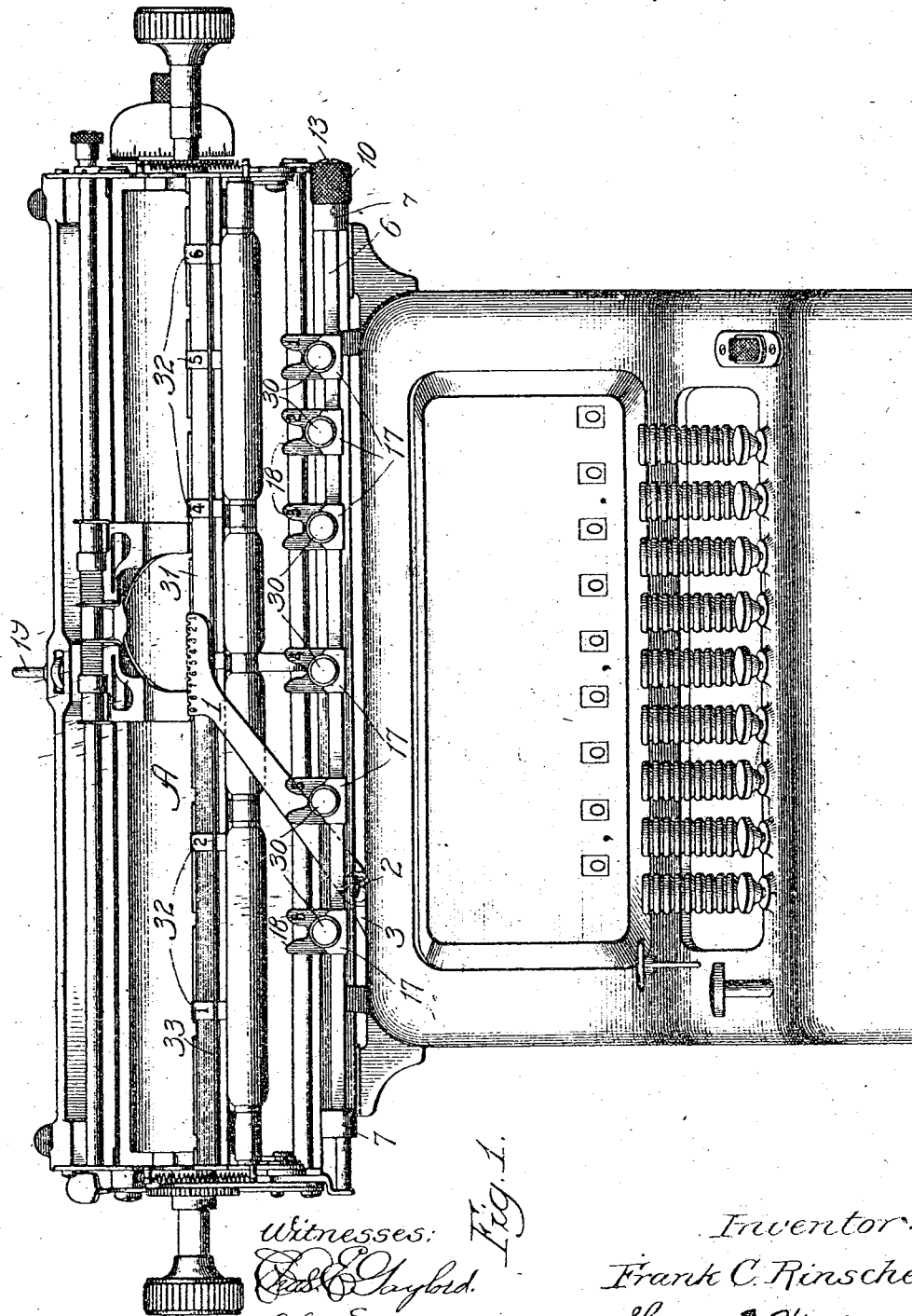


F. C. RINSCHÉ.
COMPUTING MACHINE.
APPLICATION FILED JUNE 8, 1907.

1,065,887.

Patented June 24, 1913.

5 SHEETS—SHEET 1.



Witnesses:
Ed. E. Gaybird.
John Enders,

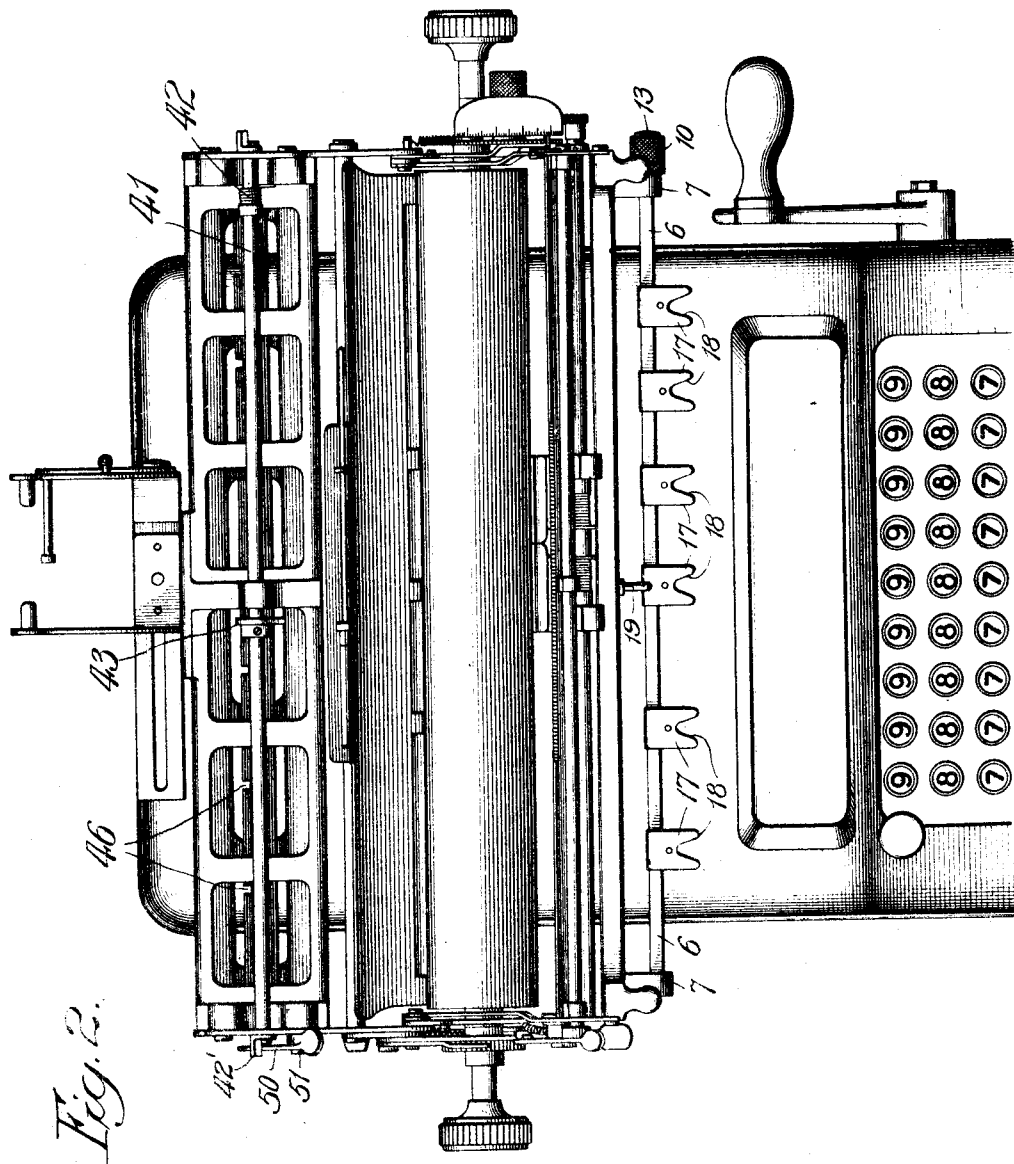
Fig. 1.

Inventor:
Frank C. Rinsche,
By *Sheridan & Wilkinson.*
Attys.

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Patented June 24, 1913.
5 SHEETS—SHEET 2.



Witnesses:
E. C. Chylard,
John Enders.

Inventor:
Frank C. Rinsche,
By Sheridan & Wilkinson,
Attys.

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5 SHEETS—SHEET 3.

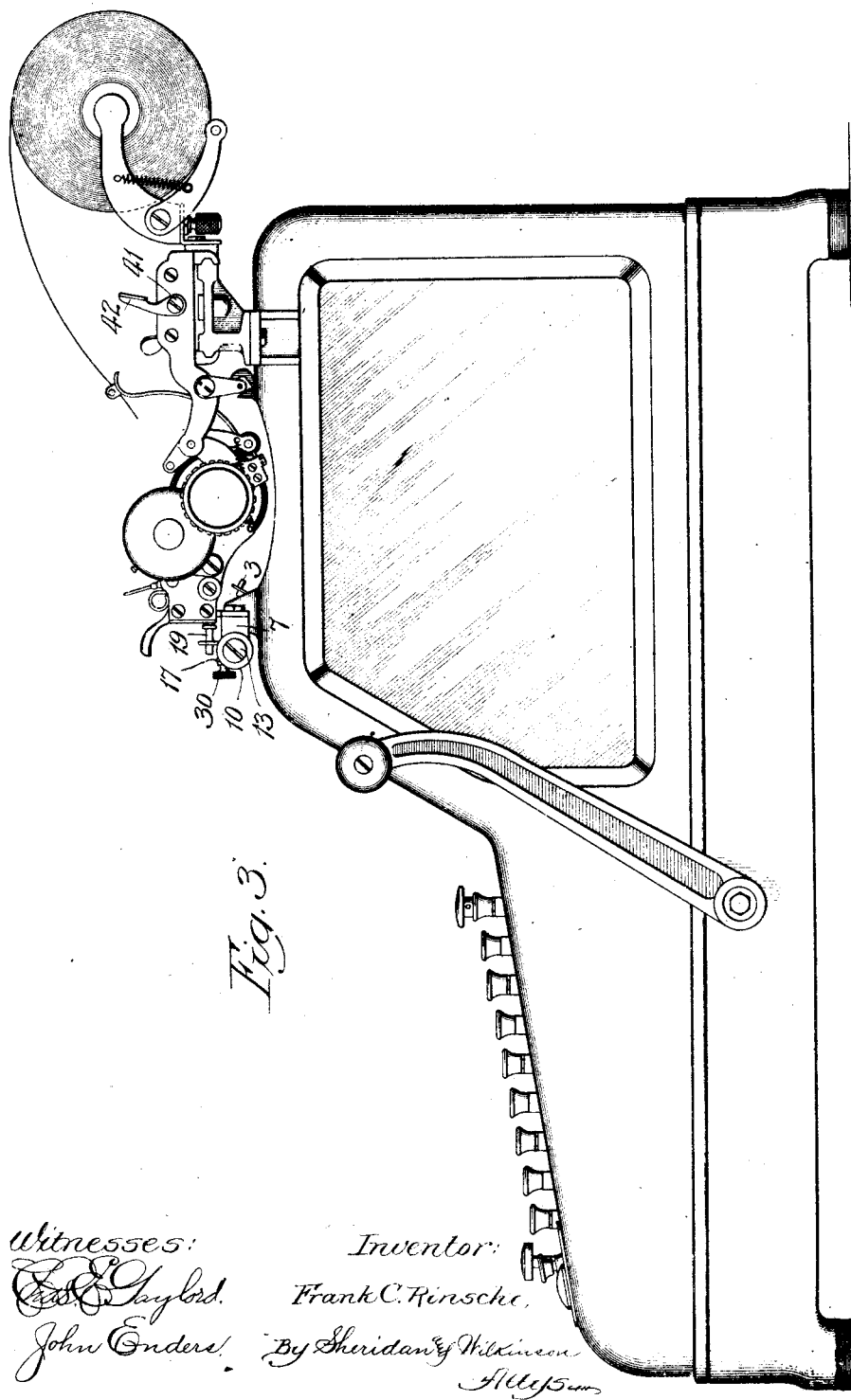


Fig. 3.

Witnesses:

Edw. Gaylord.

John Enders.

Inventor:

Frank C. Rinsché,

*By Sheridan & Wilkinson
Attys*

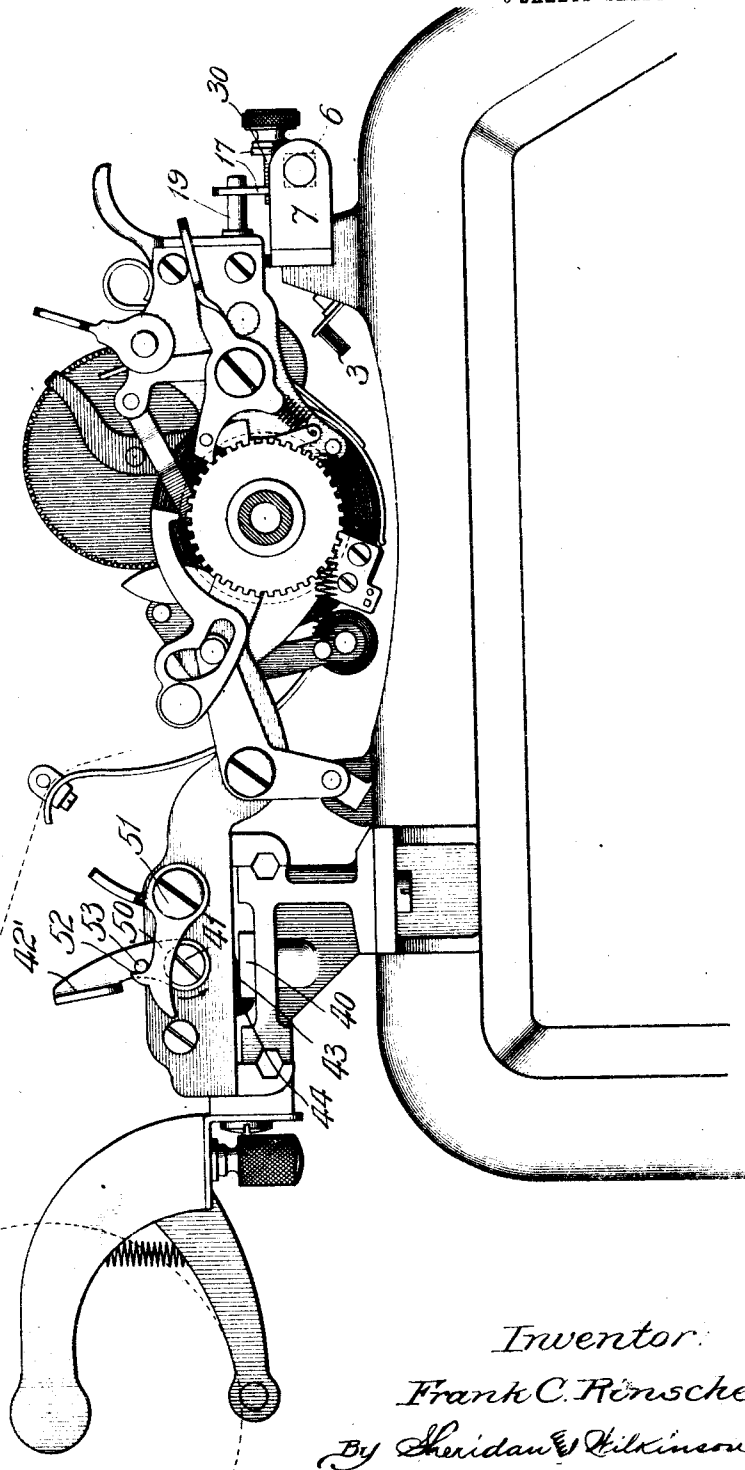
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Patented June 24, 1913.

5 SHEETS—SHEET 4.

1,065,887

Fig. 4.



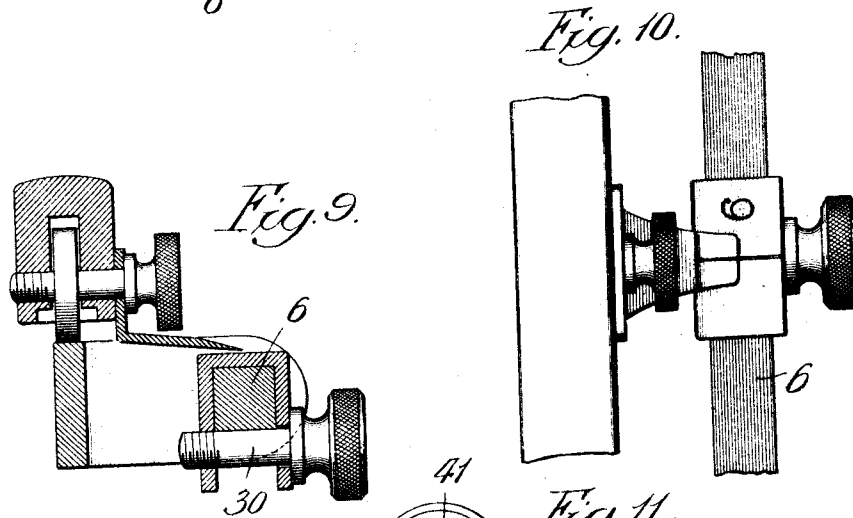
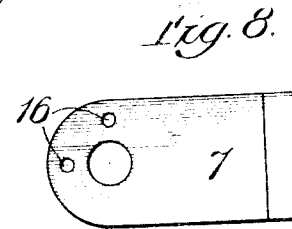
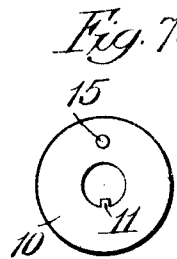
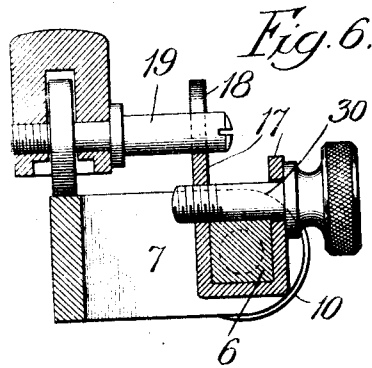
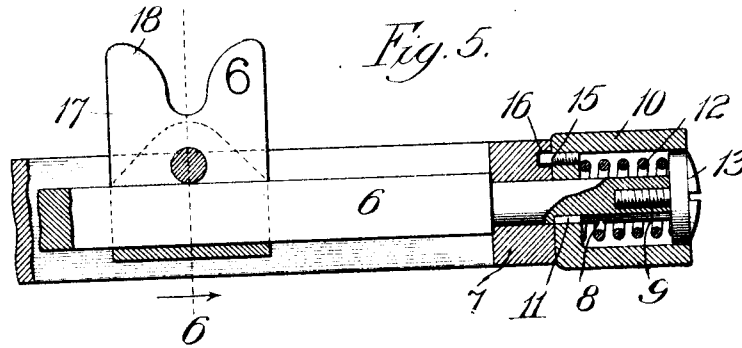
Witnesses:
Edw. G. Byford,
John Enders.

Inventor:
Frank C. Rinsche,
By Sheridan E. Wilkinson,
Att'y.

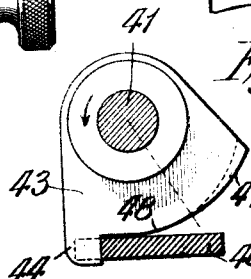
F. C. RINSCHÉ.
COMPUTING MACHINE.
APPLICATION FILED JUNE 8, 1907.

Patented June 24, 1913.
5 SHEETS—SHEET 5.

1,065,887.



Witnesses:
Edw. G. Ingham,
John Enders.



Inventor:
Frank C. Rinsche.
By Sheridan & Wilkinson,
Attys.

UNITED STATES PATENT OFFICE.

FRANK C. RINSCHÉ, OF ST. LOUIS, MISSOURI.

COMPUTING-MACHINE.

1,065,887.

Specification of Letters Patent.

Patented June 24, 1913.

Application filed June 8, 1907. Serial No. 377,976.

To all whom it may concern:

Be it known that I, FRANK C. RINSCHÉ, a citizen of the United States, residing at St. Louis, State of Missouri, have invented certain new and useful Improvements in Computing-Machines, of which the following is a specification.

The object of my invention is to provide means for positioning the paper carriage of an adding machine to receive the impression of the printing mechanism in any desired column or position on the paper.

In the drawings—Figure 1 is a front elevation of an adding machine embodying my invention. Fig. 2 is a plan view of the same. Fig. 3 is a side view. Fig. 4 is an elevation of the upper part of the machine viewed from the left side thereof. Fig. 5 is a detail view of the rotatable rod bearing the stops. Fig. 6 is a cross sectional view of the stop-rod. Figs. 7 and 8 are detail views of the mechanism illustrated in Fig. 5 for retaining the stop-rod in its adjusted position. Figs. 9 and 10 are detail views of a modified form of the invention. Fig. 11 is a detail view of the mechanism for locking the carriage in its adjusted position.

In the use of adding machines it is frequently desirable to print the numbers in several columns. In order to accomplish this result it is necessary to have some convenient and accurate means for positioning the paper carriage in the several positions necessary to receive the imprint at the desired place upon the sheet of paper. In the construction illustrated in the drawings and described below, I have provided adjustable setting devices, together with means whereby such setting devices may be accurately adjusted to properly position the paper carriage. In the drawings I have illustrated an adding machine of the type known as "The Universal," such machine being provided with the usual transversely movable paper carriage. As examples of machines of the type referred to I mention two patents to Rinsché Nos. 634,181 and 751,207, dated, respectively, July 24, 1900 and February 2, 1904. This paper carriage may be raised upon pivotal bearings to the position shown in Fig. 1, for the purpose of exposing the paper to view, and lowered to the position shown in Figs. 2, 3 and 4, for the purpose of receiving the imprint of the printing mechanism.

I have provided an indicator 1 pivotally

mounted at 2 upon the frame of the machine, and provided with an extension 3, shown in Figs. 1 and 4. The extension 3 serves as a handle, pressure thereon serving to raise the indicator to the position shown in Fig. 1, from which position it falls by gravity when released. The upper end of the indicator 1 is provided with a series of graduations, and when the indicator is elevated to the position shown in Fig. 1 these graduations lie opposite that part of the paper which is in position to receive the impression of the printing type. When it is desired, therefore, to position the carriage to receive the printed impression at any desired point, it is necessary merely to raise the carriage and the indicator 1 to the position shown in Fig. 1, and then to move the carriage transversely to bring the desired part of the paper opposite the graduations at the end of the indicator. If the carriage be now lowered to printing position the printed impression will be received at the desired point. In order to afford an easy and accurate means of returning the carriage to this position after being moved therefrom, I provide the mechanism described below.

Mounted upon the frame of the machine is a stop-rod 6, which rod is preferably rectangular in cross section. The ends of the stop-rod are cylindrical in form and rotatably mounted in the lugs 7 at the front of the machine. The cylindrical part of the stop-rod extends at one end beyond the lug 7 and is provided with a key-way 8 at the end. Fitted to the projecting end of the stop-rod 6 is a thimble 10 provided with a feather, 11, coacting with the key-way 8. A spring 12 is confined within the thimble 10 by means of a screw 13 threaded into the outer end of the stop-rod 6. Projecting from the inner end of the thimble 10 is a stud 15, which stud coacts with apertures 16 in the side of the lug 7. The location of the parts described is shown in detail in Figs. 5, 7 and 8. It will be readily apparent that upon drawing out the thimble 10 against the tension of the spring 12 the stud 15 will be freed from the aperture 16, whereupon the stop-rod can be rotated until said stud engages the second aperture 16. These apertures are separated by about 90 degrees.

Mounted upon the stop-rod 6 are a series of stops 17. The construction of these stops is shown in detail in Figs. 5 and 6. Each

stop consists of a strip of metal bent to snugly embrace the stop-rod 6. The up-turned ends of the stops are provided with cylindrical apertures, the rear aperture being threaded to receive the set screw 30. It will be apparent that by loosening the set screw the stop may be slipped to any desired position upon the stop-rod, and that the stop may be held in its adjusted position by tightening the set screw. The inner part of the stop 17 is continued upwardly and notched, as shown at 18. The notches 18 are provided with inclined sides converging toward the bottom.

Upon the paper carriage of the machine I provide a positioning stud 19 adapted when the carriage is lowered to enter the notch in any one of the stops 17. By reason of the converging form of the notches in the stops 17, the carriage may be only approximately positioned before being lowered. Upon being lowered the carriage will be guided to its exact position by the transverse movement imposed upon the carriage by the engagement of the stud 19 with the inclined face of the notch in the stop.

Assuming that a sheet of paper has been placed in the machine and that it is desired to print a column of figures in some particular position thereon, the first step would be to raise the paper carriage to the position shown in Fig. 1. The indicator would then be raised, as shown in that figure, and the carriage would be moved transversely until the part of the paper where the column was to be printed came opposite the graduations on the indicator. The operator would then notice the position of the stud 19 and would move one of the stops 17 to a position as near opposite the same as could be judged by the eye. The carriage would then be lowered to printing position. During the lowering of the carriage it can be locked against transverse movement by means hereinafter described. Upon being so lowered the stud 19 entering the notch 18 of the selected stop would move the same to the precise position desired. The stop 17 would then be fixed in position by tightening the set screw 30. The carriage could then be unlocked so as to permit transverse movement thereof and the same operation repeated for the purpose of positioning other stops if more than one column of figures was to be printed.

It will be obvious that after setting the stops in the manner above described, the carriage can be readily and accurately adjusted to the position necessary to receive the imprint of the printing machine in any desired column.

In order to facilitate the selection of the different columns for which the stops may be set, I number the stops preferably from right to left. Upon the paper guide 31,

which extends across the platen immediately below the printing point, I mount a series of movable indicating plates 32 corresponding in number to the number of stops upon the stop-rod. These indicating plates are bent at the top and bottom to embrace the part 31 and are held against said part by means of a wire 33. The plates can be readily slipped from side to side but are held frictionally in the position to which they are adjusted. These plates are provided with numbers corresponding to those upon the stops and inversely arranged. If it were desired to print a column of figures at the point designated A upon Fig. 1, the paper carriage would be moved until said point came opposite the indicator 1. Thereupon one of the stops, for example the stop 1, would be placed opposite the stud 19 and accurately positioned in the manner above described, and then secured in place by the set screw 30. The indicating plate 1 would also be adjusted opposite the point A. In the subsequent operation of the machine wherever it became necessary to print another number in the column designated A, it would be necessary only to move the paper carriage until the indicating plate 1 came approximately opposite the printing point. Upon lowering the carriage of the machine the stud 19 would engage the notch in the stop 1 and the carriage would be accurately positioned by the contact of said stud with the inclined wall of the notch. By this mechanism means are provided in the form of the indicating plate whereby the carriage can be rapidly moved to the approximate position desired, and whereby upon lowering the carriage it will be accurately moved to the precise position desired, by the engagement of the stud 19 with the notch in the selected stop.

The means whereby the carriage is temporarily locked in position, as above described, during the adjustment of the stops 17, consists of a stationary plate 40 mounted upon the frame of the machine at the rear of the paper carriage. Mounted upon, and at the rear of the carriage is a rotatable rod 41. The spring 42 (Fig. 2) is connected at one end to said rod and at the other end coacts with the frame of the carriage, thus tending to rotate said rod in the direction indicated by the arrow in Figs. 4 and 11 of the drawings. The rear edge of the plate 40 is provided with a series of notches 46. Fixedly mounted upon the rod 41 is a locking plate 43. This mechanism is shown in detail in Fig. 11 of the drawings. At one edge the plate 43 is provided with a depending finger 44 adapted to be forced by the spring 42 into the notches 46. The central part 48 of the lower edge of the plate 43 does not contact with the plate 40 during the rotation of the rod 41, but a cam surface 47 is formed

at the forward part of the lower edge of said plate. When the rod 41 is rotated by means of the handle 42' from the position shown in Fig. 11 to an intermediate position, the carriage is free to move from right to left, but when the rod 41 is rotated still farther the cam surface 47 bears upon the top of the plate 40, thus locking the carriage against transverse movement. It will thus be seen that by this mechanism, means are provided for locking the carriage in predetermined positions fixed by the notches 46, or for allowing the carriage to move freely from right to left, or for locking it in any position whatever by means of the cam surface 47.

In order to hold the plate 43 in its intermediate position, in which position the carriage can be freely moved from right to left, I provide a detent 50 pivotally mounted at 51 upon the side frame of the carriage. The end of this detent is provided with a hook 52 adapted to engage a pin 53 upon the handle 42. By moving the handle 42 to the position shown in Fig. 4 and raising the detent 50, the locking plate 43 is held in intermediate position with the carriage free to move transversely.

By means of the rotatable mounting of the stop-rod 6, the stops 17 may be turned up to operative position, as shown in Figs. 1, 3 and 4 of the drawings, or may be turned down to the position shown in Fig. 2. In the latter position they are inoperative and the carriage may be freely moved from right to left without raising the paper carriage.

In Figs. 9 and 10 I have illustrated a construction in which the positive positioning means, above referred to, is replaced by a series of adjustable position indicators on the stop-rod and a cooperating indicator on the carriage in place of the positioning stud, above referred to. While I consider the notched stops and positioning stud as the preferable form there may be instances in which the mechanism illustrated in Figs. 9 and 10 will be found useful. Both of these forms are within the scope of my invention.

What I claim is:

1. In a machine of the class described, a transversely movable paper carriage, said carriage being also movable to and from printing position, and means to guide said carriage to the precise point desired for printing when it is moved from non-printing position to printing position.

2. In a machine of the class described, a movable paper carriage, an indicator adapted to show on the paper where printing will occur, means to shift the paper carriage to bring any desired part of the paper under said indicator, and adjustable setting means whereby the carriage may be subsequently set in the same position independ-

ently of the initial indicating means, said adjustable means having provisions for guiding the carriage to and holding it in a definite predetermined position.

3. In a machine of the class described, a paper carriage, an indicator whereby the paper carriage can be positioned to receive the impression of the printing mechanism at any desired position, and setting devices upon the carriage and upon the frame of the machine, part of said setting devices being adjustable and constructed to guide the carriage to and hold it in definite predetermined positions.

4. In a machine of the class described, a movable paper carriage, a positioning stud thereon, a stop bar on the frame of the machine, and a stop adjustably mounted on said stop bar, said stop being provided with a V-shaped notch.

5. In a machine of the class described, a movable paper carriage, a positioning stud thereon, a stop-bar on the frame of the machine, and a series of stops adjustably mounted on said stop-bar, said stops being provided with V-shaped notches.

6. In a machine of the class described, a movable paper carriage, a positioning stud thereon, an adjustable stop mounted on the frame of the machine, and means whereby the stop may be moved to operative or inoperative position while maintaining its adjustment.

7. In a machine of the class described, a movable paper carriage, a positioning stud thereon, a stop-bar on the frame of the machine, a stop on said stop-bar, and means whereby the stop-bar may be moved to throw the stop to operative or inoperative position.

8. In a machine of the class described, a transversely movable paper carriage, a positioning stud, a rotary stop-rod, a stop on said rod, and means whereby said rotary stop-rod and stop may be retained in operative or inoperative position.

9. In a machine of the class described, a transversely movable paper carriage, a bar upon the frame of the machine, a setting device upon one of said members and a series of adjustable setting devices upon the other of said members, and a series of adjustable indicating plates upon the paper carriage corresponding to said series of setting devices.

10. In a machine of the class described, a transversely movable paper carriage, a bar upon the frame of the machine, a setting device upon one of said members and a series of adjustable setting devices upon the other of said members, and a series of adjustable indicating plates upon the paper carriage, said series of setting devices and indicating plates being numbered in opposite directions and adapted to be so adjusted

that when one of said printing plates is opposite the printing point the setting device upon one of the members referred to will be opposite that one of the series of setting devices on the other member numbered to correspond with the number upon said printing plate.

11. In a machine of the class described, a transversely movable paper carriage, means for locking said carriage in certain definite predetermined positions with provisions for disablement and locking in any position, and means for retaining said locking means in intermediate inactive position.

12. In a machine of the class described, a transversely movable paper carriage, a locking member mounted thereon and normally operating to hold the carriage in one or another definite position, means whereby said locking member may be manually manipulated to lock the carriage at any position, and means whereby said member may be locked in inactive position.

13. In a machine of the class described, a transversely movable paper carriage, a rotatable plate mounted on said carriage, a stationary plate provided with notches, said rotatable plate being provided with a projecting finger adapted to coact with said notches and with a cam surface adapted to coact with the face of said stationary plate, a spring for impelling said finger into said notches, and a lock for holding said rotatable plate in an intermediate position in which said finger and cam surface are out of engagement with said stationary plate.

14. In a machine of the class described, a paper carriage movable transversely and

movable to printing and non-printing positions, an indicator whereby when the carriage is in non-printing position it may be positioned transversely to receive the impression upon any desired part of the paper, manually operated means for locking the carriage against transverse movement after it has been so positioned and while it is being moved to printing position, a positioning device, and a series of adjustable coacting positioning devices upon the carriage and the frame of the machine, whereby said carriage may be readily returned to its adjusted position after being moved therefrom.

15. In the machine of the character described, the combination with the supporting frame and the paper carriage mounted to swing and expose the paper where it is to receive impressions; of an indicator or gage pivoted upon the frame at right angles to the pivot of the carriage; substantially as and for the purpose described.

16. In a machine of the character described, the combination with the supporting frame and the paper carriage mounted to swing and expose the paper where it is to receive impressions; of an indicator or gage in the form of a plate or bar pivoted upon the frame at right angles to the pivot of the carriage and having a graduated widened portion at its extremity on one side of the pivot and a handle portion on the other side of the pivot.

FRANK C. RINSCHÉ.

Witnesses:

WARREN L. HOAGLAND, Jr.,
T. A. MYERS.