No. 790,180. PATENTED MAY 16, 1905.

F. W. BROOKS.

SEAL.

APPLICATION FILED JAN. 28, 1905.

Fig. 1.

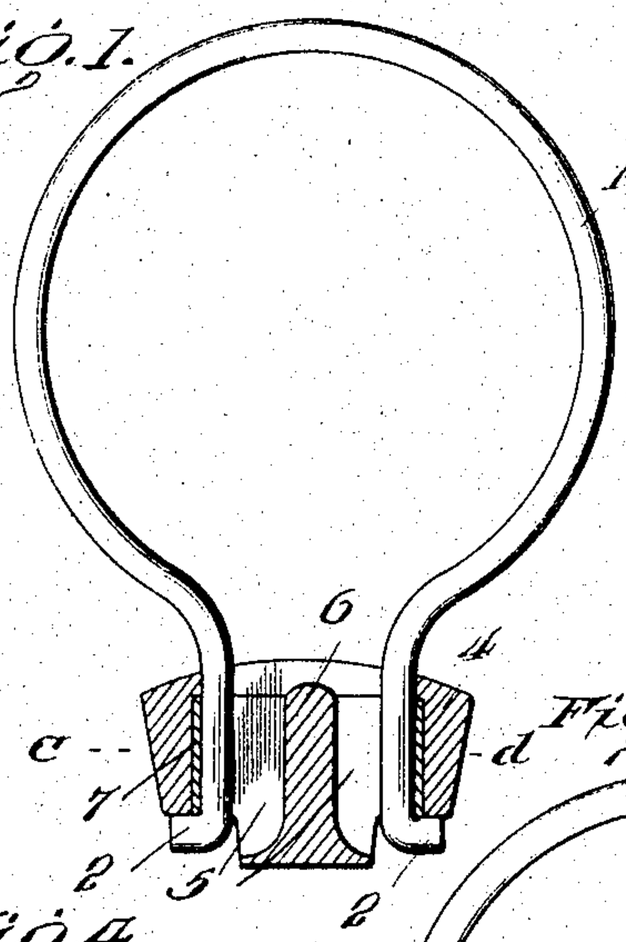


Fig. 3.

Fig. 2.

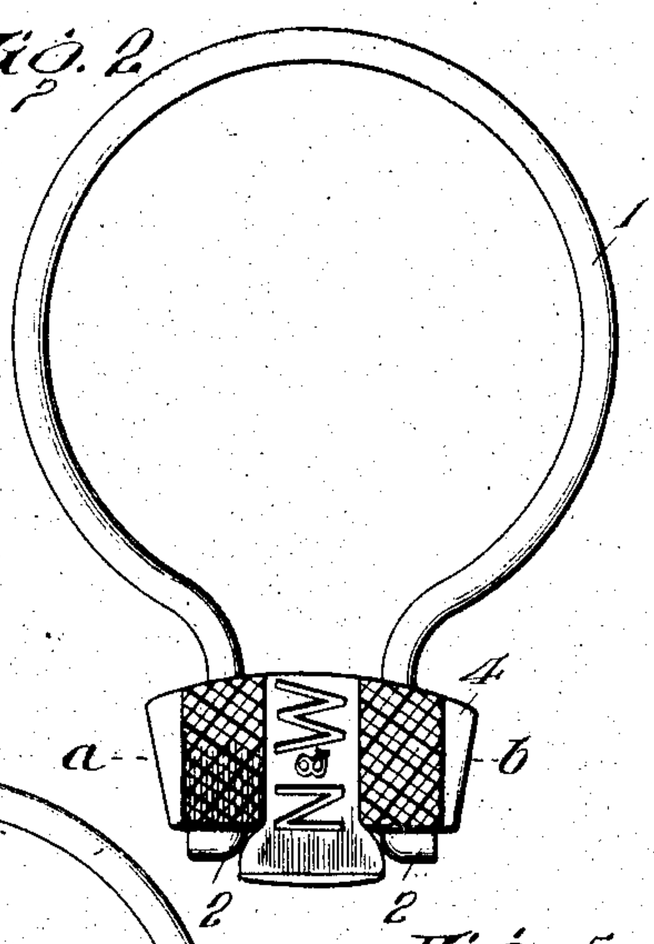


Fig. 4.

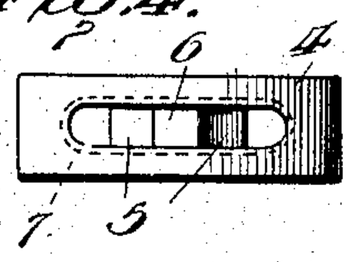


Fig. 5.

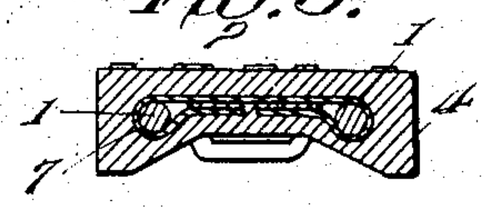
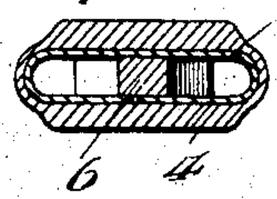


Fig. 6.



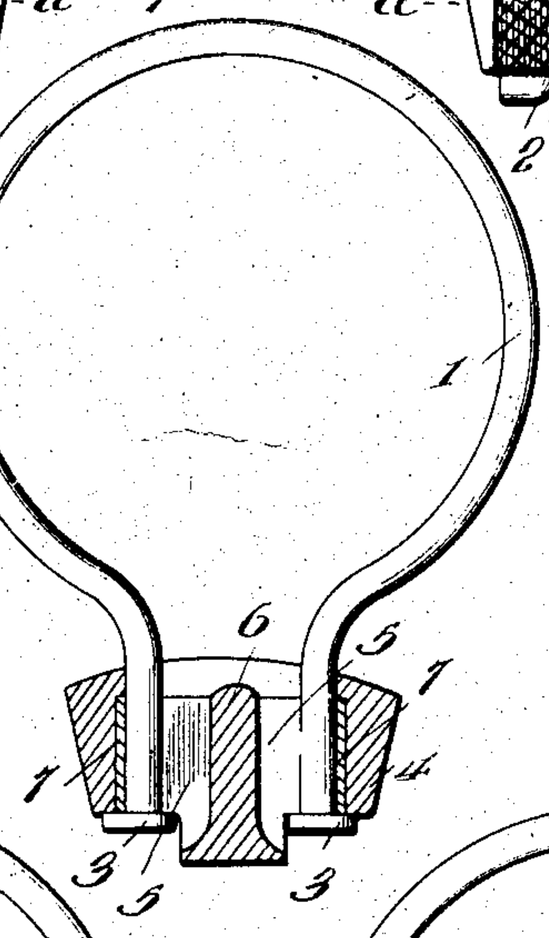


Fig. 7.

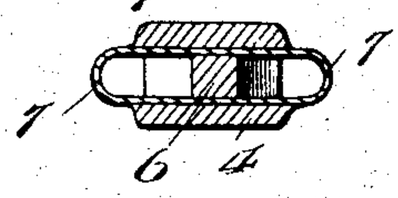


Fig. 8.

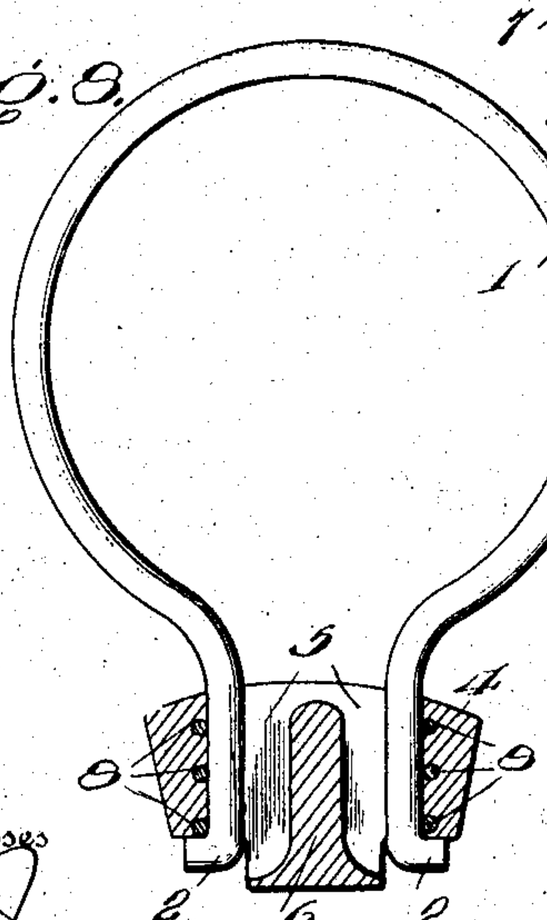
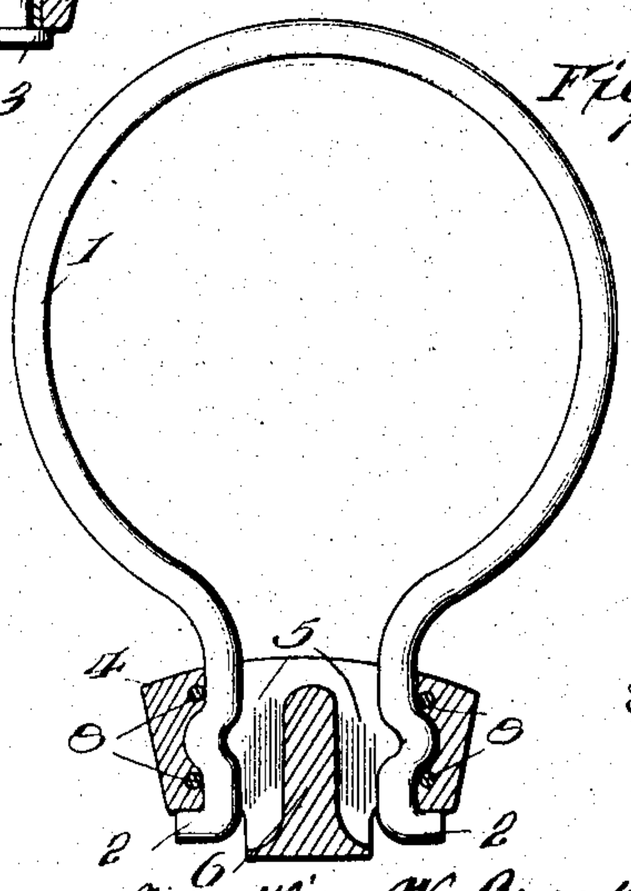


Fig. 9.



Witnesses

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No. 790,180. Patented May 16, 1905.

UNITED STATES PATENT OFFICE.

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

SEAL.

SPECIFICATION forming part of Letters Patent No. 790,180, dated May 16, 1905.

Application filed January 28, 1905. Serial No. 243,140.

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 and as perfected and improved by an invention of my own described and claimed in an application for Letters Patent, Serial No. 229,554, filed in the United States Patent Office by me on the 22d day of October, 1904, and patented February 14, 1905, No. 782,435.

In the class of seals known as the "Keystone" seals the shackle is composed of comparatively thick and strong wire having springy characteristics, so that when the free ends of said shackle are pressed toward each other for the purpose of inserting them within the soft-metal body and then released they will automatically seat themselves within suitable concealed recesses in the soft-metal body each side of the vertical center thereof and become firmly locked therein when the soft-metal body shall have been duly compressed by a suitable sealing-press. In the use of this class of seals it has been found from experience that when fraud is designed to be perpetrated by collusive effort that the laterally-projecting termini of the shackle may be cut off before the shackle is entered within the soft-metal body, and that the springy characteristics of the shackle will suffice to hold the same and the soft-metal body in apparent proper relation for the compressive action of the sealing-press, and that after such action the shackle may by the use of any suitable implement be readily withdrawn from the soft-metal body and again returned to position without evidence of the fraud. To obviate the possibility of such fraudulent action, I conceived the invention constituting the subject-matter of my pending application herein referred to, and which consists in so forming the recesses or pockets for the reception of the outwardly-extended terminals of the wire shackle that such projections shall at all times be visible, and consequently when the soft-metal body has been compressed the shackle is firmly locked therein and cannot be withdrawn without such mutilation as will readily be exposed. While this construction is designed to and will prevent the vertical withdrawal of the shackle from the soft-metal body, it may still be possible to separate one or both of the ends of the shackle from the soft-metal body by cutting or splitting one or both of the outside edges or other parts of the body and then returning the shackle to its place, closing the split or opened edge or edges of the body and concealing the fraudulent manipulation by rubbing the kerf in the soft metal with any suitable implement. While such efforts may not be frequent or easily accomplished without detection, it may in isolated cases occur; and my present invention has for its object to prevent even this doubtfully-successful effort to fraudulently tamper with the seal; and it consists in casting or otherwise connecting with the soft-metal body one or more shackle-protectors composed of taggers tin or other metal, which will sufficiently resist the cutting edge of a knife or other tool and also serve as a positive lock against the withdrawal of the shackle after the soft-metal body has been duly compressed by a sealing-press.

My invention also has for its object to economize in the amount of soft metal employed in the body of such a seal; and with these ends in view my invention consists of a seal composed of a soft-metal body and a comparatively strong and springy wire shackle having projections at its terminals extending beyond the vertical passage-ways of the body and visibly interlocked with said body, and one or more loops or shackle-guards of hard metal located within the soft-metal body and surrounding and protecting the shackle above the exposed terminal projections.

My invention also consists of a seal com-

posed of a soft-metal body and a wire shackle having projections at its terminals and one or more hard-metal loops or shackle-guards connected with the soft-metal body and extending laterally beyond the same, all as will be hereinafter more fully explained.

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

Figure 1 is a central vertical section, showing the shackle in elevation. Fig. 2 is a side elevation showing the soft-metal body duly compressed by a sealing-press to lock the shackle in place and with designating characters impressed upon the soft-metal body. Fig. 3 is a view similar to Fig. 1, but showing a modification in the form of the terminals of the wire shackle. Fig. 4 is a top or plan view of the soft-metal body shown at Fig. 1. Fig. 5 is a cross-section taken on line *a b* of Fig. 2. Fig. 6 is a cross-section of the soft-metal body and showing a modification involving the use of only a limited amount of soft-metal covering over the hard-metal loop or shackle-protector at the opposite curved portions thereof. Fig. 7 is a similar view showing a construction in which the soft metal is entirely dispensed with at the opposite edges. Fig. 8 is a view similar to Fig. 1, but showing a plurality of protectors or shackle-guards cast within the soft-metal body; and Fig. 9 is a similar view showing a modified construction of the shackle-wire with protectors or guards such as shown in Fig. 8.

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

1 is a shackle-wire composed of comparatively thick wire, having a springy characteristic adapting it to assume the position shown in Figs. 1, 3, 8, and 9 and having its terminals bent outwardly, as shown at 2 in Figs. 1, 8, and 9, or headed, as shown at 3 in Fig. 3.

4 is a soft-metal body (such as lead) of a general keystone design with vertical passage-ways 5 each side of a central bridge 6. These passage-ways terminate above the plane of the lower extremity of the central portion of the body or bridge portion 6 thereof, so that the terminals 2 or 3 of the shackle are visible at all times, as fully explained in my pending application hereinbefore referred to.

Cast or otherwise located within the soft-metal body 4, so as to surround and guard the passage-ways 5, is a hard-metal shackle-protector 7, which may consist of a strip of taggers tin bent into the form of a flattened ring, as best shown at Figs. 6 and 7, or which may consist of a piece of wire of suitable gage flattened and preferably tinned to secure more thorough cohesion with the soft-metal body 4, or in lieu of a single flat protecting-guard 7 such as described a plurality of narrow strips or small-gage wire 8, such as shown at Figs. 8 and 9, may be employed. The use of guard-loops or protectors 8 are essentially desirable when the terminals of the shackle 1 are of the design shown at Fig. 9 and when used in connection with shackle-terminals, such as shown at Figs. 1, 3, and 8, may be preferred as more readily compressible under the action of the sealing-press than when in the form shown at Figs. 1, 3, 6, and 7, although I have found from practical experience that there is no difficulty in properly compressing the guards of the form therein shown. When the soft-metal body 4 is provided with the guard loop or loops described and the shackle is passed through the passage-ways 5 and the terminals 2 or 3 assume the position shown in Figs. 1, 3, 8, and 9 and the soft-metal body 4 is compressed, as shown at Fig. 2, the guard-loops or shackle-protectors 7 or 8, as the case may be, will be forced into the shape shown in section at Fig. 5, and thus constitute a hard-metal protector to the parallel ends of the shackle-wire 1, so that even though the soft-metal body 4 may be opened by a knife or other suitable implement the shackle will still be firmly held and protected by the hard-metal loop or guard. The presence of the hard-metal guard loop or loops also constitute an additional security against the vertical withdrawal of the shackle from the body 4 of the seal, for the reason that the terminals of the shackle-wire projecting beyond the boundary of the guard-loop and being fixed in that relation by the act of compressing the central portion of the soft-metal body of the seal below the terminals of the shackle-wire said guard-loop serves as a positive lock or barrier against a withdrawal movement of the shackle.

While I prefer to surround the hard-metal shackle guard or guards with a substantial body of soft metal 4, economy in the use of the latter may be exercised without depreciating the safety characteristics of the seal as a whole by using only a thin body of the soft metal at the opposite edges of the seal, as clearly shown at Fig. 6, or entirely dispensing with the soft-metal body at such localities, as shown at Fig. 7, in which case the hard-metal loop or loops alone prevent the vertical withdrawal of the shackle after the seal has been duly compressed.

I do not of course wish to be confined to the exact keystone design shown of the soft-metal body 4, so long as it is provided with the passage-ways 5, terminating in a plane above the central portion of the body, so as to constitute projections with which the enlarged terminals of the shackle visibly interlock, nor do I wish to be confined to any exact form of enlargement of the terminals of the shackle

so long as they are adapted to properly interlock in a visible manner with the body 4, as these variations of form are all provided for in my pending application for Letters Patent hereinbefore referred to.

The genus of my present invention resides in the employment, with the soft-metal body and shackle described, of a shackle-protecting loop or loops of hard metal located within the soft-metal body and adapted when the latter is suitably compressed to guard and protect the shackle from exterior attack and to constitute additional means for preventing the vertical withdrawal of the shackle.

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

1. A seal composed of a soft-metal body having shackle-passages terminating above the lower extremity of the central portion of said body, and having a shackle-guard loop or loops of hard metal incorporated in the body in combination with a shackle composed of comparatively stiff wire located within the shackle-passages of the soft-metal body and having its terminals enlarged and projected beyond the exterior boundary of the hard-metal guard loop or loops and exposed to view, substantially as and for the purpose set forth.

2. A seal composed of a soft-metal body having shackle passage-ways through the same and terminating at a plane above the lower extremity of the central portion of said body; a hard-metal loop or loops located within said body and extending beyond its lateral walls or edges; and a shackle having enlarged terminals passed through the passage-ways in the soft-metal body and visibly interlocking with the guard loop or protector, substantially 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,

JOHN J. HARROWER.