

F. W. BROOKS.
CAR SEAL.

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931,379.

Patented Aug. 17, 1909.

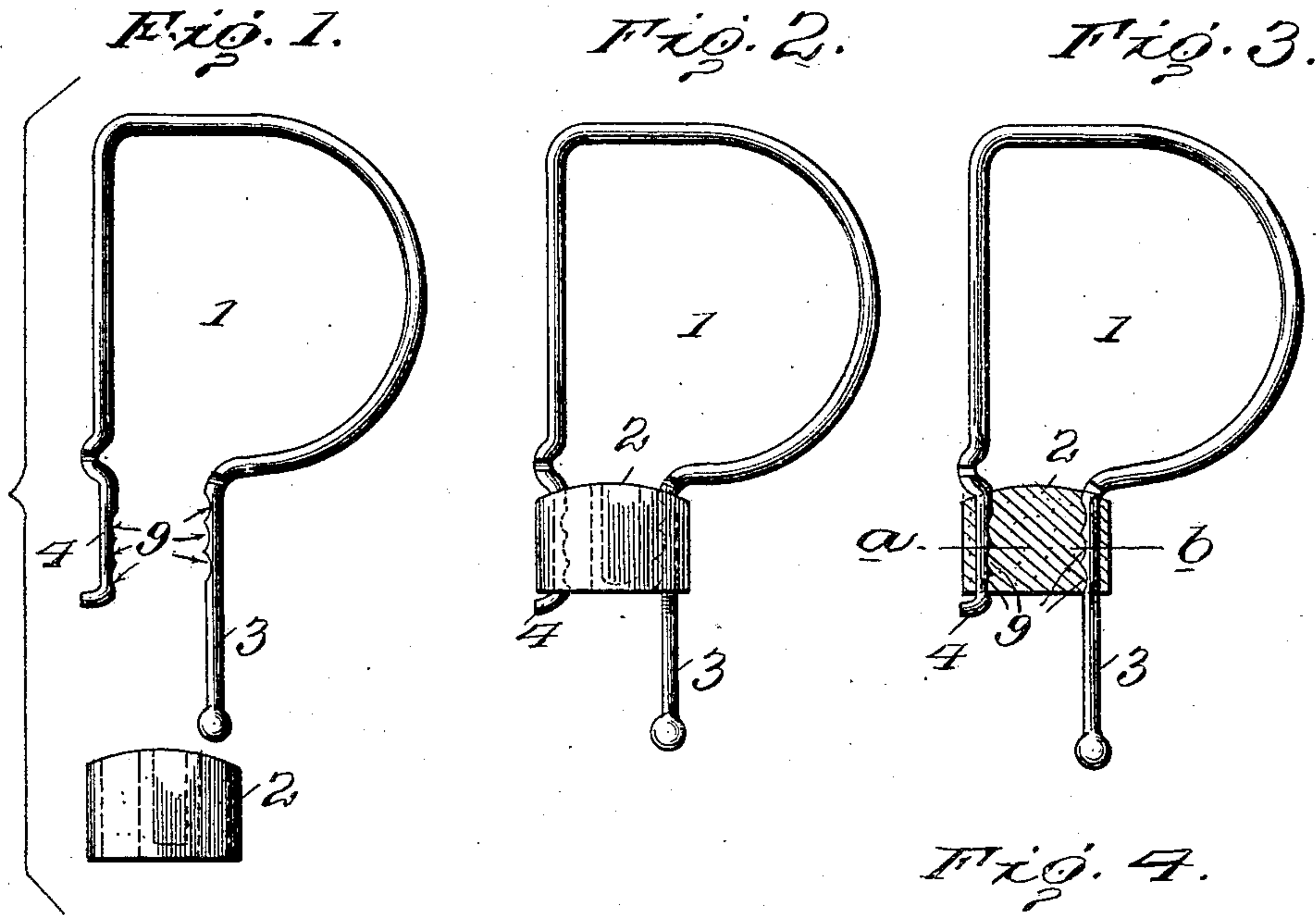


Fig. 4.

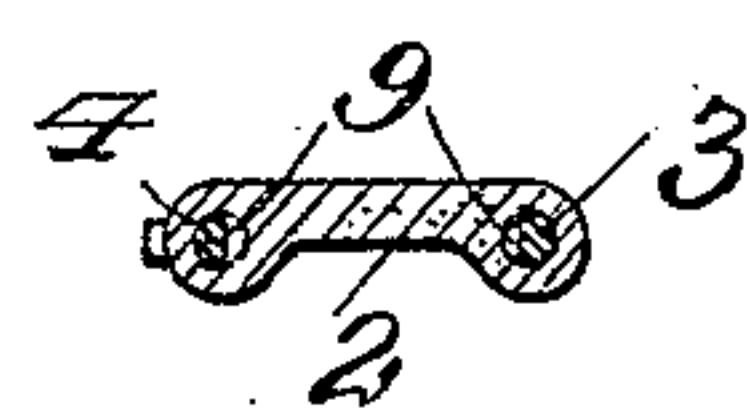


Fig. 7.

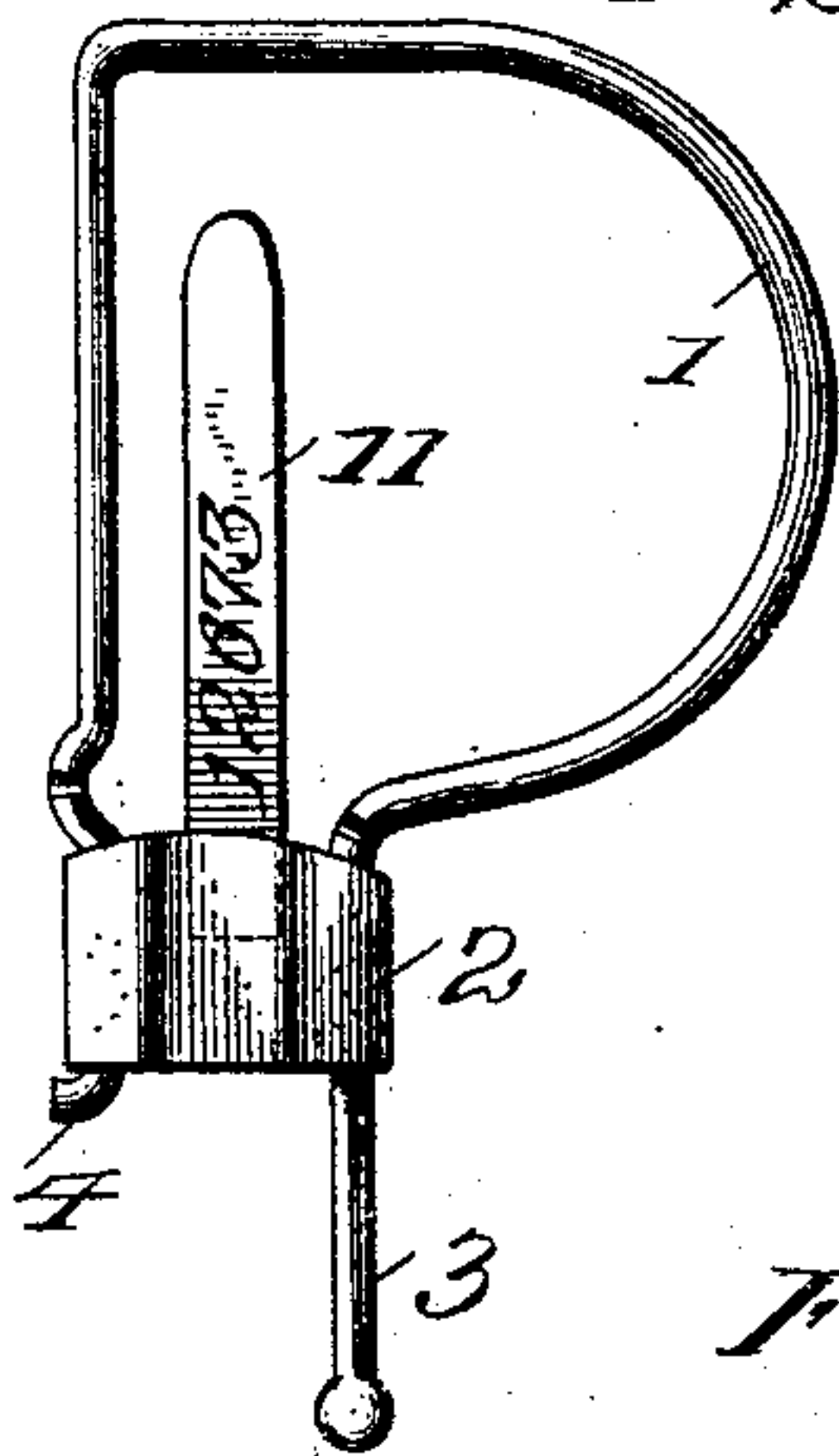


Fig. 5.

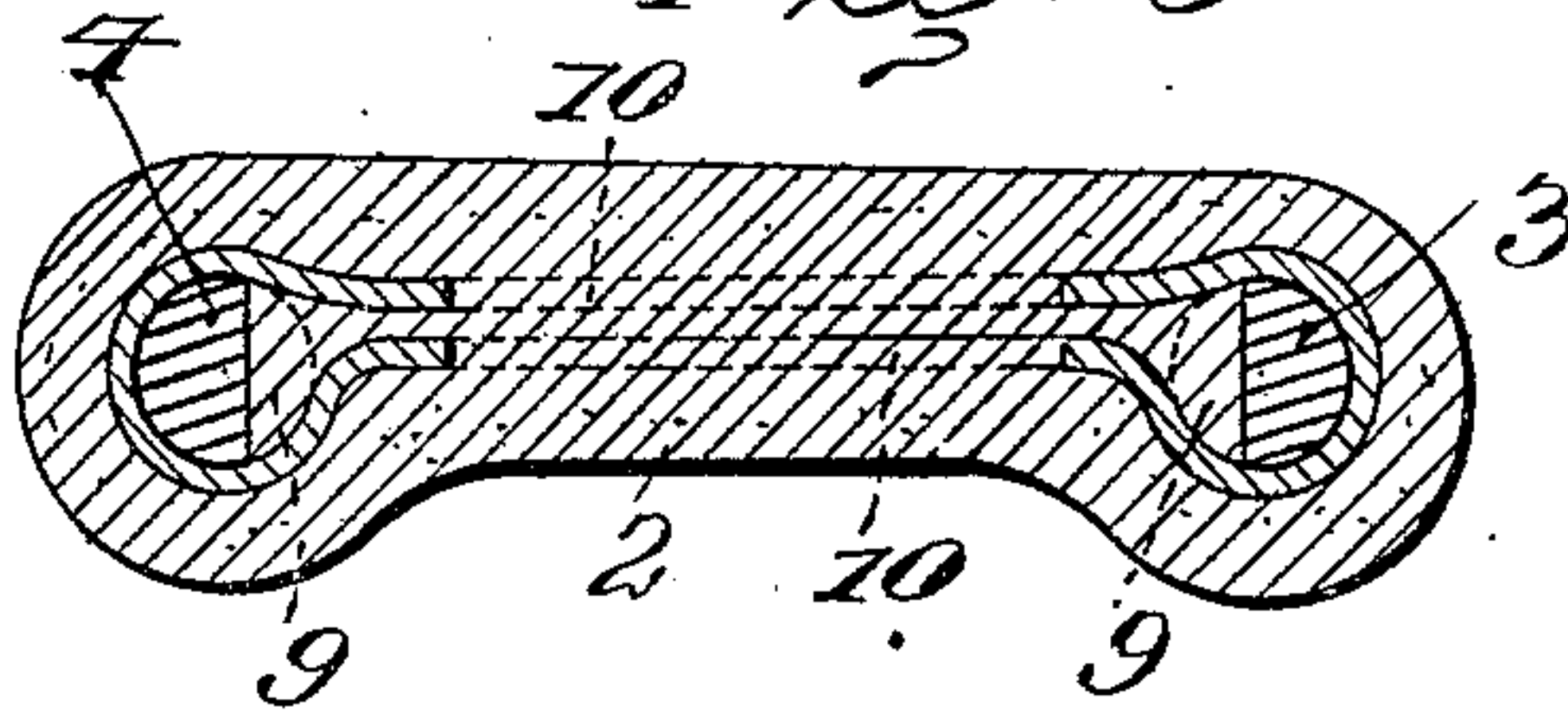


Fig. 6.

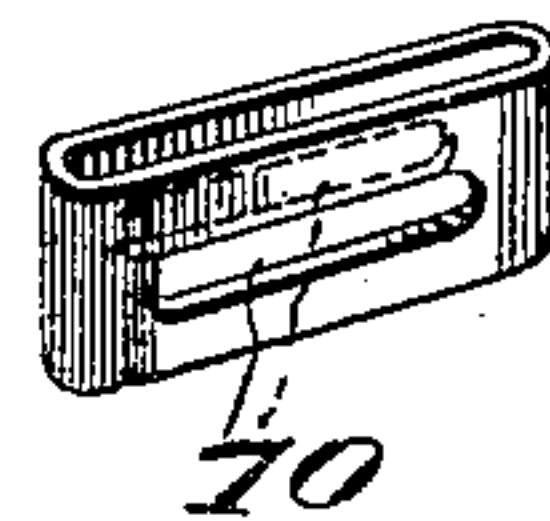
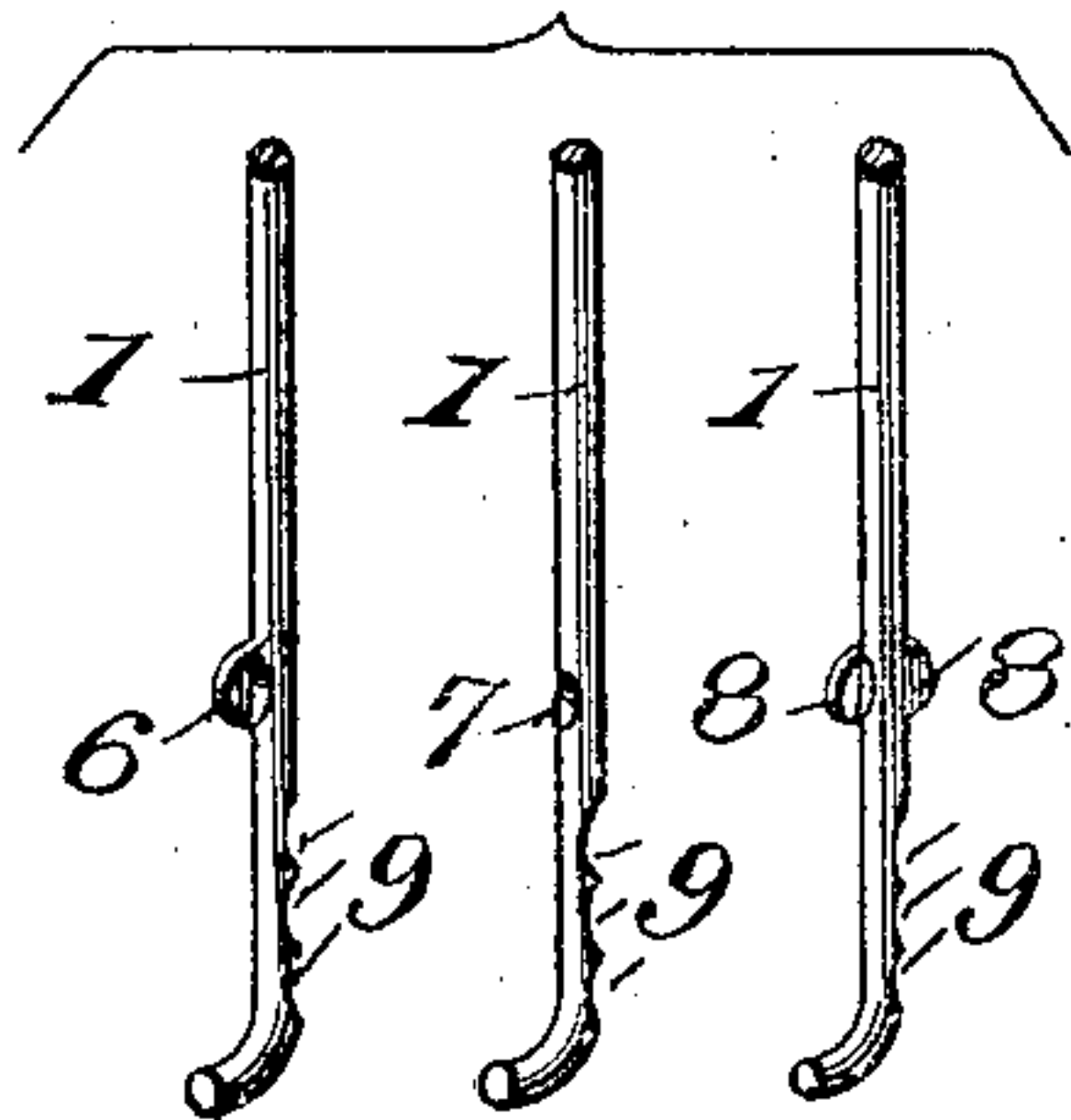


Fig. 8.



Witnesses

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UNITED STATES PATENT OFFICE.

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CAR-SEAL.

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To all whom it may concern:

Be it known that I, FRANKLIN W. BROOKS, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Car-Seals; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to certain new and useful improvements in seals for car doors and particularly to that type known as "keystone" seals, consisting of a shackle composed of comparatively strong wire having springy characteristics, the main body or exposed portion of which is designed to interlock with the fastening devices of the car door, of circular form, terminating in two straight or vertical members, adapted to pass within receiving passages in the soft metal member of the seal and to be securely held by the compression of the soft metal member. Seals of this type have had the extreme ends of the vertical members of the shackle bent outwardly to enter or pass through lateral passages in the soft metal member, and designed to prevent the fraudulent withdrawal of the shackle from the soft metal member. While such seals have been found more desirable in many instances than seals the shackles of which are composed of attenuated wire, a concomitant disadvantage exists in the circumstance that the wire shackle being of strong and springy material resists the effort to remove it when necessary, and consequently the fastening devices of the car are subjected to not only damaging strain, but are frequently loosened and broken. Another defect in this type of seals resides in the fact that the vertical or straight terminals of the shackle both extending from the circular body portion, renders it impossible for either of said terminals when of a length having in view the proper economy of wire, to pass through the shackle passages in many of the fastening devices on cars, owing to the fact that before the vertical leg or member of the shackle can pass through the fastening devices sufficiently far to be properly

connected with the soft metal member of the seal, the circular body of the shackle will contact with the upper surface of the fastening devices. This is particularly the case where it is desired to use the seal in connection with the devices commonly employed for sealing the sliding doors of freight cars closely to make a tight joint with the side of the car, and in which an operating lever is secured over, and in contact with a metal projection extending laterally from the car door.

My invention has for its object to provide a seal of the "keystone" type, which is designed to overcome all of the disadvantages existing in such seals, and adapted for use with equal advantages with the varying types of fastening devices, which may be secured in position against fraudulent manipulation, and which may be readily removed when desired.

With these ends in view, my invention consists in the details of construction and arrangement hereinafter more fully set forth.

In order that those skilled in the art to which my invention appertains may know how to make and use my improved seal and fully appreciate its advantages, I will proceed to describe the same, referring by numerals to the accompanying drawing in which:—

Figure 1 represents the shackle wire and soft metal member in separated relation; Fig. 2 represents the shackle located within the soft metal member and before compression of the latter; Fig. 3 is a view similar to Fig. 2 (partially broken away) after the soft metal member has been compressed. Fig. 4 is a section, on enlarged scale, on the line *a—b* of Fig. 3. Fig. 5 is a view similar to Fig. 4, and showing a sheet metal locking band cast within the soft metal member. Fig. 6 is a perspective view of the sheet metal band, Fig. 7 is a view similar to Fig. 2 and showing a sheet metal strip cast in the soft metal member and extending therefrom and designed to carry any desired emblem of identification or ownership; and Fig. 8 represents a group of shackles illustrating a variety of ways in which they may be weakened in

order that they may be broken to remove them from the fastening devices of the car when it is desired to open the same.

Similar reference numerals indicate like parts in the several figures of the drawing.

1 is the shackle composed of comparatively strong wire having a springy capacity by means of which it may be located within a soft metal member 2, in the manner well understood by those familiar with this type of seals. The main or body portion of the shackle, instead of being of circular form and with both legs or terminals of the shackle radial to the circular body, as is universal in this type of seals, is of D-form as clearly shown, the longer vertical terminal 3 extending from the circular portion of the body, while the shorter vertical terminal 4 constitutes a continuation of the straight, or back portion of the body, and hence, as will be readily seen, this straight or back terminal 4 may move in a vertical direction through the fastening devices on a car, until the upper curved portion of the body of the shackle contacts with the same, in contradistinction to the lower curved portion of the body contacting with the fastening devices, as in the present form of shackle.

As a chord or diameter of a circle is necessarily less than the circumference of the same, it will be apparent that I not only secure economy of wire by my improved construction, but that I am enabled to secure a greater latitude of vertical or reciprocatory movement of the shackle within and through the fastening devices on the car. And with this construction I am also enabled to use my improved seal with the varying styles of fastening devices, because the straight terminal of the shackle being designed to pass within and through the minimum passage in the same, will, of course, pass within and through passages of any other area.

I desire at this point to differentiate my improved construction from the present state of the art, by calling attention to the fact that what may be designated the short terminal of the shackle extends in a straight line from the upper terminus of the curved portion of the body, instead of the lower curved portion as at present, and as this feature of my invention may be fully understood, it will be noted that in the form of this type of seals as at present illustrated in the art, the body of the shackle above the compressed soft metal member is of circular form, while in my improved seal it is of D-shape, and that by reason of this difference in shape, my improved seal may be used when the others could not.

Having now referred to the shape or design of the shackle, I will call attention to the means by which I am enabled to readily break the shackle when it is desired to un-

seal a car, and thus avoid the loosening or breakage of the fastening devices, as hereinbefore referred to.

Referring particularly to Fig. 8, representing a group of my improved shackles, it will be seen that the wire may be weakened at a locality adjacent to the upper surface of the soft metal member, or slightly below the same, by flattening the wire as shown at 6, which also serves as a stop or gage to limit the vertical movement of the shackle within the soft metal member of the seal, or as shown at 7, a portion of the wire may be completely punched or cut out to reduce the cross section of the same, or as shown at 8, the wire may be flattened throughout and producing diametric fins or stops. I have shown the several ways of weakening the wire shackle in order that it may be understood that I do not wish to be limited as to any special means of weakening the shackle at the locality where it is desired that it may be broken.

By reference to Fig. 2, it will be seen that the long leg of the shackle is assembled with the soft metal member by enlarging the lower extremity in any suitable manner, and by reference to Figs. 4 and 8, it will be seen that the legs of the shackle are formed with a series of notches or recesses 9, on the inner surface, and that when the soft metal member is compressed, whether it be provided with the sheet metal band or not, that the soft metal being forced within the notches or recesses referred to, constitutes a series of anchorages of the shackle against withdrawal. When the sheet metal band shown at Fig. 6 is cast within the soft metal member, and the latter is compressed, the soft metal will be forced through the longitudinal slots 10 in the band and into the notches or recesses 9, while the outer extremities of the band firmly embrace the shackle.

The advantage of forming the anchoring notches or recesses as shown resides in the fact that the cross area of the legs of the shackle is not enlarged, and hence the passages in the soft metal member need not also be enlarged, and the long leg is free to rotate within the soft metal member into such position as is necessary to pass the same through the fastening devices on the car.

An additional feature of my invention resides in casting within the soft metal member a short tin strip 11, upon which may be embossed serial numbers or other characters to denote the shipper of the goods within the car, or any other identification. While this may serve a useful purpose as set forth, it may if desired, be omitted without in any manner affecting the other desirable features of my improved seal.

What I claim as new and desire to secure by Letters Patent, is:—

In a seal such as described, in combination with a soft metal member, a shackle composed of comparatively strong wire, one of its ends extending from the lower terminus of a resilient bow, and the other end extending from the upper extremity of said bow, substantially as and for the purpose set forth.

In testimony whereof, I have signed my name to this specification in the presence of 10 two subscribing witnesses.

FRANKLIN W. BROOKS.

Witnesses:

D. G. STUART,
JOHN J. HARROWER.