

(No Model.)

L. B. BENTON.
TYPE.

No. 545,568.

Patented Sept. 3, 1895.

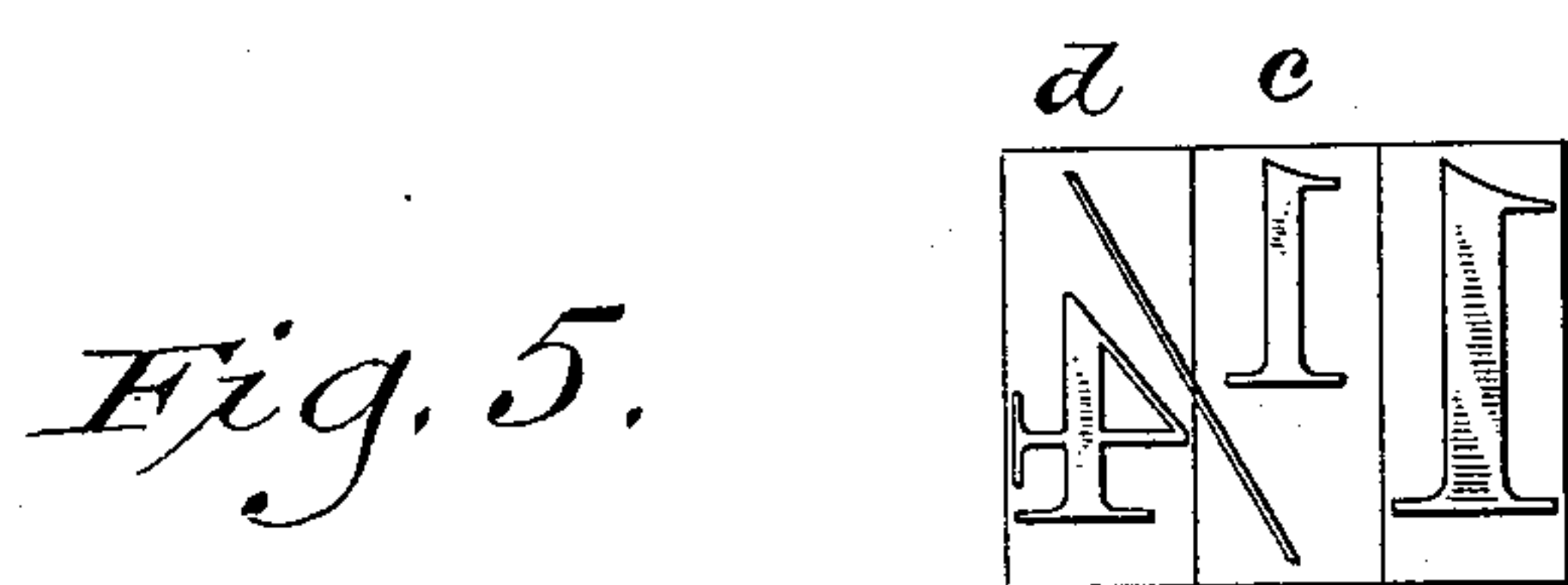
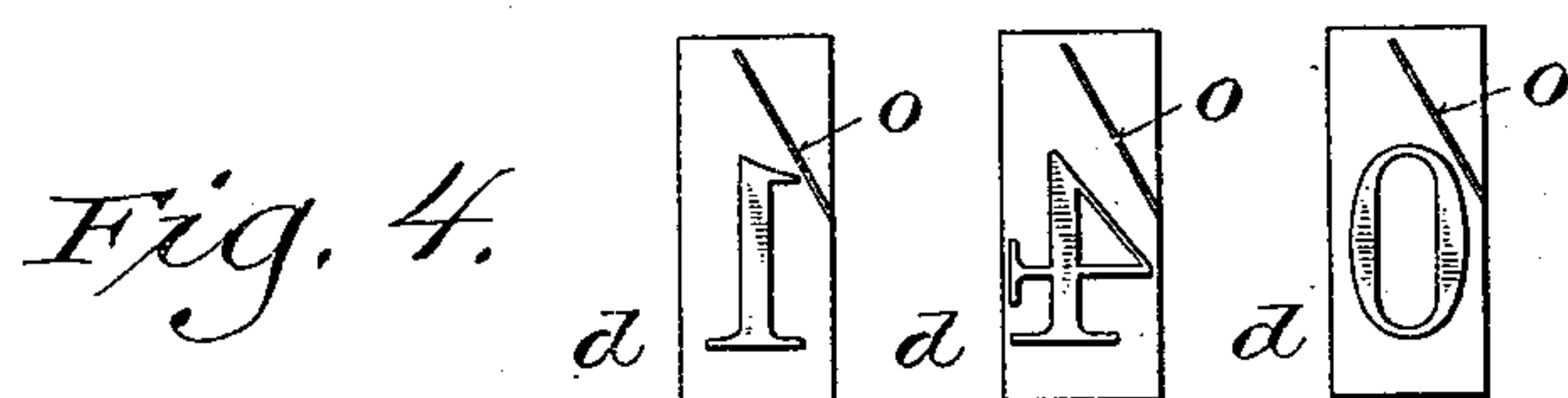
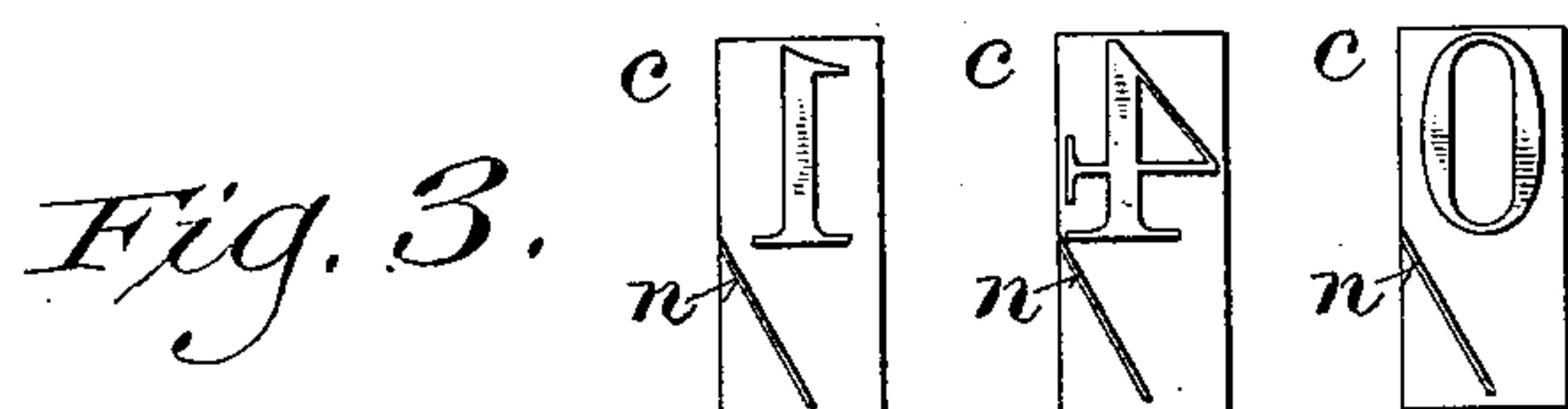
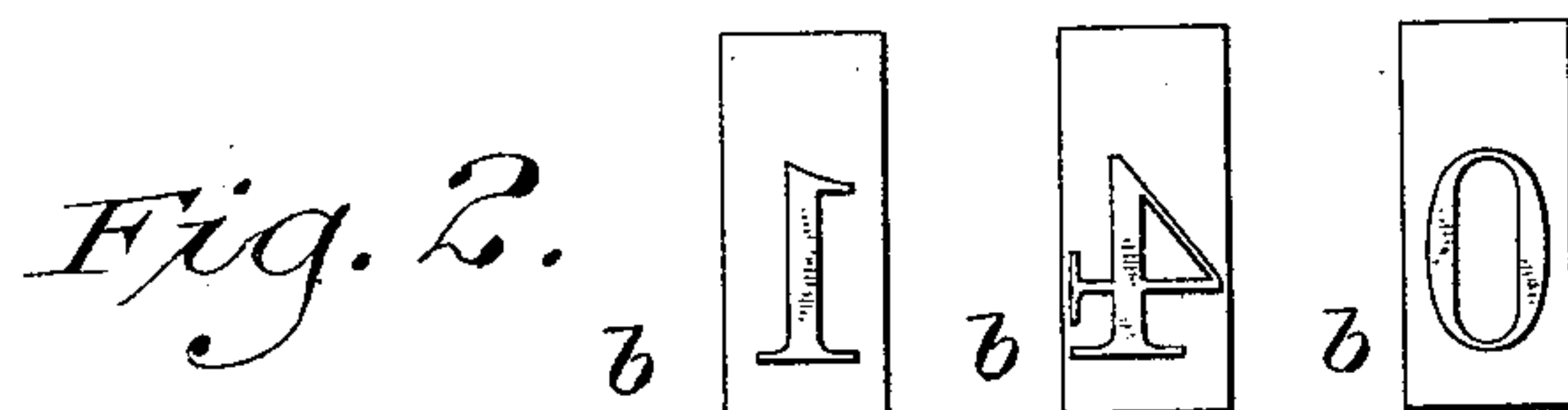
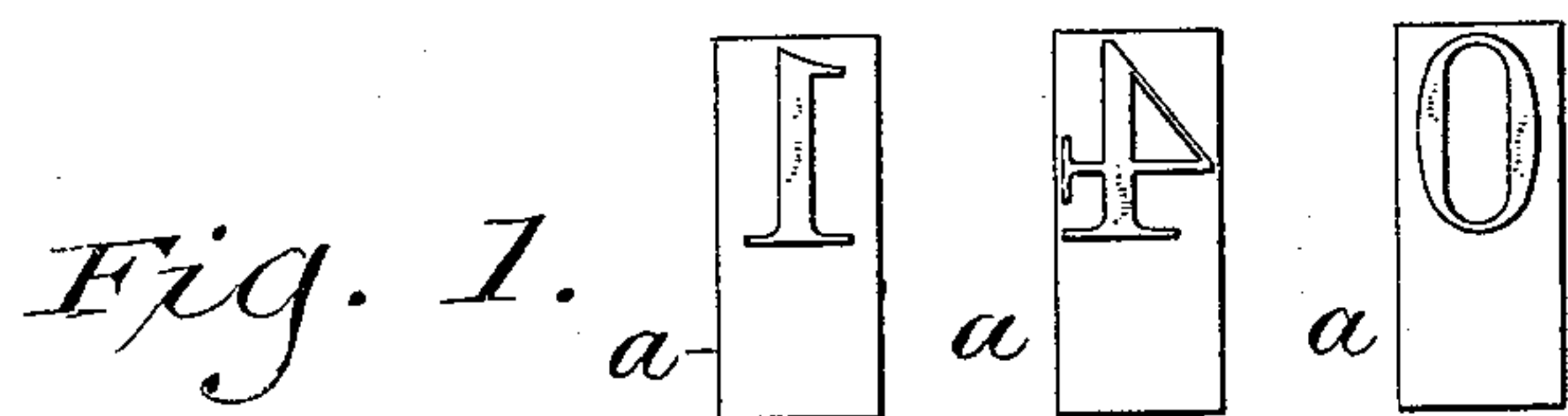
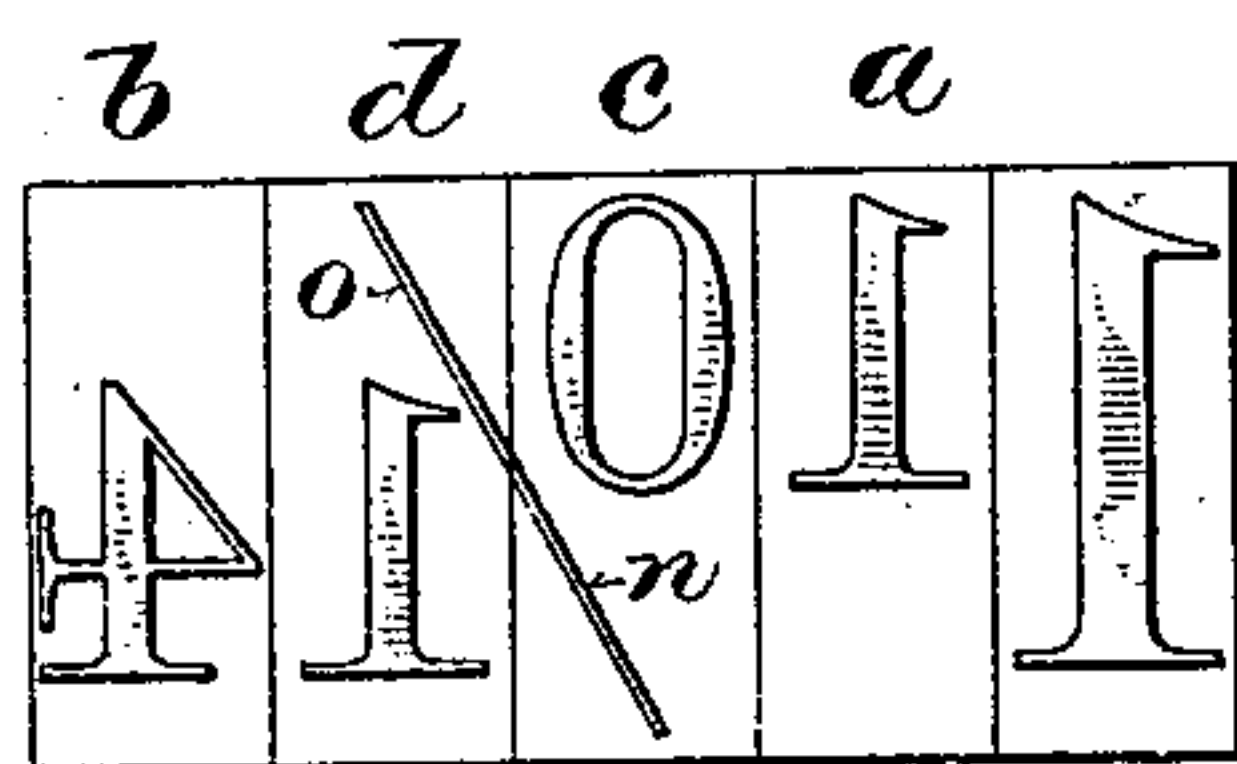


Fig. 6.
Witnesses:
Geo W. Young.
Chas. L. Goss.



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UNITED STATES PATENT OFFICE.

LINN BOYD BENTON, OF MILWAUKEE, WISCONSIN, ASSIGNOR TO THE AMERICAN TYPE FOUNDERS COMPANY, OF NEW YORK, N. Y.

TYPE.

SPECIFICATION forming part of Letters Patent No. 545,568, dated September 3, 1895.

Application filed March 1, 1893. Serial No. 464,162. (No model.)

To all whom it may concern:

Be it known that I, LINN BOYD BENTON, of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Type; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to piece-fractions, and its main object is to facilitate setting and improve the construction of this class of type.

It consists, essentially, in forming the figures on bodies of the same body-wise dimension as those of the regular font figures or characters with which they are intended to be used, and in casting the dividing-lines partially on bodies with ascending figures and partially on bodies with descending figures.

In the accompanying drawings like letters designate the same parts in the several figures.

Figure 1 shows a number of ascending figures without dividing-lines embodying my invention. Fig. 2 shows a number of descending figures without dividing-lines; Fig. 3, ascending figures with a portion of the dividing-lines; Fig. 4, descending figures with the remaining portion of dividing-lines; and Figs. 5 and 6 illustrate the use and mode of setting my improved piece-fractions with regular font figures.

As heretofore constructed, piece-fractions have been cast on bodies of one-half the body-wise dimension of bodies of the regular font figures or characters with which they were intended to be used. For example, piece-fractions for use with pica have been cast on nonpareil bodies, and the dividing-lines have usually been formed in a horizontal position entirely upon the bodies of ascending figures. It is obvious that with piece-fractions cast in this manner it is necessary to set and justify two lines of figures to each line of regular font figures or characters, but with piece-fractions constructed according to my plan the same line is carried out in the composition of frac-

tional work as in the composition of regular font characters or figures, and hence time and labor both in composition and justification are saved.

My improved piece-fractions comprise four sets of figures—one set in which the figures are cast on the upper portion of their bodies without dividing-lines, as *a a*, (shown in Fig. 1,) another set cast on the lower portion of their bodies without dividing-lines, as *b b*, (shown in Fig. 2,) another set cast on the upper portion of their bodies, as *c c*, (shown in Fig. 3,) with portions *n n* of oblique dividing-lines, and another set cast on the lower portion of their bodies, as *d d*, (shown in Fig. 4,) with the remaining portions *o o* of the oblique dividing-lines. These several sets of figures are all cast on bodies of the same vertical or body-wise dimension as the bodies of regular font figures or characters with which they are designed to be used. For example, piece-fractions for use with a font of pica are cast on pica bodies instead of on nonpareil bodies, as heretofore. The figures placed on the upper portion of their bodies may be designated "ascending" and those placed on the lower portion of their bodies "descending" figures. By placing the division-lines *n* and *o* obliquely upon the bodies I am enabled to increase the vertical dimension of the figures over that of figures of corresponding fonts constructed according to the old method. The portions *n n* of the division-lines cast with ascending figures join, when set with descending figures, the remaining portions *o o* of such lines cast therewith, as shown in Figs. 5 and 6.

In setting fractions the numerators and denominators of which embrace or contain more than one figure, the last figure of the numerator is selected with a part of the dividing-line and the first figure of the denominator is selected with the remaining part of the dividing-line. Other figures of the numerator or denominator are selected from the ascending or descending figures without dividing-lines, as shown in Fig. 6.

My improved piece-fractions may be constructed upon the scheme set forth in United States Letters Patent No. 290,201, dated December 18, 1883, in which the bodies of the characters are all made running-wise mul-

tiples of a unit, so as to facilitate composition and produce perfect justification. By the "running-wise" dimension of type-bodies I mean that dimension which is parallel with the line, and by the "body-wise" dimension that dimension which is perpendicular to the line. It will be observed that whatever increase is secured in the height or body-wise dimension of figures by my method of casting piece-fractions is at the expense of the running-wise dimension or space in the direction of the line; but this loss of space is immaterial and tends to make the figures clearer and more legible.

I claim—

1. Piece fractions formed on bodies of the same body-wise dimension as those of regular font figures or characters with which they are designed to be used and having dividing lines cast partially on bodies with ascending figures and partially on separate bodies with descending figures, substantially as and for the purposes set forth.

2. Piece fractions formed on bodies of the same body-wise dimension as those of regular font figures or characters and comprising one set of figures formed on the upper portion of their bodies with a portion of dividing lines, and another set formed on the lower portion

of their bodies with the remainder of the dividing lines, substantially as and for the purposes set forth.

3. Piece fractions comprising one set of figures formed on the upper portion of their bodies with a portion of oblique dividing lines, and another set of figures formed on the lower portion of their bodies with the remaining portion of the oblique dividing lines, substantially as and for the purposes set forth.

4. Piece fractions cast on bodies of the same body-wise dimension as those of regular font figures or characters with which they are designed to be used, and comprising one set of ascending figures with a portion of oblique dividing lines, one set of ascending figures without such lines, one set of descending figures with remaining portions of the dividing lines, and one set of descending figures without such lines, substantially as and for the purposes set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

LINN BOYD BENTON.

Witnesses:

CHAS. L. GOSS,
R. V. WALDO.