2 Sheets--Sheet 1.

D. B. THOMPSON.

TYPE DISTRIBUTING MACHINE.

No. 102,183. Patented Apr. 19, 1870.

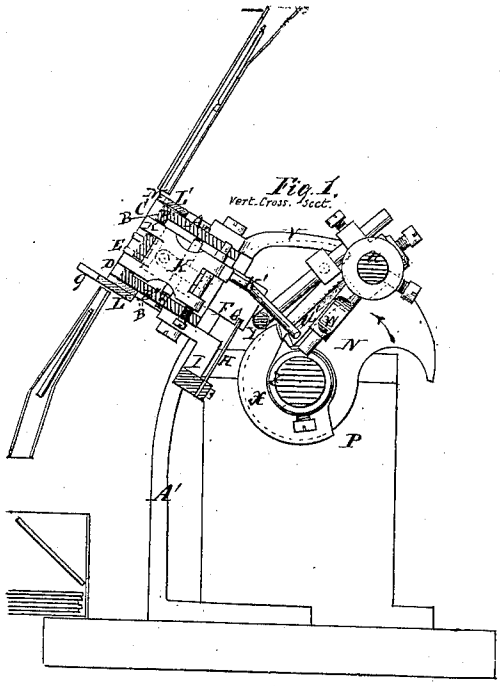

Fig. 1.
Vert. Cross. Sect.

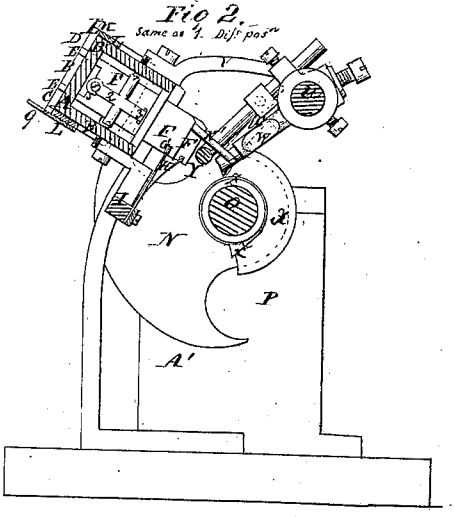

Fig 2.
Same as 1. Disposn

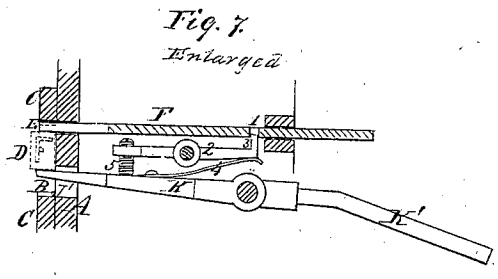

Fig. 7.
Enlarged

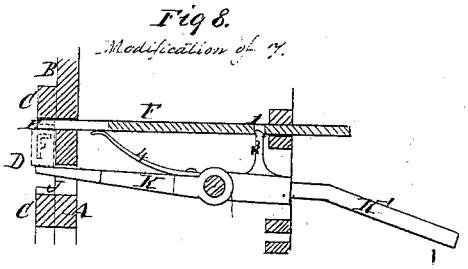

Fig 8.
Modification of 7.

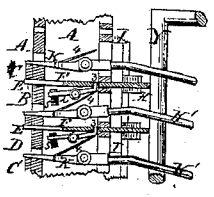

Fig 6.

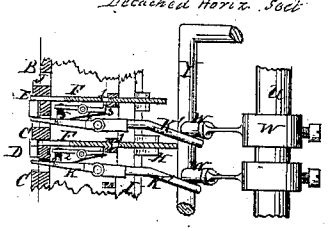

Fig 5.
Detached Horiz. Sect.

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2 Sheets—Sheet 2.

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Fig. 3. *Front View*

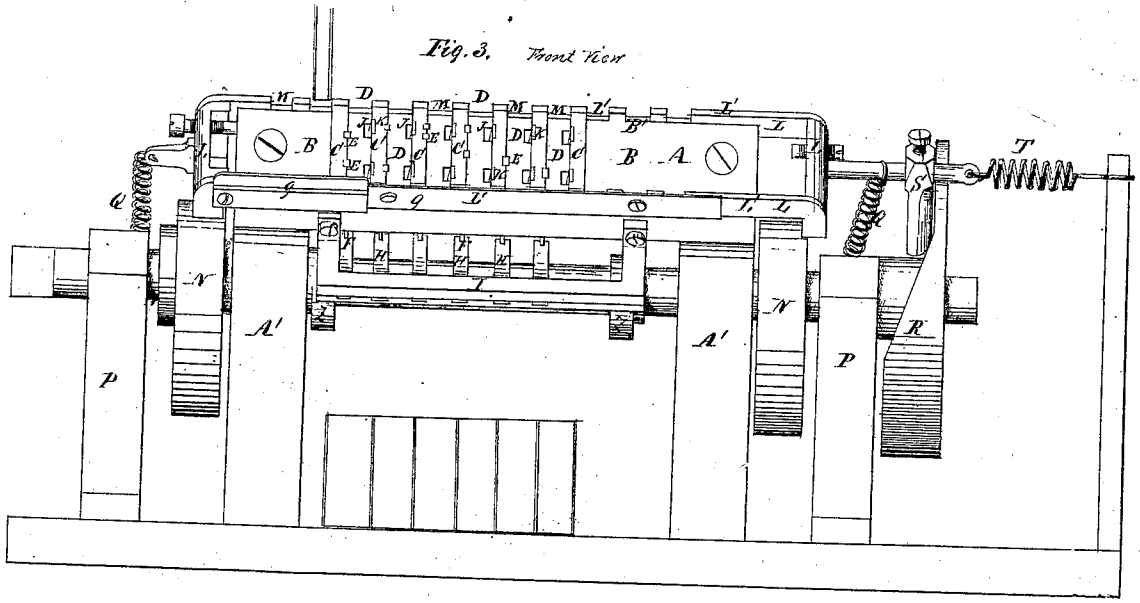
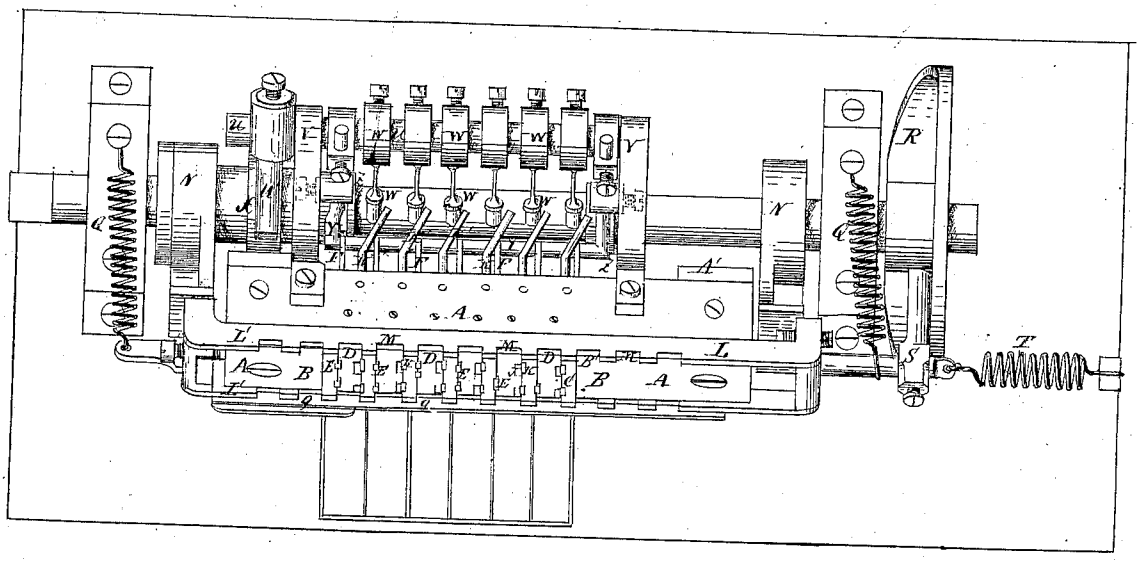


Fig. 4. *Top View*



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DAVID B. THOMPSON, OF BROOKLYN, NEW YORK.

Letters Patent No. 102,183, *dated April* 19, 1870.

IMPROVEMENT IN TYPE-DISTRIBUTING MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

I, DAVID B. THOMPSON, of the city of Brooklyn, in the county of Kings and State of New York, have made certain Improvements in Machines for Distributing Types, of which the following is a specification.

The type in this machine is made with the usual notches cut in one of its edges, varying and shaped differently on each, in a manner so as to distinguish each character from the other in like manner as commonly known with machines for this purpose.

The invention relates to the means employed for effecting the separation and distribution of the different characters to obtain the same with more simple means, and in a more positive manner than with those heretofore used.

The invention consists in the employment of a table or shelf, with a row of spaces or cells with ribs between, and having projections, in number and of shape to meet and match the notched edges of the type, and freely admit said projections, one for each different character, into the first of which spaces the types are fed one by one, and each space having its discharge connected with one of the spaces of the distributing-case, and having mechanism to adjust each character, and try it against the projections of the rib of the space with its notched edge, and to release and discharge said character into the space of the distributing-case, if matching with its notched edge, and permit it to enter the projections of said rib of said space, while at the same time having mechanism to retain such character if not matching with the notched edge on the said projections of its rib, and with means for taking up the same from it, and to forwarding and placing it into the next joining space toward the last, until said character, in moving from one to the other, does meet with a space having a rib with projections matching its notched edge, from which it is discharged, as above stated, so that the types, as fed one by one, placed into the first of the row of spaces, each held and adjusted, and tried or moved, with its notched side against the rib and projections of that space, when matching therewith, are discharged into the receiving-space for the kind of character intended for the distributing-case, and, if not matching, are forwarded from space to space, toward the last, until meeting the space having the projections to match the said notched edge, from where they are discharged into the proper receptacle for each character.

By these means a continuous grip is had on the type, while under operation of the machine, until discharged and delivered, and, by means of arranging the projections or pins matching the notches of the type, and to withdraw them from the side of the type, instead of its edge, and while under gripe of the machine, the action of the machine on the type in distributing it, is made more certain, more positive with simple mechanism, and more easy manageable and kept in order than heretofore known.

Description of the Accompanying Drawings.

Figure 1 represents a vertical cross-section of a machine embodying my invention, having its working parts shown in position while the types are placed in the spaces.

Figure 2 is a similar section of the same, its working parts shown in position before the discharge of the type is effected, and while the type is tried or adjusted in the spaces of the machine.

Figure 3 is a front view of the machine.

Figure 4, a top view of the same.

Figure 5 is a detached horizontal section of the distributing-shelf, exhibiting the working parts connected with its spaces in position similar to that shown in fig. 2.

Figure 6 is a similar section, showing the working parts in position similar to that shown in fig. 1.

Figure 7 is a similar section, the parts shown on an enlarged scale.

Figure 8 represents a modification of the parts shown in fig. 7.

General Description.

A represents a narrow inclined table or shelf, which has, across its top or working face, B, a row of ribs, C C C, between which are formed the spaces D D, which correspond in number with the number of different characters for which the machine is intended to distribute.

Each of these ribs C C has pins or projections E E, one or more on the same side of all of them, which pins match and enter freely into the notches on the edge of one of each different character, when the edge of said character is adjusted against the side of the rib having the said projections or pins E; and said pins pass through perforations made in the face-plate of said shelf, and form part, or are made on the end of slides F F, which are guided in the rear portion of said shelf, so that the said pins may be slid to project, or can be withdrawn from projecting over the face B of the shelf.

Each of these slides F has on its rear end, a notch, G, in which engages the loose end of a spring, H, which has its fixed end secured to a bar, I, which latter is permanently attached to the lower side B″ of the table A, so that, by means of these springs, the slides F and pins E are withdrawn from projecting above the working-face B of the machine.

Now, on the opposite side of each of the spaces D to that on which the pins E are located, I have

small slots, J J, through said shelf, through which the ends of a lever, K, projects above the face B, and nearly to come even with the ribs C C, which lever has its fulcrum in the rear part of the table, and these ribs are cut out in rear of said ends of said lever sufficiently to permit said ends to enter and sink even with the side of the rib, so that a type may be freely placed in any of the spaces D D, without interfering with the pins E or ends of the levers K K, and that the type placed may be moved upon the bottom of its space or face B, and pressed against the pins E, by means of the ends of said lever K, which are allowed to pass freely and sufficiently in said slots J J for the purpose.

The shelf A is secured to the legs or standards A' A', which form part of the frame of the machine, and the length of this shelf is, of course, sufficiently extended to contain the required number of spaces D to have one for each different character to be distributed, and its width is less in dimension than that of the length of the type treated on the machine.

L represents a rectangular frame, which has for its object to carry and place the types from one space of the shelf to the other; it has two sides, one along the lower and the other along the upper side B' of the shelf.

The edges L' L' of these sides of the frame, meeting with the ends of the ribs C C, have spaces M M cut in them, corresponding with the spaces D D and ribs C' in width and division.

The ends of the frame are made to project rearward more or less, and each resting upon a cam, N, which latter is mounted upon the driving-shaft O of the machine, and it rests in bearings P P located below and in rear of the shelf.

In order to oblige said frame to follow the eccentric motion of said cams N, I employ spiral or other springs Q on each end of said frame, which are properly secured with their fixed end upon the bearings P P, so that, when the said cams are rotated, the frame L is caused to rise beyond the ribs C C, with the bottom of its spaces M M, in a certain period of the revolution of said cams, while, at another period, said spaces of the frame recede beyond the bottom of the spaces D of the shelf.

The frame L has also a longitudinal reciprocating motion, in order to carry the type received from one of the spaces D to its next joining, which motion is obtained through a cam, R, on the end of the driving-shaft O, which has its eccentricity on its side, and engages a projecting piece, S, secured upon the end of said frame, and which is brought to bear upon it by means of a spring, T, which is attached to the end of the frame, and held secure on a post of the frame of the machine.

In order to operate the levers K K and slides F F, I employ a rock-shaft, U, which has its bearings V V directly rearward of the shelf A, and has upon it a series of yielding arms, W W, one for each lever K; and the levers K are made with bent arms, K' K', extending toward and to come in contact with said arms W W in rocking the shaft U, to a certain extent, which rocking is caused by means of an arm, U', fixed upon the end of said rock-shaft and bearing, with its end upon a cam, X, mounted upon the driving-shaft O.

To operate the slides F, I employ a rock-bar, Y, which is brought to bear against the rear ends of the slides F, by means of having its fulcrum upon the said rock-shaft Z fixed also upon the driving-shaft, so that, by turning the driving-shaft, the said bar Y, turning loosely on the rock-shaft U, is caused to rise, and, consequently, presses the slides forward, causing its pins E E to project above the face B of the shelf.

In order to lock these slides for a short time, while the type is to be held until taken up by the frame L to be forwarded to the next space joining, I employ a slot, 1, in each of said slides, and a two-armed locking-lever, 2, which has a nose, 3, to engage in said slot or notch 1, and is forced in said slot by means of a spring, 4, attached to the lever K, located behind for releasing said slides.

I provide the arm opposite to the arm having the said nose with a set-screw, 5, against which the lever K bears when the said slide is required to be released, in order to discharge the respective type.

Instead of employing the lever 2 for locking the slide or slides F, the lever K may be made with a nose to project sufficiently to engage in the notch 1 of the slide, as shown in fig. 8.

To adjust the required reciprocating motion transferred by the cam R, I provide the ends of the frame L with set-screws 6 6, and the rock-bar Y has provision for adjusting its motion by means of having its hubs, on which it turns detachable, constructed and made with set-screws to extend its length more or less, and, consequently, its motion more or less.

From the foregoing it will be seen, when the types are fed, in the usual manner, through proper guides and gates to the face B, ahead of the first of the spaces D, in a manner to allow them or each of them to properly slide and stop against the stopping-plate 9, which is secured and projects to form the lower side of the frame L, and each of the said types so deposited is by means of the cams N N and R, acting upon the frame L, taken up in the spaces M M of the edges of the sides of said frame, and the type taken up is carried over the rib C into the space joining, and is deposited therein by the onward motion of the driving-shaft, in direction shown by the arrow indicated in fig. 1.

The cam X is brought in contact with the arm U', causes the rock-shaft to turn, whereby the yielding arms W W are caused to press against the arms K' of the lever K, which causes their ends on the face B to move, and press the type toward the side of the rib having the pins E, and bringing the notched edge of said type against said pins, and, if matching and permitting said pins to enter the notches of the edge of the type, the lever K causes to disengage the nose 3 from the notch 1, thereby permitting the said type to discharge, on account of the pins E being withdrawn by these springs from the face B, and loosing hold of such type; whereas, if the notches of said type do not match said pins E, the type cannot move sufficiently to the side of the rib of that space to permit its lever R to act sufficiently on the lever 2 to disengage its nose 3 from locking the slide F, and allowing its spring to withdraw it, consequently holding said type fast until, by the onward motion of the machine, the frame L again takes up the type, and forwards it to next space joining, in which the type is again tried to match, and the same operation repeated, in a manner to pass said type from space to space toward the last, until finding a space provided with the pins E matching its notches, from where it is discharged into the respective receiving-space of the usual distributing-case.

It will be seen, by means of the cams Z, the slides F are moved forward after every revolution of the driving-shaft.

To prevent the type from casual displacement, I employ a spring attached to the frame L, and bearing softly upon the upper sides of the types.

Claim.

I claim as my invention—

1. The employment of the inclined table or shelf, with spaces D and ribs C and frame L, when provided to operate in the manner and in combination

with the table A, substantially as and for the purpose herein shown.

2. The levers K and slides F, provided with the pins E, combined and operating with the frame L and table A, substantially as and for the purpose herein described.

3. The combination of the table A, levers K, ribs C, spaces D, pins E, and slides F with the notch 1 and nose 3, the frame L and cams N, X, and Z, arms W, shafts O and U, arms U', and bar Y, operating substantially as and for the purpose herein set forth.

DAVID B. THOMPSON.

Witnesses:
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B. BOEKLEN.