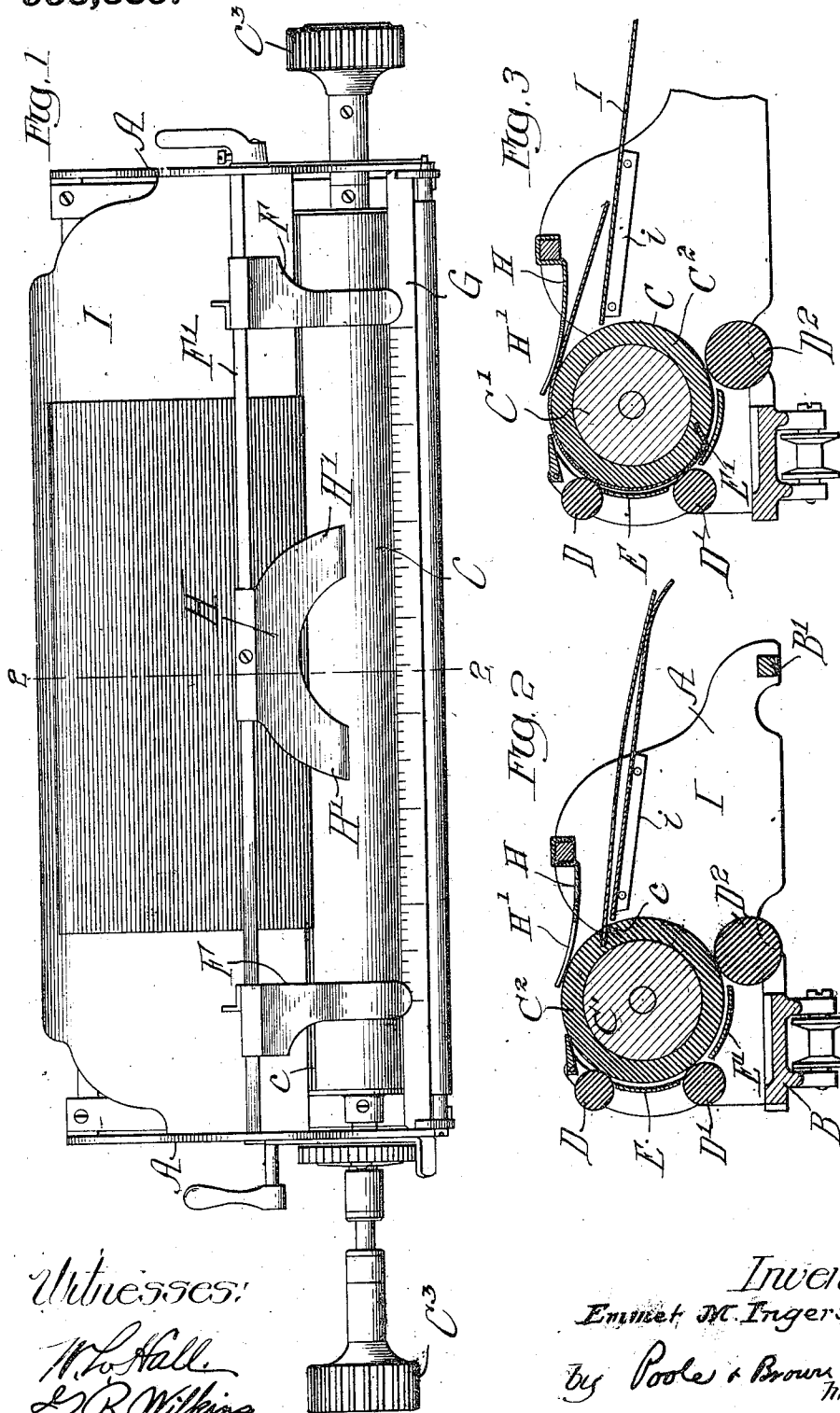


E. M. INGERSOLL.
 PAPER CARRIAGE FOR TYPE WRITING MACHINES.
 APPLICATION FILED MAR. 19, 1906.

953,385.

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Witnesses:
 W. L. Hall.
 L. R. Wilkins

Inventor:
 Emmet M. Ingersoll
 by Poole & Brown
 Attys

UNITED STATES PATENT OFFICE.

EMMETT M. INGERSOLL, OF WOODSTOCK, ILLINOIS, ASSIGNOR TO THE OLIVER TYPE-WRITER COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

PAPER-CARRIAGE FOR TYPE-WRITING MACHINES.

953,335.

Specification of Letters Patent. Patented Mar. 23, 1910.

Application filed March 19, 1906. Serial No. 306,837.

To all whom it may concern:

Be it known that I, EMMETT M. INGERSOLL, a citizen of the United States, of Woodstock, in the county of McHenry and State of Illinois, have invented certain new and useful Improvements in Paper-Carriages for Type-Writing Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in the paper carriages for typewriting machines, and refers more specifically to novel features of construction in such carriages designed to receive and hold on the platen cards or relatively heavy sheets in a manner to prevent the same from shifting on the platen and to prevent them from springing away from the platen by their own resiliency, and constructed also to hold such sheets or cards to receive printing impressions close to both the top and bottom margins thereof.

The invention consists in the matters hereinafter set forth and more particularly pointed out in the appended claim.

As shown in the drawings:—Figure 1 is a plan view of a typewriting machine carriage made in accordance with my invention. Fig. 2 is a cross-section thereof, taken on line 2—2 of Fig. 1, showing the parts in position to receive the card. Fig. 3 is a like section showing the platen turned forwardly and with a sheet or card wrapped partially therearound.

My improvements are herein shown as applied to the carriage of an "Oliver" typewriting machine, but said improvements may be applied, with whatever modifications may be necessary, to the paper carriages of other typewriting machines.

As shown in the drawings, A A designates the end members of the carriage frame, B B¹ the longitudinal, front and rear members, respectively, thereof, upon the former of which is formed the rack-bar of the letter spacing mechanism.

C designates the platen rotatively mounted in the end members of the frame, consisting of a wooden core C¹ and a rubber covering C², and provided with end turning knobs C³, and D D¹ D² designate presser

rollers which cooperate with curved guide plates E E¹ to hold the paper pressed against the platen.

F F designate guide fingers which extend forwardly over the platen and overlap at their ends the usual scale bar G. Said fingers are attached to a longitudinal bar F¹ extending between and fixed at its ends to the end plates of the carriage frame.

The means associated with the carriage and its platen for receiving a sheet or card to be printed and holding it closely pressed on the platen, comprises means rotating with the platen for receiving the advance or bottom margin of the sheet or card and for effecting a gripping action on the advance end of the card in the succeeding rotating movement of the platen. The advance or bottom margin of the sheet or card is engaged with said holding means on the platen, and the platen is turned in a direction the reverse of that in which it is rotated in the usual operation of the machine to effect line spacing, until the top margin of the sheet is brought beneath the printing point. Thereafter the direction of rotation of the platen is reversed and it is rotated step by step in the usual manner, as the printing proceeds.

The means herein shown for engaging the bottom margin of the card or sheet with the platen in the manner described consists in providing said platen with a longitudinal groove c extending, as herein shown, from end to end of the platen. The sheet or card is adapted to be engaged with said groove at a time when the platen is turned to bring said groove at the receiving side of the carriage, and preferably above the axis of the platen, as shown in Fig. 2. Thereafter the platen is turned forwardly, or the reverse of its usual step-by-step line spacing movement, and the engagement of the bottom margin of the sheet or card with the groove of the platen has the effect of wrapping the sheet or card about the platen in the manner shown in Fig. 3. The platen is thus turned backwardly until the proper part of the card or sheet is brought under the printing point; and the construction herein shown is such that the first line of printing may be impressed very closely to the top margin of the sheet. As soon as the platen is turned forwardly to wrap the sheet or card about the platen, the margin thereof,

within the groove, is bent at an angle to the body of the card, whereby is effected a frictional or gripping action between the platen and card which wraps it about the platen.

5 Thereafter, as the printing proceeds, the platen is turned in its usual direction to produce line spacing, and the printing may be continued on the sheet or card to practically the bottom margin thereof, the only part of
10 the sheet not being capable of receiving the printed impression being that contained within the groove.

One feature of my invention consists in forming the groove *c* in the rubber covering *C*² of the platen so that the part of the
15 said rubber covering which overhangs the groove constitutes a flexible lip or flange. By this construction, the cylindric continuity of the platen is not interrupted, and it is
20 equally resilient in character throughout its surface, so that if the sheet or card be of such length as to be wrapped entirely around the cylinder and over the groove, the presence of said groove will not produce any
25 appreciable inequality in the cylindric surface of the platen. The parts of the platen at both sides of the groove, therefore, will be adapted to properly support the paper while the printing is being done.

30 Usually the guide fingers *F*¹ are movably mounted upon the bar *F*² so as to be capable of adjustment toward and from each other. When printing on a narrow card or sheet, said guide-fingers may be moved inwardly
35 into the path of the narrow sheet or card, so as to press the sheet or card against the platen. When printing on wider sheets or cards, however, it is necessary to provide an intermediate guide so that the sheet will be
40 pressed uniformly against the platen throughout its width. In the present instance, the intermediate guide consists of a plate *II* fixed to the longitudinal supporting bar *F*¹ and provided with forwardly and
45 laterally extending fingers *II*¹ *II*² which bear upon the upper side of the platen in the

manner clearly shown in Figs. 2 and 3. When printing on a narrow card or sheet, the intermediate guide *II* alone will serve to hold said card or sheet properly pressed
50 against the platen.

In order to facilitate the insertion of the bottom margin of the sheet or card into the groove *c*, a guide-plate *I* is provided which
55 extends between the end frame plates at the rear of the platen and is inclined to bring it into the plane of the groove *c*. The said guide-plate is located with its edge nearest the platen above the level of the
60 axis of the platen and is conveniently attached to the end frame plates *A A* by means of rivets or the like extending through said end frame-plates and flanges *i* on the
65 said guide plate. This construction in the paper guide plate is of great advantage because it enables the bottom edge of the sheet or card to be easily engaged with or inserted
70 into the groove *c* by placing the card or sheet on the top of the guide plate and thrusting it forward until its bottom edge enters said groove.

I claim as my invention:—

A typewriting-machine carriage provided with a rotative platen and a flat guide plate
75 which meets the cylindric surface of the platen at an angle to said surface, said platen being provided with a longitudinal groove disposed at such angle to the part of the cylindric surface of the platen in which
80 it is formed that it is substantially in alignment with the guide plate when the platen is turned into position with said groove adjacent to said guide plate.

In testimony, that I claim the foregoing as my invention I affix my signature in presence of two witnesses, this 10th day of
85 March A. D. 1906.

EMMETT M. INGERSOLL.

Witnesses:

E. WINDMUELLER,
L. L. SCHROEDER.