

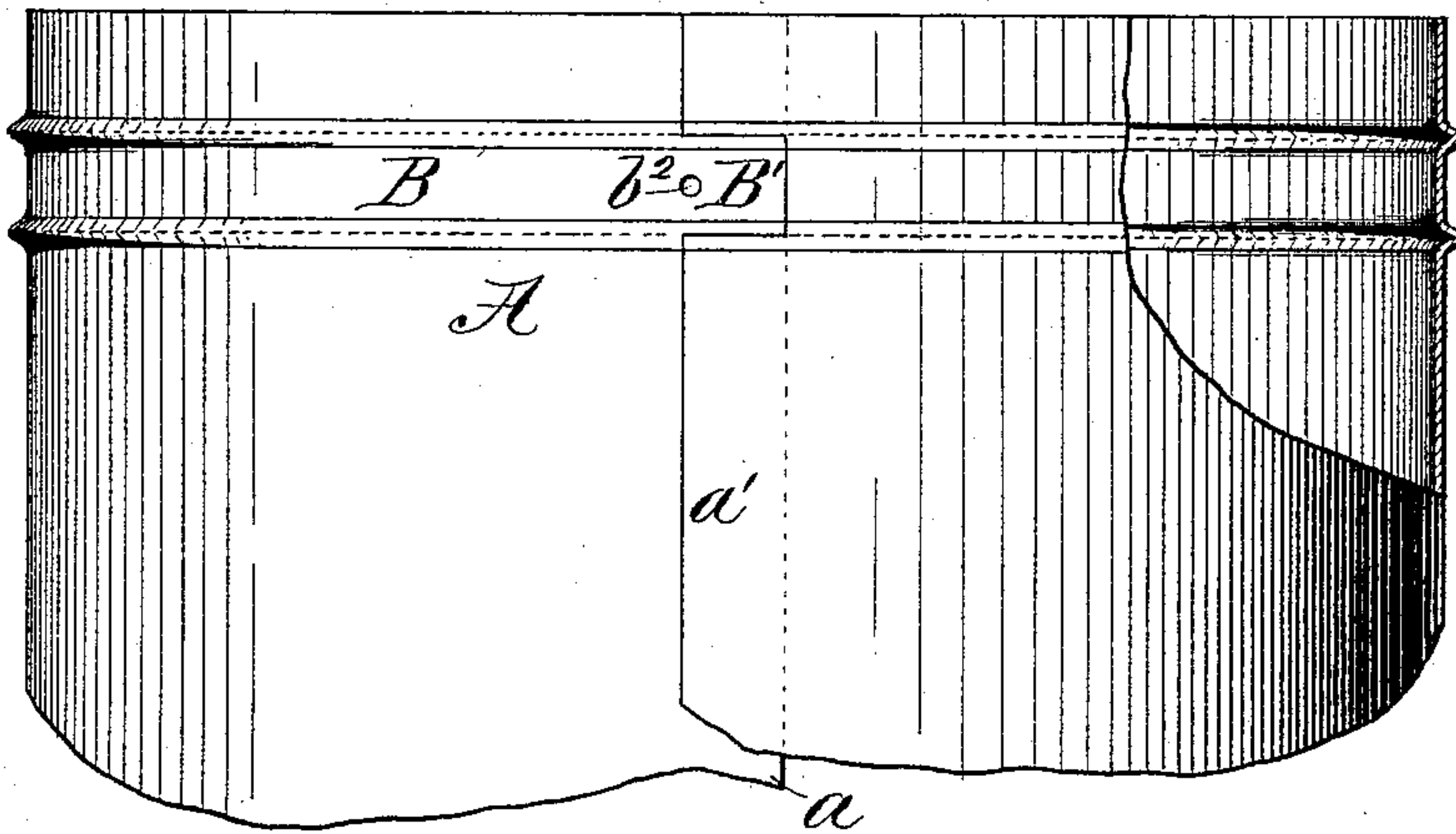
(No Model.)

J. ZIMMERMAN.  
KEY OPENING SHEET METAL CAN.

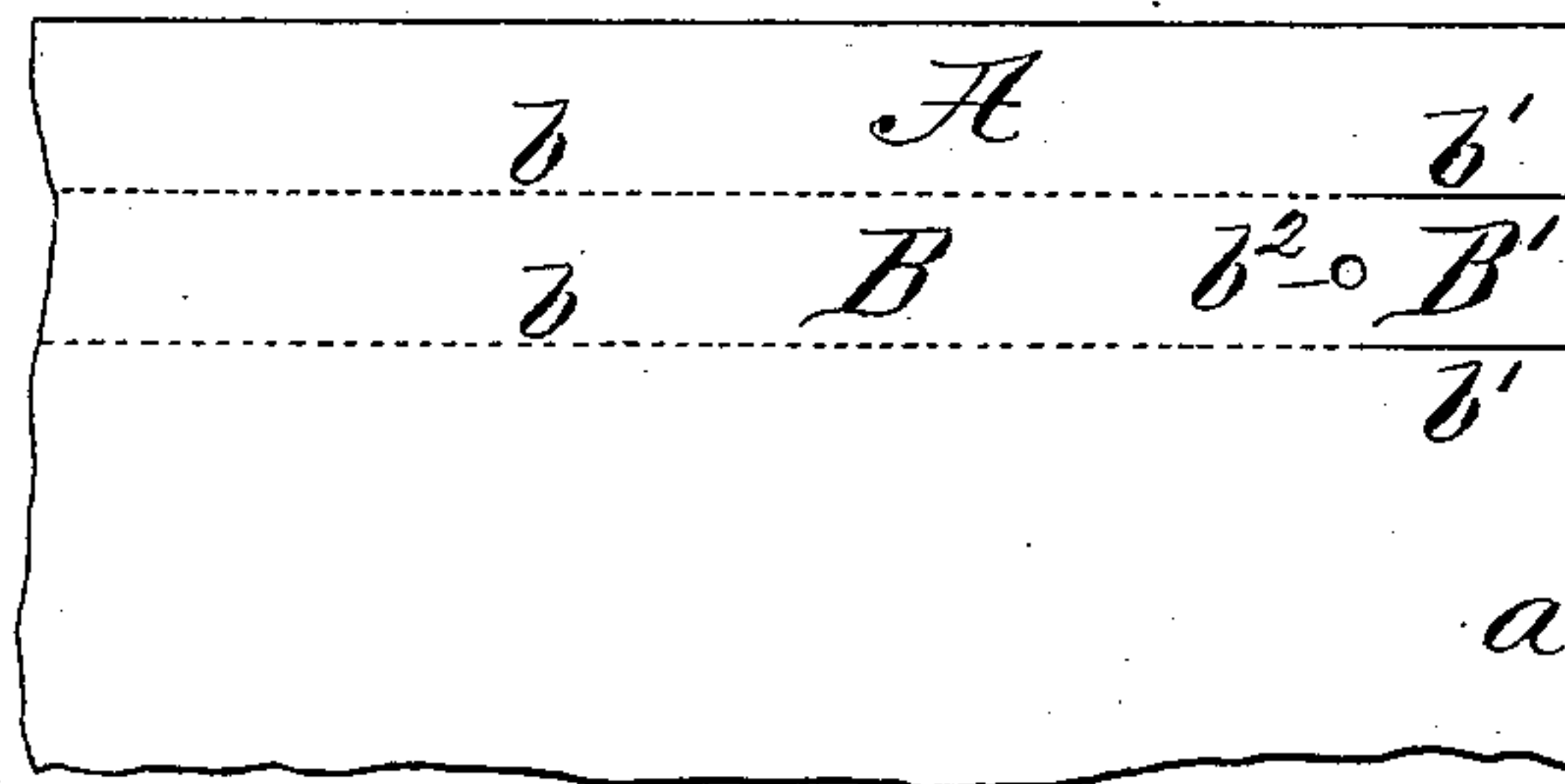
No. 486,523.

Patented Nov. 22, 1892.

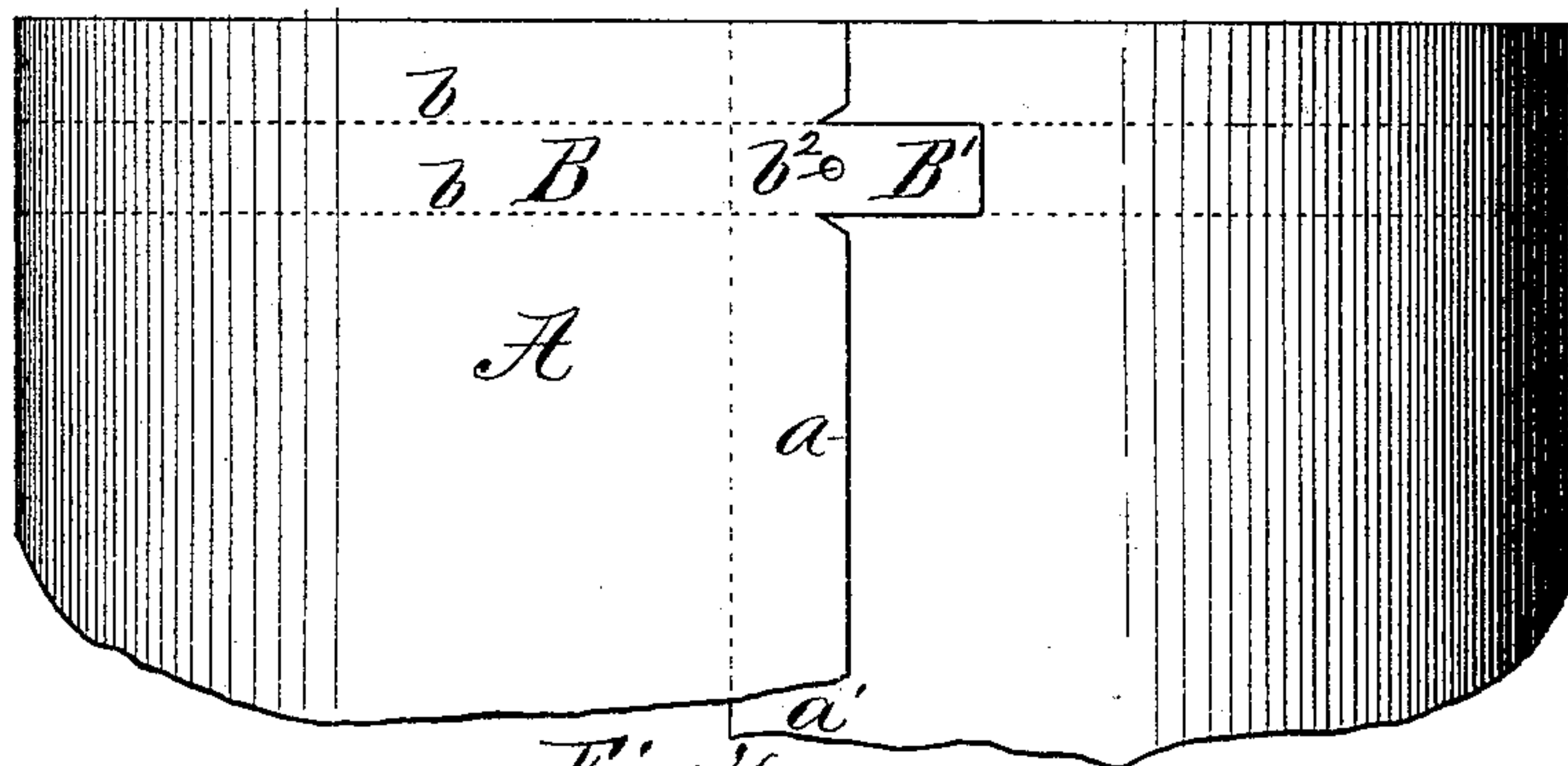
*Fig. 1.*



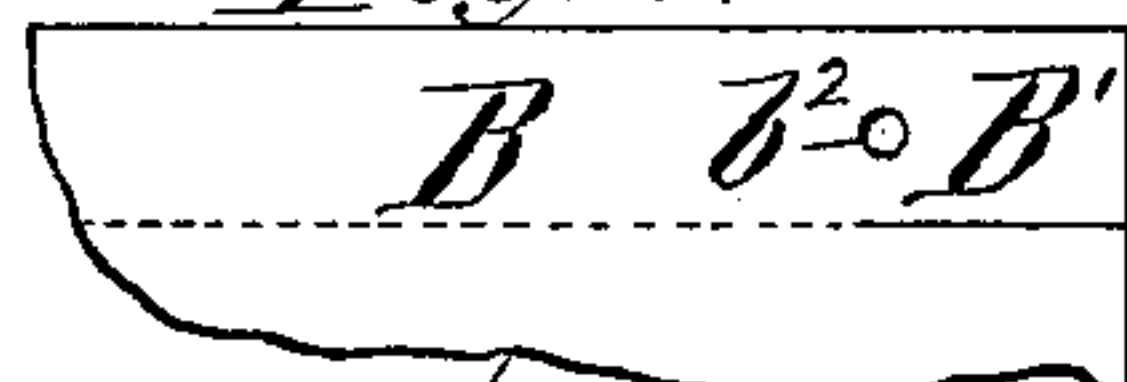
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



Witnesses.  
C. E. Tomlinson,  
Louis W. F. Whithead.

Inventor.

J. John Zimmerman  
by Dayton Pool & Brown  
Attys.



# UNITED STATES PATENT OFFICE.

JOHN ZIMMERMAN, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE NATIONAL KEY-OPENING CAN COMPANY, OF SAME PLACE.

## KEY-OPENING SHEET-METAL CAN.

SPECIFICATION forming part of Letters Patent No. 486,523, dated November 22, 1892.

Application filed July 1, 1892. Serial No. 438,702. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN ZIMMERMAN, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Key-Opening Sheet-Metal Cans; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to that class of key-opening cans in which a detachable strip in the body or cover flange terminates in a free tongue, to which force may be applied for the detachment of the strip.

The object of the invention is to insure a more certain soldering of the base of the tongue to a subjacent part without the exercise of especial pains or care and without the delay incident to such care, so that the expense of manufacture may be lessened and greater certainty of a tight joint insured.

In the class of cans above referred to the base of the tongue, which forms the extremity of the detachable strip, is of the same width as the strip, and in order that the strip may not break in the operation of detaching it such strip must be made of considerable width; but the wider the strip the greater the uncertainty that the solder will flow beneath the entire width of the tongue in a quick passage of the soldering-iron over it. It has therefore been necessary to take especial pains in applying the solder to this part of the seam, which of course involves delay and a proportionate increase of cost.

By the present invention this objection is obviated, and a strip and tongue of any desired width may be employed and the tongue securely soldered without the least especial care or delay.

To this end the invention consists in providing the detachable strip at or near the base of the tongue with one or more perforations, through which the solder may flow from the iron, so that by its admission beneath the tongue, both at its edges and through such perforations, the perfect soldering of the tongue to the subjacent portion of the can is insured.

In the accompanying drawings my invention is illustrated in connection with two constructions of can-bodies having a detachable strip terminating in a free tongue.

Figure 1 is a side elevation of a can-body having the tongue formed by lateral incisions in an edge of a metal sheet and overlapping the opposite margin of the body-blank, while the remaining portion of the edge from which the tongue is detached underlaps said opposite margin, as set forth in my pending application for patent, Serial No. 431,727, filed May 3, 1892. Fig. 2 illustrates a fragment of a blank having the tongue formed as in Fig. 1. Fig. 3 is a side view of a can-body having the tongue which forms part of the detachable strip projecting beyond the edge of which it is a part and both the tongue and the edge to which it belongs overlapping the opposite edge of the body-sheet, as in the usual construction of this general class of key-opening cans. Fig. 4 illustrates the detachable strip located at the extreme edge of the can-body and the tongue formed by a single incision.

A represents the sheet of which a can-body is formed, and B a strip made detachable by a weakened line or weakened lines *b*, said strips terminating in a free tongue *B'*. In Figs. 1, 2, and 4 the tongue is formed exclusively by one or more lateral incisions *b'*, continuous with the line or lines *b*, there being two such weakened lines and two such incisions in Figs. 1 and 2 and one in Fig. 4. When the sheet A is folded and its margins *a* and *a'* are brought together to form a can-body, these margins invariably overlap each other in one way or another, and the tongue *B'* of the detachable strip is placed outside to be accessible. It is also always free at its end and must therefore be soldered beneath its base to a subjacent part of the sheet. In applying solder to the lapped joint on Fig. 1 the soldering-iron is run along the exposed edge *a'* from end to end of the can-body, and in this movement passes over the base of the tongue *B'*. Similarly in soldering the joint of Fig. 3 the iron is drawn along the exposed edge *a* and over the base of the tongue. The solder must evidently flow beneath the base of the tongue for its entire width in order to



make the joint tight, and if it enters only at the edges, and particularly if the tongue be wide, there is uncertainty of its doing so. To insure this result, the practice heretofore has  
5 been to make repeated movements of the soldering-iron back and forth over the tongue, and even with this care defective joints are frequently made. The delay and uncertainty incident to this method are avoided by my  
10 improvement, which consists in providing in the detachable strip one or more perforations  $b^2$  at or near the base of the tongue and over the underlapped portion of the body-sheet, through which solder may flow in a single and  
15 rapid movement of the iron over the tongue. The effect of this opening  $b^2$  is obviously to produce two or more narrow necks of metal, beneath which severally the solder enters from its edges, in place of the one broad neck  
20 presented by the entire width of the tongue, and by reason of the limited width of these narrower necks the solder is certainly made to extend the full width of the tongue and to fill the hole, with the result of insuring a per-

fectly-tight joint without especial care and without delay.

I claim as my invention—

1. A sheet-metal blank for a can or other closed vessel, having a detachable strip terminating at one edge of the blank in a free tongue and provided with one or more apertures in said strip at or near the base of the tongue, substantially as and for the purpose set forth.

2. A sheet-metal can formed of a sheet which is lapped and soldered at its opposite margins, said sheet having a circumferential detachable strip terminating at one of the soldered margins in a free tongue, which is perforated at or near its base and has its perforation or perforations filled with solder.

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

JOHN ZIMMERMAN.

Witnesses:

M. E. DAYTON,  
TAYLOR E. BROWN.