

(No Model.)

R. H. SMITH & W. F. TRIPP.
HAND PRINTING DEVICE.

No. 581,525.

Patented Apr. 27, 1897.

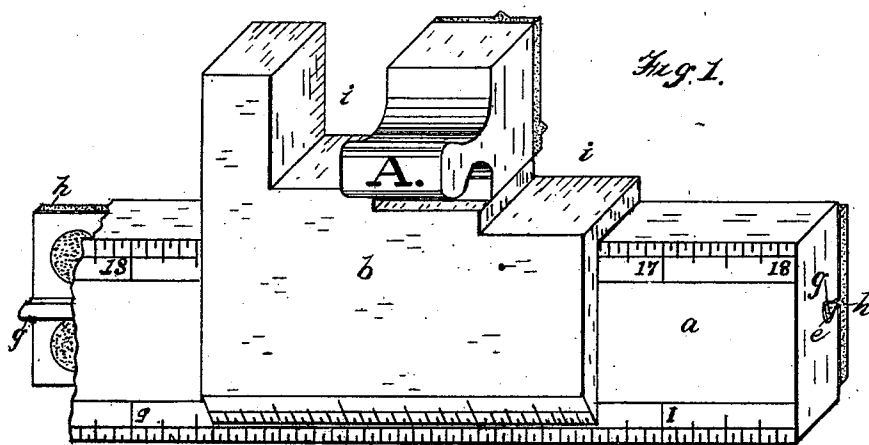


Fig. 1.

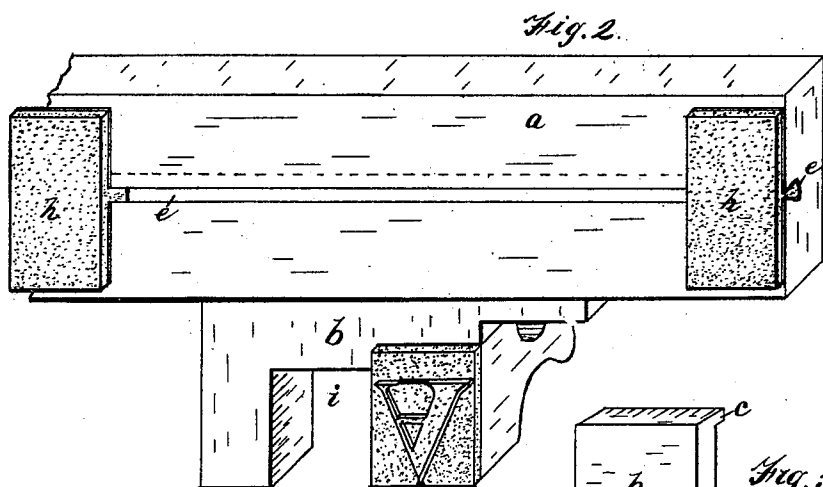


Fig. 2.

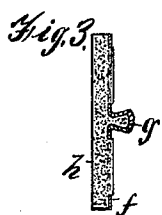


Fig. 3.

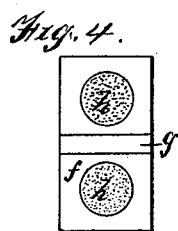


Fig. 4.

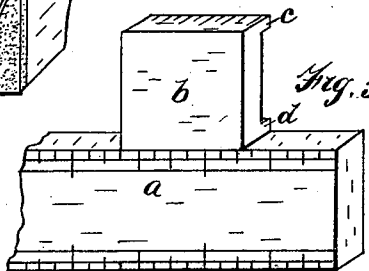


Fig. 5.

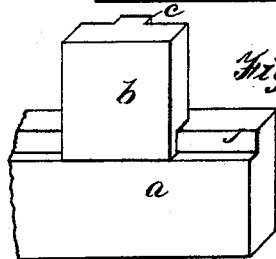


Fig. 6.

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HAND PRINTING DEVICE.

SPECIFICATION forming part of Letters Patent No. 581,525, dated April 27, 1897.

Application filed April 16, 1894. Serial No. 507,714. (No model.)

To all whom it may concern:

Be it known that we, RICHARD HALE SMITH and WILLARD F. TRIPP, citizens of the United States of America, residing in Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Hand Printing Devices, of which the following is a specification, reference being had to the accompanying drawings 10 and letters of reference marked thereon.

One object of our invention is to provide a simple, easily-operated, and inexpensive device within the reach of all (as to expense) by which one may print merchants' window and counter signs, price and announcement cards, 15 mark shipping-addresses upon cases, &c., wherein the letters are imprinted one at a time; and another object is to provide apparatus by which the printing may be executed 20 with uniform density of color, perfect alinement, and more correct spacing of the letters, words, sentences, lines, borders, ornaments, &c., than has generally been before obtained, and we accomplish the objects of our invention 25 by the construction herein shown.

In the accompanying drawings, in which like letters of reference indicate like parts, Figure 1 is a perspective view of the preferred form of construction. Fig. 2 is a like view 30 of the same inverted. Fig. 3 is an edge view of a presser-foot. Fig. 4 is a plan view of the same. Fig. 5 is an isometric view of a modification wherein the type-guide is provided with two supporting-feet; and Fig. 6 is a perspective view of a modification wherein the 35 type-guide is provided with an outer foot resting on the paper, and at the opposite side the guide rests upon a shoulder or rabbet.

In detail A indicates a printing-type; *a*, a beam or line-former; *b*, a type-guide; *c* and *d*, feet on the type-guide; *e*, a dovetail-shaped longitudinal groove in the beam; *f*, a presser-foot; *g*, a dovetail-shaped tenon or projection on the presser-foot, shaped to enter and slide 40 within said groove; *h*, yielding material secured to the presser-foot; *i*, type-guiding faces or shoulders on the type-guide, and *j* a rabbet or recess arranged longitudinally in the beam.

Our special desire being to provide an inexpensive device by which all lettering heretofore referred to may be easily and accurately done and by which danger of rubbing and blurring the inked surfaces may be avoided, we have produced a device consisting of 50 two pieces, a line-former or beam and a type-guide, the latter being provided with broad bearing-faces to accurately guide the bodies so that the type will bear uniformly upon the surface being printed upon and so mounted 60 or arranged that the lower face of the guide in the line of print is raised from the paper, allowing the guide to be freely moved along the face of the beam in either direction without danger of its lower surface coming in 65 contact with the fresh imprints.

In the operation of printing it is requisite after an imprint of one letter is made that the guide be slid along the face of the beam until the fresh imprint is covered, and as 70 much further as is desired for a space between the letters. It is then ready to guide the next letter to be imprinted.

The working edge of the beam or line-former and the working face of the type-guide 75 are each provided with vertical walls of sufficient area to guide the type-block to the desired position with accuracy, so that if the first imprint be unsatisfactory the same may be covered by repeated applications before 80 removing the guide, thus enabling the operator to bring out a clear imprint of solid color with clean sharp lines.

It will of course be seen that if the working faces of either the beam or guide were to be 85 beveled and the type-blocks be beveled to register therewith the same result would follow, and that therefore vertical walls or working faces are not necessarily essential to the successful operation of the device. 90

In Figs. 1 and 2 we illustrate our device as preferably constructed. The type-guide rests upon the beam and is so balanced as to require no outside support. It is provided 95 with three shoulders in addition to the one in contact with the beam, by means of which printing may be done in four different alignments, or four different sets of type of vary-

ing depth of bottom shoulder may be used, so as to print upon one and the same line. For example, the set of type having the smallest bottom shoulder may be used in the angle
 5 formed by the beam and the end of the guide, while type having a greater bottom shoulder may be used in an independent shoulder on the gage, the base-surface of which is exactly as far removed from the edge surface of the
 10 beam as the difference between the shoulders on the two kinds of type for which it was designed.

In Fig. 6 we have illustrated a modified construction in which the type-guide is provided with a support resting on the surface to be printed upon, and in this we may support the side of the guide which traverses the beam by forming a groove or rabbet in the edges of the guide and beam, or by making
 20 the guide thicker the guide alone may be rabbeted.

The advantage of having an outer foot supporting the guide when it rests but slightly upon the beam is that suitable pressure may be put upon the said guide by the fingers.
 25 In the absence of such support such pressure would tend to break or injure the connection of the guide and the beam, but with such foot or feet not only is this danger obviated, but the
 30 beam and guide are held down more firmly upon the paper.

The convenience and usefulness of this class of printing devices are greatly enhanced by having the beam rest upon elastic feet, and
 35 still more so when one or both feet are adjustably mounted, so that their contact with the paper or other surface to be printed upon may be always confined to the margins or space entirely outside of that to be occupied
 40 by the printed matter for the twofold purpose of maintaining the best friction contact to avoid displacement during the printing of a line and to avoid danger of smearing fresh imprints while admitting of the execution of
 45 tabular work, vertical borders, &c. In our improved construction we accomplish this by providing the lower face of the beam with a longitudinal groove, preferably of dovetail shape in cross-section, and to make the
 50 presser-feet of spring sheet metal, bent in their central portion so as to form a tongue to slide in the groove in the beam, and we also form openings through the body of the metal and attach to the metal a rubber cushion
 55 *h*, which we prefer to attach by the well-known method of vulcanizing, thus causing the rubber to enter the recess in the tongue *g* and to pass through the openings in the metal body of the presser-foot, thus securely anchoring
 60 the rubber to the metal, while at the same time furnishing a cushion or frictional contact between the lower face of the beam and the upper face of the presser-foot, so that the tongue may be arranged to move loosely in
 65 the groove, but as soon as pressure is applied the rubber or other cushion between the sur-

faces will prevent all danger of slipping. It will be seen that these intermediate cushions might be attached separately, but we prefer to construct these cushions in the manner de-
 70 scribed.

Having therefore described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In combination with the suitable beam
 75 or line-former to use with hand printing-type, said type comprising a type-supporting block and rubber printing-face mounted thereon, the type-guide having two or more shoulders of a suitable depth so that the type-body can
 80 be brought into contact with the said shoulders and moved down accurately in close contact therewith to guide the type on the paper, said shoulders being set away from the beam so as to guide the type in a different line from
 85 that formed by contact of the beam, said guide having its lower surface raised out of contact with the surface to be printed upon, substantially as shown.

2. The combination of a suitable beam hav-
 90 ing a longitudinal undercut groove, with a presser-foot provided with a tongue to enter and slide and be retained in said groove substantially as shown.

3. The combination of a suitable beam, a
 95 presser-foot to be adjusted longitudinally thereon and a cushion-surface between the two, substantially as shown.

4. The combination of a suitable beam, a
 100 presser-foot to be adjusted thereon, the latter having a cushioned lower face and a cushion between its upper face and the beam, substantially as shown.

5. The combination of a suitable beam hav-
 105 ing a dovetail-shaped longitudinal groove, with a presser-foot having a dovetail-shaped projection adapted to enter said groove, and a suitable type-guide, substantially as shown.

6. In combination with a beam and type-
 110 guide, a presser-foot having an opening through it and rubber cushion secured in said opening and projecting at each side thereof, substantially as shown.

7. The combination in a hand printing de-
 115 vice of a movable presser-foot provided with a centrally-arranged projection or tongue, a suitable beam provided with a groove to receive said tongue and a suitable type-guide, substantially as shown.

8. The combination in a hand printing de-
 120 vice of a suitable beam having a centrally-arranged longitudinal undercut groove in its lower face, a presser-foot having a centrally-arranged tongue to operate in said groove, substantially as shown.
 125

9. The combination of a suitable beam and
 130 a type-guide having a deep guiding-surface for the type extending downward substantially from the level of the top of the beam, said guide having also a broad top surface for a finger-rest, and having at the outer side a foot adapted to rest upon the paper beyond

the line of print and support the guide above the paper.

10. The combination in a hand printing device, of a beam provided with a longitudinal dovetail groove, a presser-foot formed with a tongue to enter and slide in said groove, said tongue being recessed, and a rubber face on the presser-foot and rubber integral there-

with in said recess in the tongue and a suitable type-guide, substantially as shown.

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