No. 782,435. PATENTED FEB. 14, 1905.

F. W. BROOKS.

SEAL.

APPLICATION FILED OCT. 22, 1904.

Fig. 1.

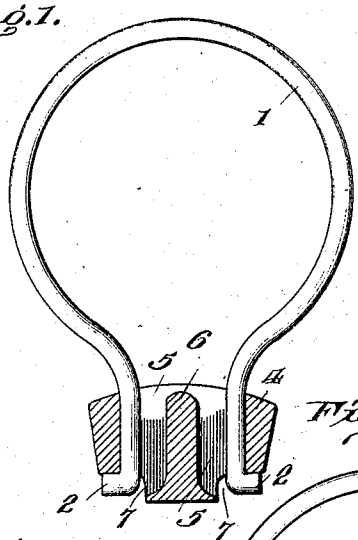


Fig. 2.

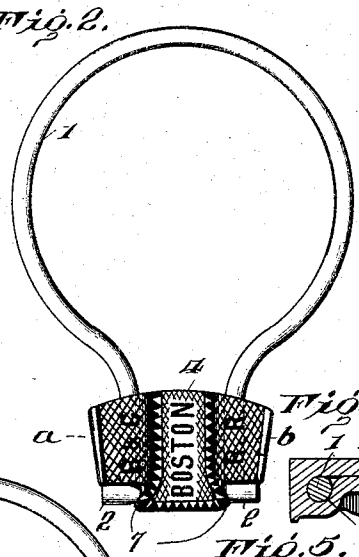


Fig. 3.

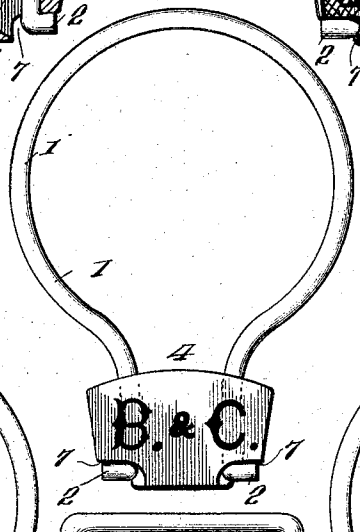


Fig. 4.

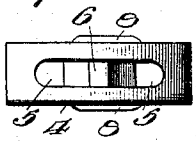


Fig. 5.

Fig. 6.

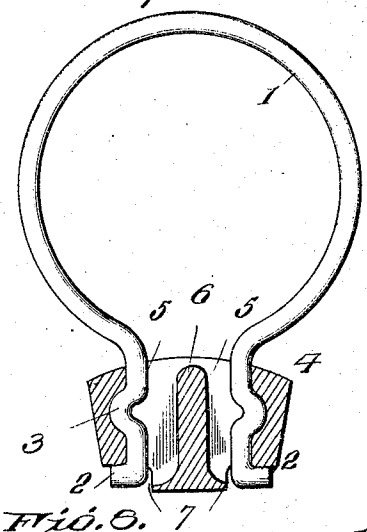


Fig. 7.

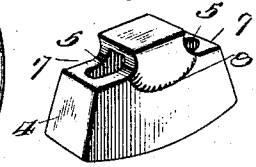


Fig. 8.

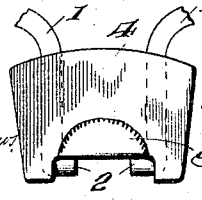


Fig. 9.

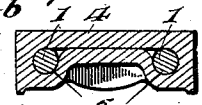


Fig. 10.

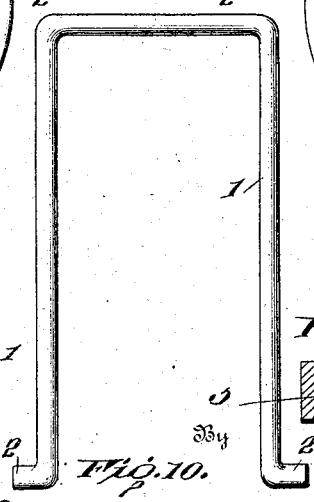
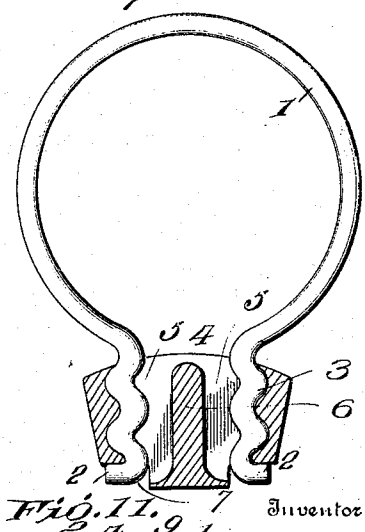


Fig. 11.



Witnesses

Inventor

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Wm. C. Hill & Sons Attorney

No. 782,435. Patented February 14, 1905.

UNITED STATES PATENT OFFICE.

FRANKLIN W. BROOKS, OF WASHINGTON, DISTRICT OF COLUMBIA.

SEAL.

SPECIFICATION forming part of Letters Patent No. 782,435, dated February 14, 1905.

Application filed October 22, 1904. Serial No. 229,554.

To all whom it may concern:

Be it known that I, FRANKLIN W. BROOKS, a citizen of the United States, residing at Washington city, in the District of Columbia, have invented certain new and useful Improvements in 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 soft-metal seals, and particularly to that class known in the market as "Keystone" seals, such as described and illustrated in Letters Patent No. 373,200, and which serve not only as a means for indicating fraudulent opening of a car or other structure or receptacle, but which likewise serve as a lock which can only be released by the employment of suitable tools.

In seals of the type above referred to the shackle or hasp is composed of comparatively thick and strong wire having springy characteristics, so that when the free ends are pressed toward one another for the purpose of inserting in the pocket or recess in the body of soft metal they will when released automatically seat themselves in the pockets or recesses adapted to receive them and become concealed and locked therein when the soft-metal body is compressed by a suitable seal-press. While seals of the character stated have been found much more effective than those having a shackle-wire of attenuated cross-section, it has been demonstrated by experience that when the extreme ends of the shackle are designed to be locked within a concealed recess or pocket the extreme laterally-trending ends of the shackle may, when fraud is intended and through collusion of employees, be cut off before the free ends are inserted within the body of the seal, and owing to the reaction of the free ends when released from pressure will cause them to press against the interior walls of the seal with sufficient force to hold the same in position while the soft-metal body is compressed by the sealing-tool. When so manipulated, it will be seen that the shackle may by the use of a suitable tool be withdrawn from the compressed soft-metal body and afterward restored to position without in any manner defacing the soft metal or giving any indication of such fraudulent manipulation.

My invention has for its object, while retaining all of the valuable characteristics of seals such as described, to also prevent any such attack upon its integrity as I have referred to.

With these ends in view my invention consists of a seal composed of a strong wire shackle of any preferred design and having its free ends formed with outwardly-trending projections at their extremities and with or without other outwardly-trending projections above such extremities and a soft-metal body of any preferred design and having suitable separate recesses or pockets for the reception of the free ends of the shackle, said recesses open and communicating with the exterior at a point above the base of the seal, so that when the free ends of the shackle are properly located within the soft-metal body and pressure is removed from them they will spring outwardly against the inner walls of the body, and the projections at their extremities will be located under the lower extremities of the side walls of the body in the position desired before subjecting the soft-metal body to the action of the sealing-tool for permanently securing the locked relation of the parts and impressing any desired letters or characters upon the exterior surface of body.

In order that those skilled in the art may fully understand all the advantages of my improved seal and know how to make and use the same, I will proceed to describe it, referring by numerals to the accompanying drawings, in which—

Figure 1 is a central vertical section of the soft-metal body and with the shackle in elevation and occupying the position assumed after it has been introduced and pressure removed therefrom. Fig. 2 is a plan view of the soft-metal body and shackle after the former has been subjected to the action of the sealing tool or press. Fig. 3 is a view similar to Fig. 2, but showing the reverse side of the seal. Fig. 4 is a top plan view of the soft-metal body. Fig. 5 is a perspective view of the soft-metal body, showing the shackle-recesses communi-

cating with the outside. Figs. 6 and 7 are plans or elevations showing modified forms of the shackle. Fig. 8 is a plan view showing a modification of the manner of exposing the terminals of the shackle. Fig. 9 is a section taken on the line *a b* of Fig. 2. Fig. 10 is a plan view showing a modified shape of the shackle; and Fig. 11 is a view similar to Fig. 9, but showing thin strips of sheet metal cast in the body.

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

1 is the shackle, composed of wire of comparatively thick gage and which may be of any of the shapes shown, but with the terminals of free ends in substantial parallelism. In the preferred construction, as shown at Fig. 1, the extremities of the free ends of the shackle are bent outwardly, as shown at 2, and they may, if desired, be formed with one or more outwardly-trending crimps 3, as shown in Figs. 6 and 7. The body 4 of the seal is composed of soft metal and is cast or otherwise formed with recesses or channels 5 each side of a central partition 6. The lower corners of the body are cut away, as shown at 7, so that the channels 5 may communicate with the outside to permit of the passage of the free ends of the wire, and in order that when the pressure applied to the shackle when placing it in position is removed the ends of the shackle will automatically spread and cause the outwardly-bent extremities 2 to take the position clearly shown at Fig. 1 under the lower end of the side walls or edges of the body, and thus temporarily interlock with the body in the position required previous to the compression of the same by the sealing tool or press.

When the body 4 is compressed, as best shown at Figs. 2 and 3, the metal between the parallel ends of the shackle is forced into the position shown in Figs. 9 and 11 to surround and rigidly hold the ends of the shackle, as clearly shown at Figs. 2 and 3, the lower central extended portion of the soft-metal body being spread or extended around and under the heel of right-angle end of the shackle. The dies employed in the press or sealing-tool are provided with any suitable and desired characters, which are embossed upon the soft metal.

In lieu of cutting away the outer lower corners of the body, as shown at Figs. 1, 2, and 3, the central portion may be cut away, as shown at Fig. 8, and the extremities of the shackle bent inwardly, in which case in introducing the shackle the free ends are forced outwardly and resume their normal relation after the extremities have emerged from the bottom of the channels 5.

Under ordinary conditions the thickness of the body of soft metal and the central partition 6 will constitute a sufficiency of metal to thoroughly close the channels 5; but, if desired to more firmly embrace the heel of the shackle, the soft-metal body may be formed with a slight swell or excess of metal, as shown at 8, Figs. 5 and 8.

If desired, small strips of sheet metal may be cast in the soft-metal body, as shown at 9, Fig. 11, as an additional security against cutting the seal at such locality with a view of removing the shackle laterally; but such provision I do not consider necessary, as the milling or hacking shown will prevent concealing any such fraudulent attempts by pressing the lead together at such point, because in so doing the milling would be defaced.

I desire to accentuate the importance and effectiveness of having the shackle channels or recesses 5 pass entirely through the soft-metal body 4 in such manner as to produce a shoulder above the plane of the extreme bottom edge of the body in order that the outwardly-bent extremities of the shackle may spring under such shoulders and interlock therewith and occupy a visible position after the body has been properly compressed, thus manifesting at all times the integrity of the seal.

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

The seal herein described consisting of a bale or shackle of comparatively heavy gage wire having its terminals bent at substantially a right angle, and a soft-metal body having shackle-passages extending through the same and terminating at their lower extremities in a plane above the terminus of the central portion of the soft-metal body and producing shoulders adapted to interlock with the exposed angular portions of the shackle, substantially as and for the purpose set forth.

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

FRANKLIN W. BROOKS.

Witnesses:
D. G. STUART,
JNO. J. HARROWER.