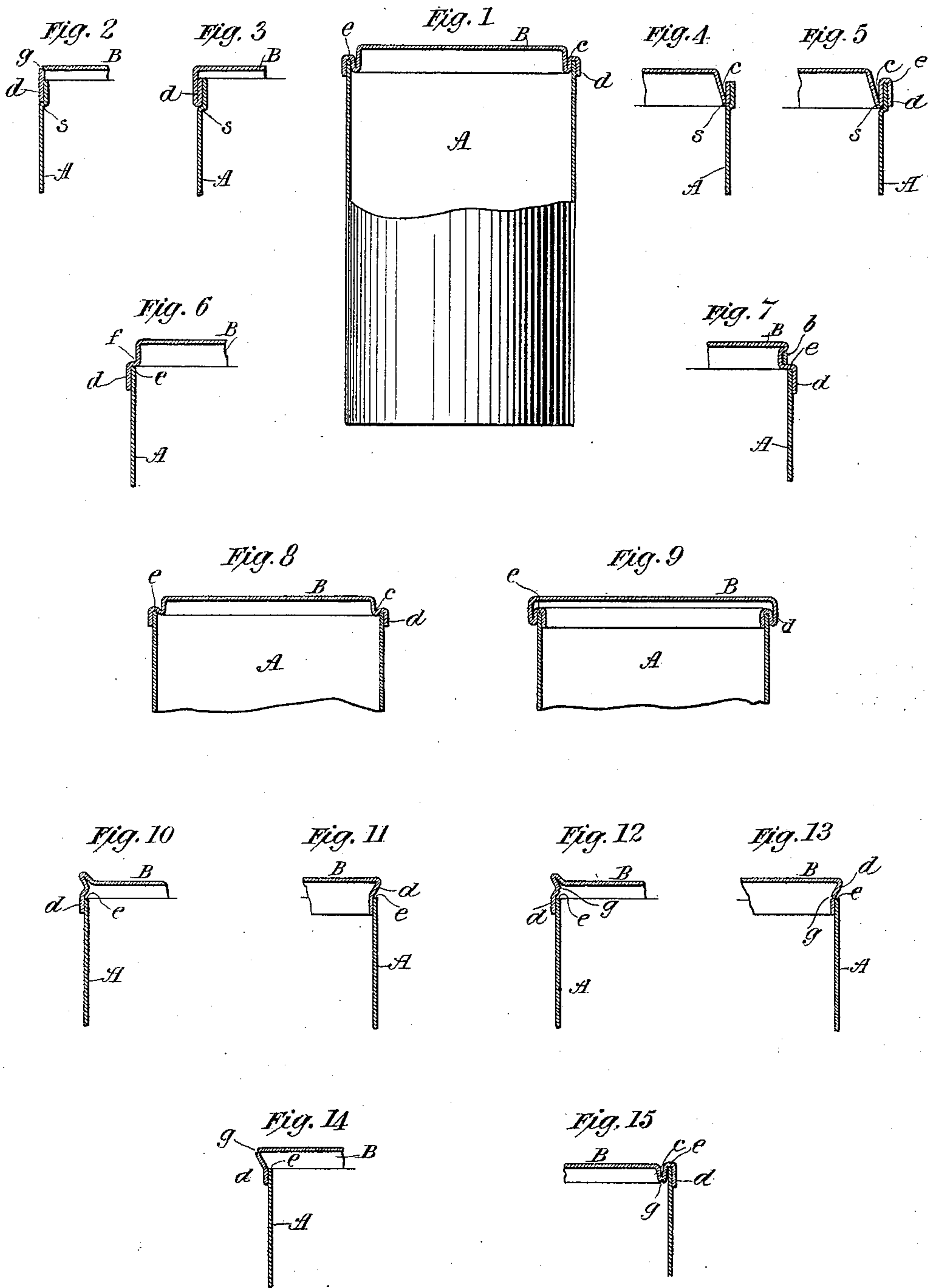


(No Model.)

A. KLEINFELDT & F. P. McCOLL.
SHEET METAL CAN.

No. 466,991.

Patented Jan. 12, 1892.



Witnesses:
Raphael Netter
Alex. Scott

Inventors
Arthur Kleinfeldt,
Francis P. McColl,
by
J. D. Crockett,
Attorney.

UNITED STATES PATENT OFFICE.

ARTHUR KLEINFELDT, OF NEW YORK, AND FRANCIS P. McCOLL, OF
BROOKLYN, NEW YORK.

SHEET-METAL CAN.

SPECIFICATION forming part of Letters Patent No. 466,991, dated January 12, 1892.

Application filed November 11, 1891. Serial No. 411,570. (No model.)

To all whom it may concern:

Be it known that we, ARTHUR KLEINFELDT, of the city of New York, in the county and State of New York, and FRANCIS P. McCOLL, of Brooklyn, in the county of Kings, in the said State, citizens of the United States, have made certain new and useful Improvements in Sheet-Metal Cans; and we hereby declare that the following is a full, clear, and exact description of the same, reference being had to the drawings which accompany and form part of this specification.

These inventions relate to those classes of metallic cans and other vessels which are required to be air-tight, and they are designed to provide receptacles of this character which can be readily and economically manufactured and easily opened when required, and which are also adapted to be used as an efficient substitute for metal cans of the kind which are opened by tearing out or stripping off a portion of the material of which they are composed.

To effect these objects our inventions consist in so forming one of the covers or heads of a sheet-metal can that the metal composing the head shall be weakened to a greater or less extent at a suitable point throughout the whole or a portion of its periphery, and in then combining this head with the body of the can in such a manner as to cause the edge of that extremity of the can-body which is next to the head to become a fulcrum or lever, against or by means of which the weakened portion of the head may be easily ruptured, so as to open the can whenever a few smart blows with any convenient instrument are struck upon the outside of either head of the can, or whenever either head is subjected to concussion in any other desired manner.

To enable others to make and use our improvements, we will proceed to describe them in detail.

In the drawings, Figure 1 represents, partially in cross-section and partially in elevation, a can of the ordinary cylindrical form, which illustrates one example of our invention; and Figs. 2 to 15, inclusive, are detail views which show some of the various modifications of which our method of construction is susceptible.

In Fig. 1, A is the body of the can, and B is that one of the can-heads to which the form of our improvements shown in this figure is applied.

c is what may be termed a "depressed circumferential groove indentation or channel," made by sinking the metal at this point to a considerable depth, the effect of this being to weaken the metal around the entire periphery of the head at the groove, and thereby render it easy to be broken through along the line of the groove when blows are struck upon either of the heads, or when sufficient force is applied to either of them by any other means.

d is the flange of the head made in the usual way and of a diameter sufficient to fit closely over the extremity of the body of the can. The head as thus constructed is secured to the can-body by soldering the flange to the latter in the customary manner, and by doing this the edge e e of the body is brought into such relation to the depressed groove c that the said edge, stiffened and sustained as it is by the vertical strength of the body, becomes a fulcrum or lever or resisting-point, against which the force tending to rupture the head at the groove or indentation or channel may operate. It will now be evident that if a few blows are struck upon the outside or top of either of the heads, or if either of them is subjected to suitable force in any other manner, the effect of the severe pressure thus suddenly applied working against this point of resistance will be to quickly cause the head B to be ruptured along the line of the groove or indentation or channel and the can thereby to be opened.

The modifications of our improvements, which are shown in Figs. 2 to 15, inclusive, do not require detailed explanation, as the manner of their operation will be readily apparent from the description which has been given of Fig. 1. In all these modified forms one head of the can is weakened by some form of groove or bead or its equivalent suitably-formed indentation or channel, and the effect produced will be the same as in Fig. 1.

In Figs. 2, 3, and 4 an indentation or channel in the form of a shoulder s is formed near one extremity of the can-body, and the lower

part of the cover or head is caused to rest upon this shoulder; but otherwise the operation will be the same as in the other figures, the shoulder in these cases constituting the fulcrum or resisting-point instead of the edge of the walls of the can, as in the other figures.

In Fig. 5 a similar shoulder *s* is formed near the end of the can-body; but in addition thereto the flange *d* is carried or doubled over the edge *e* of the body, so that in this instance both the shoulder and this edge *e* co-operate to form the fulcrum against which the cover will be ruptured.

In the form shown in Fig. 6 in place of a groove or bead a substantially square shoulder or angle is represented as formed in the cover or head itself; but the rupture in the head will be effected in the same manner as in Fig. 1.

In Fig. 7 a narrow band or ring *b* is shown as encircling a portion of the flange of the cover. This band is designed to serve as a reinforce to impart increased stiffness to this part of the flange and thereby aid the rupturing operation; but it can always be omitted, if desired.

It will be seen that in Fig. 2 and also in Figs. 12, 13, 14, and 15 a slight incision *g* is shown as made partially through the metal at the point where the rupture of the head is to take place. The object of this incision is to still further weaken the head, and thereby facilitate the rupture. The incision need not necessarily be at the precise point where the groove or bead or shoulder is placed, but may, if preferred, be made adjacent to and parallel therewith, and it may be made on either the inside or the outside of the metal. In

some cases the addition of the incision will be found desirable, but in most instances the head can readily be ruptured without employing it.

Having thus made known our improvements, what we claim as new, and desire to secure by Letters Patent, is—

1. A sheet-metal can, box, or other receptacle provided with a cover or head which has made in it a suitably-formed channel around the whole or a portion of its periphery in such manner as to weaken the metal of the head along such channel, and which, when secured in position upon the body of the can, places this weakened portion in such relation to the edge of the can-body, or to a shoulder in the can-body, as to constitute such edge or shoulder a fulcrum or resisting-point against which the head may be ruptured by blows upon it or force applied to it in the manner described.

2. A sheet-metal can, box, or other receptacle provided with a cover or head, which is weakened by having made in it a suitably-formed channel around the whole or a portion of its periphery in the manner described, and is also further weakened at the same point by having an incision made partially through the metal along or adjacent to the line of the channel, so as to aid the operation of opening the can by blows struck upon or force applied to the head, substantially as set forth.

ARTHUR KLEINFELDT.
FRANCIS P. MCCOLL.

Witnesses:

J. BAIER,
F. J. BIGLEY.