

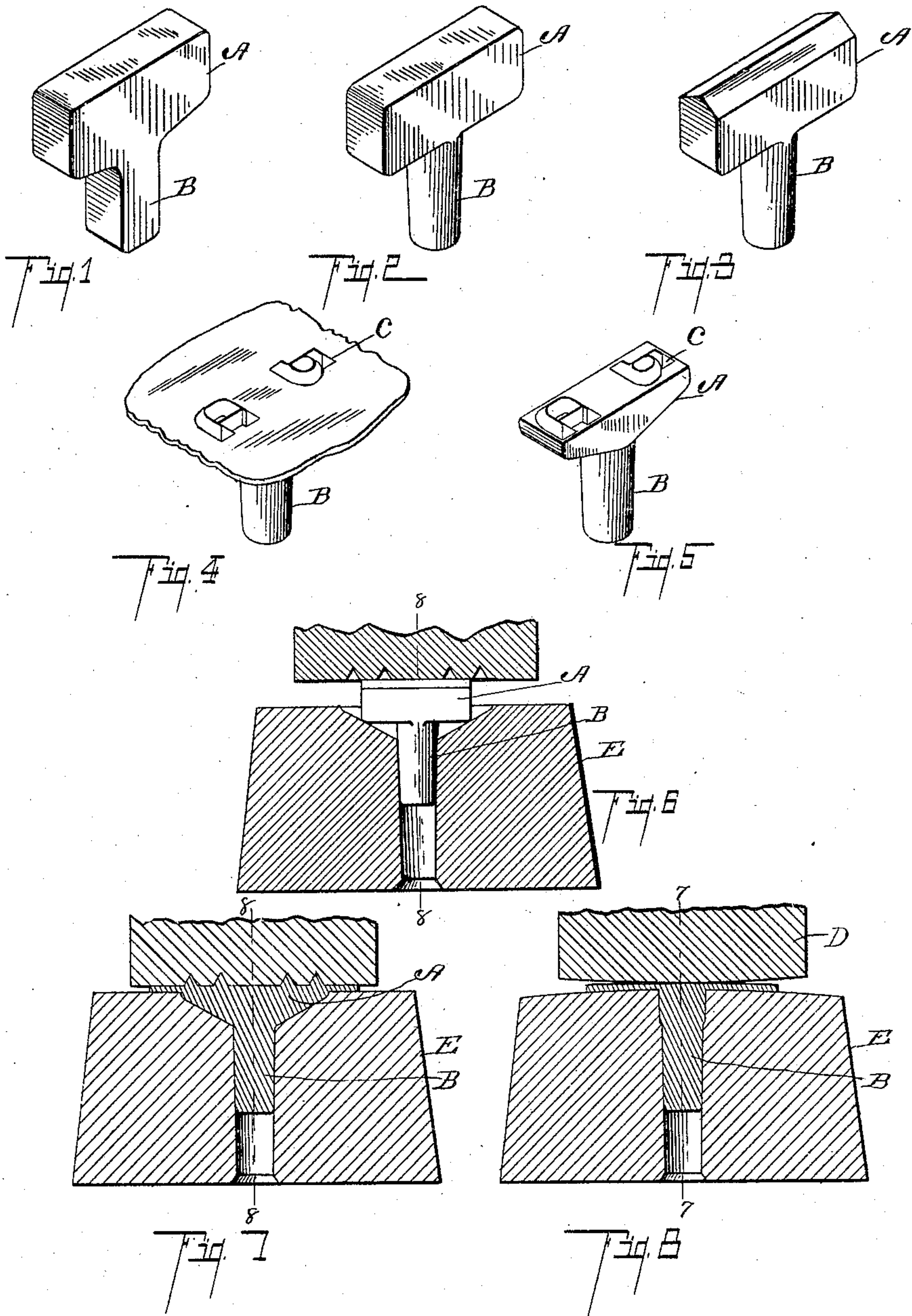
W. R. FOX.

METHOD OF MANUFACTURING DOUBLE TYPE FOR TYPE WRITING MACHINES.

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966,188.

Patented Aug. 2, 1910.



Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM R. FOX, OF GRAND RAPIDS, MICHIGAN.

METHOD OF MANUFACTURING DOUBLE TYPE FOR TYPE-WRITING MACHINES.

966,188.

Specification of Letters Patent.

Patented Aug. 2, 1910.

Application filed June 21, 1906. Serial No. 322,718.

To all whom it may concern:

Be it known that I, WILLIAM R. FOX, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Methods of Manufacturing Double Type for Type-Writing Machines, of which the following is a specification.

10 This invention relates to method of manufacturing double type for typewriting machines.

The objects of the invention are; first: to provide a very light and perfect type, and 15 second: to provide a method of producing type which shall be practical and result in the formation of perfect type expeditiously and with certainty.

20 Objects pertaining to details will definitely appear from the detailed description to follow.

I accomplish the objects of my invention by the devices and means described in the following specification.

25 The invention is clearly defined and pointed out in the claims.

30 I fully illustrate my improved type and method of forming the same in the accompanying drawing, a part of this specification, in which—

Figure 1 is a view, somewhat enlarged, of the rough blank as it is punched from a piece of sheet steel; Fig. 2 shows the next step of the process in which the shank is 35 formed by being turned round and smooth; Fig. 3 shows the next step of the process in which the sides of the blank are chamfered to a point at the center; Fig. 4 shows the blank after it has been acted upon by the rocking dies with a thin fin of metal projecting; Fig. 5 shows the finished article, the thin fin of metal having been cut away and the sides of the type finished giving the same a thin and gradual taper from the center each way; Fig. 6 is a detail sectional 45 view on a line corresponding to line 7—7 of Fig. 8 showing the blank of Fig. 3 in the die before pressure is applied to form the type; Fig. 7 is a detail sectional view of the method of forming the type between the rocking dies, taken on a line 7—7 of Fig. 8; and Fig. 8 is a detail sectional view transverse to the sectional view, taken on a line 8—8 of Fig. 7.

In the drawing similar letters of reference refer to similar parts throughout the several views.

Referring to the lettered parts of the drawing: The rough blank in the first place is punched out of a sheet of metal having a 60 generally conformed head A and a shank B, square in contour. At the next step the shank B is finished round, as indicated in Fig. 2. At the next step the type head A is chamfered on its face at each side on the 65 projecting ends of the head A being here substantially of even thickness. The type is then placed between the rocking dies D E, as indicated in Figs. 6 and 7, and pressure is applied as the dies are rocked, when the 70 metal flows out into a thin fin around the head. The die being tapered to give the head a taper toward each end, as indicated in Fig. 6, and pressure being applied in this way causes the metal to swage perfectly into 75 the die, so that the type are very perfect and the metal of the type very compact. The type, after this step of the operation, present the appearance indicated in Fig. 4. The thin fin is then trimmed off and the type 80 smoothed up when the finished type of the form appearing in Fig. 5 is the result.

This method of producing type differs from those that have gone before, in that the die is so formed that the metal opposite the 85 type is forced into a comparatively thin wedge shaped or tapering mass from a thick heavy end portion, and the heavy pressure required to do this produces perfect type, and, at the same time, so forms the type that 90 a minimum of metal is used. This will be very clear from examining Figs. 6, 7 and 8, the blank to be acted on appearing in position in Fig. 6. The advantage is obvious, in the improved product and in the greater 95 efficiency of the process.

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

1. The process of manufacturing a double 100 type, consisting in punching from sheet metal a blank of the general form, the head A and shank B, rounding the shank and forming the head of equal dimensions from end to end and chamfering the face to a 105 thin apex, swaging the same in a die formed to taper the head toward each end, thereby applying heavy pressure to the type to com-

pact the metal and insure a perfect type, then removing the fin of metal to finish the type, as specified.

2. The process of manufacturing a double
5 type, consisting in punching from sheet metal a blank of the general form, the head A of equal dimensions from end to end transversely and the shank B, rounding the shank then swaging the head in a die to
10 taper the head toward each end, thereby applying heavy pressure to the face of type to

compact and contract the metal and insure a perfect type, then removing the fin of metal to finish the type, as specified.

In witness whereof, I have hereunto set 15
my hand and seal in the presence of two witnesses.

WILLIAM R. FOX. [L. s.]

Witnesses:

KATHARINE KUNZI,
ETTA HELMKA.