J. A. MARQUEZ.

Machines for Making Matrices for Stereotype-Plates.

No. 136,442. Patented March 4, 1873.

Fig: 1

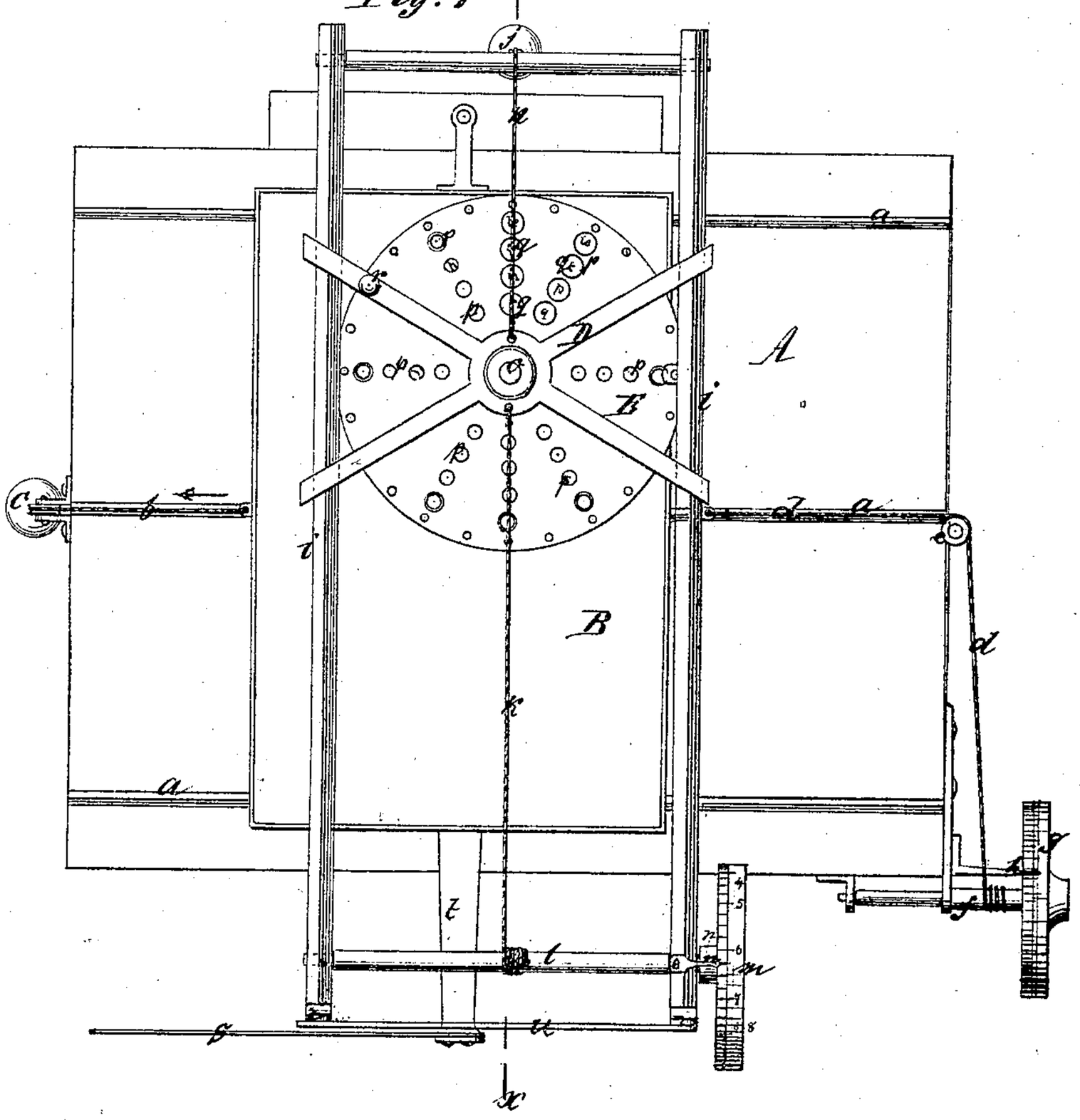


Fig: 2.

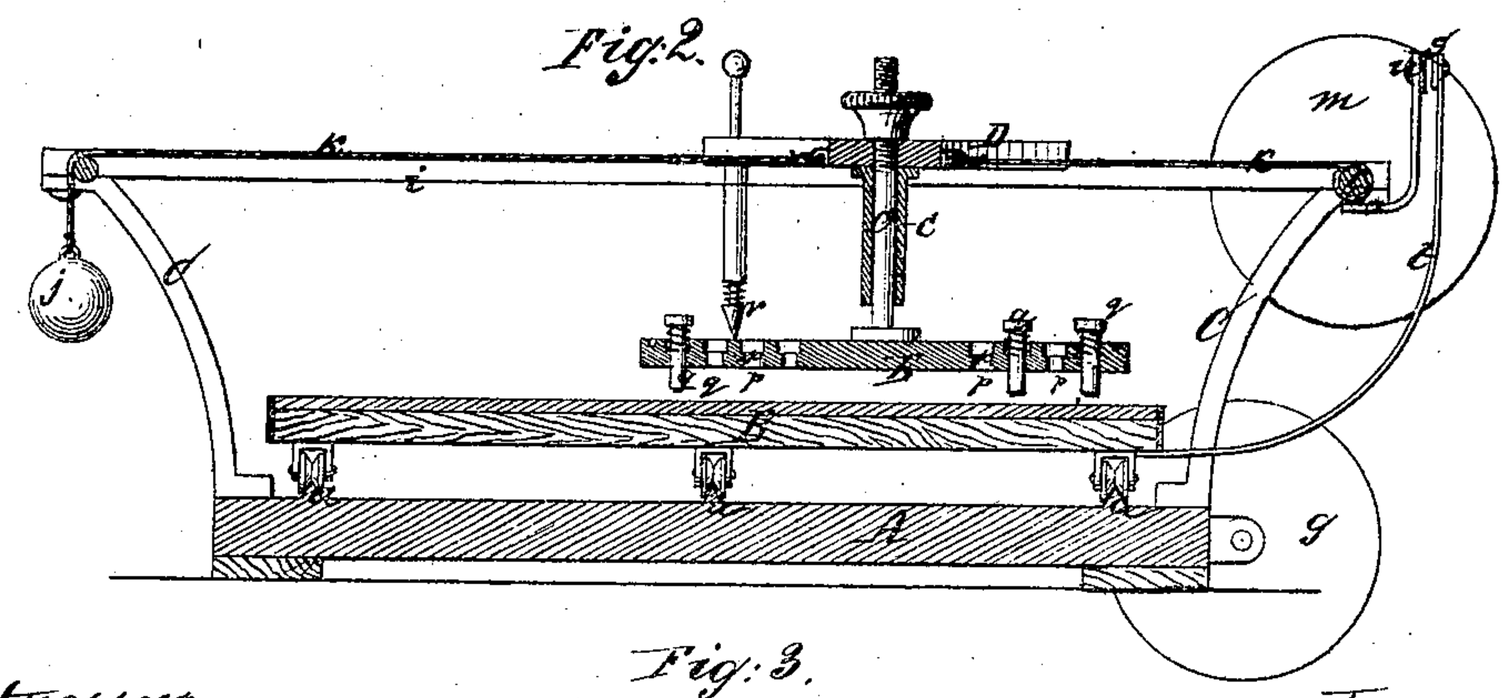
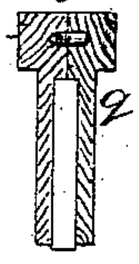


Fig: 3.



Witnesses:
Ernst Bilhuber.
Chas. Wahlers

Inventor:
J. Arnoldo Marquez
per
Van Santvoord & Hauff
Atts

UNITED STATES PATENT OFFICE.

JOSÉ ARNALDO MARQUEZ, OF NEW YORK, N. Y.

IMPROVEMENT IN MACHINES FOR MAKING MATRICES FOR STEREOTYPE-PLATES.

Specification forming part of Letters Patent No. **136,442**, dated March 4, 1873.

To all whom it may concern:

Be it known that I, JOSÉ ARNALDO MARQUEZ, of the city, county, and State of New York, have invented a new and Improved Machine for Making Matrices for Stereotype-Plates; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which drawing—

Figure 1 represents a plan or top view of my invention. Fig. 2 is a longitudinal vertical section of the same in the plane *x x*, Fig. 1. Fig. 3 is a detached section of one of my type-carrying plungers.

Similar letters indicate corresponding parts.

This invention consists in a disk mounted on a vertical spindle which has its bearing in a spider moving on guide-rails which extend transversely across the bed of the machine. On this bed is placed a platform intended to receive the material from which the matrix is to be formed, and this platform moves under the type-disks on guide-rails secured on the bed of the machine and extending at right angles to the guide-rails of the type-disk. In the type-disk are a series of sockets arranged in concentric circles, and each of these sockets contains a plunger, in each of which is secured a different type. With the type-disk and the platform for the matrix are combined suitable indices to adjust them in the required position, in such a manner that, by moving and turning the type-disk and by moving the matrix-platform, each type-plunger can be brought over any portion of said matrix-platform, and, by depressing the type-plungers, the required impressions are produced in the matrix.

In the drawing, the letter A designates the bed of my machine, on which are secured two or more guide-rails, *a a*, for the platform B. This platform is intended to receive the material from which the matrix is to be formed, and from one of its ends extends a rope, *b*, which carries a weight, *c*, that has a tendency to move said platform on its guide-rails in the direction of the arrow marked near it in Fig. 1. From the opposite end of the platform B extends a rope, *d*, round a pulley, *e*, to an arbor *f*, on which is mounted a button or hand-wheel, *g*, so that by turning said hand-wheel in one direction the rope winds up on the arbor *f* and the matrix-platform is moved in a corresponding direction, and by turning said hand-wheel in the opposite direction the rope unwinds from the arbor *f* and allows the platform to follow the action of the weight *c*. On the face of the hand-wheel *g* is marked a scale indicating inches and fractions of inches; and an index, *h*, is so arranged that it can be made to point to either of the division-lines of the scale, and that it also forms a stop to arrest the arbor *f* in any position in which the same may be brought. By this arrangement the matrix-platform B can be adjusted on its guide-rails with the greatest accuracy. From the sides of the bed A rise standards C, which support two guide-rails, *i*, in a position at right angles to the guide-rails *a* in the bed A, and at a suitable elevation above the same. These guide-rails support a spider, D, which is subject to the action of a weight, *j*, and of a rope, *k*, that winds on an arbor, *l*, so that by turning this arbor in one direction the spider is allowed to follow the action of the weight *j*, and by turning the arbor in the opposite direction the spider is drawn along on its guide-rails in a direction opposite to that in which it is moved by the action of the weight. On the arbor *l* is mounted a hand-wheel, *m*, carrying a scale, and provided with an index and stop, *n*, that serve to adjust the spider in any desired position. In the center of the spider is secured a vertical shaft, *o*, that supports the type-disk E. This disk is provided with a series of sockets, *p*, arranged in concentric circles, and in each of these sockets is fitted a plunger, *q*. These plungers are formed as shown in a larger scale in Fig. 3, and each of them carries a certain type or a combination of types, so that every desired letter, sign, or character which occurs in the art of printing will appear in one or in the other of the plungers. Said plungers are supported by springs, (see Fig. 2,) so that when a type-disk is brought over the matrix contained in the platform B the types contained in the plungers will be retained at a slight elevation above the surface of the matrix. In one of the arms of the spider is secured a spring-stop, *r*, which is in-

tended to engage with small holes or cavities near the circumference of the type-disk so as to arrest the same in the required position.

After the matrix has been spread on the platform B the type corresponding to the first letter to be printed is brought over the exact spot of the matrix where the impression is to appear, and the plunger carrying said type is depressed. The platform B and type-disk are then adjusted in the required position for the next letter, and so forth, until the entire matrix is completed.

The adjustment of the type-disk and matrix-platform in relation to each other is effected by the scales on the hand-wheels *g* and *m*, and it is further facilitated by an index, *s*, which is secured to a standard, *t*, extending from one end of the matrix-platform, said index being made to sweep over a scale marked on a traverse, *u*, which connects the guide-rails of the spider D.

By this arrangement one set of types, embracing the required number of different fonts, and the various signs and characters which occur in the art of printing, is sufficient to produce all the impressions required to complete a stereotype-plate, and the labor of making such stereotype-plate is materially facilitated.

With this machine an impression will be made directly on a metallic matrix or plate, and also on a curved plate to fit to a cylinder-press.

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

1. The type-disk E, carrying a series of type-plungers, and suspended from the spider D which travels on the guide-rods *i i*, in combination with each other and with the matrix-supporting platform and the driving mechanism.

2. In combination with the rotating and suspended type-disk carrying a series of type-plungers, and the movable matrix B, the spring-stop *r* for engaging with the pockets *p* of the type-disk, substantially as described.

3. The index *s* and traverse *u*, in combination with the hand-wheel *g m* and their indicators, as set forth, for operation in respect to the movable matrix-bed and the suspended and rotating type-disk E, as and for the purpose specified.

This specification signed by me this 29th day of November, 1872.

JOSÉ ARNALDO MARQUEZ.

Witnesses:
W. HAUFF,
E. F. KASTENHUBER.