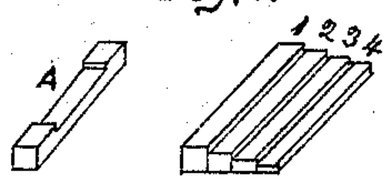
M. GALLY.

Machines for Distributing Type.

No. 138,241. Patented April 29, 1873.

Fig. 1.



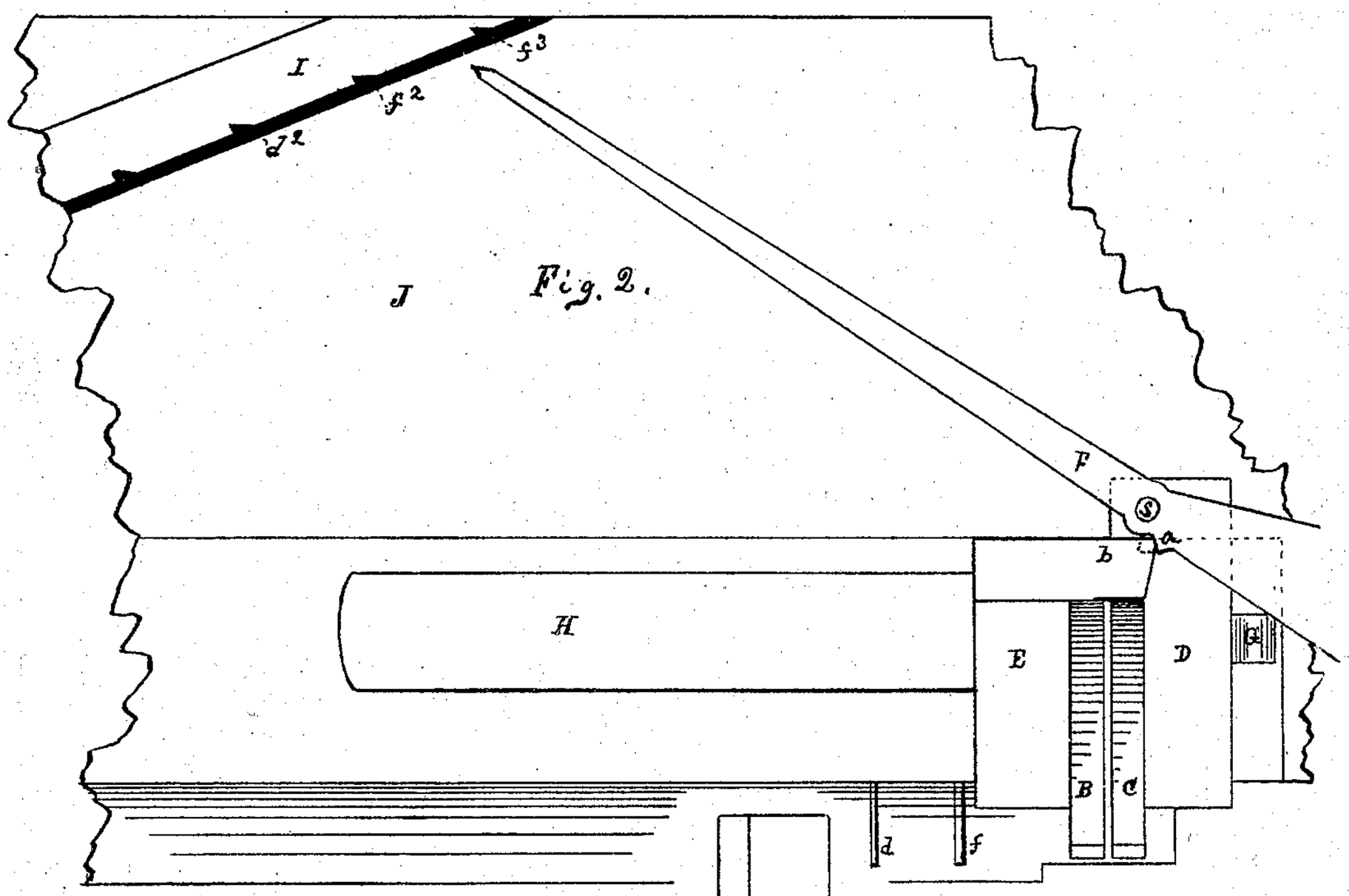


Fig. 2.

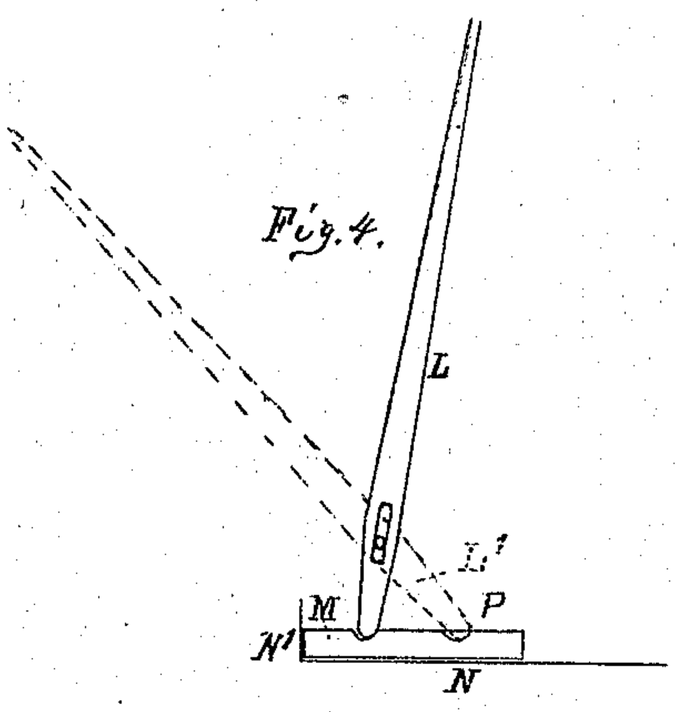


Fig. 4.

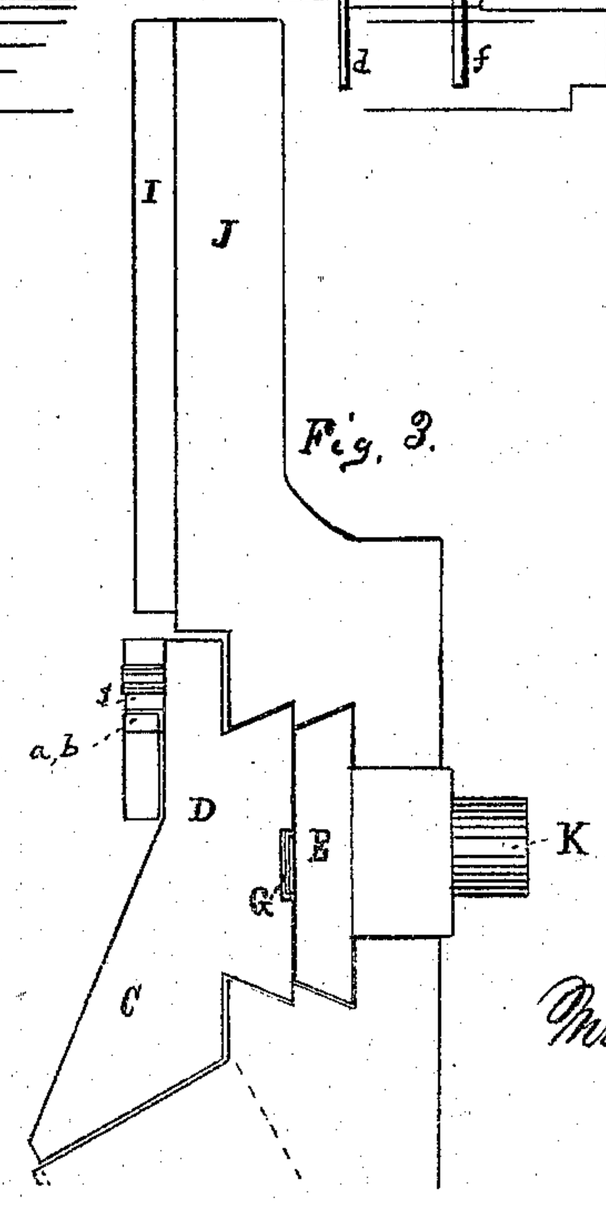


Fig. 3.

Witnesses
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UNITED STATES PATENT OFFICE.

MERRITT GALLY, OF ROCHESTER, NEW YORK.

IMPROVEMENT IN MACHINES FOR DISTRIBUTING TYPE.

Specification forming part of Letters Patent No. **138,241,** dated April 29, 1873; application filed February 21, 1873.

To all whom it may concern:

Be it known that I, MERRITT GALLY, of Rochester, in the county of Monroe and State of New York, have invented a new and useful Machine for Distributing Type; and I do hereby declare that the following is a full and accurate description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon.

My invention consists, first, in novel means for enabling the mechanism to properly select the types representing different characters; secondly, in the use of a device for multiplying the indicated differences in the types, so that the mechanism may act upon an increased scale of movement, and avoid inaccuracies which arise from too fine adjustments; and thirdly, in the peculiar construction of the parts employed.

In the accompanying drawing, Figure 1 is a perspective, showing a number of types differing in thickness of body, one of them having a portion of one side removed so as to change its thickness for a part of its length. Fig. 2 is a side elevation of the working parts of the machine. Fig. 3 is a cross-section, showing the relative positions of the devices of Fig. 2. Fig. 4 is a modification of the multiplying-indicator acting upon the type.

General Description.

The common method of selecting the different characters of types by automatic devices has been to make small metallic projections correspond with nicks in the body of the types, the types being forced by the projections or the projections forced by the types. As the metal of types is comparatively soft, and there are over one hundred and fifty different characters in a printer's case, all to be represented by nicks differing in position on a space of only seven-eighths of an inch, which is the length of the type below the shoulder of the letter; and although a mechanism can be so finely made and adjusted as to be governed in its movements by the slight soft-metal differences which amount, really, to no more than a very slight soft-metal corner, nevertheless the action of the machinery soon obliterates these indicating-points, and the machine becomes inoperative. I have, therefore, laid down a new plan, and proceed as follows: I prepare the types so that their various dimensions, acted upon by the distributer, will indicate their character. Nearly all the different characters differ as to the thickness of their body, as 1, 2, 3, 4, Fig. 1, and to make this variation extend through the entire set, I slightly change the thickness of the few that are now commonly made alike. This can be done without materially injuring the face of the letter as to style. If, however, it is not desirable to change the thickness throughout the entire length of the body, it can be done for a considerable portion of its length, as shown in Fig. 1 at A. A type which is to be carried automatically to its proper case is placed in position between the clamps B C, Fig. 2, and its thickness removes, more or less, one clamp from the other. No harm is done to the type, because so great amount of surface is in contact with the clamps, which are drawn together only tightly enough to carry the type along when the clamps are moved toward the case which is to receive the letter. The channels into which the different types are to be delivered lie along the track of the clamps, which have a sliding movement. Two of the channels are shown in Fig. 2, *d f*. The channels are made to lead either to the boxes of a common printer's case, or the parts of an automatic type-setting machine case. The clamps B C are attached each to a separate slide—the two slides represented by E D. The back part of the slide E extends under the slide D, and the two slides are held together while carrying the type along by means of a friction-spring, G, or other convenient friction device.

To the slide D is pivoted a multiplying-indicator, F *a*. The short arm *a* is moved, more or less, by the piece *b* of the slide E when the type is clamped, and the distance of this movement indicates the character of the letter which corresponds to a certain thickness of body. This indication, however, is not sufficient to depend upon for governing the movements of the distributer; I therefore multiply the movement of the short arm *a* by means of the long lever-arm F. A slight movement of *a* will produce a great movement of the extreme end of F, and such a move-

ment is safe and certain for adjustment of the parts which are to act in the delivery of the type in its proper channel. The clamps have a reciprocating movement right and left, or, in other words, back and forth, over their track above the several channels, which are sufficiently separated to avoid possibility of delivering the type in an improper part of the case. The diagonal-toothed bar I lies in the line of movement of the lever-arm F and different positions of the beveled end of the lever will allow greater or less movement to the slide D.

The type which is to be delivered at *f* is placed between the clamps, and the clamps are brought as closely together as the thickness of the body of the type will allow, and will be held together by the action of the friction-spring G. As the combined slides E and D move forward the extremity of lever-arm F will come in contact with the face of bar I somewhere between f^2 and f^3. A particular adjustment is not necessary, as the end of the lever-arm will slide along the face of the bar until it reaches the notch f^2, when it will be stopped in its course, stopping also the slide D with clamp C at the channel *f*. The slide E, being the one moved by power, will pass on, and the type will fall into its channel before the return of the slide E.

The advantage of stopping the the clamp C instead of simply opening the clamps to let the type drop, is to prevent the possibility of the type being carried beyond its channel before having time to drop to place. As the slide E returns, the friction-spring G strikes the front edge of slide D, and carries the slide D back to its first position before it is driven under its face. This allows time at the end of the stroke to place another type between the clamps before they come together.

Any of the common devices for feeding in one type at each movement may be used with this machine.

The modification of the multiplying-indicator, shown in Fig. 4, shows the indication of the character of the type by movement of the indicator after having dropped into connection with a groove of the type when at P, the type being slid along the plane N to N′. The long arm of the lever L shows the multiplied indication.

Claims.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A set of types to be distributed by an automatic distributer, when the bodies of all the characters are made to differ from each other, in whole or in part, so that the difference in dimensions may be used to indicate to the distributing device the character of the letter or place for its delivery, substantially as set forth.

2. The combination, with an automatic distributer, of a multiplying-indicator, so that too fine adjustments may be avoided, substantially as set forth.

3. The combination, with an automatic type-distributer, of the clamps B C and a motor, substantially as set forth.

4. The compound clamp-slide, made up of parts E B and C D and friction device G, or equivalents, substantially as specified.

5. The combination, with an automatic type-distributer, of a type-carrier, a part of which shall stop at the place of delivery of the type while the other part proceeds in its movement, substantially as specified.

MERRITT GALLY.

Witnesses:
MELVILLE CHURCH,
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