

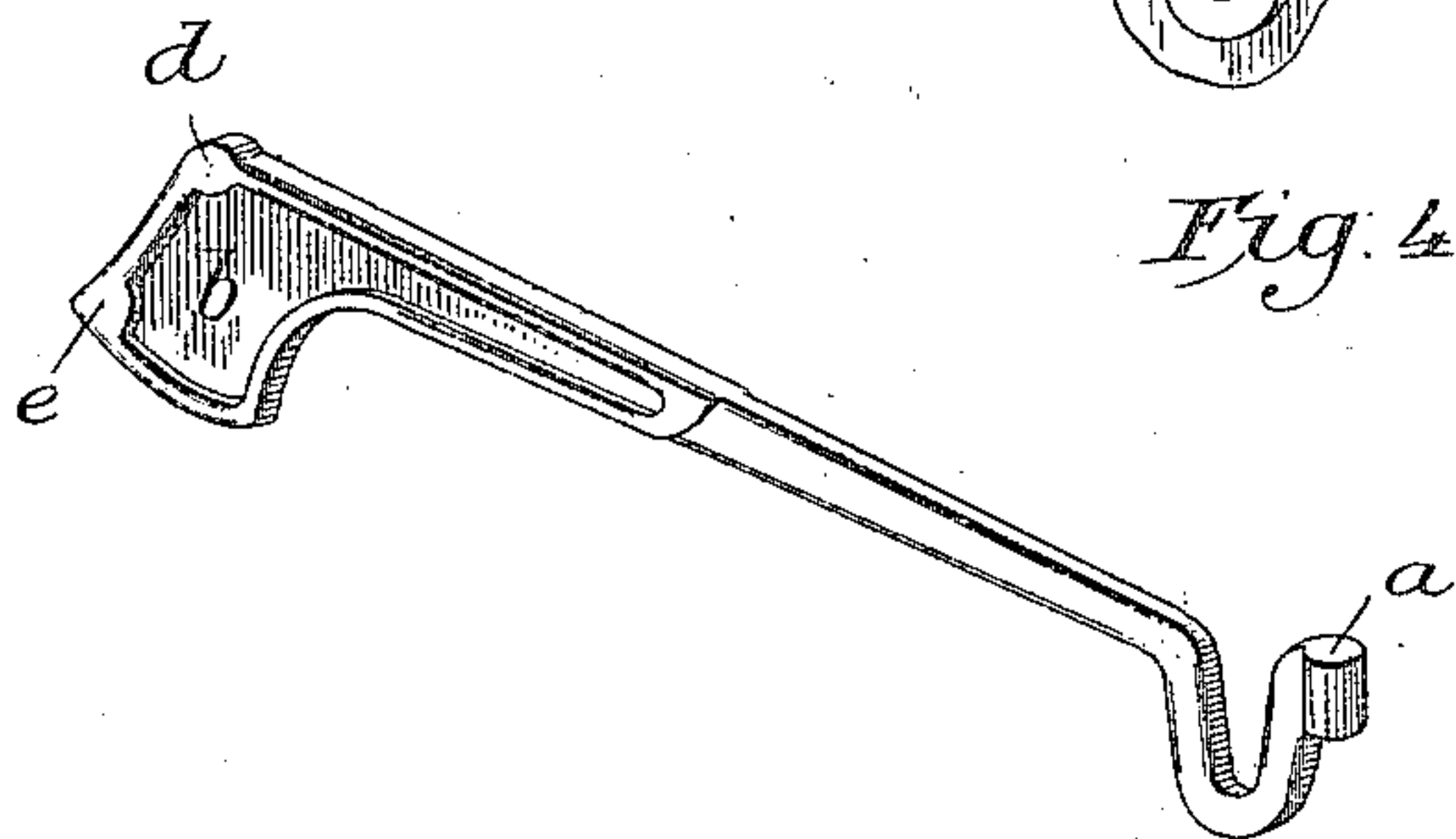
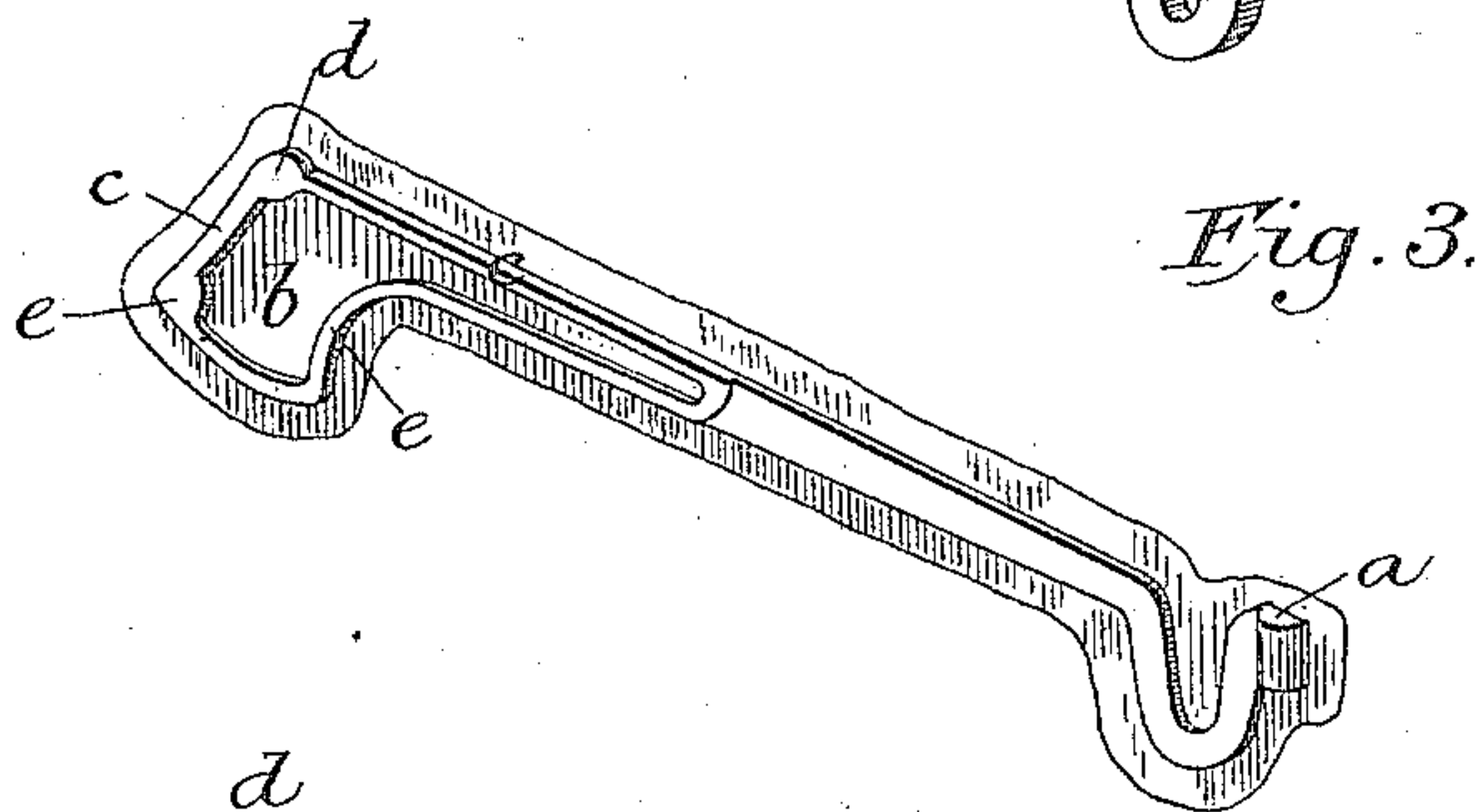
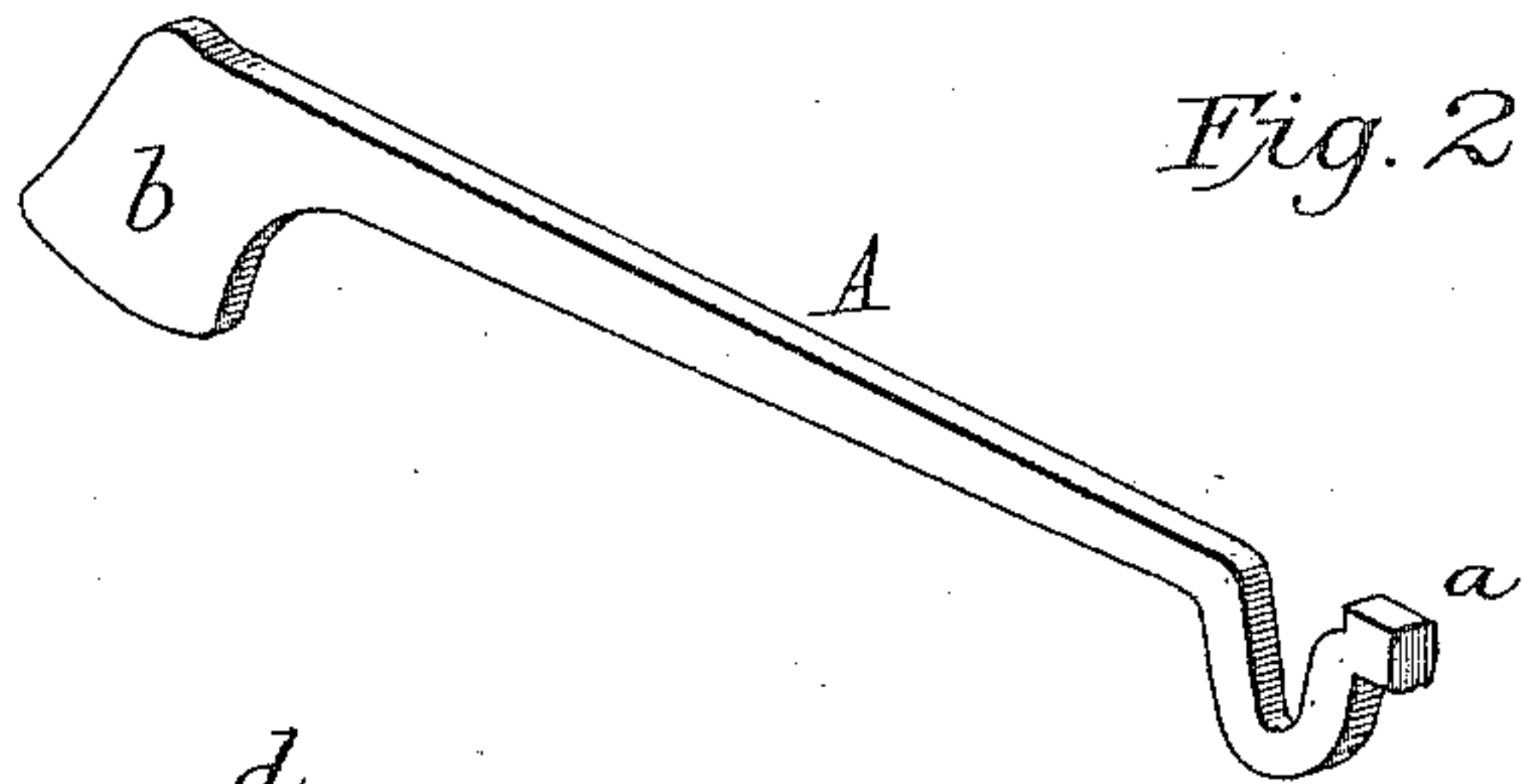
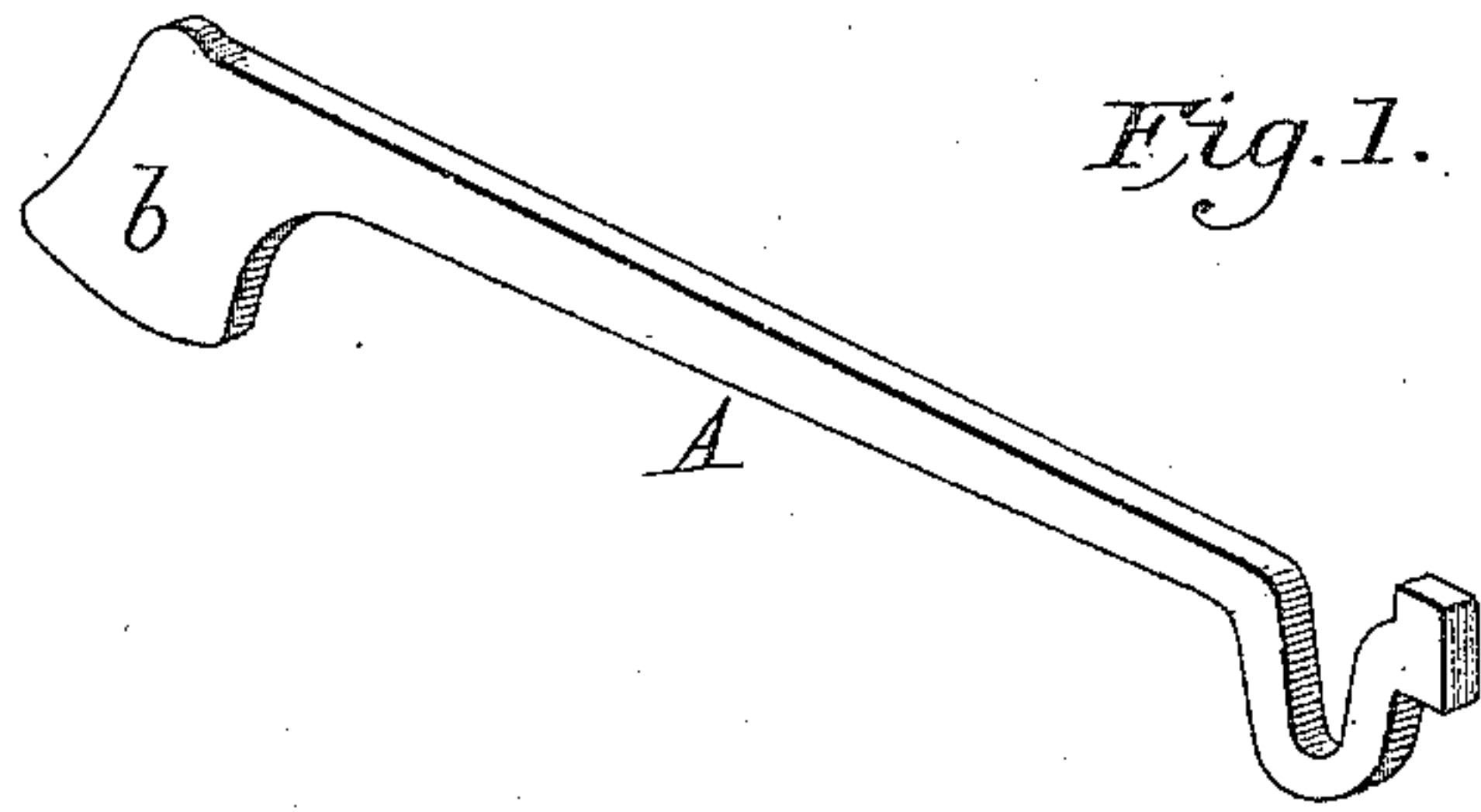
(No Model.)

W. BAKER.

TYPE BAR AND METHOD OF MANUFACTURING THE SAME.

No. 446,414.

Patented Feb. 17, 1891.



Attest:

Sidney P. Mollingsworth
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Attys.

UNITED STATES PATENT OFFICE.

WALTER BAKER, OF ILION, ASSIGNOR TO THE REMINGTON STANDARD
TYPE-WRITER MANUFACTURING COMPANY, OF NEW YORK, N. Y.

TYPE-BAR AND METHOD OF MANUFACTURING THE SAME.

SPECIFICATION forming part of Letters Patent No. 446,414, dated February 17, 1891.

Application filed October 29, 1889. Serial No. 328,552. (No model.)

To all whom it may concern:

Be it known that I, WALTER BAKER, a citizen of the United States, residing at Ilion, in the county of Herkimer and State of New York, have invented certain new and useful Improvements in Type-Bars and Method of Manufacturing the Same, of which the following is a specification.

My invention consists in a novel type-bar for type-writing machines and in the method of producing the same, as hereinafter more fully explained.

Figure 1 is a perspective view of a blank as cut from a strip or sheet of metal as the first step in the manufacture of my improved type-bar; Fig. 2, a similar view but representing the fore end of the type-bar upset or thickened; Fig. 3, a perspective view of the bar as it comes from the dies, and Fig. 4 a like view of the finished bar after removal of the fin.

The primary object of my present invention is to secure uniformity in the thickness of type-bars while simplifying and cheapening their manufacture.

The bar to which my invention relates is especially designed for use in machines in which radial slots are cut in a supporting-ring to receive the type-bars, and in which uniformity of thickness is of the utmost importance, because if too thick the bar will not enter or will bind in its slot, while if not thick enough it will play laterally, and thereby impair the alignment of the type in printing. It is also important that the type-bar be at once light and stiff, and that the bearing-faces of the portion which enters the slot of the supporting-ring be reduced in extent to a minimum.

The several qualities I secure by making the type-bar in the form and manner which I will proceed to explain.

I first produce or procure a sheet or bar of metal, preferably steel, of a thickness approximating that contemplated for the thickest part of the finished bar, it being impossible, however, to obtain in the market or as a regular article of commerce sheet or bar steel as uniform in thickness as the finished bars must be, and it being likewise impracticable to manufacture it of such perfect uniformity, except at great expense. From the sheet or

bar I cut or stamp, ordinarily by means of a drop-press, a number of blanks A, of the form shown in Fig. 1, the blank being of like thickness throughout, but different blanks frequently differing one from another in thickness, for the reason stated. When finished, the bar is required to have a thickened head or boss *a*, which is drilled to receive the stem or shank of a type or printing character. To provide a sufficient body of metal from which to form the boss or enlargement *a*, I in some cases upset the fore end of the blank A by striking it a blow upon its front or outer face; but this is not essential and may be omitted. The blank A, with or without having the fore end upset, is then placed between two dies having the exact contour required to give to the blank A the desired form of the finished type-bar. As seen in Figs. 3 and 4, this final shaping of the bar involves a reduction in thickness of the forward portion (about one-half the length) of the bar, a thickening and rounding of the extreme fore end to produce or complete the boss or enlargement *a*, the depression or recessing of the sides of the bar from about its mid-length backward and throughout the tail portion *b*, and the formation of a bearing-rim *c* about said tail portion. The tail portion is of the form shown in the several figures, and is designed to work in or through a slot of the supporting-ring of the machine.

At the upper angle or meeting-point of the main body of the bar and the downwardly-extending tail portion *b* the rim *c* is widened or broadened to form a boss *d*, which is drilled to receive a pivot pin or wire. A like boss or solid portion *e* is formed at the lower rear angle of the tail portion *b*, in order that it too may be drilled to receive the pivot or joint pin, by which connection is made with the link which connects the type-bar with the key-lever.

The dies, as stated, have the exact configuration necessary to produce the reduced fore end, the recessed rear portion, and the raised rim, and the metal necessary to produce the rim and the hubs *d* and *e* is that which flows from the recessed sides of the rear half of the bar as it is pressed out of the dies. It is found in practice that in this manner a perfect bar

can be produced at each operation, or, in other words, any number of bars may be produced, each precisely like the others.

Practical experience has demonstrated that while the surplus metal from the recessed sides can be readily made to flow out and fill up the raised rim *c* it is not practicable to recess the sides of a blank which is as thick at the outset as the raised rim *c*, because with such a blank the dies do not approach near enough together to reduce the blank to the proper thickness, there being no place for the metal from the recessed faces to flow. When, however, the blank is primarily no thicker or a little thinner than the finished bar, the portion pressed from the faces finds free outlet into the rim *c*, thereby filling the dies in every part, and if any surplus exists beyond this it will form a light and thin fin along the meeting-line of the dies, so thin as to be quite immaterial and easily removed. Extensive practical experience has demonstrated the perfect success of this mode of manufacture.

So far as I am aware, the only instance in which type-bars have hitherto been cut from sheet metal and finished in dies an intermediate bending of the tail of the blank has been required, which adds to the cost of manufacture and cannot be successfully or advantageously performed with a blank of the character herein set forth. Such prior plan was invented and adopted by me, but could only be used to advantage with a different style of bar from that herein described and shown.

Having thus described my invention, what I claim is—

1. The herein-described method of manufacturing type-bars, which consists in first cutting from a flat sheet or strip of metal a blank

having the outlines of the finished bar, and then, without intermediate bending of the blank, compressing the same between dies having recessed faces of the same contour as the blank and having raised portions within the recessed faces corresponding to the reduced portions of the finished bar, whereby the metal is caused to flow from the reduced portions outward and to fill out the raised portions of the bar.

2. The method of manufacturing type-bars, which consists in cutting from a flat sheet or strip of metal a blank having the outline of the finished bar and subjecting said blank to pressure between dies having raised portions conforming in general contour to the outlines of the rear portion of the blank, but of less extent, whereby the blank is compressed by such raised portions and the metal thereby displaced is caused to flow outward and form a raised rim about the recessed portion.

3. The blank for type-writer bars, comprising the body *A* and tail portion *b*, extending laterally from the body *A*, as shown.

4. A type-bar having a flattened tail portion *b*, recessed with recessed faces, and a raised rim *c*.

5. A type-bar consisting of a main body having a boss *a* at its forward end, a flattened tail *b* at the opposite end, a rim *c*, bordering said tail portion, and bosses *d* and *e* to receive pivot or joint pins.

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

WALTER BAKER.

Witnesses:

A. D. RICHARDSON,
SAMUEL V. RUSSELL.