

(No Model.)

5 Sheets—Sheet 1.

J. NORTH.

HAND TYPE DISTRIBUTER.

No. 259,578.

Patented June 13. 1882.

Fig. 1.

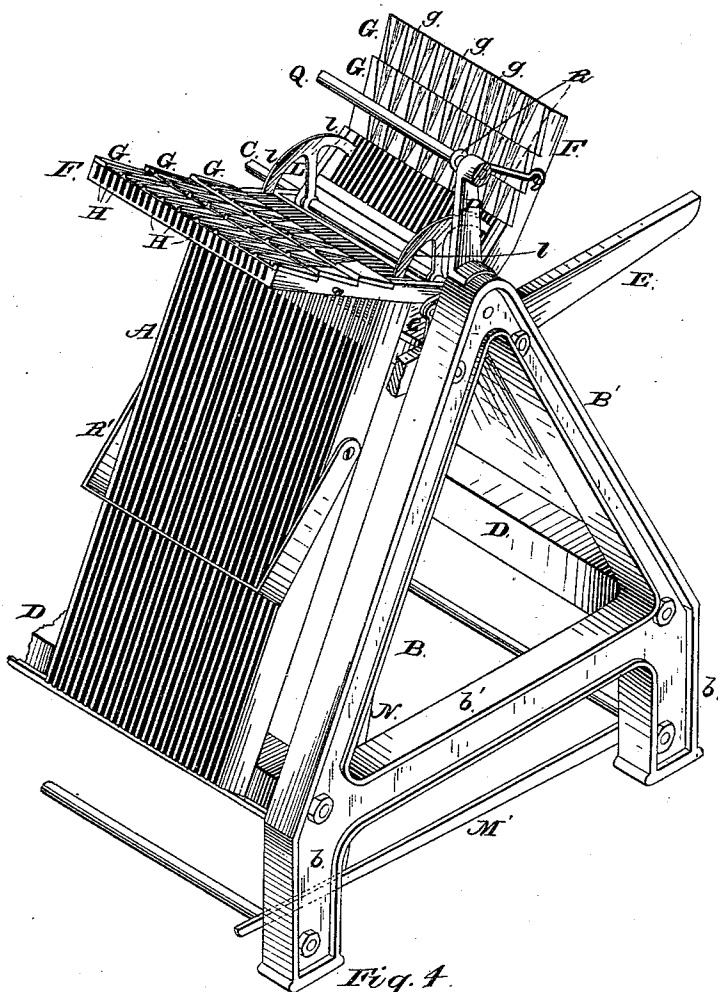
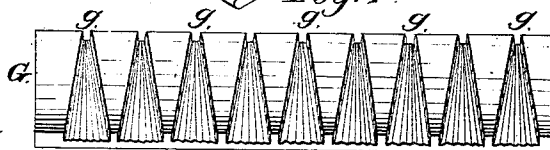


Fig. 4.



Witnesses:

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Inventor.

John North,
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(No Model.)

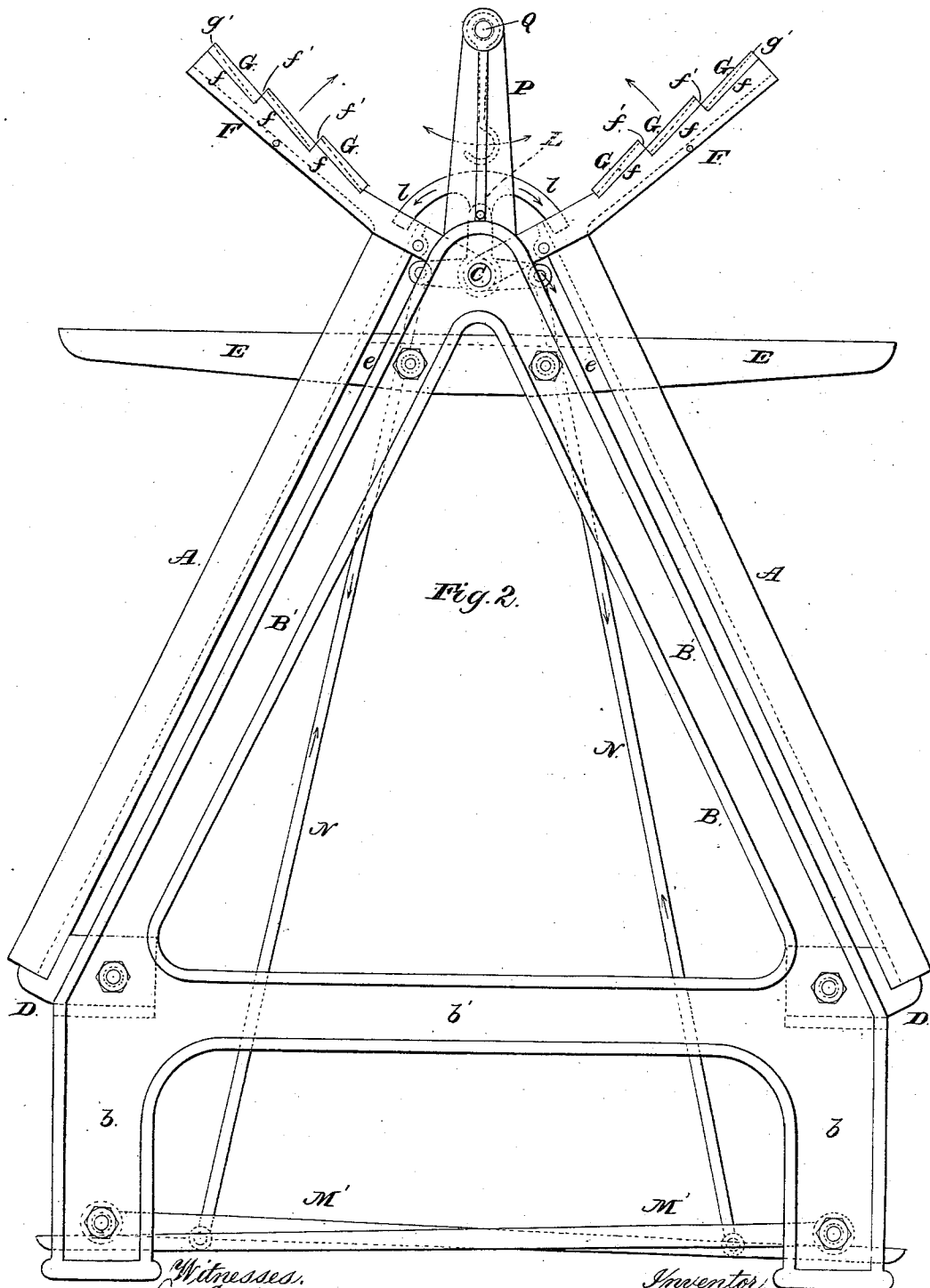
5 Sheets—Sheet 2.

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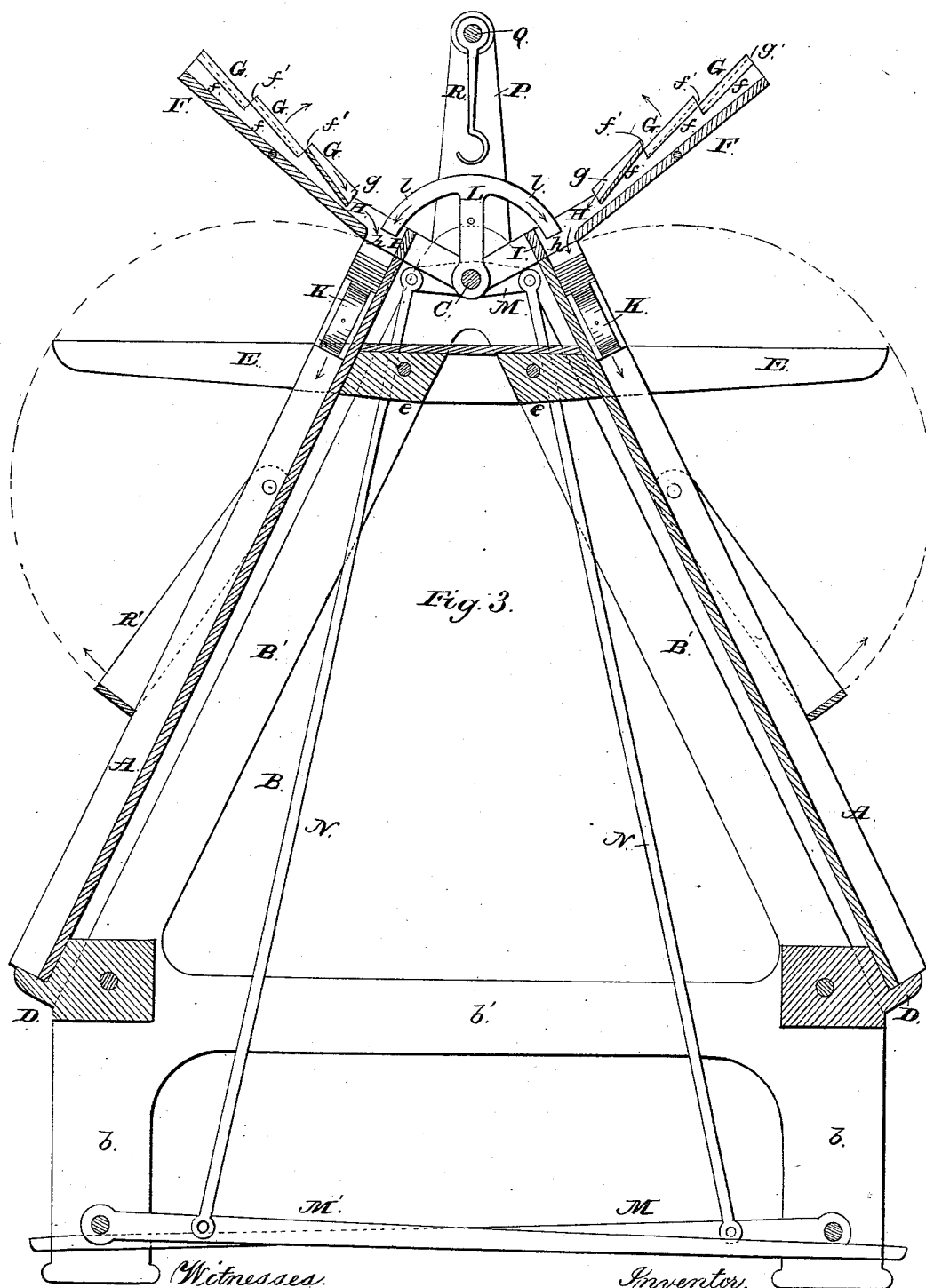
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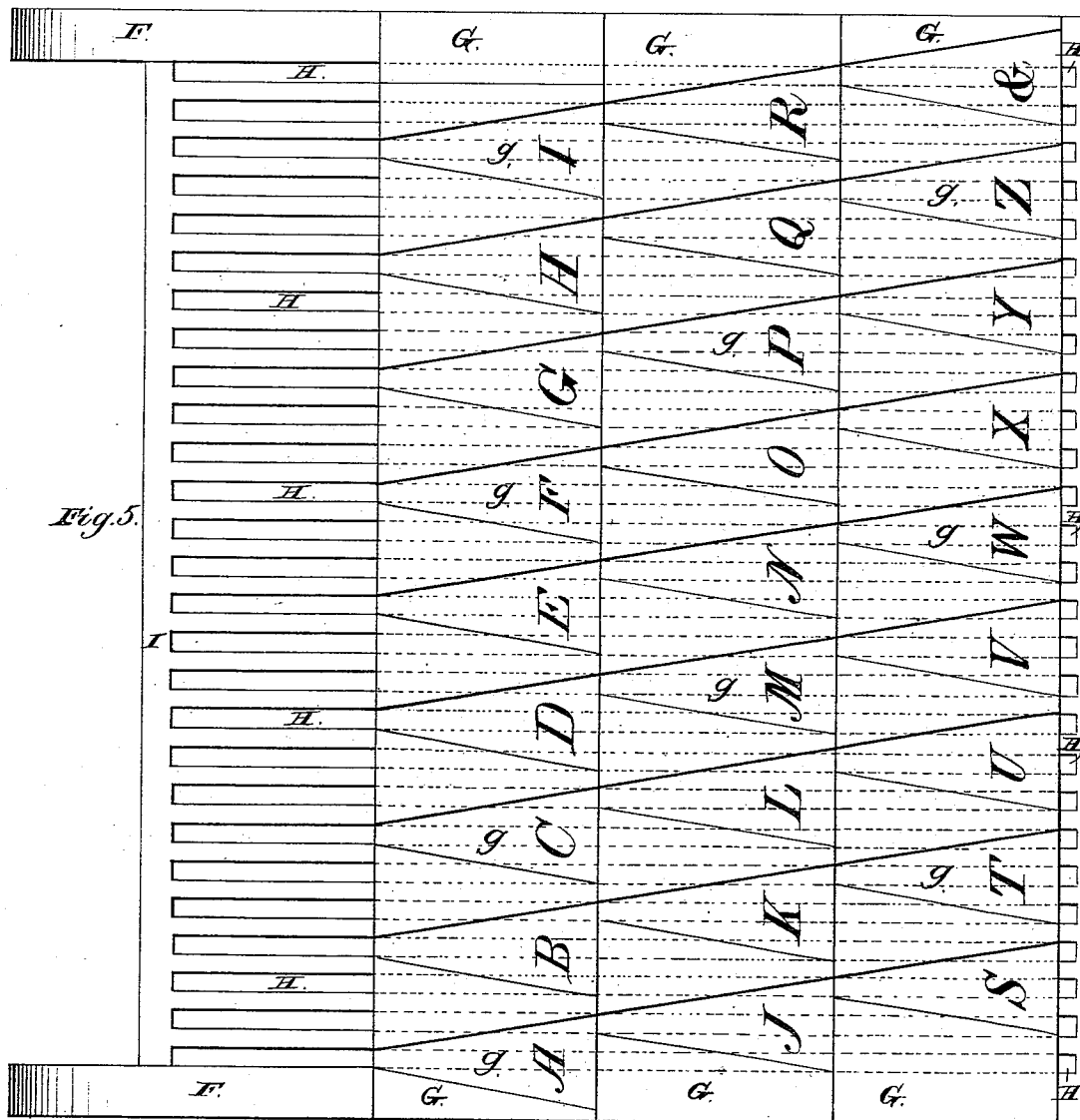
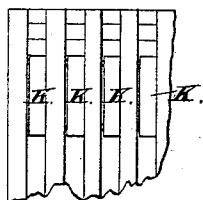


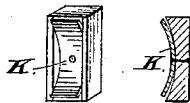
Fig. 6.



Witnesses.

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Fig. 7.



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(No Model.)

5 Sheets—Sheet 5.

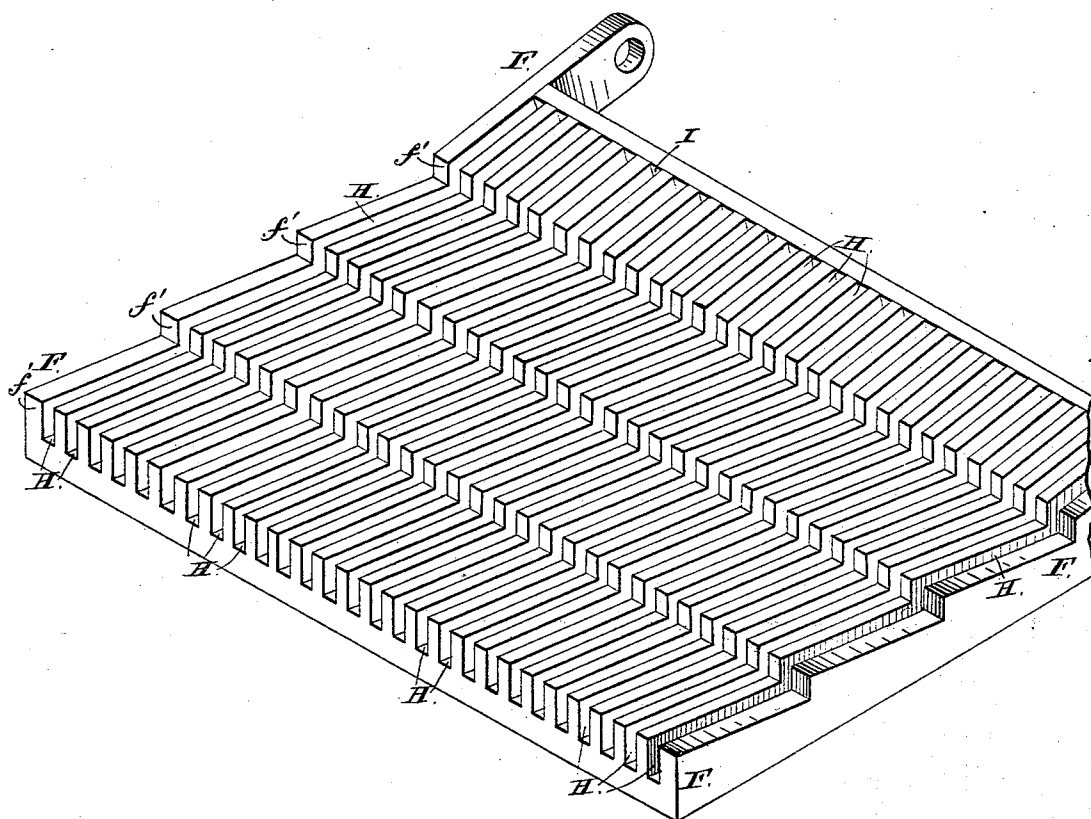
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Fig. 8.



Witnesses.

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UNITED STATES PATENT OFFICE.

JOHN NORTH, OF MIDDLETOWN, CONNECTICUT.

HAND TYPE-DISTRIBUTER.

SPECIFICATION forming part of Letters Patent No. 259,578, dated June 13, 1882.

Application filed June 29, 1881. (No model.)

To all whom it may concern:

Be it known that I, JOHN NORTH, a citizen of the United States, residing at Middletown, in the county of Middlesex and State of Connecticut, have invented new and useful Improvements in Hand Type-Distributers, of which the following is a specification.

The object of the present invention is to provide means for facilitating the distribution of type by hand into that class of type trays or cases which are provided with parallel channels extending from end to end of the case.

To such end the invention consists, first, in the combination, with the support for the type-case, of elevated hinged tables provided with type-conducting channels, and hooks arranged to support said tables when they are raised to admit of the removal of the cases from the support; second, in the combination, with the type-case-supporting frame adapted to maintain the type-cases in an inclined position, of an inclined swinging table provided with type-conducting channels, and hinged to the case-supporting frame with the discharge ends of its channels in position to deliver the type into the upper ends of the type-case; third, in the combination, with the type-case-supporting frame adapted to maintain the type-cases in an inclined position, of the inclined table provided with type-conducting channels, the vibratory packer, constructed as hereinafter described, and poised at the upper part of the case-supporting frame, and the treadle for operating the packer, all as hereinafter more fully described.

In the drawings, Figure 1 is a perspective view of one end of the apparatus, and shows the two type trays or cases and two tables. This view shows a sufficient portion of the machine to illustrate my invention, the remaining part of the apparatus being similar to that shown in said figure. Fig. 2 is an end elevation of the apparatus. Fig. 3 is a transverse section taken on a vertical plane. Fig. 4 shows one of the channeled plates that are arranged upon the tables and constitute part of the same. Fig. 5 is a top or plan view of one of the elevated tables, and illustrates the lettered plates held thereon. Fig. 6 represents a portion of one of the type-cases. Fig. 7 illustrates in two views one of the spring-checks that are arranged in the

channels of the type-cases. Fig. 8 is an enlarged perspective view of one of the tables with the channeled plates removed.

A indicates the type case or tray, provided with a series of parallel channels for holding the type. The type-case support consists of a frame provided with inclined sides and adapted to maintain in an inclined position six of these type-cases, three being held on each side of the support. It is of course not absolutely essential that provision should be made for holding exactly such number of cases, since more or less might be used; but that above mentioned is the preferred number.

The type-support B herein shown is mainly composed of a frame consisting of the inverted V-shaped ends B', provided with feet or legs b and cross-bars b', these ends being connected together at their tops by a shaft, C, and at their lower portions connected by the horizontal side bars, D, which are adapted to form ledges for the lower edges of the type trays or cases to rest upon.

E E indicate shelf-brackets extending laterally from the upper portion of the case-supporting frame B, these brackets being preferably formed by means of horizontal bars secured in position by the longitudinal bars e e, bolted to the ends of the frame. An ordinary board can be laid upon these brackets, so as to constitute a shelf, upon which the forms of type can be placed so that they will be within convenient reach of the operator. The longitudinal bars e e also constitute rests for the upper portions of the type-cases, which, when seated upon the ledges of the lower side bars and rested against these upper bars, e, will be maintained in an inclined position, ready to receive the type from the distributing-channels of the elevated tables F. These tables are hung or hinged upon the shaft C, that connects the upper portions of the ends of the frame, so that when the said tables are let down into the inclined position shown in Figs. 2 and 3 the delivery ends of the distributing-channels in the tables will come into position to deliver the type into the channels of the type-cases, and when the said tables are elevated, as illustrated in Fig. 1, in which one of the tables is shown thus elevated, the type-cases can be readily removed from beneath the tables. The

construction of these tables is as follows, a description of one answering for all:

The table is formed with a succession of steps, f, f' , on its top, upon each of which of said steps is placed a glass plate, G , that is formed with a series of tapering or wedge-shaped type-receiving channels, g , (see especially Fig. 4, Sheet 1,) in its upper side. These plates are arranged upon the steps of the tables, so that the larger portions of the channels which constitute the entrances for the type will be at the top, the contracted or converging ends of said channels terminating at the risers f' of the steps. Through the table is formed a series of parallel type conducting and discharging channels, H , extending from end to end of the table, the number of such channels corresponding with the number of tapering channels in the glass plate, the two said series of channels being arranged with relation to each other so that each channel H in the table will constitute a continuation of a tapering channel in a glass plate, and thereby guide a type from said tapering channel down to a space, H' , (see Fig. 3,) at the lower end of the table, at which point the heel of the type will strike an abutment, I , formed by a cross-bar of the table, and then drop down into a channel of the type-case. The ends of the channels H at the upper end of the table are shown by the wide lines, Fig. 1, and in Fig. 5 these channels are best illustrated by the dotted lines. By this arrangement it will be seen that the table, which is provided with a series of inclined parallel type conducting and discharging channels, is also provided with several rows or series of short type-receiving channels, individually converging toward their lower ends, and arranged to guide the type into the type-conducting channels, the receiving-channels being arranged in a succession of rows above the type-conducting channels, and being distributed with relation to such, so that each will discharge the type into a separate channel.

As shown in Fig. 5, each channel in the glass plate is indicated by a letter, which can be painted or pasted upon the under side of the plate, so that it will be plainly visible through the same, and thereby enable the person distributing the type to tell at a glance in which channel to place the type. It will be understood that the number of tables employed admits of all of the required letters, figures, and signs used in printing being thus indicated. The glass plates will lie upon the steps with their channeled sides uppermost, so that their flat unchanneled sides will lie over the channels running through the table. The lower edges of the glass plates rest against the risers of the steps, in order to bring the contracted ends of the glass-plate channels coincident with the channels of the tables at points along the risers f' of the steps, at which points the type from the tapering channels of the said glass plates will enter the channels in the table.

In distributing type they are generally damp, and hence if passed over an even highly-polished surface, such as glass, would frequently adhere to the same. To obviate this I corrugate the bed of the type-channels in the glass plates, so as to admit air under the passing type, and thus prevent the exclusion of air between the type and the beds of the channels. The channels in the glass plates have a downward inclination, as shown in dotted lines g' , Figs. 2 and 3, so that the type can pass freely from said channels into the channels of the tables at points along the risers f' .

In order to allow only a limited space between the type in the type-case and the delivery ends of the channels of the table, so that there will not be room for the type to turn while falling, and also to support the type in the channels of the type-cases, I arrange in each of the latter a slidable spring-check, K , (see Figs. 3, 6, and 7,) these spring-checks being brought nearly to the upper ends of the channels, when the type-cases are placed upon the support in position to receive the type, so as to admit a few type between the spring-checks and the upper ends of the channels. The spring-checks will be held in the position in which they are placed in the channels by the pressure of the spring against the walls of the latter. The construction of these devices can be varied, that shown being a block having a bent spring secured thereto. As a means for forcing these spring-checks down the type-case channels as the type are distributed into the same, I provide for each type-case channel a packer adapted to be operated by a treadle, so that as the type falls into channel the packer can be brought into operation to force the same down, and hence depress the spring-check.

The construction of packer employed is that of a double-armed vibratory bar, L , supported upon the shaft C , the curved arms l, l' of which are arranged to pack the type in the cases on opposite sides of the support. This packer-bar is provided at its base with a cross-bar, M , (see Fig. 3,) the ends of which connect with treadles M' at the base of the apparatus by means of connecting-rods N, N' . The packer will be normally balanced in an upright position with the ends of the treadles elevated from the ground, so that the packer can be moved at will in either direction by depressing one of the treadles, according to which side of the apparatus the operator is standing. At the top ends of the main frame of the apparatus I provide the standards P , connected by a rod, Q , a portion of which is shown in Fig. 1, upon which rod I suspend a number of hooks, R , for supporting the tables in the elevated position shown in Fig. 1, when it is desired to remove the cases from the support.

In distributing the type the operator will take up from the form a convenient number of type, which may include one or more words, and distribute the same into their appropriate channels in the glass plates. The enlarged upper end or entrance of these channels renders

it an easy matter to place the type therein, and no special care need be exercised to place the type in a longitudinal position with relation to the channels, since the converging walls of the latter will right the type and always direct them heel foremost into the channels of the table. The inclination of the table causes the type to pass quickly down to the delivery end of the channels, from whence the type after being checked in its sliding movement by the abutment, will drop down into the channels of the cases, wherein they can be pushed down by means of the packer. The spring-checks constitute partitions in the channels at various points, according to the number of types distributed therein, it being understood that some letters require more type than others.

In order to close the ends of the channels in which the type are received from the distributing-channels, I provide each case with a hinged strap, R', that is pivoted at its ends to the sides of the case and bent so as to close the said ends of the case-channels. When the type-cases are placed upon the support these straps can be swung back out of the way, and after the type have been distributed and the tables raised the straps can then be swung over so as to close the upper ends of the channels, and thus prevent the type from falling out. If the cases are carried to a type-distributor, they will be placed therein in an inverted position, in which case the straps can be swung back, leaving the types at the lower portion of the case-channel.

I have described the plates which rest upon the steps of the tables as being made of glass; but it will be evident that metal or other suit-

able material can be used, in which case the letter can be painted or affixed to the beds of the channels.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination, with the support for the type-case, of the elevated hinged tables F, provided with type-conducting channels, and the hooks arranged to support said tables when they are raised to admit of the removal of the cases from the support, substantially as described.

2. The combination, with the type-case-supporting frame adapted to maintain the type-cases in an inclined position, of the inclined swinging table provided with type-conducting channels, and hinged to the case-supporting frame with the discharge ends of its channels in position to deliver the type into the upper ends of the type-case, substantially as described.

3. The combination of the type-case-supporting frame having inclined sides, and a rod, C, secured to the top ends of said frame, with the swinging tables F and the two-armed vibratory packers L, supported upon the said rod, the cross-bars M, rigid with the packers, the treadles, and the rods N, connected with said cross-bars, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JOHN NORTH.

Witnesses:

ALBERT H. NORRIS,
J. A. RUTHERFORD.