

H. Tubering, Hand Stamp.

No. 47,262.

Patented April 11, 1866

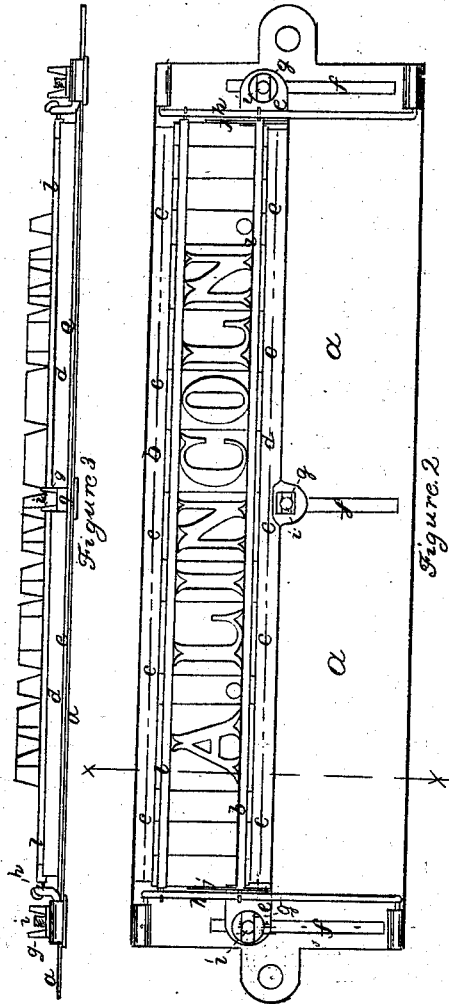


Figure 2.

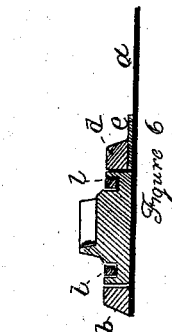


Figure 6



Figure 4

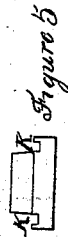


Figure 5

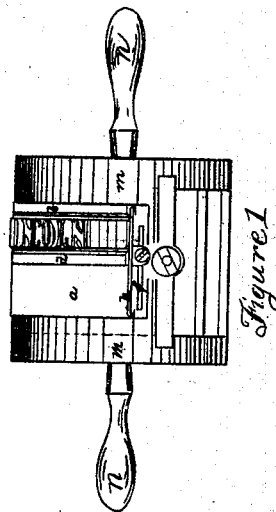


Figure 1

Witnesses:

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UNITED STATES PATENT OFFICE.

HENRY TUBESING, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN FLEXIBLE TYPES AND APPARATUS FOR PRINTING.

Specification forming part of Letters Patent No. 47,262, dated April 11, 1865.

To all whom it may concern:

Be it known that I, HENRY TUBESING, of the city of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Movable Flexible Types and Apparatus for Stencil-Printing; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a representation of my improved apparatus for printing with movable elastic type. Fig. 2 is a representation of the flexible bed-plate on which the elastic movable type are set, showing the mode of securing them thereto. Fig. 3 is a side view of the flexible bed-plate and type. Fig. 4 is a top view of one of my elastic type. Fig. 5 is a side view thereof. Fig. 6 is a cross-section of Fig. 2, taken in the line *x x*.

In the several figures like letters of reference denote similar parts.

My improved apparatus is designed to be used for stencil-printing or marking boxes, bags, &c., by means of elastic type made in a separate piece for each letter, which may be removed and altered at pleasure, so that a variety of directions, addresses, marks, or brands may be impressed on boxes, bales, &c., by simply setting up the proper words in the machine with the type made for that purpose.

My invention consists in the peculiar shape of the pieces of elastic type, irrespective of the letters or device represented thereby, whereby they may be easily attached to and held in place on the bed-plate of the machine; also, in the use of a flexible bed-plate or type-holder and the mode of securing it in a curved shape on the machine; also, in the mode of attaching the elastic movable type to the bed-plate; also, in the combination of flexible bed-plate and movable elastic type with a roller or curved frame for the purpose of stencil-printing.

To enable others skilled in the art to construct or use my improvement, I will proceed to describe its construction and operation.

In the drawings, *a* represents the flexible bed-plate or type-holder, which is a plate of sheet zinc, iron, or other suitable material, so flexible as to be capable of bending to conform to a curved surface without otherwise altering

its shape. This bed-plate is made of such length as may be required for the length of lines to be printed, and wide enough to hold as many lines as may be desirable. At one edge of this plate is fastened a strip of leather, *b*, about one-fourth of an inch in thickness, so as to rise that height above the level of the bed-plate *a*, its inner edge being square or at right angles to the bed-plate, and being straight, if the lines of printing are desired to be straight. This strip of leather is fastened to the edge of the plate in any convenient manner, and may be stiffened by wire *c*, to prevent its yielding and keep its edge straight or parallel to the edge of the bed-plate. Parallel to this strip *b* is another similar strip of leather, *d*, which, instead of being fastened to the bed-plate *a*, is attached to a slide, *e*, of metal or other flexible material and similar to that of which the bed-plate is made. This slide *e* is connected to the bed-plate by pins *i*, attached to it and passing through slots *f f f* in the bed-plate *a*, and it is fixed in the desired position, with the leather strip *d* on its edge parallel to the leather strip *b*, by means of screws or nuts *g* on the pins *i*. The slide *e* is adjusted on the bed-plate *a* with its leather edge at such a distance from the strip *b* as may be required to receive one or more rows of the elastic type. At each end of the leather strip on the slide *e* is a small piece or strip of metal, *j*, about one-eighth of an inch high above the face of the bed-plate, the object of which is to prevent the type from approaching too near or slipping off either end of the bed-plate *a*. Near to its end of the bed-plate *a* is fastened a piece of wire, *h*, the ends of which are inserted in the bed-plate, and between the points of attachment the wires are raised slightly above the surface of the bed-plate and parallel thereto. These two wires are designed for the elastic cords which hold the type down to the plate to be hooked onto.

The elastic type are made of a composition of glue and molasses—such as is used for printers' rolls—cast in mold, and faced or coated all over with india-rubber or gutta-percha. Each letter or other device forms a separate piece or type. The face of these type, or that part which projects from its body to represent the desired letter or mark, is deeper than it is usual to make it in ordinary elastic type, so that they may not so readily get clogged with

ink, which would prevent their giving a clear and distinct impression. At the base of the type, at top and bottom, (but not at the sides,) is a horizontal projection having a groove or gutter, *k*. The distance from one gutter to the other in each of the separate pieces of type is the same, so that when the type are placed side by side or set up on the bed-plate there is a continuous gutter from one end to the other of the line of type above and below. The same is the case with the breaks or quads for spaces between the words, which are made like the letter-types, excepting that they have no raised device on them and are not as thick as the types. Two cords, *l l*, made of india-rubber or other flexible material, are used to hold the type in place down to the bed-plate *a*. Each cord *l* has a small hook at each end, by which it is hooked to the wires *h h* at the opposite ends of the bed-plate *a*.

The type are set up on the bed-plate by being appropriately ranged side by side on the bed-plate, with their top or bottom resting against the leather strip *b* on the edge of the bed-plate, quads being added, if necessary, to fill up the lines between the metal strips *j j*. Two or more lines may be added, if desired, and when the type are thus set up the cords *l l* are attached to the wires *h h* at each end of the bed-plate, the cords lying along in the gutter *k*, at the top and bottom of the type, the cords being of such a length as to stretch tightly between the wires *h h* and press down on the type. There are two cords used to each row of type. The slide *e* is then slid up on the bed-plate until its leather strip *d* presses against the ends of the movable type, and the slide is then screwed down on the bed-plate. The bed-plate is then ready to be set on the machine, to be used for printing.

The machine or frame on which the bed-plate is set may be either a curved block of wood or a cylindrical frame, such as is shown in the drawings, Fig. 1. This cylindrical frame may be composed of two parallel side disks, *m m*, connected together by strips fastened to the circumference of the disks. In the axis

of the cylindrical frame thus formed are placed the handles *n n*, which project horizontally from the center of each side. On this frame the bed-plate is placed, and it is curved longitudinally to conform to the curvature of the frame, to which it is fastened at each end by a screw, *p*.

With this apparatus printing is done by rolling the cylinder, held by the handles with both hands of the operator, back and forth on the surface to be printed upon, the types having been first inked by rolling their faces over an ink-slab, or otherwise, as may be most convenient.

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

1. Making the separate pieces of elastic type with a projection at top and bottom, having a gutter for the purpose of holding them in place by means of a cord or similar device for that purpose.

2. The use of a flexible bed plate for holding the movable elastic type, so that the bed-plate and type may be attached to the curved surface of a frame, substantially as described.

3. The use of strips of leather or other flexible material placed above the upper and below the lower line of type, for the purpose of keeping the movable type straight, and yet allowing the form to be readily curved when set on the machine for the purpose of printing.

4. The mode of securing the movable elastic type to the bed-plate by means of elastic cords resting upon the projecting base of the type, substantially as described.

5. The combination of the flexible bed-plate *a*, flexible strips *b* and *d*, and slide *e* with a curved or cylindrical frame for printing with movable elastic type, substantially as described.

In testimony whereof I, the said HENRY TUBESING, have hereunto set my hand.

HENRY TUBESING.

Witnesses:

W. D. LEWIS,
A. O. BAKEWELL.