

No. 756,832.

PATENTED APR. 12, 1904.

F. D. CLEVELAND.  
METHOD OF FORMING CAN BODIES.

APPLICATION FILED JUNE 27, 1903.

NO MODEL.

FIG-1-

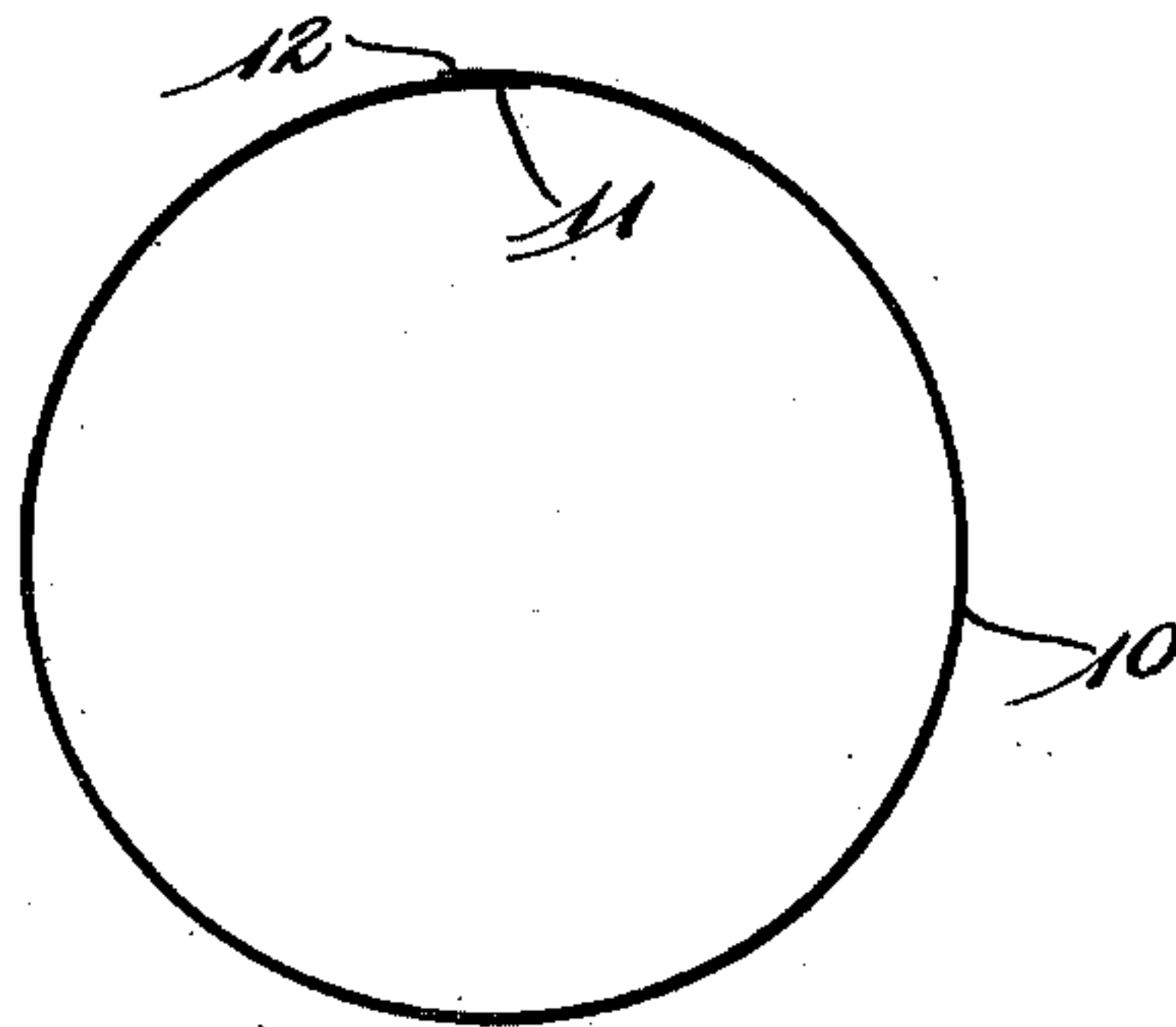


FIG-2-

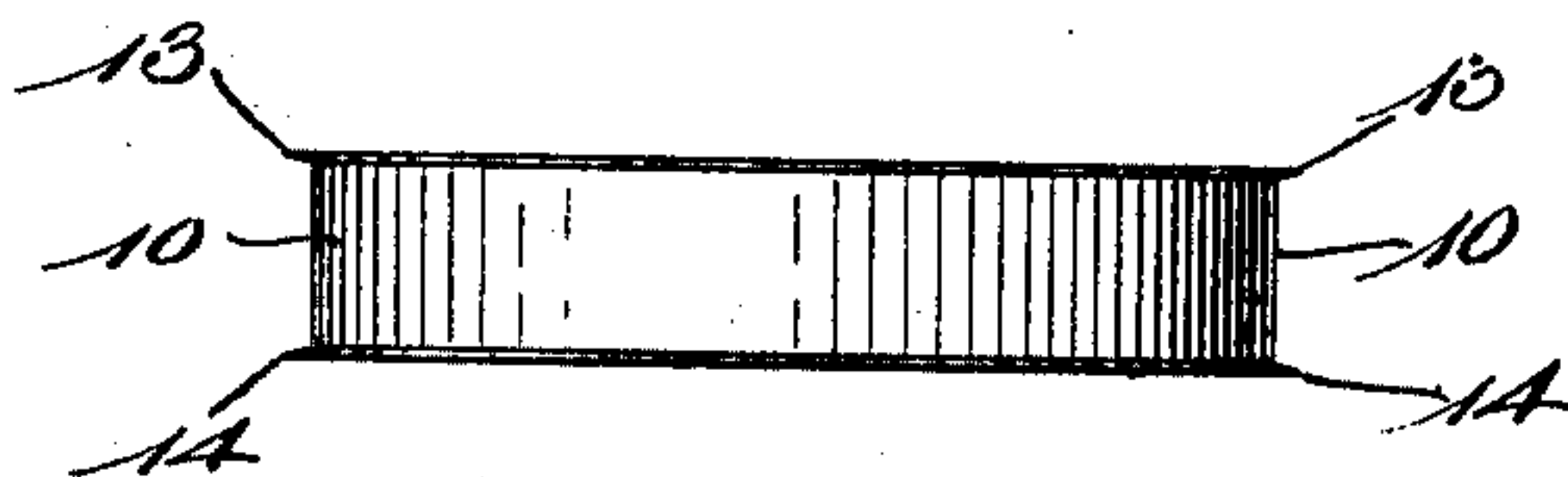


FIG-5-

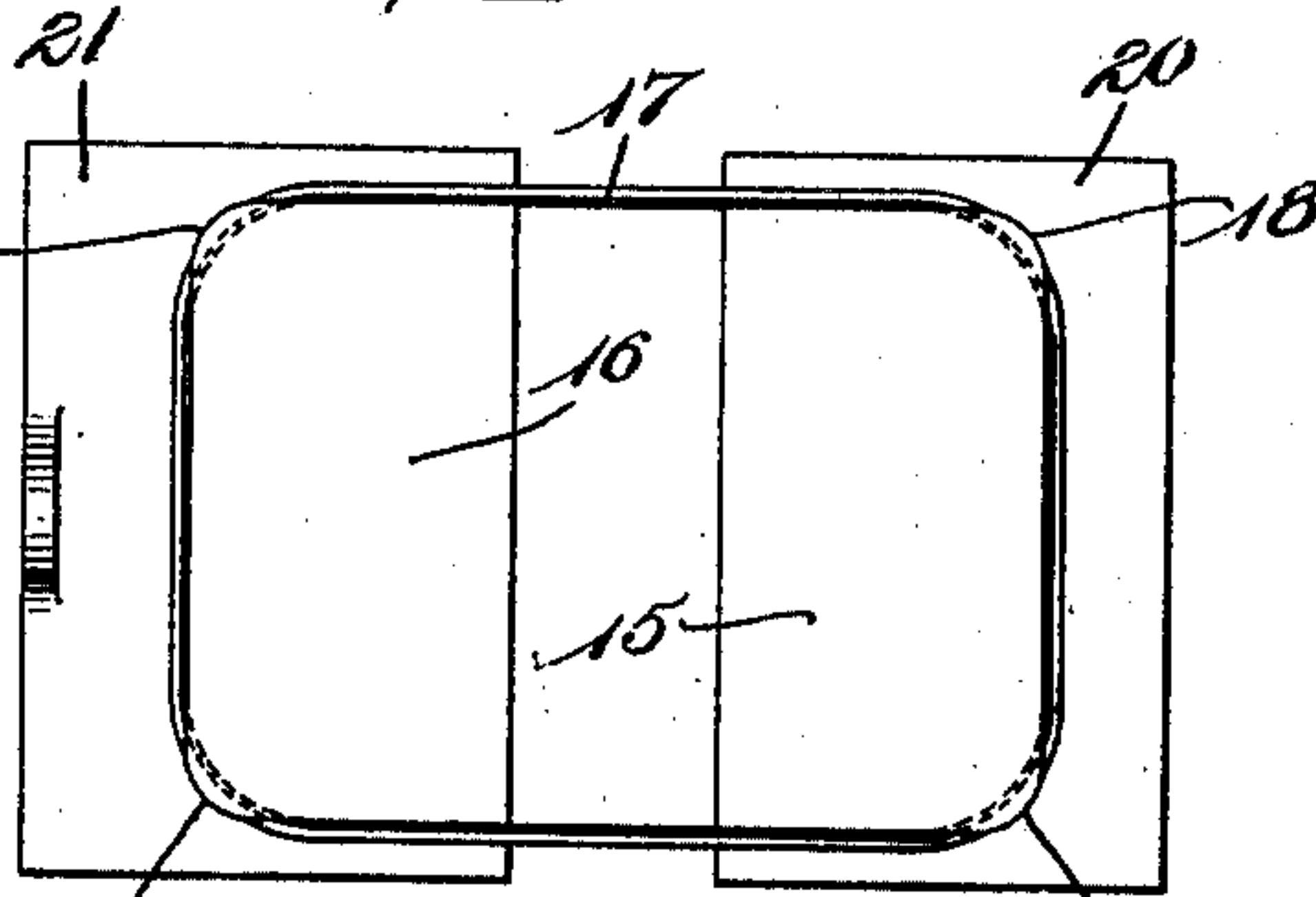


FIG-4-

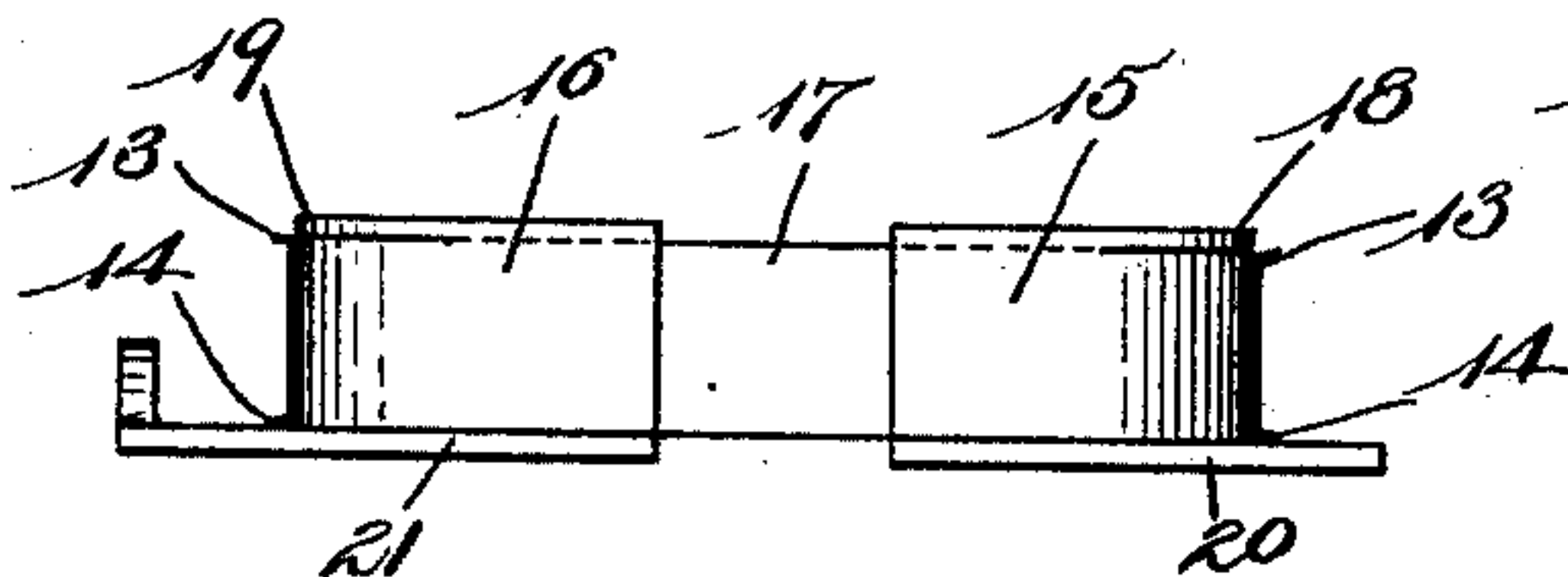


FIG-3-



WITNESSES:

Franklin E. Low.  
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INVENTOR:  
Francis D. Cleveland,  
by his Attorney, Charles S. Ford.

# UNITED STATES PATENT OFFICE.

FRANCIS D. CLEVELAND, OF WINCHESTER, MASSACHUSETTS.

## METHOD OF FORMING CAN-BODIES.

SPECIFICATION forming part of Letters Patent No. 756,832, dated April 12, 1904.

Application filed June 27, 1903. Serial No. 163,290. (No model.)

*To all whom it may concern:*

Be it known that I, FRANCIS D. CLEVELAND, a citizen of the United States, residing at Winchester, in the county of Middlesex and State of Massachusetts, have invented new and useful Improvements in Methods of Forming Can-Bodies, of which the following is a specification.

This invention relates to an improved method for forming can-bodies from blanks of sheet metal, the object of the invention being to form can-bodies of various shapes and sizes with flanges projecting laterally from either the top or bottom thereof or from both the top and bottom thereof in such a manner that all of said can-bodies shall be accurately formed.

In carrying my invention into practical operation I employ a machine which forms the subject-matter of a separate application for United States Letters Patent filed June 29, 1903, Serial No. 163,458.

The invention consists in the improved method of forming can-bodies set forth in the following specification and particularly pointed out in the claims thereof.

Referring to the drawings, Figure 1 is a plan view of a ring formed of sheet metal with the two ends fastened together. Fig. 2 is a side elevation of a ring with flanges projecting laterally from the top and bottom thereof. Fig. 3 is a plan view of two formers and the slides to which they are fastened, with a can-body in its completed form shown in section thereon. Fig. 4 is a side elevation of the parts illustrated in Fig. 3 with the can-body shown in section thereon. Fig. 5 is a plan view of the completed can-body.

Like numerals refer to like parts throughout the several views of the drawings.

In carrying my improved method into practical operation a blank of sheet metal of the proper length and width is bent to form a cylindrical or oval ring 10, Fig. 1. The two ends 11 and 12 of said ring are then fastened together, preferably by soldering. Flanges 13 and 14 are then formed upon the top and bottom, respectively, of the ring 10 by passing said ring through a machine adapted for

this purpose, said flanges projecting laterally from the ring 10. In the present instance the flanges 13 and 14 are shown as projecting laterally outward from the ring 10; but one of said flanges may be formed by projecting laterally inward from the periphery of the ring 10 when so desired. When the blank of metal has been brought to the form illustrated in Fig. 2, it is placed upon a machine provided with formers 15 16, Figs. 3 and 4. The former 15 is then moved away by means of appropriate mechanism from the former 16 until the ring 10 is stretched to the form and dimensions illustrated in Figs. 3, 4, and 5. Said former 15 is moved to a distance from the former 16 sufficient to make the distance around the finished can-body 17 (illustrated in Figs. 3 and 5) greater than the distance around the ring 10. (Illustrated in Figs. 3 and 5.) By this extra stretching of the metal composing the can-body 17 two advantages are secured. The rectangular form given to the can-body becomes permanent, so that upon releasing the tensile strain upon the can-body the form remains practically permanent. The second advantage secured by stretching the material is that the dimensions of all cans which are supposed to be of the same size will be practically alike, even though the dimensions of the ring 10 vary from inaccuracy on the part of the workman or on account of differences in thickness of the metal from which the rings are manufactured.

It will be seen that in stretching the rings from the cylindrical form to the rectangular form of the completed can-body the natural tendency of the flanges 13 and 14 would be to curl upwardly or downwardly, respectively. To obviate this difficulty, I provide upon the formers 15 and 16 flanges 18 18 and 19 19, respectively, which prevent the flange 13 from curling upwardly and hold it projecting laterally at an angle to the periphery of the completed can-body. The lower flange 14 is held in the same manner by the upper face of the slides 20 and 21, to which slides the formers 15 and 16 are respectively fastened.

While I have illustrated the ring from which the can-body is formed as cylindrical



in shape and the finished can-body as substantially rectangular in shape, it is evident that said ring may be oval or elliptical in outline and that the completed can-body may be  
5 oval or may have three or more sides, as may be desired, the shape and number of sides being simply a matter of the shape and number of formers used. In the present instance two formers have been illustrated and described;  
10 but it is evident that two or more formers may be used without departing from the spirit of my invention.

Having thus described my invention, what I claim, and desire by Letters Patent to secure, is—  
15

1. The method of forming a can-body from a blank of sheet metal, which consists in bending said blank in a curvilinear form; fastening the two opposite ends together to form a  
20 ring; forming upon each end of said ring a flange projecting laterally therefrom; and then forming said ring into the desired final

shape and dimensions by the application of pressure outwardly from the interior thereof.

2. The method of forming a can-body from  
25 a blank of sheet metal, which consists in bending said blank in a curvilinear form; fastening the opposite ends together to form a ring; forming upon each end of said ring a flange projecting laterally therefrom; and then forming  
30 said ring into the desired final shape and dimensions of a can-body by the application outwardly of pressure from the interior thereof until the metal composing said ring is elongated, so that the distance therearound is increased.  
35

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

FRANCIS D. CLEVELAND.

Witnesses:

CHARLES S. GOODING,  
ANNIE J. DAILEY.