(No Model.)

W. W. STREET.

ELECTRICAL MATRIX MAKING MACHINE.

No. 457,752. Patented Aug. 11, 1891.

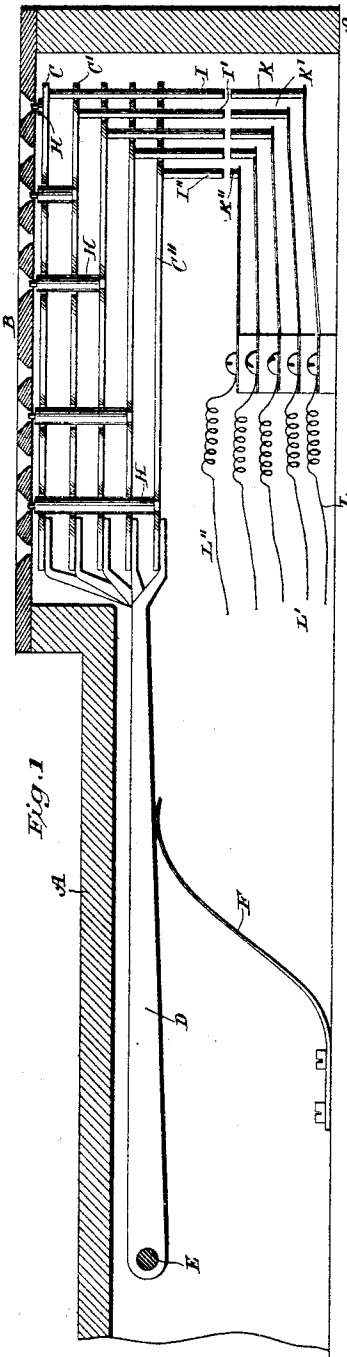


Fig. 1

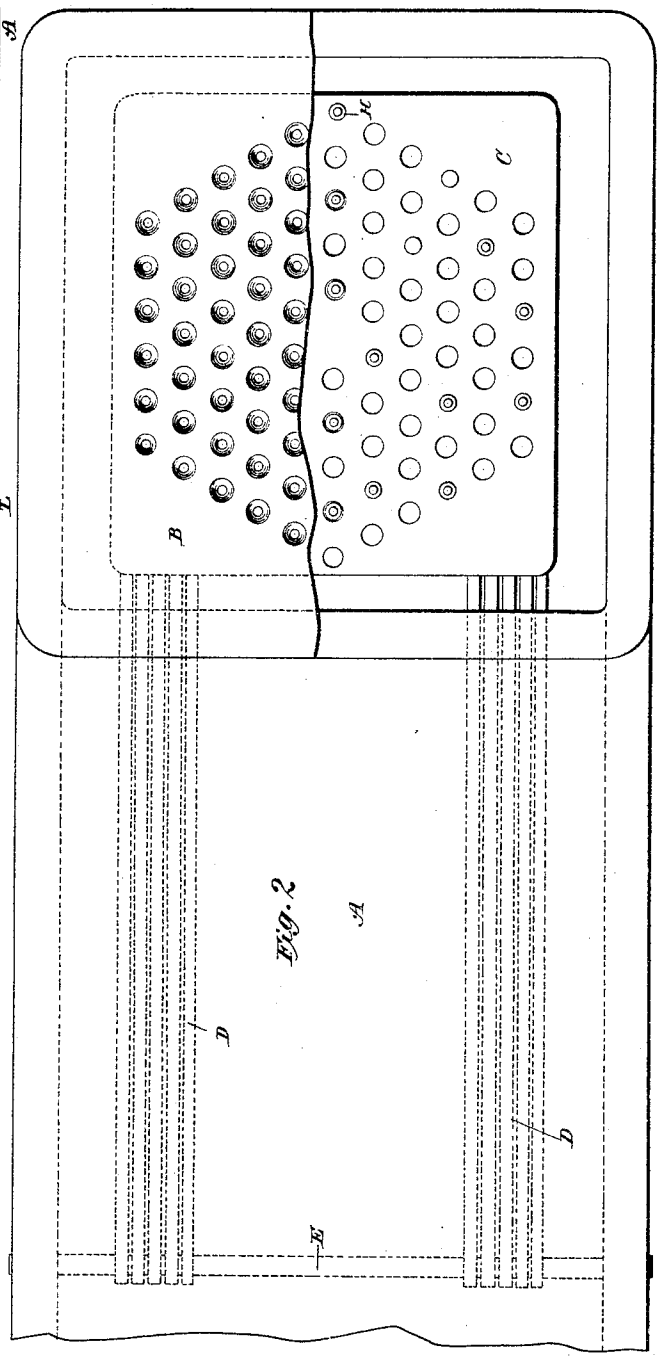


Fig. 2

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UNITED STATES PATENT OFFICE.

WILLOUGHBY W. STREET, OF SPRINGFIELD, MASSACHUSETTS.

ELECTRICAL MATRIX-MAKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 457,752, dated August 11, 1891.

Application filed November 15, 1890. Serial No. 371,543. (No model.)

To all whom it may concern:

Be it known that I, WILLOUGHBY W. STREET, a citizen of the United States, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented certain new and useful Improvements in Electrical Matrix-Making Machines, of which the following is a specification, reference being had to the drawings accompanying and forming a part of the same.

This invention is an improvement in machines for making stereotype-matrices by the successive impression of type-dies into a yielding material.

The improvements pertain more particularly to that class of machines in which the type-dies are brought to the impression or printing point by means of a single key and impressed by the manipulation of such key, by which a given circuit or circuits corresponding to the particular type-dies is closed and a hammer-and-feed mechanism set in operation. In such machines some form of index-plate is usually employed which contains a certain number of perforations corresponding to the various characters used in printing, and under this plate are arranged as many contact-points as there are holes, which, together with the key, form the terminals of the different circuits, including the feed mechanisms and controlling the impression mechanism.

The object of my invention is to dispense with the numerous contacts which are now used, and instead of having a separate platinum contact-point for each letter and character, to have but one pair for all the characters of a given class or group. This I accomplish by using, in combination with a stationary perforated index-plate and underneath the same, as many movable plates as there are groups or classes of characters and independently supporting them, one over the other but out of contact. Pins are set in the under plates and project up through perforations in those above them, by means of which any given plate is depressed by the insertion of the key into any one of the perforations of the index of the group or class to which said plate corresponds. The depression of the plate is thus made to close the appropriate circuit, only one pair of contacts being thus required for all the characters of the group or class corresponding to it.

It is customary to divide the characters up into groups or classes according to the units of space which they require. Hence in all the holes in the index-plate corresponding to two unit characters the pins from one movable plate extend, and in all corresponding to three unit characters the pins from another movable plate extend, and so on. The details of this construction are illustrated in the accompanying drawings:

Figure 1 is a vertical longitudinal section of the part of a matrix-making machine embodying my invention. Fig. 2 is a top plan view of the same, a portion of the index-plate being removed.

The general character of the machine I have not shown; but the invention is designed for use with the general form of machine shown in patent to Goodson, No. 414,400, dated November 5, 1889, and others of a similar character in which there is employed an alignment-bar with a swinging and sliding movement carrying the dies at one end and having a key at the other over an index-plate and electrical contacts corresponding to the dies.

A A represent the forward part of the bed or frame of such a machine, and B is the perforated index-plate. The perforations in this plate are arranged hexagonally or otherwise, and are lettered or numbered to correspond with the dies or type used. Under the index-plate are as many light plates C C′ C″ as there are groups of or classified sizes of characters. These plates are independently supported, as by means of levers D D, mounted on a shaft E, said levers being of different shapes, as shown, whereby the plates will be held at suitable distances apart.

Springs F on the bed of the machine bear upon and support the levers D and keep the plates at their proper respective elevations. Any other ordinary means of yielding support, preferably adjustable, may obviously be employed for this purpose.

Each plate C C′, &c., carries as many pins H, set vertically thereon, as there are characters in the class or group to which such plate corresponds, and these pins ex-

tend up to or into their appropriate holes in the index-plate. The upper plate, as C, has very short pins H. The plate next below, as C′, carries longer pins which project up through perforations in plate C, while the lowermost plate, as C″, has pins that extend up through perforations in all the plates above it. Thus when any given character is selected and the key thrust down through the index-plate in the hole that corresponds to such character, the plate C or C′ that corresponds to the group or class of characters to which that selected belongs will be depressed, but the others will not be moved. Each plate carries a suitable form of contact, as I I′ I″, &c., opposite to but normally out of contact with corresponding stops or contacts K K′ K″, &c. The former are connected to one pole of the battery through the plates C and levers D, and the latter are connected with the opposite pole of the battery through the different feed and controlling circuits L L′ L″, &c.

The depression of any one of the plates, it will be seen, closes the feed-circuit common to all the characters of the group or class to which said plate is allotted, so that in lieu of having a separate contact under each character-hole in the index-plate, I have but two contact-surfaces for each group or class of characters.

What I claim is—

1. In a matrix-making machine, the combination, with an index-plate, of a series of plates independently movable, each plate being accessible through the holes or guides of one group or class of characters only, and circuit-closers or contacts controlled or operated by the plates, respectively, as set forth.

2. In a matrix-making machine, the combination, with a perforated index-plate, of a series of independently-movable circuit-closing plates supported under the index-plate, each of which is adapted when depressed to close a feed-controlling circuit corresponding to a certain group or class of characters, and pins or studs from the perforations for each group or class of characters to one of said circuit-closing plates, as set forth.

3. The combination, with the perforated index-plate, the independently-mounted levers D, the plates C C′, &c., carried thereby, of pins or studs set in each plate, those in the under plates extending up through perforations in the plates above, and contact terminals of feed-controlling circuits on the bed of the machine and the several plates C C′, &c., respectively.

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