookkeeping department, which, by reason of its check on the operator, is assured of the accuracy of the bills in her possession. After the monthly total has been entered on the bill the original and copy sheets are separated. The former is mailed promptly on the first day of the month to the customer, and the copy-sheets are forwarded to the bookkeeping department, where they become the sheets of a journal available for reference in the event of disputes and containing such private data

in the interest of the commercial institution as will facilitate the investigation of the circumstances of any particular sale and the correction of any error which may have been made. As heretofore stated, the tally has usually been kept autographically, and in order to make the entries thereon has required the interruption of the manipulation of the machine and the resort to other instrumentalities—as, for instance, a detached sheet and a pen. Such interruption is objectionable, as it requires considerable time and the tally-record is not as orderly as desired. Therefore in order to further facilitate the practice of that economical system of accounts herein described I have conceived the idea of associating with the platen of the type-writing machine an auxiliary work-sheet in the form of a tally-strip designed to be imprinted upon by the traveling printing mechanism, so that the operator may produce not only the bill and the copy thereof in type-writing, but may also employ the machine in the keeping of a tally-record. In carrying this invention into effect I have utilized various instrumentalities, which make possible the employment of the printing mechanism in connection with a plurality of work-sheets and which, furthermore, facilitate the accurate positioning of the printing mechanism over either sheet without calculation on the part of the operator and without interfering with such rapid manipulation of the machine as is necessary in the practical operation thereof.

The improvements forming the subject-matter of the present invention are not necessarily confined to any particular type of type-writing machine, as the same could obviously be adapted for use in connection with any form of type-writing machine capable of equipment with means for retaining a plurality of work-sheets within the printing area and adapted to be operated upon by the printing mechanism. Inasmuch, however, as the present invention is designed primarily as an improvement of that type of type-writing machines which comprehend a flat platen and printing mechanism supported to travel thereon and arranged to work directly over the work-sheet, I have illustrated the different instrumentalities contributing to the invention in connection with a Fisher type-writing machine and its platen, such as are now on the market. This type of machine is largely intended for writing in books, on letter-sheets, and for making up records and reports, and inasmuch as the same provides for printing upon the 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 in the manner heretofore described.

The type-writing machine shown in the drawings is of the same type as that disclosed in the patents to R. J. Fisher, Nos. 562,625 and 573,868. This type of machine

involves printing mechanism comprising a traveling type-carriage 1, carried by the machine-frame 2, which travels over the flat platen 3, provided with machine rails or guides 4, which are toothed for engagement with pinions 5, carried by the spacing element 6 of the machine-frame. The travel of the machine-frame 2 is designed to position the printing mechanism longitudinally of the platen, and the movement of the type-carriage 1 upon the frame 2 is intended to position the printing mechanism transversely with respect to the platen in a manner well understood in the art. Inasmuch as the present invention has special relation to the use of the type-writing machine for billing purposes, I have shown the platen equipped with a work-holder well adapted for the retention of folded or double bills, such as are used in commercial billing, the platen being generally of that type illustrated and described in the concurrent application of C. F. Laganke and Ralph D. Stackpole, Serial No. 52,213, and somewhat modified in accordance with the invention of Robert J. Fisher and Ralph D. Stackpole, illustrated and described in their concurrent application, Serial No. 61,561. The bill or primary work-sheet 7 is retained in a flat or spread-out condition upon the platen by means of the hingedly-mounted primary work-holder 8, and, as heretofore stated, it is embodied for illustrative purposes in a folded bill comprising the original sheet *b* and the copy-sheet *a*, intermediate of which the carbon element 9 is disposed. At any suitable point of the platen, but preferably within the printing area thereof adjacent to the right-hand rail 4 and somewhat nearer the rear end of the platen, the latter is formed with a tally-opening 10, within which is supported a tally sheet or strip 11, constituting a work-sheet secondary or supplemental to the primary work-sheet retained by the primary work-holder. Various instrumentalities may be employed for retaining the supplemental sheet or tally in position, inasmuch as my invention in the broad aspect thereof comprehends the provision of means for presenting a plurality of work-sheets within the printing area and capable of being presented alternately in operative relation to the printing mechanism. A preferable embodiment of the supplemental work-holder for retaining the tally-sheet consists of a pair of tally-rolls 12 13, journaled in suitable bearings and located in a plane below the writing-surface, and a supplemental or tally platen or printing-roll 14, journaled in suitable bearings and disposed intermediate of the rolls 12 and 13, with its upper side disposed substantially in the horizontal plane of the writing-surface, as shown more clearly in Fig. 3. The blank tally-sheet 11 is designed to be wound from the roll or delivery-spool 12 to the receiving-roll 13, that portion of the sheet extending between the rolls being carried over

and disposed upon the rubber or other suitable writing-surface of the tally-platen 14, so that the platen-supported portion of the tally sheet or strip may lie in the plane of the writing-surface within the printing area, and the printing mechanism is shifted to a position directly over the tally for the entry upon the latter of an item of the tally-record.

The particular form of the mounting for the rolls 12 and 13 is not material, so long as they are capable of performing their proper functions. Inasmuch, however, as it is desirable to have the delivery roll or spool 12 and the printing-roll or supplemental platen 14 readily removable for the purpose of resupplying the former with a blank tally-sheet for renewing the writing-surface of the latter, a convenient construction of mounting comprehends the utilization of a pair of plates 15 and 16, (see Figs. 3 and 6,) screwed or otherwise secured to the platen at the opposite sides of the tally-opening 10 and depending a sufficient distance below the platen to accommodate the trunnions 17 of the delivery-roll 12 and the trunnions 18 of the printing-roll or tally-platen 14 within the lower ends of arcuate slots 19 and 20, opening at their upper ends through the upper edges of the plates. The trunnions of the rolls 12 and 14 may be inserted in the upper ends of the slots 19 and 20 and the rolls dropped to their proper positions with facility and despatch, the arcuate form of the slots serving to prevent the accidental upward movement of the rolls. The trunnions 21 of the receiving-roll 13 are journaled in suitable bearings 22, bolted or otherwise suitably secured to the under side of the platen, and, if desired, an angle-plate 23 may be secured to the under side of the platen 3 to constitute an end-thrust bearing for the spools 12 and 14. (See Fig. 6.)

I have heretofore stated that in its broad aspect the invention comprehends the provision of means for retaining a plurality of work-sheets in position for alternate presentation to the printing mechanism, either by the travel of the printing mechanism from one work-sheet or element to the other or by the movement of the work-sheets with respect to the printing mechanism, it being sufficient that by the manipulation of some element of the type-writing machine the latter is capable of printing upon either of several work-sheets. In a subordinate aspect, however, the invention contemplates the equipment of the stationary platen with means for retaining a plurality of work-sheets in position to permit the traveling printing mechanism to be presented in operative relation to either of them, and it will be evident that it is within the purview of the invention to so arrange the two work-sheets that the printing mechanism may be line-spaced with respect to either of them for the purpose of printing in properly-spaced lines upon either or both of the sheets. In the present embodiment of the invention, however, provi-

sion is made for readily positioning the printing mechanism opposite the tally-sheet for the purpose of printing an item or entry on said tally-sheet after the daily total has been entered on the bill or primary work-sheet. A simple method of accomplishing this positioning of the printing mechanism consists in providing a stop arranged to locate the machine in the same position each time it is thrown over to the tally-sheet at the completion of the operation of printing upon the bill. It is therefore desirable in the present embodiment of the invention to provide for the line-spacing of the supplemental work-sheet or tally-strip instead of line-spacing the printing mechanism, as by this means the printing mechanism, while automatically stopped in the same position, will by reason of the line-for-line advance of the tally-sheet print thereon in properly-spaced lines. This is particularly desirable, for the reason that the entries on the tally-sheet must be totalized at the end of the day, and it is essential, therefore, that the entries be printed on the sheet in tabulated form. The line-spacing of the tally-sheet is susceptible of accomplishment through the medium of any type of line-spacing mechanism which comprehends an actuator disposed to impart a step-by-step advance to the rotary spacing element; but in the practical development of the invention it is contemplated to effect the line-spacing or line-for-line advance of the tally-sheet automatically through the manipulation of the printing mechanism. One embodiment of this automatically-operated line-spacing mechanism is disclosed in the drawings (see particularly Figs. 2, 3, and 8) and comprises a line-spacing lever 24, fulcrumed in suitable bearings attached to the under side of the platen and carrying at its front end what may be termed a "pivoted" actuator 25, provided with a beak 26, disposed for engagement with the teeth of the ratchet-wheel 27, fixed to and located beyond one end of the receiving-spool 13. The actuator 25 is provided at its end opposite the beak 26 with an eccentric projection 28, against which bears a spring 29, serving to urge the actuator in a direction to effect its engagement with the ratchet-wheel 27 of the receiving-spool 13, which, it will be seen, constitutes the spacing element of the tally-sheet line-spacing mechanism. The lower end of the line-spacing lever 24 is normally depressed by a spring 30, secured at its opposite ends to the side wall of the platen and to the lever, respectively, and under normal conditions the actuator 25 is retained out of engagement with the ratchet-wheel 27, so as not to interfere with the backward movement of the latter when it is desired to strip the printed tally-sheet from the receiving-roll—as, for instance, at the end of a day. The necessary retraction of the actuator 25 to insure its disengagement from the ratchet-wheel 27 is secured by means of an angular guide 31, substantially of V shape and de-

signed for the reception of a pin 32, extending from one side of the actuator 25. As the inner or forward end of the line-spacing lever is depressed by the spring 30 the pin 32 is urged laterally by the guide 31, and the actuator 25 is swung upon its pivot against the resistance of the spring 29 to effect the desired disengagement of the actuator from the ratchet-wheel. When, however, the lever 24 is oscillated in a manner to elevate the forward end thereof, the pin 32 is moved away from the guide 31, and the actuator is moved into engagement with the ratchet 27 under the impulse of the spring 29. Continued movement of the line-spacing lever after such engagement has been effected will obviously advance the receiving-spool or spacing element the distance of one line-space and will cause the item printed on the tally-sheet to be advanced for the purpose of presenting a blank space for the reception of the next succeeding item or entry. Accidental backward movement of the receiving-spool 13 is prevented by a spring-pressed pawl 33, mounted on one side wall of the platen and provided with a laterally-projecting finger-piece or handle 34, extending through and beyond the side of the platen. When it is desired to strip the receiving-roll, it is simply necessary for the operator to depress the finger-piece 34, and thereby swing the pawl 33 to release the spool 13.

The winding of the tally-sheet rolls when putting on new paper may be facilitated by the use of a detachable crank 12^a, inserted through an opening 12^b in the side of the platen and having a pair of engaging pins 12^c, fitting in suitable recesses in the end of the spool 12. The spool is rotated manually by the manipulation of the crank, and for the purpose of preventing such accidental movement of the spool 12 as would produce objectionable slacking of the tally-sheet a pair of retarding-springs 12^d are secured to the under side of the platen and bear against the peripheries of the spool-flanges, as shown more clearly in Fig. 3.

By extending the cam-lever 24 into convenient reach of the operator the line-spacing mechanism of the tally-sheet would be capable of manual actuation; but, as stated, the automatic actuation of the line-spacing mechanism is contemplated, and the rear end of the lever 24 is therefore extended upwardly through the platen and is provided with a cam-face 35, sufficiently elevated above the writing-surface to be disposed in the path of the traveling machine-frame when the latter is moved to the rear end of the platen.

It will now appear that the platen 3 is equipped within the printing area thereof with a primary work-holder designed for the retention in the proper printing position of the primary work-sheet and with a supplemental work-holder carrying a supplemental work-sheet in the form of a tally-strip, and, furthermore, that the traveling printing

mechanism is designed for presentation to either work-sheet and is arranged to print upon both sheets in properly-spaced lines, the line-spacing of the printing upon the primary work-sheet being effected by the line-for-line advance of the printing mechanism and the line-spacing upon the auxiliary or tally sheet being produced by the line-for-line advance of the sheet. It will also appear from what has been said that the line-spacing of the tally-sheet is accomplished automatically by the movement of the traveling printing mechanism as the latter is moved to the rear end of the platen—as, for instance, preparatory to the displacement of the printed bill and the replacement thereof with a blank sheet. The organization of parts thus far described therefore comprehends a completely-operative embodiment of the invention in its broader aspects; but as thus constructed the rapid manipulation of the machine will be more or less interrupted by the necessity for accurately locating the printing mechanism in its printing position above the tally-sheet. In consequence of this fact the further development of the machine has in view the provision of means for facilitating the accurate positioning of the printing mechanism with respect to the tally-sheet without necessity for the use of the line-finder or for calculation on the part of the operator, but by means of certain obvious manipulations of the mechanism.

By reference to Fig. 1 it will be noted that the printing mechanism has bodily movement in two directions—that is to say, it is moved longitudinally of the platen by the travel thereon of the machine-frame 2 and is shifted transversely of the platen by the endwise travel of the type-carriage 1 upon the machine-frame. When the primary printing operation has been completed, the printing mechanism is ordinarily located adjacent to the front end of the platen and approximately at the center thereof, while in the illustrated embodiment of the invention the tally-sheet is located at the extreme right-hand side of the platen and adjacent to or beyond the rear end of the work-sheet. Obviously two distinct movements of the type-carriage are necessary to present the printing mechanism directly over the tally-sheet. First, the carriage 1 must be shifted upon the frame 2 transversely of the platen to present the printing mechanism in the longitudinal plane of the tally-sheet, and, second, the frame 2 must be moved rearwardly to present the printing mechanism directly over the tally-sheet. As stated, the rapid manipulation of the machine requires that these movements be effected without special calculation or care on the part of the operator, and it follows that stop mechanism may be utilized to advantage, first, to locate the type-carriage in proper position upon the machine-frame 2 at that point in the lateral movement thereof with respect to the platen at which the tally-

sheet is located, and, second, to stop the printing-frame 2 at a proper point upon the platen to position the printing mechanism directly above the platen 14 of the tally mechanism. The first of these stop devices—to wit, that which stops the type-carriage at the proper point upon the machine-frame 2—is illustrated in the accompanying drawings as embodied in tabulating mechanism of the character illustrated and described in the patent to Charles F. Laganke, No. 666,762, issued January 29, 1901. The Laganke tabulating mechanism, so far as is essential to a proper understanding of the present invention, comprehends a suitably-operated longitudinally-slidable stop-plunger 36, formed at one end with a series of stop-shoulders 37, designed to be brought forward to the point on the tabulating-scale 38 indicating the particular denomination of the number to be inserted on the tally-sheet. The appropriate shoulder of the plunger-stop is intended to abut against a space-pin 39, inserted in one of a series of pin-openings 40 in the scale-bar 41 of the machine-frame 2. This contact of the plunger-stop and the spacing-pin will arrest the carriage to present the printing-point of the machine in that plane longitudinally of the platen which when the machine-frame 2 is shifted to its proper position will cause the presentation of the type to the tally-sheet at that point of the latter which is directly supported by the platen. A further embodiment of the carriage stop mechanism which may be employed in lieu of the stop-plunger is illustrated in the drawings in the form of a tabulator-key 42, constructed substantially in the manner illustrated and described in the concurrent application of John A. Smith, No. 67,346. This tabulator-key is mounted upon the right-hand end of the carriage and is operatively related to the carriage release mechanism, so that when the key is depressed to present the stop element 42^a thereof in a path obstructed by the spacing-pin the carriage will be released and will move to the right until arrested by the contact of the stop element 42^a with the spacing-pin. It is unnecessary to enter into a discussion of the special utility of the tabulating mechanism, since the latter is well understood in the art. Suffice it to say that stop mechanism is provided to properly position the carriage upon the machine-frame and that such stop mechanism preferably includes an element which may be employed to effect the release of the carriage to permit its free movement to that position necessary to its location above the tally-sheet. The other stop mechanism—to wit, that for limiting the movement of the machine-frame upon the platen—is illustrated more particularly in Figs. 3, 4, 5, and 7, and consists, preferably, of what may be termed a “fixed” or “stationary” stop element or member 43, secured to the platen and disposed in the path of the movable stop element 44 in one position of the latter. The

fixed stop element 43 is adjustably secured to the platen, at one side thereof, (see Fig. 4,) and the movable element 44 is pivoted upon the machine-frame 2, adjacent to one end of the latter, and is provided at one end with a beak 45 and at its opposite end with a counterweight 46, which latter normally overbalances the movable stop element or member 44 to elevate the beak 45 out of operative relation with the fixed stop element 43. Ordinarily, therefore, the machine-frame 2 may travel over the platen, from end to end of the latter, without interference from the machine-stop, since the movable stop element will assume the position indicated in dotted lines in Fig. 4 and will ride freely over the stop 43. It is desired, however, that this stop mechanism should be effective whenever the carriage 1 has been moved into that longitudinal plane of the platen wherein the tally-sheet is located. This end is attained by providing the carriage—as, for instance, upon the lower portion of the type-basket thereof—with a trip-head 47, extending rearwardly and provided at its rear extremity with an upstanding lug or nose 48, disposed to ride under and elevate the lateral projection 49, extending forwardly from the weighted end of the stop member or lever 44, the adjacent faces of the nose 48 and projection 49 being rounded to facilitate their engagement and disengagement. The relative location of the projection 49 of the stop-lever 44 and the trip-head 47 is such that when the carriage 1 is moved to that plane in which the tally-sheet is located the trip-head will pass under the projection 49 and swing the lever 44 to depress the beak 45 thereof into a path obstructed by the fixed stop 43. (See Fig. 5.) It therefore follows that when the carriage is shifted laterally of the platen to the position determined by the location of the space-pin 39 the machine stop mechanism will be automatically set or moved to such position as will cause the machine-frame when moved rearwardly to be arrested when the printing-point is presented directly opposite the platen of the tally mechanism. This positioning of the printing mechanism may be accomplished without observing the scales of the machine by shifting the carriage laterally until it is arrested by the carriage-stop and then shifting the machine-frame rearwardly until arrested by the machine-stop. When the machine has thus been positioned over the tally-sheet, the entry is made, and incidentally the carriage will be advanced one space or unit for each numeral printed. The effect of this movement of the carriage will be to automatically release the machine stop mechanism by advancing the trip-head 47 beyond the projection 49 upon the lever 44. The lever will thus swing to its initial or inoperative position under the impulse of the weight 46, and the machine-frame will be free to be moved past the stop 43 to the rear end of the platen. Thus the movement of the carriage to the plane of the

tally-sheet serves to set the machine stop mechanism. The stop mechanism subsequently arrests the machine-frame and is thereafter automatically released by the manipulation of the printing mechanism to make the entry on the tally-sheet. After such entry has been made and the machine-stop released the machine-frame is moved to the rear end of the platen. During this movement the frame 2 is brought into contact with the cam-face 35 of the line-spacing lever 24, and said lever is thereby automatically operated to advance the tally-sheet one line-space, and the tally mechanism is ready for a succeeding entry. Assuming that the bill has been made out and the proper entry made on the tally-sheet in the manner indicated, the completion of the operation leaves the traveling printing mechanism at the rear end of the platen and ready for a repetition of the operation after the printed bill or primary work-sheet has been replaced by a blank sheet.

It is thought that the construction, operation, and many advantages of the invention will be clearly understood from the foregoing description; but while the present embodiment of the invention appears at this time to be preferable I reserve the right to effect such changes, modifications, and variations thereof as may be properly comprehended within the scope of the protection prayed.

What I claim is—

1. In a type-writing machine, the combination with the flat platen and traveling printing mechanism, of means for retaining a plurality of separated work elements or sheets in position to be operated upon directly by the printing mechanism, only one of said work-sheets being movable in the direction of line-spacing.

2. In a type-writing machine, the combination with the flat platen and traveling printing mechanism, of means for retaining a work-sheet at rest opposite the platen within the printing area thereof, and for retaining a supplemental work-sheet in position to be operated upon by the printing mechanism, said supplemental work-sheet being movable independently of the printing mechanism and the primary work-sheet.

3. In a type-writing machine, the combination with the platen and printing mechanism, of a primary work-holder disposed opposite the platen to retain a primary work-sheet, and a supplemental work-holder disposed to retain a supplemental work-sheet in position to be printed upon, said work-holders being carried by the platen.

4. In a type-writing machine, the combination with the flat platen and traveling printing mechanism, of a primary work-holder, and a relatively movable supplemental work-holder both carried by the platen, said work-holders being disposed to retain primary and supplemental work-sheets in position to be printed upon.

5. In a type-writing machine, the combina-

tion with the flat platen and the tracks or guides for the traveling machine, of a primary work-holder disposed to retain a primary work-sheet opposite the platen, and a supplemental work-holder movable independently of the primary work-holder and of the platen, one of said work-holders being mounted on the platen.

6. In a type-writing machine, the combination with a platen and printing mechanism, of a primary work-holder disposed to retain a primary work-sheet opposite the platen, a supplemental work-holder carried by the platen to support the supplemental work-sheet, and means for moving the supplemental work-sheet to effect the line-spacing thereof.

7. In a type-writing machine, the combination with the platen and printing mechanism, of a primary work-holder for the primary work-sheet, a supplemental holder carried by the platen to support the supplemental work-sheet, and means for imparting a step-by-step movement to the supplemental work-holder.

8. In a type-writing machine, the combination with the platen and printing mechanism, of a primary work-holder carried by the platen, a separate supplemental work-holder disposed to retain a supplemental work-sheet and movable independently of the platen in the direction of line-spacing, and means for imparting a step-by-step movement to the supplemental work-holder.

9. In a type-writing machine, the combination with the flat platen, printing mechanism, and a primary work-holder movable toward and away from the writing-surface, of a supplemental work-holder for retaining a work-sheet in the printing position, and means for moving said work-sheet in the direction of line-spacing independently of the primary work-holder.

10. In a type-writing machine, the combination with the flat platen and traveling printing mechanism, of a plurality of work-holders for retaining a plurality of separate work-sheets in the printing position, and means for automatically advancing one of said sheets in the direction of line-spacing independently of the other.

11. In a type-writing machine, the combination with the flat platen and traveling printing mechanism, of a primary work-holder mounted on the platen and disposed to retain a primary work-sheet opposite the platen, a supplemental work-holder for a supplemental work-sheet, and means for moving the supplemental work-sheet independently of the primary work-sheet in the direction of line-spacing.

12. In a type-writing machine, the combination with the platen and printing mechanism, of a primary work-holder disposed to retain a primary work-sheet opposite the platen, a supplemental work-holder designed for the retention of a supplemental work-sheet and movable independently of the platen in the direction of line-spacing, and means for

automatically advancing the supplemental work-holder in the direction of line-spacing through the relative movement of the platen and printing mechanism.

13. In a type-writing machine, the combination with the flat platen and the traveling printing mechanism, of a plurality of relatively movable work-holders carried thereby for retaining a plurality of work-sheets in the printing position at different points on the platen.

14. In a type-writing machine, the combination with the flat platen and the main tracks or guides for the traveling machine, of a primary work-holder, and a tally-sheet holder, both carried by the platen and disposed within the printing area thereof.

15. In a type-writing machine, the combination with the platen, of a plurality of work-holders carried thereby, one of said work-holders being independently movable in the direction of line-spacing.

16. In a type-writing machine, the combination with the platen, of a plurality of separate work-holders carried thereby, one of said work-holders being independently movable in the direction of line-spacing, and means for advancing said movable work-holder to effect the line-spacing thereof.

17. In a type-writing machine, the combination with the platen, of a plurality of work-holders carried thereby, one of said work-holders being independently movable in the direction of line-spacing, and means for automatically advancing the said last-named work-holder to effect the line-spacing thereof.

18. In a type-writing machine, the combination with the platen, of a work-holder and a tally-sheet holder carried thereby, to retain a work-sheet and a tally-sheet at different points on the platen, said tally-sheet holder comprising delivering and receiving members for the tally-sheet.

19. In a type-writing machine, the combination with the platen, of a work-holder and a tally-sheet holder carried thereby to retain a work-sheet and a tally-sheet at different points, said tally-sheet holder comprising rotary delivering and receiving members for the tally-sheet.

20. In a type-writing machine, the combination with the platen, of a work-holder and a tally-sheet holder disposed at different points on the platen, said tally-sheet holder comprising movable delivering and receiving members for the tally-sheet, and means for operating said members to effect a transfer of the tally-sheet from one member to the other.

21. In a type-writing machine, the combination with the flat platen and traveling printing mechanism, of a primary work-holder and a tally-sheet holder, said tally-sheet holder comprising delivering and receiving members for the tally-sheet, and means for automatically operating said members independently of the primary work-holder to effect the line-spacing of the tally-sheet.

22. In a type-writing machine, the combination with the flat platen and traveling printing mechanism, of a work-holder and a tally-sheet holder, said tally-sheet holder comprising a delivering member and a rotary receiving member for the tally-sheet, and means for imparting a step-by-step rotation to said rotary receiving member through the movement of the printing mechanism to effect the line-spacing of the tally-sheet.

23. In a type-writing machine, the combination with the platen provided with a supplemental platen, of means for retaining separate work-sheets opposite said platens.

24. In a type-writing machine, the combination with the platen provided with a supplemental platen, of separate work-holders for retaining separate work-sheets opposite said platens.

25. In a type-writing machine, the combination with the platen provided with a supplemental platen, of separate work-holders for retaining primary and supplemental work-sheets opposite said platens, and means for imparting movement to the supplemental work-sheet in the direction of line-spacing.

26. In a type-writing machine, the combination with the stationary flat platen, and the tracks or guides for the traveling machine, of an independently-movable tally-sheet holder comprising delivering and receiving members, and an intermediate supplemental or tally-sheet platen.

27. In a type-writing machine, the combination with a stationary platen, of a tally-sheet holder comprising movable delivering and receiving members, and an intermediate movable tally-sheet platen, and means independent of the platens for imparting intermittent movement to one of said members to advance the tally-sheet in the direction of line-spacing.

28. In a type-writing machine, the combination with the flat platen and the tracks or guides for the traveling machine, of a tally-sheet holder comprising delivering and receiving rolls, an intermediate platen-roll and means independent of the platen for operating said holder.

29. In a type-writing machine, the combination with the flat platen and traveling printing mechanism, of a tally-sheet holder comprising delivering and receiving members for the tally-sheet, and a line-spacing lever operatively related to one of said members to operate the same in the direction of line-spacing.

30. In a type-writing machine, the combination with the flat platen and traveling printing mechanism, of a tally-sheet holder comprising delivering and receiving rolls for the tally-sheet, and a line-spacing lever operatively related to the receiving member to impart a step-by-step advance thereto in the direction of line-spacing.

31. In a type-writing machine, the combination with the flat platen and traveling

printing mechanism, of a tally-sheet holder carried by the platen and disposed below the writing-surface thereof.

32. In a type-writing machine, the combination with the flat platen and traveling printing mechanism, of a tally-sheet holder carried by the platen and disposed below the writing-surface thereof for the reception of the tally-sheet, and line-spacing mechanism for said sheet.

33. In a type-writing machine, the combination with the platen, of a tally-sheet holder disposed below the writing-surface thereof for the reception of the tally-sheet, and tally-sheet line-spacing mechanism extended above the platen for actuation.

34. In a type-writing machine, the combination with the piston, of a tally-sheet holder disposed below the writing-surface thereof for the reception of the tally-sheet, and tally-sheet line-spacing mechanism comprising a line-spacing lever extended above the platen for actuation.

35. In a type-writing machine, the combination with the flat platen and traveling printing mechanism, of a work-holder carried by the platen to retain a work-sheet in the printing position, and line-spacing mechanism for said work-sheet, said line-spacing mechanism being extended beyond the writing-surface of the platen and into operative relation with the printing mechanism whereby the relative movement of the platen and printing mechanism will cause the actuation of the line-spacing mechanism to advance the work-sheet.

36. In a type-writing machine, the combination with the platen and printing mechanism, of a primary work-holder, and a supplemental work-holder located at different points thereof, one of said work-holders being movable in the direction of line-spacing, and line-spacing mechanism for the movable work-holder, said line-spacing mechanism being disposed above the platen for engagement with the printing mechanism.

37. In a type-writing machine, the combination with the platen and printing mechanism movable thereover, of a work-holder movably carried by the platen, and line-spacing mechanism operatively related to said work-holder and extended above the platen and into the path of the printing mechanism for actuation thereby.

38. In a type-writing machine, the combination with the stationary platen and the printing mechanism movable thereover, of a work-holder movable in the direction of line-spacing, and line-spacing mechanism for said holder comprising a line-spacing lever extended through the platen and into the path of the printing mechanism.

39. In a type-writing machine, the combination with the stationary platen and the printing mechanism movable thereover, of a work-holder carried by the platen and comprising movable delivering and receiving members, and line-spacing mechanism oper-

actively related to one of said members and extended into the path of the printing mechanism for actuation thereby.

40. In a type-writing machine, the combination with the stationary platen, and the printing mechanism movable thereover, of a work-holder comprising delivering and receiving rolls, and a line-spacing lever operatively related to one of said rolls and extended into the path of the printing mechanism for actuation thereby.

41. In a type-writing machine, the combination with the flat platen and the main tracks or guides for the traveling printing mechanism, of a plurality of work-holders mounted on the platen and retaining a plurality of separate work-sheets.

42. In a type-writing machine, the combination with a flat platen, traveling printing mechanism and the main tracks or guides for the traveling printing mechanism, of a tally-sheet holder carried by the platen between said tracks or guides and movable in the direction of line-spacing by the longitudinal movement of the traveling printing mechanism over the platen.

43. In a type-writing machine, the combination with the flat platen and the main tracks or guides for the traveling printing mechanism, of a primary work-holder, and a supplemental tally-sheet holder, both carried by the platen between the main tracks or guides and arranged to retain a primary work-sheet and a supplemental work-sheet at separated points, the tally-sheet holder being movable with respect to the platen in the direction of line-spacing.

44. In a type-writing machine, the combination with the stationary flat platen provided with a tally-opening, and with the main tracks or guides for the traveling printing mechanism, of a tally-sheet holder disposed to hold a tally-sheet exposed at said opening.

45. In a type-writing machine, the combination with the flat platen and the main tracks or guides, of a machine-frame movable upon said tracks or guides, and a type-carriage movable upon the frame, said frame and carriage constituting members of the traveling printing mechanism, and a stop device for arresting the movement of one of said members, said stop device being effective only in a predetermined position of the other member.

46. In a type-writing machine, the combination with the flat platen having the main tracks or guides, of the machine-frame movable thereon, a type-carriage movable on the frame, and a stop device for limiting the movement of the frame, said stop device being disposed for control by the carriage.

47. In a type-writing machine, the combination with the flat platen having the main tracks or guides, of a machine-frame movable thereon, a type-carriage movable on the machine-frame, a stop device for the frame, said stop device being arranged to be set in its ef-

fective position by the carriage, and a second stop device disposed to arrest the carriage in position to set the first-named stop device.

48. In a type-writing machine, the combination with the flat platen having the main tracks or guides, of the machine-frame movable thereon, a type-carriage movable on the frame, a fixed stop member on the platen, and a movable stop member mounted on the machine-frame and arranged to be moved into and out of a path obstructed by the fixed stop member to arrest the frame at the fixed stop or to permit its movement therebeyond, as desired.

49. In a type-writing machine, the combination with the flat platen having the main tracks or guides, of the machine-frame movable thereon, a type-carriage movable on the frame, a fixed stop member and a movable stop member carried by the platen and frame respectively, and a trip device operated by the carriage to throw the movable stop member into position for engagement with the fixed stop member.

50. In a type-writing machine, the combination with the flat platen having the main tracks or guides, of the machine-frame movable thereon, a type-carriage movable on the frame, a fixed stop member on the platen, a pivoted stop member on the machine-frame, and a trip-head movable with the type-carriage and disposed to move the pivoted stop member into its effective position.

51. In a type-writing machine, the combination with the flat platen having the main tracks or guides, of the machine-frame movable thereon, a type-carriage movable on the frame, a fixed stop member, a movable stop member for arresting the machine-frame, and normally disposed in an ineffective position, and a trip device operated by the carriage to throw the movable stop member to its effective position and to permit said movable stop member to return to its ineffective position, whereby the carriage by its movement to a given position on the frame will position the stop members to arrest the frame and by further movement will release the frame for movement beyond the stop.

52. In a type-writing machine, the combination with the flat platen having the main tracks or guides, of the movable machine-frame, stop mechanism therefor, and a type-carriage on the frame, said type-carriage being operatively related to the stop mechanism to effect the arrest or release of the frame.

53. In a type-writing machine, the combination with the flat platen having the main tracks or guides, of the machine-frame movable thereon, a type-carriage movable on the frame, and means for automatically effecting the arrest or release of the machine-frame through the movement of the type-carriage.

54. In a type-writing machine, the combination with a flat platen having the main tracks or guides, of means for retaining primary and supplemental work-sheets at differ-

ent points on the platen, printing mechanism mounted to travel laterally and longitudinally over the platen, and separate stop devices for limiting the lateral and longitudinal movements of the printing mechanism to insure the accurate location of the latter over the supplemental work-sheet, one of said stop devices being automatically released when an entry or item is printed on the supplemental work-sheet.

55. In a type-writing machine, the combination with a flat platen having the main tracks or guides, of means for retaining a primary work-sheet and a tally-sheet at different points on the platen, a machine-frame mounted to travel on said tracks or guides, a traveling type-carriage on the frame, a carriage stop device for arresting the movement of the carriage on the frame, a machine stop device for arresting the movement of the machine-frame over the platen to accurately position the type-carriage over the tally-sheet, and means for automatically releasing the machine stop device by the movement of the carriage incidental to the printing of an entry or item on the tally-sheet.

56. A type-writing machine provided with a plurality of platens disposed to retain primary and supplemental work-sheets in position to be printed upon alternately by the same printing mechanism, one of said platens being stationary and flat.

57. A type-writing machine having a plurality of platens for primary and supplemental work-sheets respectively, said platens being relatively movable and carried one by the other.

58. A type-writing machine having stationary and movable platens disposed to retain separate work-sheets in position to be printed upon.

59. The combination with a stationary primary platen, and a movable supplemental platen, of traveling printing mechanism movable over said platens.

60. In a type-writing machine, the combination with a platen and printing mechanism, of a primary work-holder carried by the platen, and a separate supplemental work-holder disposed to retain a supplemental work-sheet, and movable independently of the platen in the direction of line-spacing.

61. A type-writing machine platen provided with a supplemental platen carried thereby and with main tracks or guides for the traveling machine.

62. In a type-writing machine, the combination with a platen, of the tally-sheet holder for the reception of the tally-sheet, and tally-sheet line-spacing mechanism extended above the platen from below the writing-surface thereof for actuation.

63. In a type-writing machine, the combination with a stationary flat platen provided with a tally-opening and the tracks or guides for the traveling machine, of a tally-sheet

holder disposed to hold the tally-sheet exposed at said opening.

64. In a type-writing machine, the combination with a flat platen having the main tracks or guides, of means for retaining primary and supplemental work-sheets at different points on the platen, printing mechanism mounted to travel laterally and longitudinally over the platen, and separate stop devices for limiting the lateral and longitudinal movement of the printing mechanism to insure the accurate location of the latter over the supplemental work-sheet.

65. In a type-writing machine, the combination with a stationary flat platen and printing mechanism mounted to travel thereover, of means for retaining a plurality of separated work-sheets in position to be operated upon directly by said printing mechanism.

66. In a type-writing machine, the combination with a stationary flat platen, and the main tracks or guides for the traveling printing mechanism, of a work-holder including a roll, and means for effecting the automatic actuation of the roll to feed the work-sheet with respect to the platen.

67. In a type-writing machine, the combination with a stationary flat platen, and the tracks or guides for the traveling machine, of a primary work-holder movable toward and away from the platen, and a supplemental work-holder independently movable in the direction of line-spacing only.

68. In a type-writing machine, the combination with the flat stationary platen, and the traveling printing mechanism, of a primary work-holder disposed opposite the platen to retain a primary work-sheet, and a tally-sheet holder disposed to retain a tally-sheet in position to be printed upon, said tally-sheet being movable longitudinally of the platen.

69. In a type-writing machine, the combination with the flat stationary platen, and the traveling printing mechanism, of a primary work-holder disposed to retain a primary work-sheet over the platen, and a tally-sheet holder disposed to retain a tally-sheet in position to be printed upon at one side of the primary work-sheet, said tally-sheet being movable longitudinally of the platen.

70. In a type-writing machine, the combination with the flat stationary platen, and printing mechanism mounted to travel thereover, of means for retaining a primary work-sheet and a tally-sheet at different points of the platen so as to be in position to be operated upon directly by said printing mechanism at different periods of the movement of the latter.

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:

JOHN H. SIGGERS,

FLORENCE E. WALTER.