(No Model.)

A. H. ARNOLD.

ADJUSTABLE ANGULAR AND CIRCULAR COMPOSING BAR.

No. 474,649. Patented May 10, 1892.

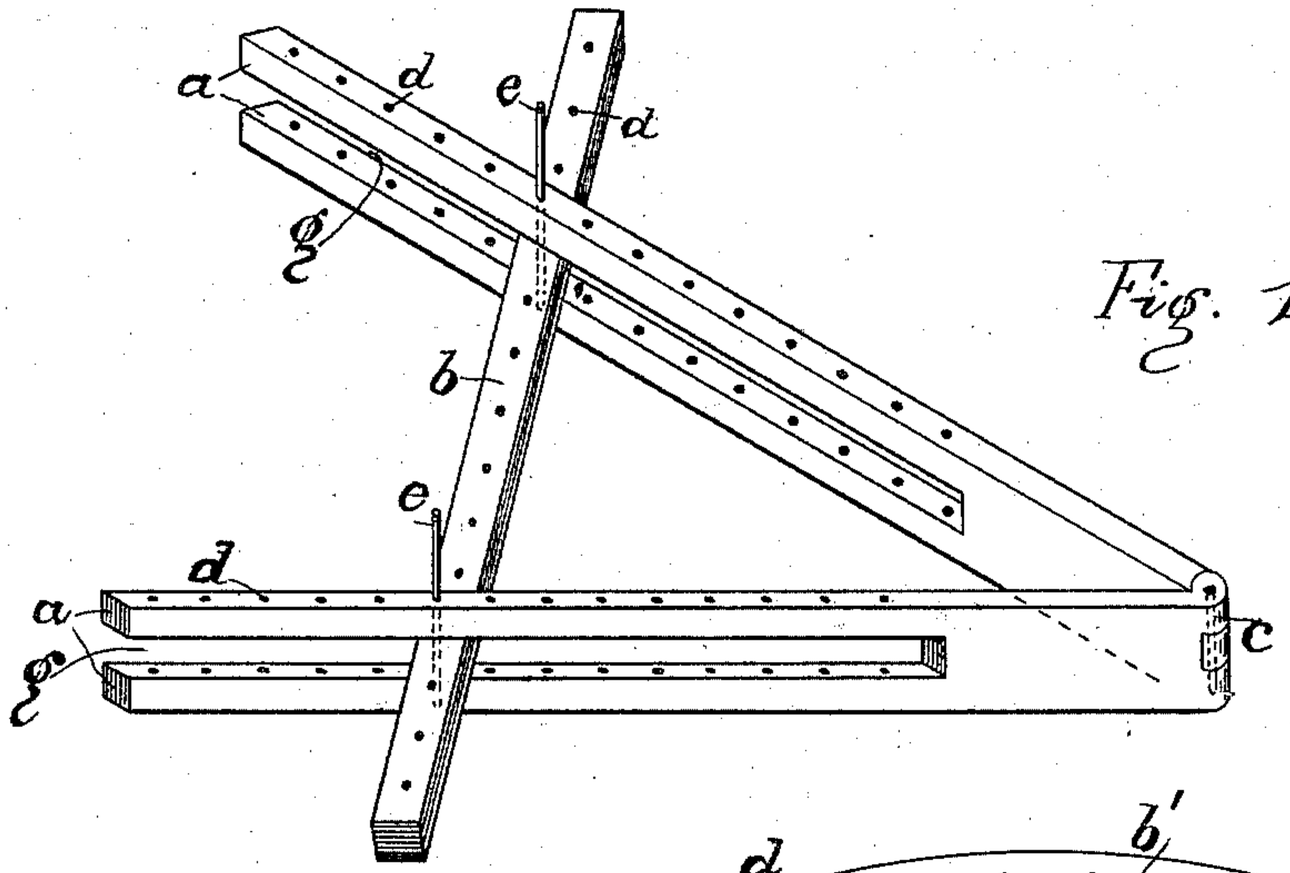

Fig. 1.

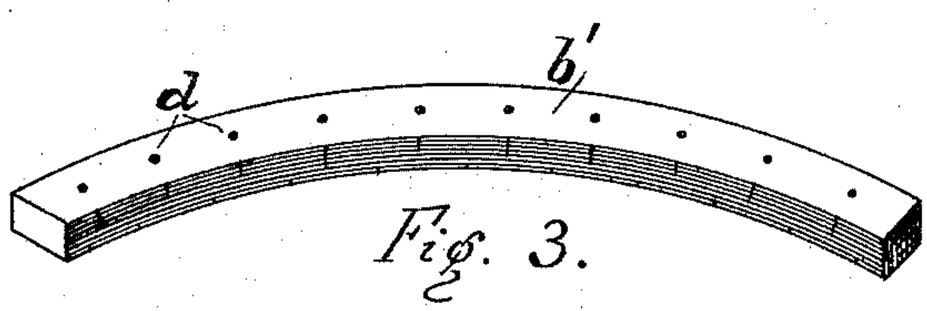

Fig. 3.

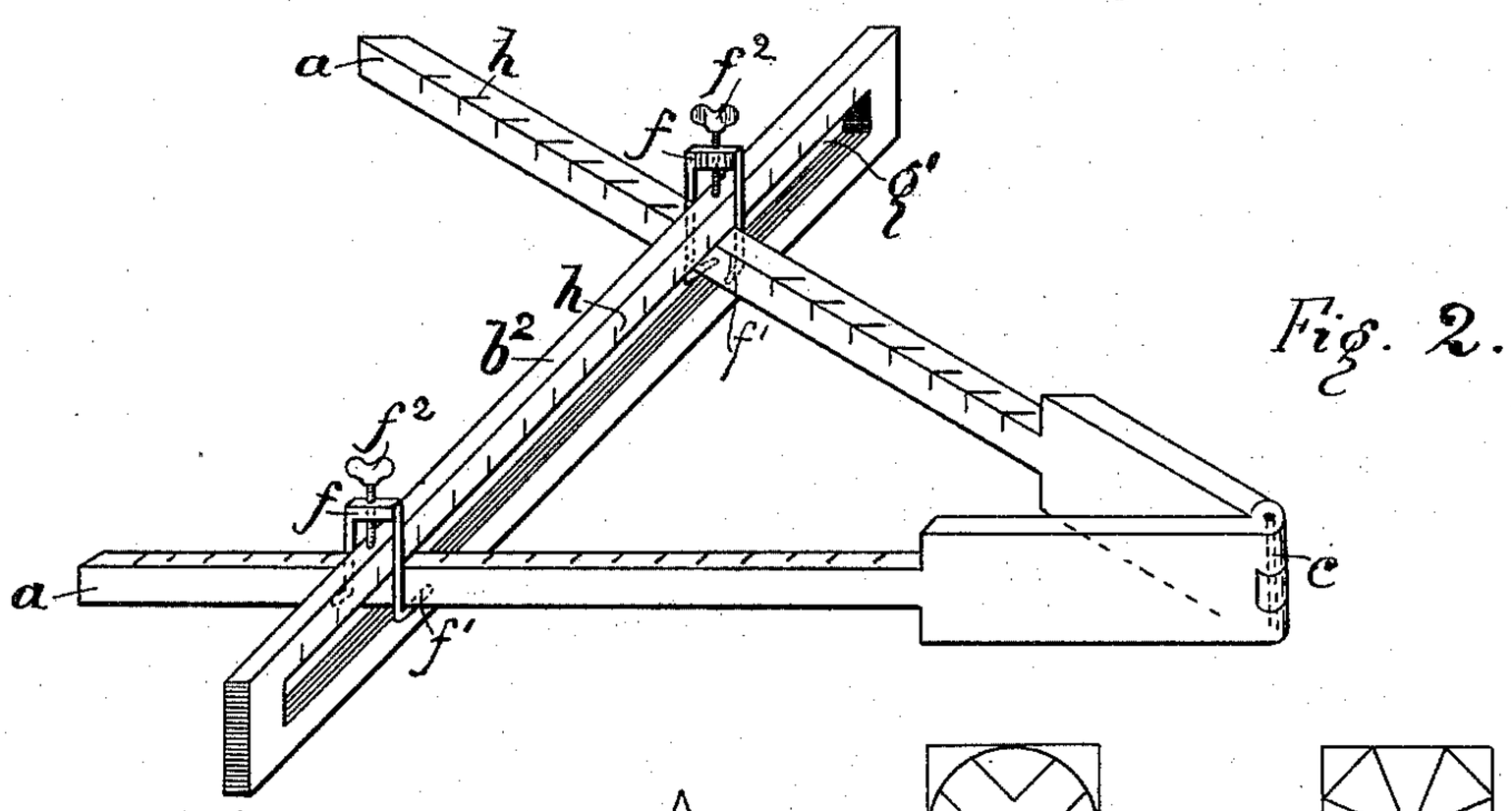

Fig. 2.

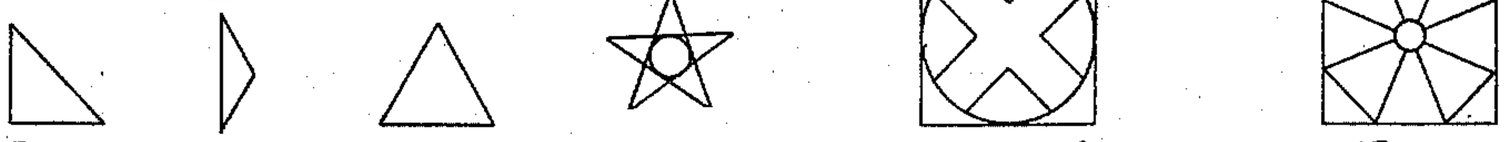

Fig. 4 Fig. 5 Fig. 6 Fig. 7 Fig. 8 Fig. 9

Witnesses
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UNITED STATES PATENT OFFICE.

ALEXIUS H. ARNOLD, OF CHICAGO, ILLINOIS.

ADJUSTABLE ANGULAR AND CIRCULAR COMPOSING-BAR.

SPECIFICATION forming part of Letters Patent No. 474,649, dated May 10, 1892.

Application filed February 16, 1892. Serial No. 421,665. (No model.)

To all whom it may concern:

Be it known that I, ALEXIUS H. ARNOLD, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Adjustable Angular and Circular Composing-Bars, which are fully set forth in the following specification, reference being had to the accompanying drawings, forming a part hereof, and in which—

Figures 1 and 2 show my device in perspective in different forms of construction. Fig. 3 shows another form of cross or connecting bar, and Figs. 4, 5, 6, 7, 8, and 9 show in outline some of the varieties of form of composition possible with my said new device.

Like letters of reference denote like parts.

The object of my invention is to produce composing-bars for printers' use which are adjustable to any angle and capable of producing circular work in indefinite varieties of forms, some of which, to give a general idea, are shown in Figs. 4, 5, 6, 7, 8, and 9 of the accompanying drawings. My said new device is constructed in substantially the following manner, namely: I provide two blades *a a* of suitable length and hinge them together at one end with a hinge *c*, so constructed that the inner sides of said bars will meet in a sharp edge. Said bars are connected by an adjustable transverse bar, as *b*, *b'*, or b^2, which may be a simple square bar, as shown in Fig. 1, or it may be slotted and as wide or high as the bars *a a*, depending on the construction of said bars *a a*. If said bars *a* are slotted through their length, as shown in Fig. 1 at *g*, the form of the bars as there shown will be used; but if they are shouldered, as shown in Fig. 2, then the bar *b* is slotted, as shown in said figure at *g'*, and in either case said bars may be curved, as shown in Fig. 3 at *b'*, and the concave or convex edge thereof may face the point or hinge of the blades. Said hinged bars and cross-bars are provided with scales in "pica" measure, consisting in Fig. 1 of holes *d*, passing through both limbs of said blades *a*, pitched according to said scale, and the straight bar *b* or curved bar *b'*, being provided with correspondingly-pitched holes, all adapted to receive the pins *e*. A like arrangement of holes and use of pins may be applied to the construction shown in Fig. 2, or in lieu thereof a scale *h* may be marked on the said several pieces and clamps employed to hold said parts together.

The construction of my clamp, as herein shown, consists of a thumb-screw f^2, passing through a block *f*, from which depend rods on opposite sides thereof, provided on their lower ends with hooks *f'*, adapted to pass under the lower edge of the bar *b* or blades *a*, as the case may be. Said bars *a* and *b* may slide freely upon each other and through said clamps, and when adjusted to the right point the screw f^2 is set upon the bars, by means of which said parts are firmly clamped together. It may be observed that said bars *b* or *b'* may be of any desired length and that the curved bars b^3 may form any part of or even a complete circle.

To use my said device, I first ascertain the form and size of the desired figure in which the compositor's work is to appear and then set the blades *a* to the required angle, after which the cross-bar is set according to the desired area and fastened. The frame so formed is then set upon a suitable table and the desired composition set up within it. After the type are set up within such a frame they are tied up in the usual manner and the frame removed, after which they are handled like any other similar matter. The height of the bar b^2, with its slot *g*, is to be the same as that of the bars *a*, which is somewhat less than that of the type, so that they may be manipulated, as above specified.

By the use of my said new device I can set up the several individual figures of a complex form of composition and be sure to have each part fit to its place, and thereby save a great deal of delay and failure, as heretofore was the case because such work was produced without any means to guide the compositor other than "cut-and-try" experiments, now unnecessary.

What I claim is—

1. Printers' composing-bars consisting of a pair of blades hinged together at one end and provided with suitable measuring-scales, in combination with an adjustable connecting-bar provided with a corresponding scale and mechanism to hold said several parts together, substantially as specified.

2. Printers' composing-bars consisting of a

pair of longitudinally-slotted and adjustably-hinged blades provided with holes pitched to pica measuring-scales, in combination with an adjustable connecting-bar playing through said slots and provided with like pitched holes and pins to connect said parts through said holes, substantially as specified.

3. Printers' composing-bars consisting of a pair of hinged and longitudinally-slotted bars provided with holes pitched to pica measure, in combination with a curved and adjustable connecting-bar with like spaced holes and pegs to connect said parts through said holes, substantially as specified.

ALEXIUS H. ARNOLD.

Witnesses:
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