

No. 615,340.

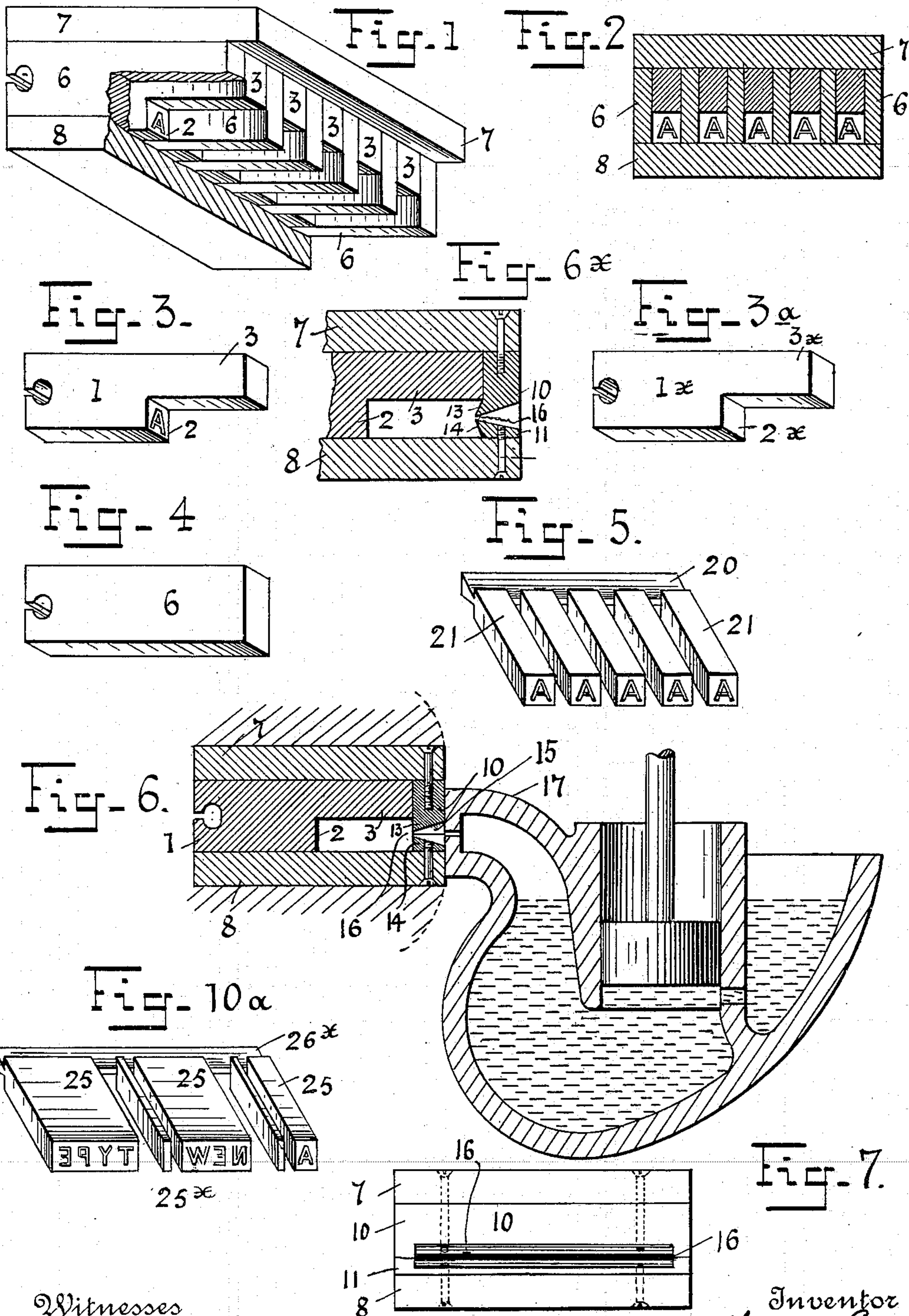
Patented Dec. 6, 1898.

W. BERRI.
TYPE COMB.

(Application filed Nov. 13, 1896.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses
Chas. Hanemann
Henry V. Brown.

By *W* Attorney

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2 Sheets—Sheet 2.

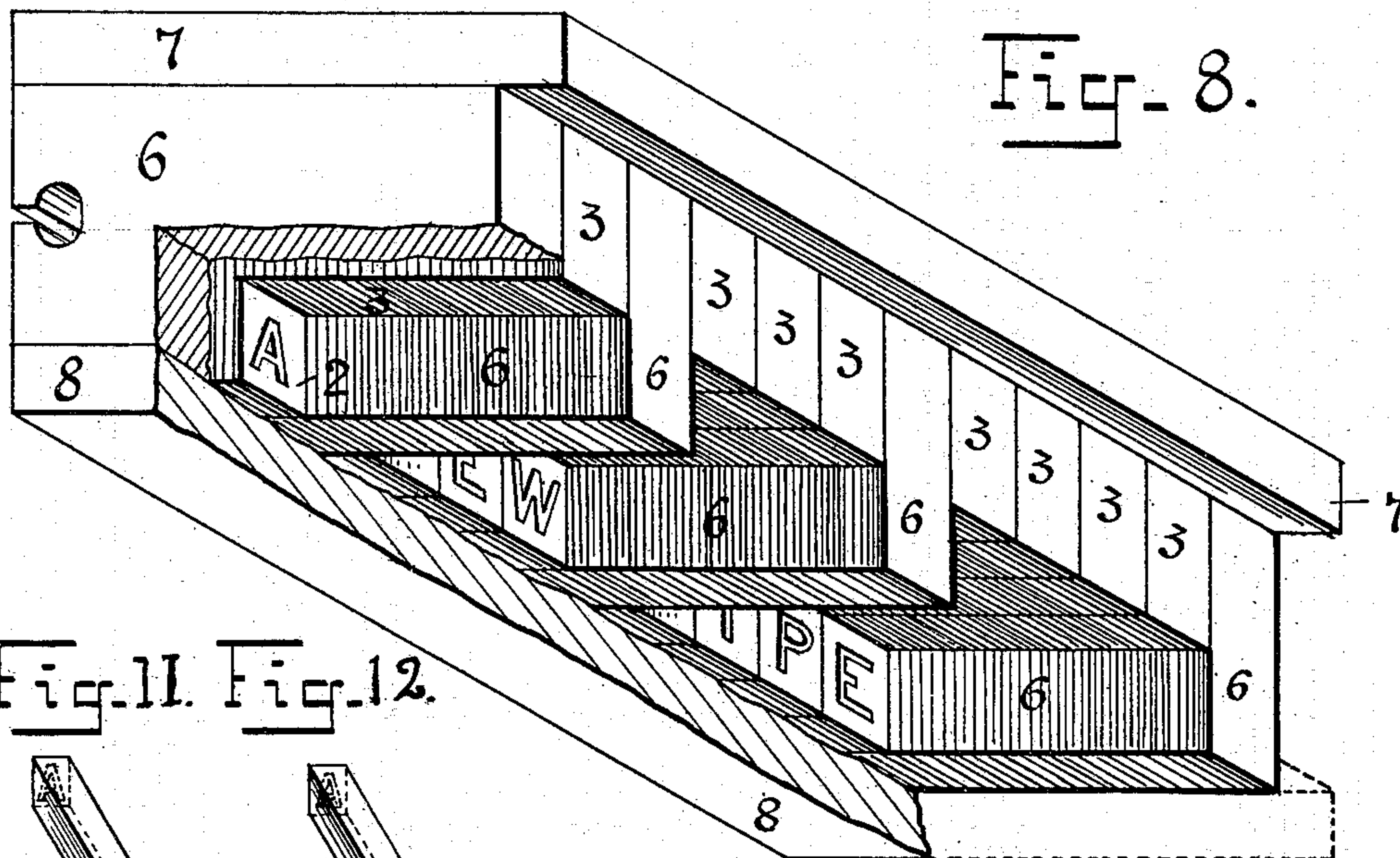


Fig. 11. Fig. 12.

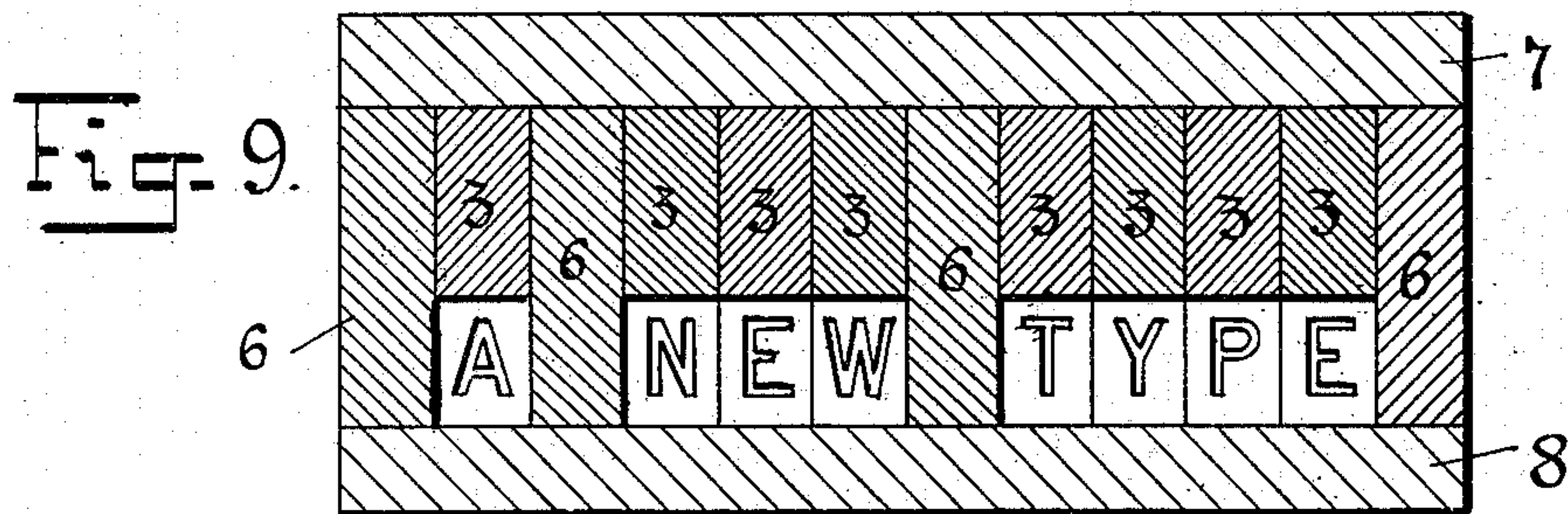
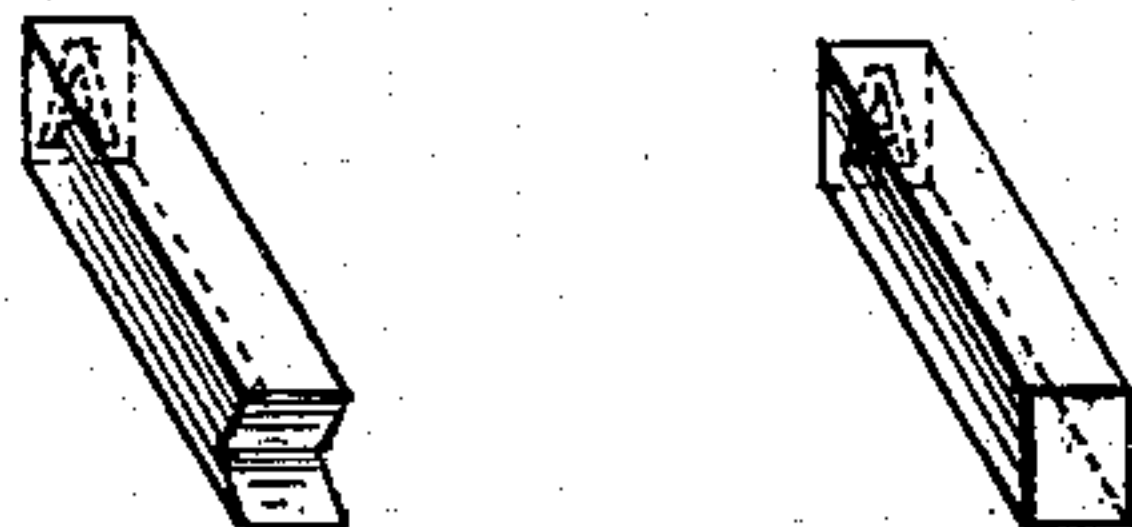
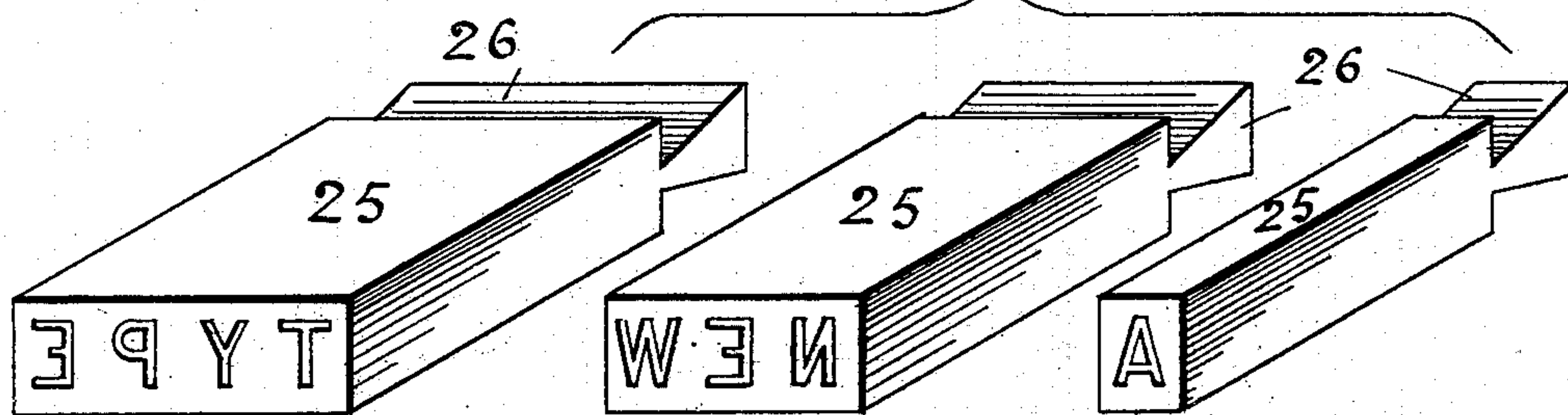


Fig. 10.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM BERRI, OF NEW YORK, N. Y.

TYPE-COMB.

SPECIFICATION forming part of Letters Patent No. 615,340, dated December 6, 1898.

Application filed November 13, 1896. Serial No. 611,931. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM BERRI, a citizen of the United States, and a resident of the city of New York, (Brooklyn,) in the county of Kings and State of New York, have invented certain new and useful Improvements in Type-Combs, of which the following is a specification.

My invention relates to improvements in type-combs, and particularly to a comb of finished type. This comb consists either of repetitions of the same letter, character, word, or space, all connected at the back by a sprue or jet, or of individual letters, characters, words, and spaces, which differ one from another and are already justified and arranged in the order they are to assume in the printed form. Such a product is, I believe, new in the art of printing, and the comb greatly facilitates and cheapens the production of fonts of type, especially for small offices, for it enables the finishing operations after the comb is cast to be performed on numerous letters, characters, or spaces at once while still on the comb and facilitates handling during the finishing processes.

The said type-comb may be manufactured by using the mold which is illustrated in the drawings which accompany this application, and is hereinafter described. Said mold, however, being the subject of another of my applications for Letters Patent of the United States, Serial No. 576,471, filed January 22, 1896, and now pending, is not herein claimed. In general, however, said mold consists of a number of mold-bars having a recess closed on two and open on four sides and of plates which close against the open sides of said recesses. The matrix for the letter, word, or character is formed on one of the said closed sides or the walls of the recess, and this wall I term the "end of the mold." The plates at the sides of the recess and between one of said mold-bars and the next completely close the sides of each said recess and separate it from the adjacent recess, thereby forming individually-separated and completely-closed molds, so that the comb when cast consists of a number of individually distinct and separate type connected only through the sprue at their backs. The said molds may be also arranged to cast justified spaces integral with

the type-bodies or to cast justified spaces separate from the type-bodies, so that in each case the product will already be arranged and justified for the form.

Referring to the drawings which accompany this specification to aid the description, Figure 1 is a broken perspective view of a mold for casting "type-combs," and Fig. 2 a longitudinal vertical section of the same. Fig. 3 is a perspective view of a type-bar for forming the molds, and Fig. 3^a a similar view of a space-bar for forming space-molds. Fig. 4 is a perspective view of a plain bar forming the partition between two molds. Fig. 5 is a perspective view of a type-comb. Fig. 6 is a cross-section of a mold and casting-pot in position. Fig. 6^x is a broken vertical section showing the shape of the mold for forming the sprue. Fig. 7 is a front elevation of the mold for the sprue or jet. Fig. 8 is a broken perspective view of a mold arranged for casting both single letters and logotypes. Fig. 9 is a longitudinal vertical section of the same. Fig. 10 shows perspectives of three products of the mold. Fig. 10^a shows a modified form of a type-comb. Fig. 11 is a perspective of a finished type broken from the comb and with a concave end. Fig. 12 is a similar view of a finished type with the end squared.

For casting single letters, figures, or characters, 1 is a mold-bar, provided with a shoulder 2, which forms an end of the mold and carries the character in intaglio or relief. An extension 3 forms one side of the mold. Thus the said shoulder 2 and extension 3 form a recess which is closed on two and open on four sides, and these bars are an essential feature of my invention. Plain rectangular bars 6 are arranged between two adjacent mold-bars 1 1, Fig. 2, and similar plain bars are placed at the extreme ends of the line. Solid top and bottom plates 7 and 8 are arranged, respectively, above and below the mold-bars 1 and plain bars 6. Thus the said bars 6 completely close the sides of each mold and separate it from the adjacent molds, so that the type-metal cannot flow from one mold to the other under or through said plate 6. The said several mold-bars, plain bars, and plates are held together during the operation of casting by any suitable clamp, and the various bars and

plates may be assembled either by hand or any suitable machinery. The bar 1^x, Fig. 3^a, for the space-molds is similar to the aforesaid mold-bars 1, except that the extension 3^x is a very little shorter than the extension 3, so that the type character will stand above the space, and the shoulder 2^x is plain, as shown.

When the several parts are assembled and arranged as above described, there is formed a series of type and space molds, each type-mold carrying a matrix of a character on its inner end.

The mold for the sprues or jets is composed of two plates 10 11, secured, respectively, to the plates 7 8. Adjacent to their meeting edges and for a distance equal to the length of the assembled mold-line said plates 10 11 have a beveled recess, the edges of which do not quite meet, so that there is formed a long narrow slit 16 at the inner side of the mold. (See Fig. 6^x.) I may also incline the inner face of each of said plates 10 11 inwardly, as at 13 14, to produce a slight concavity in the back or bottom of the slug, which will permit the bottom of the type to be accurately finished and will facilitate breaking the bars from the sprue. The nozzle 17 of the casting-pot 18 is brought and held in line against the said chamber 15, said nozzle 17 being of equal length and width to said chamber, and the molten type-metal is injected in the usual manner into all the molds at one operation.

As the casting-pot and pump are well known in the art, they are not specifically claimed by me. When the metal is cooled, the casting-pot having been withdrawn, the top and bottom plates 7 8 with the plates 10 and 11 are removed and the type-comb, Fig. 5, drawn out by taking hold of the sprue. The individual letters, characters, or spaces are then cleaned and finished in the comb, so that the final product is a comb of finished type consisting of a number of similar letters, words, characters, or spaces joined at the back by the sprue 20.

The molds may be readily arranged to cast the type-bodies of such width as to justify the line or to cast separate spaces of such width as, when inserted in the line, will justify it. For casting the type-bodies of the proper width for justification thin metal strips about of the thickness of the spaces used by compositors in type-setting, but of the same shape as the side elevation of the mold-bars 1, Fig. 3, are placed at the sides of said mold-bars and next to the plates 6. In this manner the molds will be opened to the desired extent to cast type-bodies of the proper width for justification, or, as it may be expressed, the type-bodies will be cast with integral justified spaces. Similarly separate spaces of

proper width for justification may be cast by placing at the sides of box 1^x of the space-molds, Fig. 3^a, thin plates or spaces of the same shape as the side elevation of said bar. The space-molds will be opened in this manner to the desired extent for casting the justified spaces.

A mold once assembled can be used for many castings, and since many type-bars or logotypes are cast at a single operation the invention furnishes very cheap and expeditious means of casting fonts of type and provides for equipping small offices with appliances for casting their own type as needed.

For casting logotypes consisting of several letters, figures, or characters, the type-bars 1 are arranged in the proper order to make, for example, words. Thus Figs. 8 and 9 show them arranged to cast the logotypes "A^{xxx} NEW^{xxx} TYPE." Between the group of type-bars forming each word a plain bar 6 is arranged as before, and similar bars 6 are placed at the extreme ends of the line. The top and bottom plates and the mold for the jets are arranged as hereinbefore described. Molds for casting spaces may be arranged where desired in the line. The product of this arrangement of the molds is a logotype 25, provided with a sprue 26, which can be broken off when desired.

Now, having described my improvement, I claim as my invention—

1. As a new article of manufacture in the art of printing, a comb of finished type, consisting of a number of type-bodies carrying similar letters, characters, words or spaces, connected at the back by a sprue, substantially as described.

2. As a new article of manufacture in the art of printing, a comb of finished type, consisting of a number of type-bodies each carrying individual letters, words, and characters arranged in the order they are to occupy in the form, and said type-bodies connected at the back by a sprue, substantially as described.

3. As a new product in the art of printing, a comb of finished type consisting of a number of type-bodies each carrying individual words, letters, characters and spaces and justified and arranged in the order they are to occupy in the form and all connected at the back by a sprue, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 4th day of November, 1896.

WILLIAM BERRI.

Witnesses:

WM. H. AITKEN,
GEO. T. MUSSON.