

No. 725,305.

PATENTED APR. 14, 1903.

L. T. WEISS.
CAN OPENER.

APPLICATION FILED JULY 8, 1902.

NO MODEL.

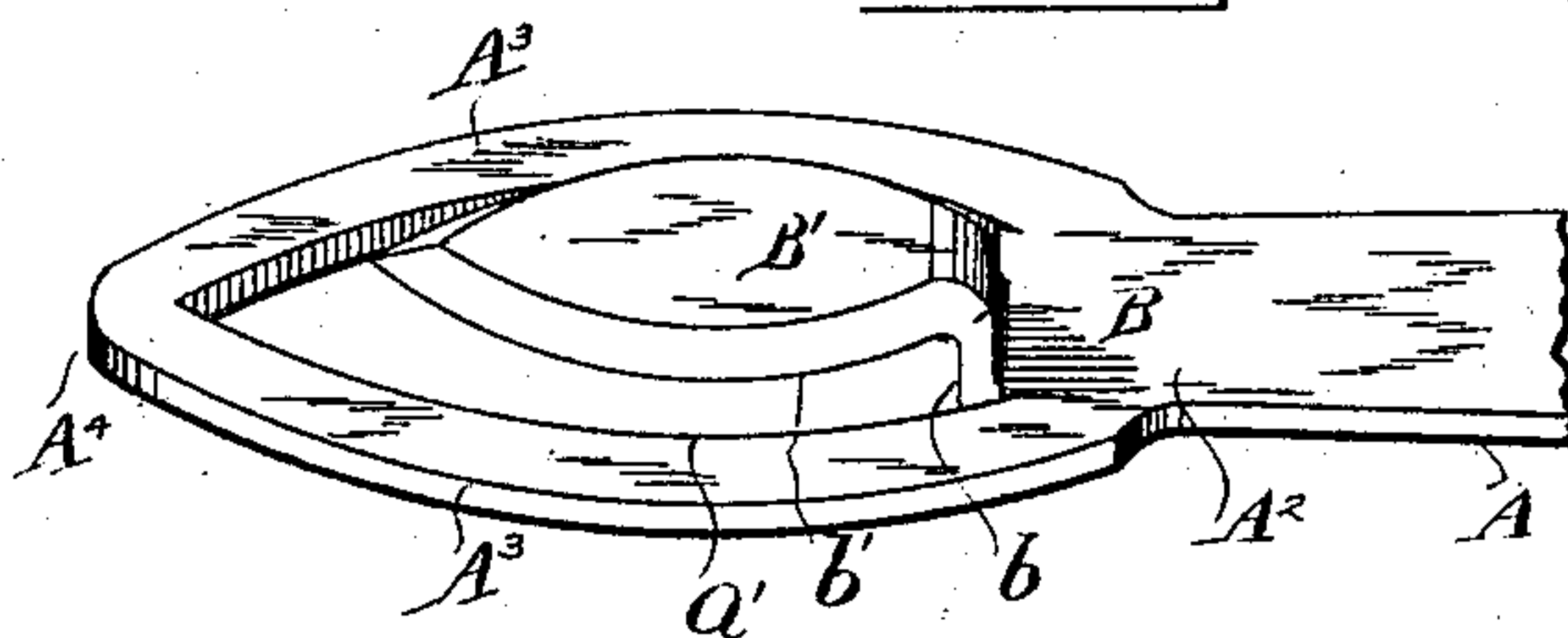
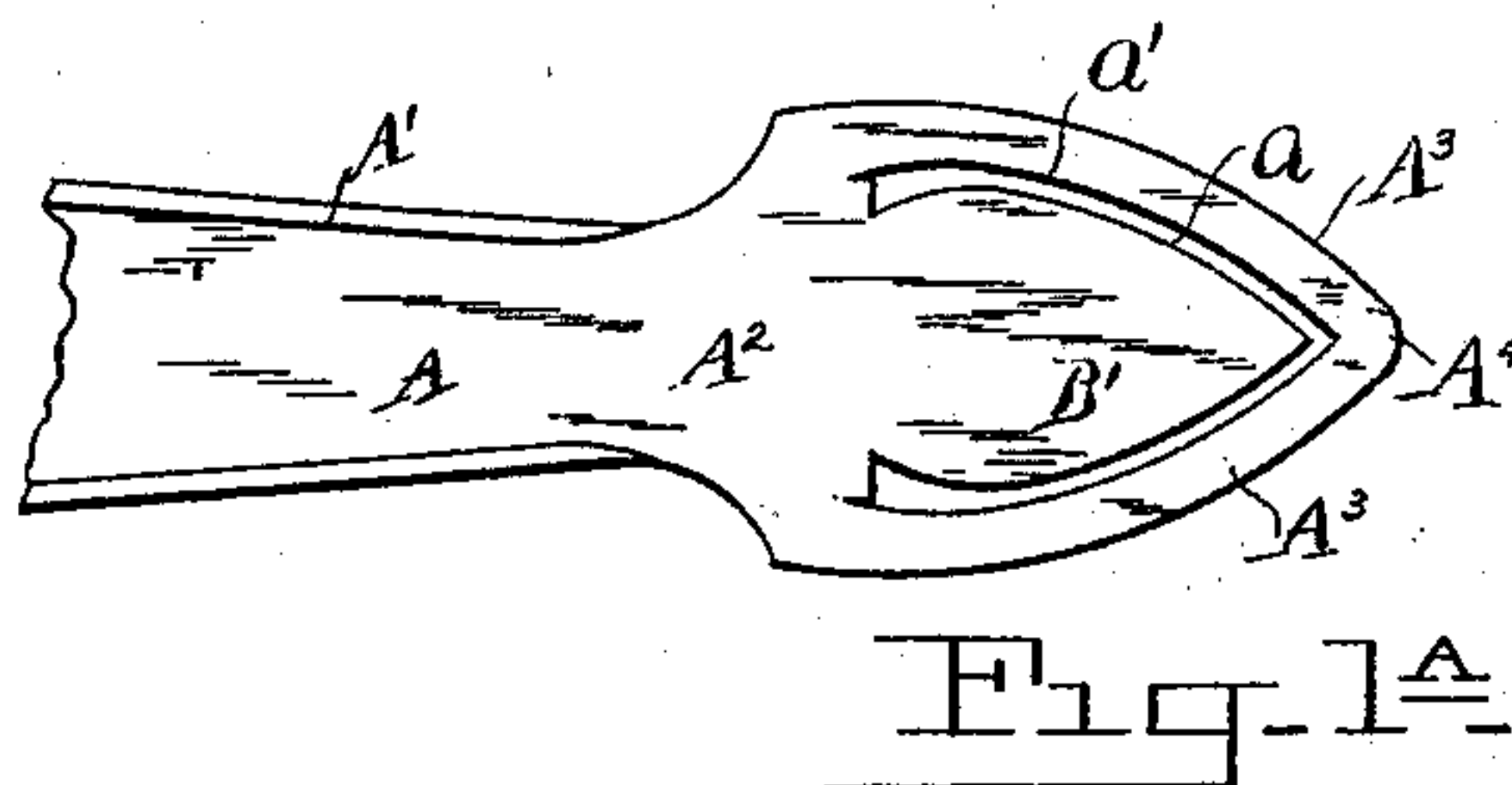
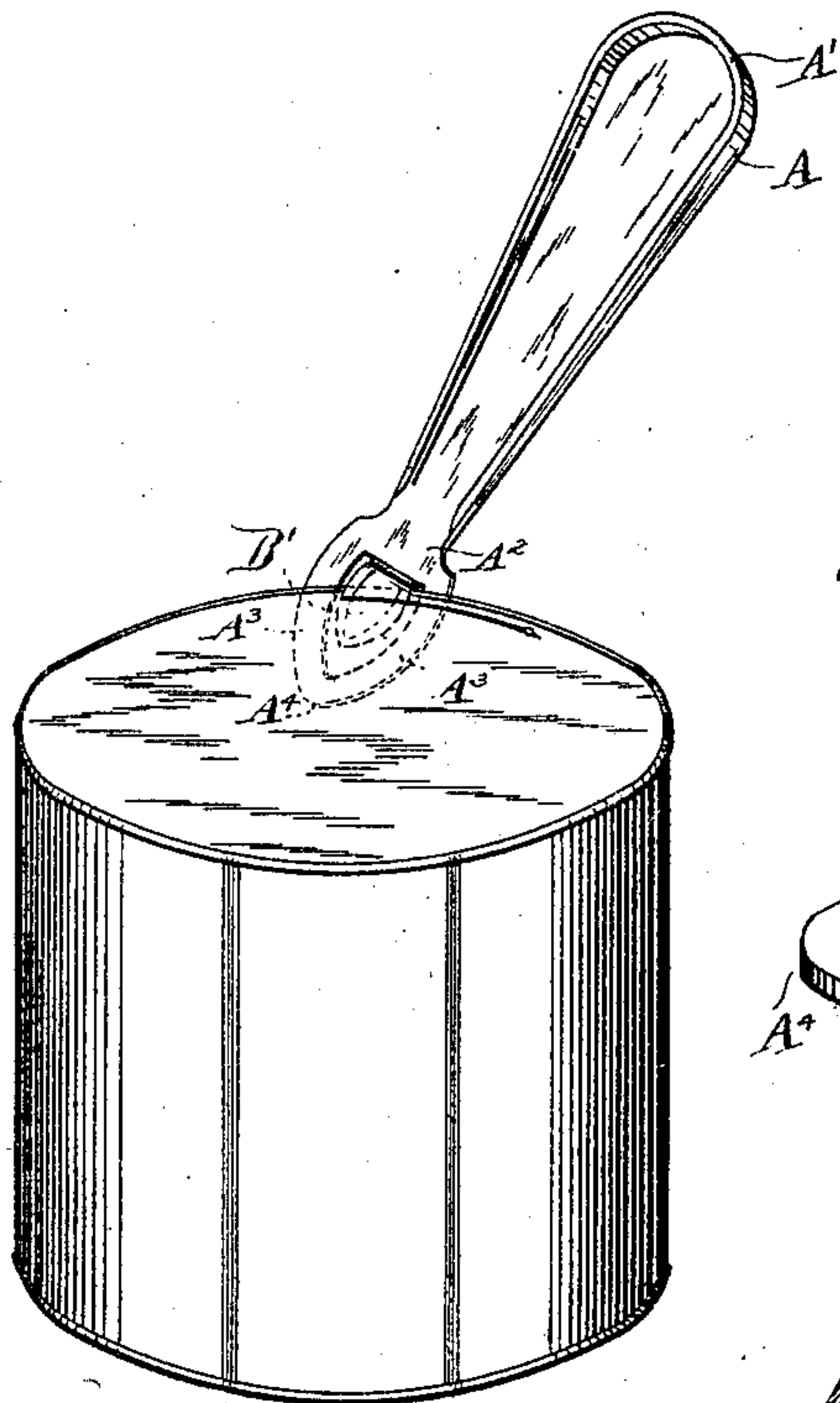
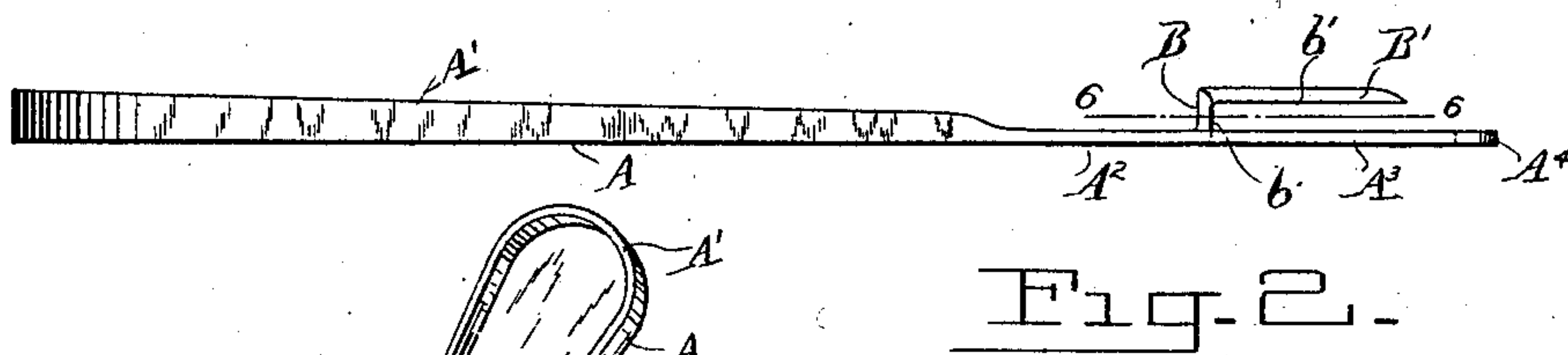
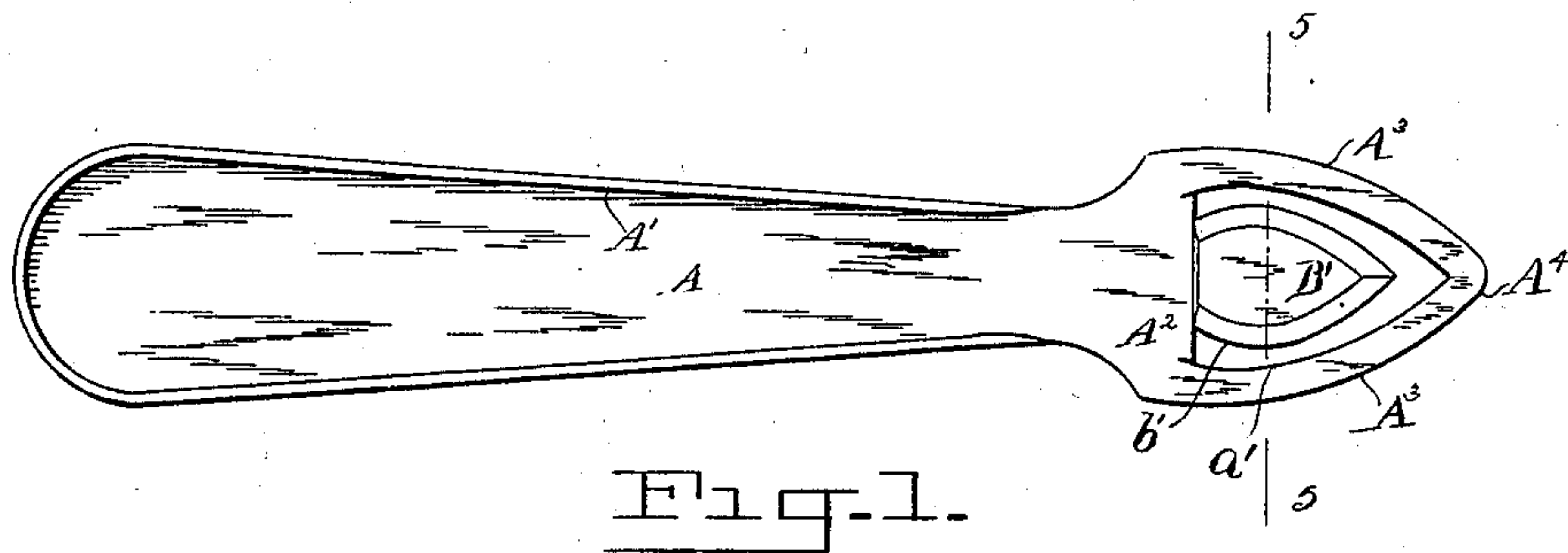


Fig. 3.

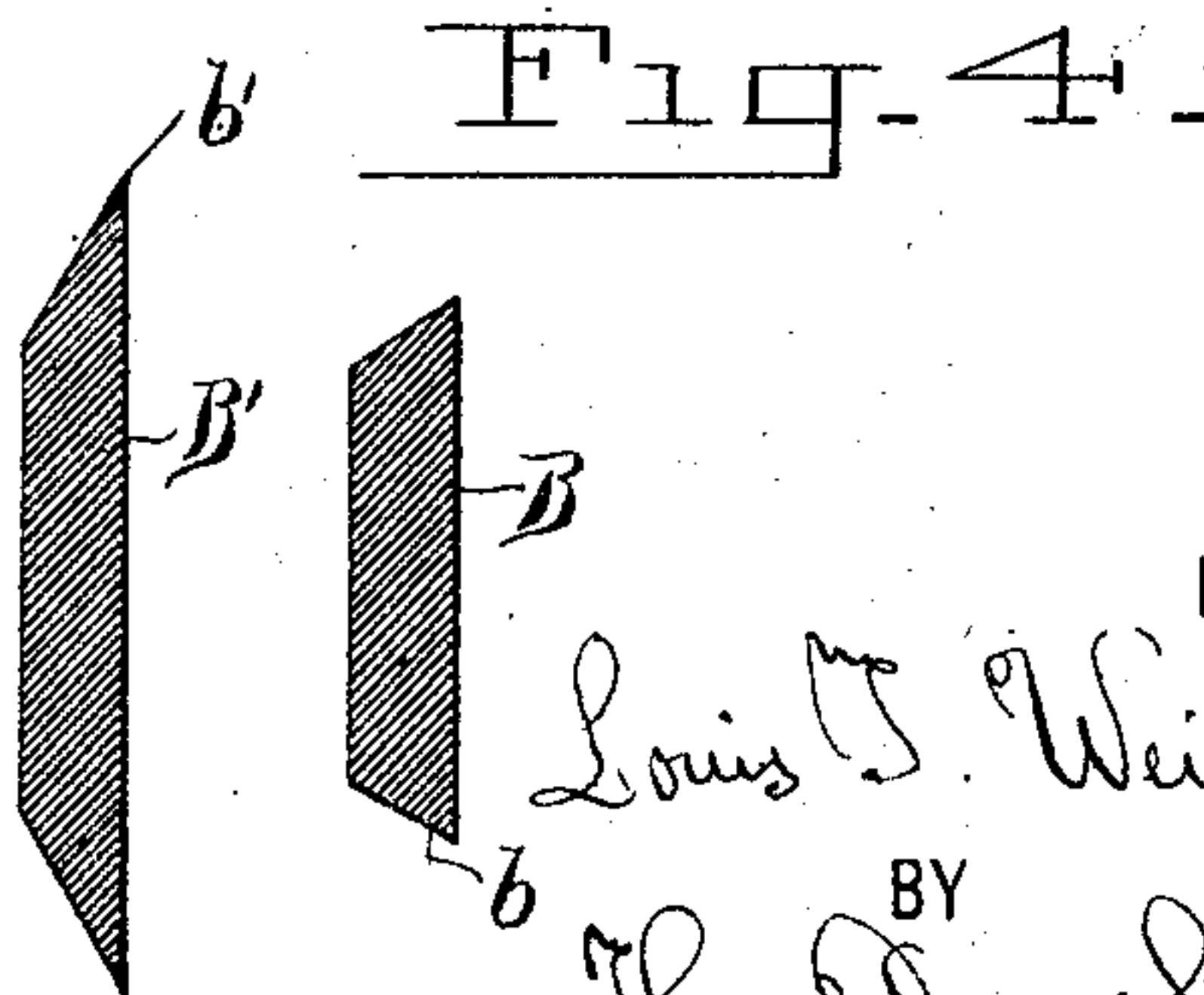


Fig. 5.

Fig. 6.

WITNESSES:

Marc A. Guigon.

J. B. Clautice

INVENTOR

Louis T. Weiss

BY

James D. Watson

ATTORNEY

UNITED STATES PATENT OFFICE.

LOUIS T. WEISS, OF BROOKLYN, NEW YORK, ASSIGNOR TO HUGO TOLLNER,
OF BROOKLYN, NEW YORK.

CAN-OPENER.

SPECIFICATION forming part of Letters Patent No. 725,305, dated April 14, 1903.

Application filed July 8, 1902. Serial No. 114,723. (No model.)

To all whom it may concern:

Be it known that I, LOUIS T. WEISS, a citizen of the United States, residing in the borough of Brooklyn, in the city and State of New York, have invented a certain new and useful Improvement in Can-Openers, of which the following is a specification.

I have discovered a construction which may be made from a single piece of sheet metal. The operation results in leaving the portion which is to serve as the guard in the form of a frame having its center cut out, the portion which is to serve as the cutter being formed from the interior metal of the guard by simply cutting and offsetting and subsequently swaging and grinding the edges.

The following is a description of what I consider the best means of carrying out the invention.

The accompanying drawings form a part of this specification.

Figure 1 is an inner face view; Fig. 2, a corresponding edge view; Fig. 3, a perspective view, on a smaller scale, showing the device in the act of opening a can; and Fig. 4 is a perspective view showing the working portion on a larger scale. Fig. 5 is a cross-section through the blade on the line 5 5 in Fig. 1. Fig. 6 is a corresponding section through the offset on the line 6 6 in Fig. 2. Fig. 1^a is an outline of the blank as it is first cut before the drop-forging or bending.

Similar letters of reference indicate corresponding parts in all the figures where they appear.

I use a good quality of low steel—ordinary Bessemer steel serves well—rolled in sheets about No. 16, and cut and bend this material either at one or more operations. The main portion A is of convenient form to serve as a body and handle, a flange A' being smoothly formed by the dies for convenience of handling. A large portion extending forward in the plane of the handle allows the entire material required for the blade to be cut out from its interior. The metal is wider at A², which is the junction with the head, and from this junction two narrow ribs A³ A³ are gracefully curved and converge to a point A⁴. These ribs A³ and point A⁴ serve the usual function of a guard or guide in being trav-

ersed around the exterior of a can, while the cutter, which was produced by offsetting the interior metal out of the plane of the guard and thinning its edges when the device is properly rocked, effects the cutting of the metal of the head of the can close to the edge on the inside.

In the manufacture of my device some of the sheet metal is cut out by a double-shearing operation and removed. It is important to preserve the integrity and strength of the interior metal at its junction with the portion A².

B is an offset sharply bent at right angles to the main body A. About three-sixteenths of an inch from the main body the metal of the tongue is again bent at right angles, and the tapered portion B' beyond this, which constitutes the cutter, lies parallel to the plane of the ribs A³ A³. The bending upward at B by shortening the tongue draws the tapered inner portion B' toward the handle, so that the cutter, except as it is extended by drop-forging, to be presently described, does not cover the whole space within the ribs A³. The curved tapered edges of the part B' present the required sharp cutting edge. The bevel of these edges is entirely on the side of the blade B' away from the ribs A³. The blade thus beveled tends to cut close to the edge of the can and to leave a smooth cut. The sides of the offset B are beveled and present each a less acute but sharply-defined angle along the line b, which engages with the metal of the can on which it presses in serving as a fulcrum.

In my experiments I have done the cutting and bending by hand; but I propose in the large way to effect these operations uniformly and rapidly by cutting and bending dies. The beveling of the parts B and B' constitutes an important portion of the operation.

I have ground the curved edges b' of the part B' of the cutter by holding it with the proper gradually-turning motion on a grindstone, and I have produced the lesser but sharply-defined bevel at the edges b of the offset B by filing. In practice in the large way I propose to treat the edges by drop-forging, subjecting the metal heated to the action of a single blow between dies so formed

as to produce the greatly-inclined bevel for the cutting edges and the less inclined bevel for the angular offset B, and then shifting the metal rapidly into another pair of dies 5 which effect the bending. When the work is cold, the cutting edges *b'* of the part B' can be further thinned by grinding, and the job is finished.

In the use of the invention the cutter B' is 10 inserted in the ordinary manner by percussion or other means, and the subsequent cutting is effected by alternately rocking and hitching forward the entire device in traversing along the edge of the can. The cutting is effected by moving the handle back- 15 ward and downward. The sharp angle *b* takes hold of the metal of the can, so as to reduce the chance of slipping.

Modifications may be made without departing from the principle or sacrificing the 20 advantages of the invention. The form of the handle A and the width of the flange A' may be varied within wide limits.

Although I have described the beveling as 25 initiated by drop-forging and subsequently finished by grinding, it will be obvious that

the whole may be performed by grinding, if preferred. In such case there need be but one of the shearing cuts *a* instead of the two *a* and *a'*, with no removal of any of the metal 30 except by the grinding. The steel may be hardened after the completion of the device in any case. It may be previously treated in a carbonizing bath, so as to effect what is known as "case-hardening," if preferred. 35

I claim as my invention—

A can-opener formed from one piece of sheet metal, cut and bent, and having a guard extending forward in ribs A³ A³, with a clear space between them and having a blade B' 40 composed of the metal from such space, the blade B' lying parallel to the guard and connected by an offset B which is finished sharply to constitute a knife-edge fulcrum, all adapted to serve substantially as herein specified. 45

In testimony that I claim the invention above set forth I affix my signature in presence of two witnesses.

LOUIS T. WEISS.

Witnesses:

WM. H. ARNOLD,
CHAS. ROBINSON.