

(No Model.)

T. G. MANDT.

AXLE BOX.

No. 353,568.

Patented Nov. 30, 1886.

Fig. 1.

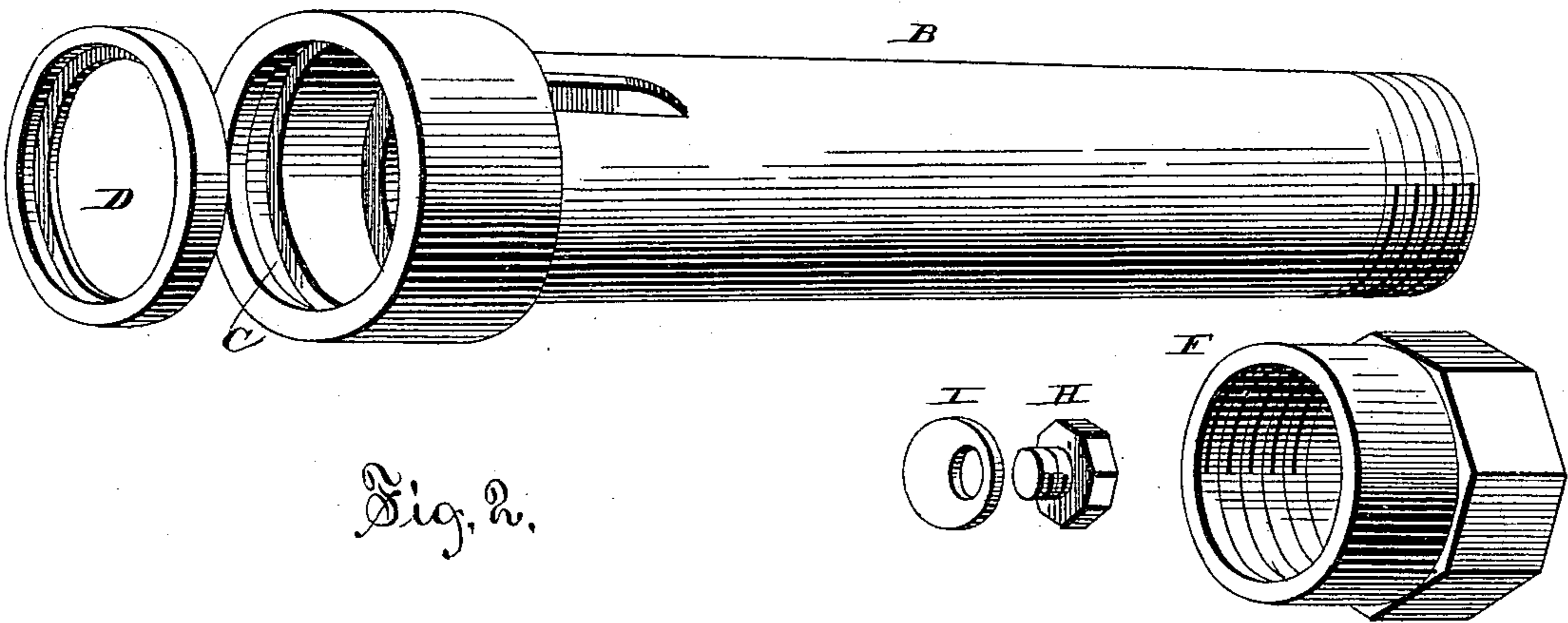
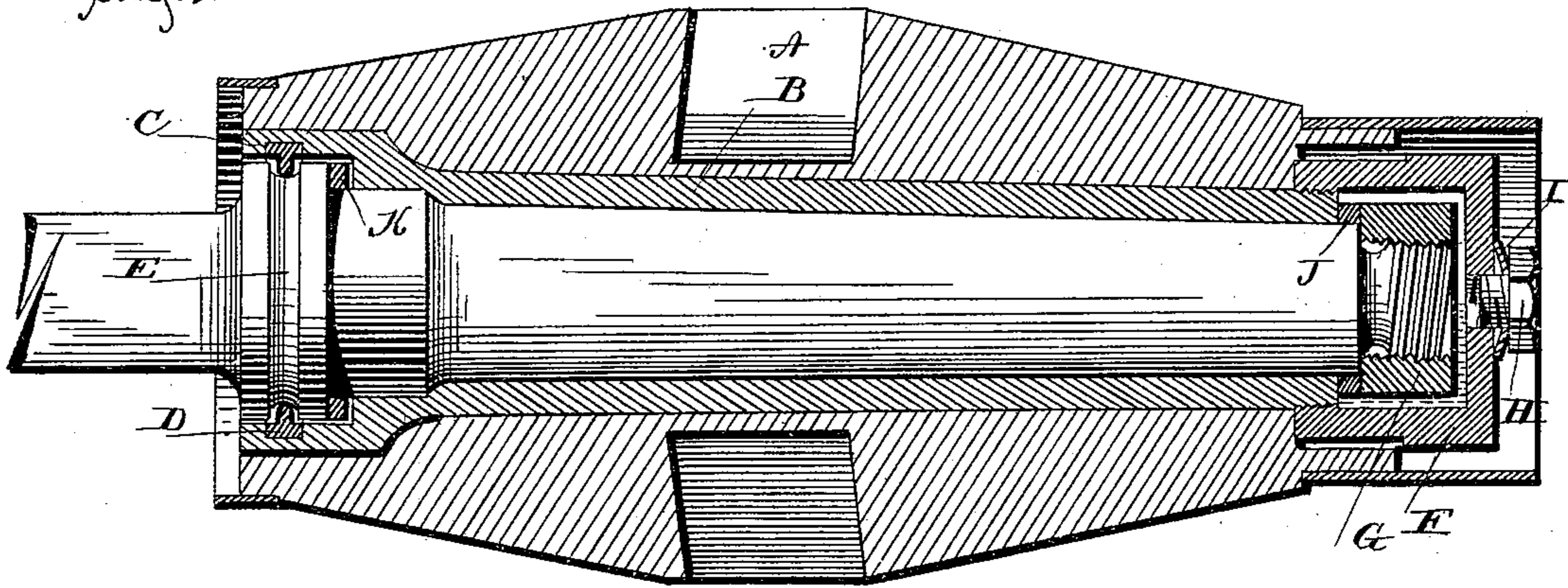
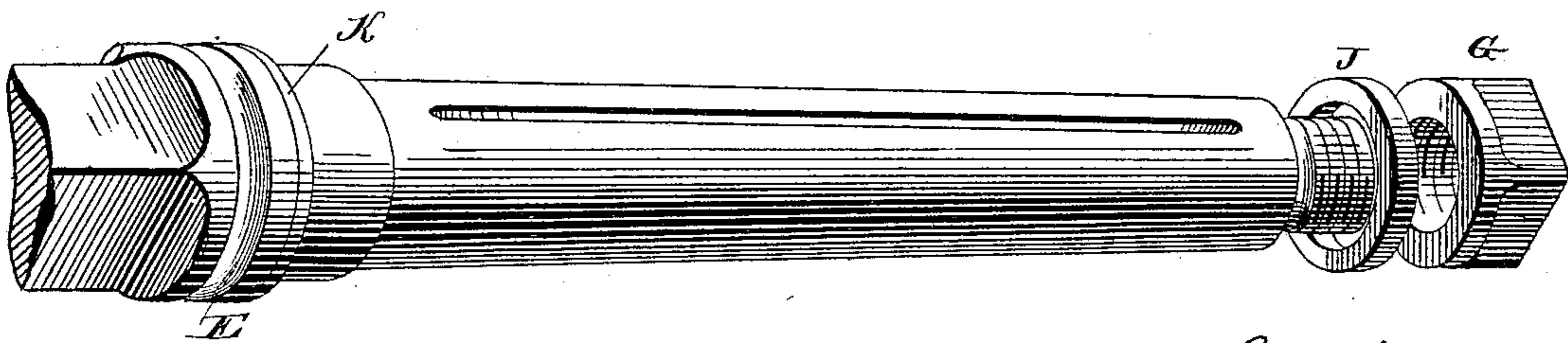


Fig. 2.



WITNESSES

F. L. Curand  
Bennett & Jones

Targe G. Mandt  
INVENTOR  
by Louis Ragger & Co  
Attorneys.

# UNITED STATES PATENT OFFICE.

TARGE G. MANDT, OF STOUGHTON, WISCONSIN.

## AXLE-BOX.

SPECIFICATION forming part of Letters Patent No. 353,568, dated November 30, 1886.

Application filed September 20, 1886. Serial No. 214,017. (No model.)

*To all whom it may concern:*

Be it known that I, TARGE G. MANDT, of Stoughton, in the county of Dane and State of Wisconsin, have invented certain new and useful Improvements in Axle-Boxes; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a longitudinal axial section of my improved box, shown in its position in a carriage-hub; and Fig. 2 is a representation in perspective of the box, the axle, and their appurtenances separated.

Like letters of reference indicate corresponding parts in the figures.

My invention has relation to axle-boxes; and it consists in the improved construction and combination of parts constituting the same, and in such formation of the axle as is necessary to make it correspond with said box, as will be hereinafter fully set forth.

The object of my invention is to so form a box and to so combine it with the spindle as to absolutely prevent sand or dust from entering at either end of the box, and to prevent oil from escaping onto the ends of the hub. This object I accomplish as illustrated in the accompanying drawings, in which A represents the hub containing the box B, which has a groove, C, formed upon the interior of its inner end and a screw-thread cut upon its outer end. In said groove is placed a rubber ring, D, provided with a flange upon the middle of its inner edge. This flange, when the hub is placed upon the spindle, is pressed into groove C till the groove E registers with groove C. Then said flange springs into groove E, thus making a sand-tight and an oil-tight joint at that end of the box. This same object is accomplished at the other end of the box by screwing thereon a cap, F, the interior of which is adapted to receive the usual nut, G, which holds the hub to the spindle.

The outer end of the hub may be formed with a countersink, as shown, for permitting the cap to be screwed upon the box, or it may

be formed in any other way which will permit the accomplishment of the same object.

A screw-threaded aperture is formed in the center of the cap, and into this is placed a screw, H, between the head of which and the cap is placed a concavo-convex washer, I. In this manner the cap is formed into an oil-reservoir, as shown in Fig. 1, from which reservoir the oil may gradually work back along the spindle, but is prevented from working out at that end of the box by the flanged ring.

The cap, while performing its offices, as above described, also furnishes a safeguard against the working off of the nut G; and to make this doubly sure the thread upon the end of the box is cut in the reverse direction to the thread upon the spindle, so that any friction between the nut and the cap will tighten the cap on the box.

The usual anti-friction washers are represented in their places at J and K.

It is evident that this cap and flanged ring may be used in connection with the axle-boxes of wheels which rotate upon axle-skins used upon heavy wagons, as well as upon those used upon spindles, as represented.

Having thus fully described my invention, I claim—

1. The combination, with an axle-box provided with a screw-thread upon its outer end and a cap adapted to screw upon said end, of an axle-spindle and its nut, the screw-threads of which are cut in an opposite direction to the screw-threads of said box and cap, as and for the purpose specified.

2. The combination of an axle-spindle having a groove formed about its inner end, an axle-box having a corresponding groove formed on the interior of its inner end, and a rubber ring having a flange formed along the middle of its inner edge, as and for the purpose set forth.

3. The combination of an axle-spindle provided with a groove about its inner end and the usual nut upon its outer end, and an axle-box provided with an annular groove about the interior of the inner end, a flanged ring fitting into said groove, and a screw-cap upon the outer end of said box, as shown and described.

4. The combination, with an axle-spindle

provided with a groove about its inner end and the usual nut upon its outer end, of an axle-box provided with an annular groove about the interior of its inner end; a flanged  
5 ring fitting into said groove, and a screw-cap provided with a screw-stopped aperture in its center and adapted to fit upon the outer end of said box, as and for the purpose set forth.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

TARGE G. MANDT.

Witnesses:

WM. LECHER,  
AUGUST PETERSON.