(No Model.)

# E. J. BROOKS.

## SEAL.

No. 304,164. Patented Aug. 26, 1884.

Fig. 1.

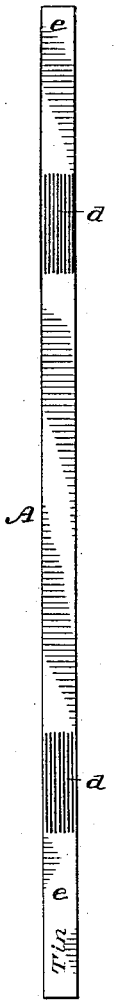



Fig. 2.

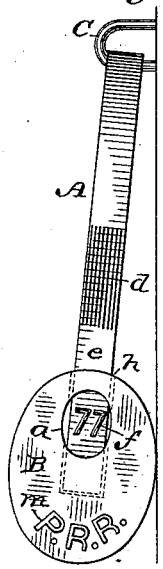



Fig. 3.

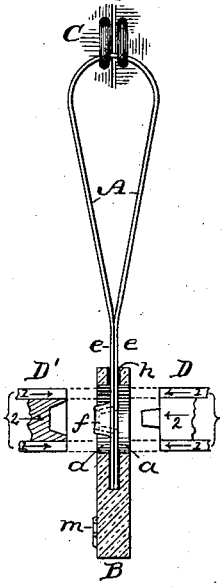



Fig. 4.

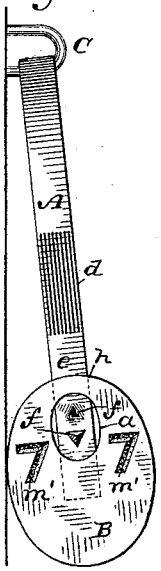



Fig. 5.

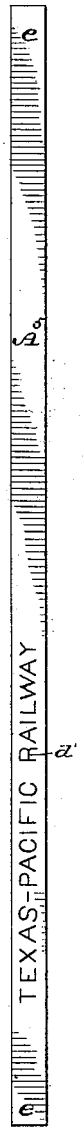



Fig. 6.


Fig. 6x.

Fig. 7.

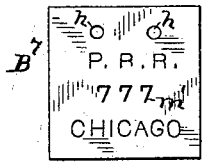



Fig. 7x.

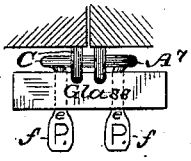
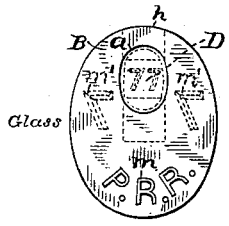



Fig. 7z.



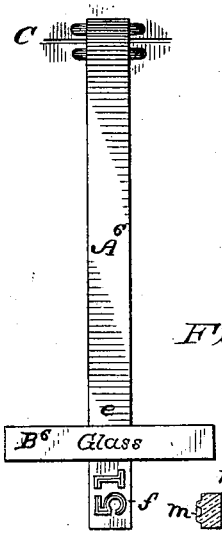
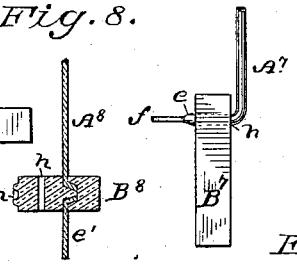
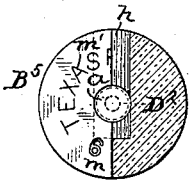




Fig. 8.

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# UNITED STATES PATENT OFFICE.

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## SEAL.

SPECIFICATION forming part of Letters Patent No. 304,164, dated August 26, 1884.

Application filed May 22, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD J. BROOKS, a citizen of the United States, residing at East Orange, in the State of New Jersey, have invented a new and useful Improvement in Seals, ($G^2$,) of which the following is a specification.

In common with numerous "seal" inventions heretofore patented by me, the present invention relates to that general class of seals in which flexible "shackles" are combined with or provided with means for uniting their ends after they are passed through pairs of staples or the like, so that a freight-car door, for example, so "sealed" cannot be opened without so breaking or marring some part of the seal as to insure the detection of its violation.

This invention is additional, more particularly, to one set forth in my specification forming part of the United States Patent No. 298,168, dated May 6, 1884. Each of the seals therein described is composed of a shackle of sheet metal and a seal-disk of hard or relatively hard and rigid or substantially rigid material "sufficiently adapted to resist bursting strains," the shackle only being pressed or stamped at the sealing operation. By providing for pressing or stamping the shackle ends in a particular way, I find that I can employ or use with great advantage, in somewhat similar seals, glass, pottery, and other materials for the seal-disks, rendering them frangible or "brittle" as well as hard and rigid, their brittleness providing for quickly opening a sealed door or the like without the aid of a shackle-cutter by breaking the brittle seal-disk, while the high degree of rigidity incident to brittleness precludes bending the seal-disk or in any way opening the threading hole or holes therein, so as to release either shackle end without breaking the seal-disk, and the transparency readily obtained with glass exposes to view those portions of the shackle within the seal-disk, so that the seals may be thoroughly inspected without straining them. Moreover, with such rigid and brittle seal-disks of very simple forms adapted to be cheaply produced, and to be reused an indefinite number of times, if so desired, I am enabled to use shackles of soft wire as well as sheet-metal shackles, and to securely fasten the same by simple modes of pressing which have not heretofore been successfully used in any such way, so far as I am informed.

This invention consists, first, in a rigid and brittle seal-disk of transparent glass having contracted threading-holes, (one or a pair,) in combination with a metallic shackle having its threading end or ends fitted to said threading-holes and adapted to be threaded through the seal-disk or a portion thereof, and exposed below or beyond the same, and to be secured against withdrawal by pressing or stamping the threaded end or ends at a point so exposed, to form fastening projections thereon without straining the seal-disk, whereby all the several advantages of the latter above set forth are rendered available and utilized; secondly, in a rigid and brittle seal-disk having its threading hole or holes in one edge and a "pressing-aperture" crossing the same, extending through the seal-disk from face to back to give access to the threaded shackle ends at a point beyond a threaded portion thereof, so that the same may be grasped and pressed or stamped therethrough without straining the seal-disk; and, thirdly, in a seal-disk of the description last stated made of transparent glass, so as to expose to view those portions of the shackle within it, and molded with permanent distinguishing-marks, as hereinafter set forth.

A sheet of drawings accompanies this specification as part thereof.

Figure 1 of these drawings is a face view of a glass and tin seal embodying the several features of construction aforesaid, showing the shackle straight and unthreaded. Figs. 2 and 3 are respectively a face view and a sectional edge view of the same seal applied to a pair of car-door staples and pressed in a preferred way, Fig. 3 illustrating the pressing operation. Fig. 4 represents a back view of the same seal pressed by different dies. Fig. 5 is a face view of another glass and tin seal with its shackle straight and unthreaded, the seal-disk being shown half in section. Fig. 6 is a face view of the seal-disk of another, and Fig. 6$^x$ an elevation of this seal applied to a pair of sealing-staples and pressed. Fig. 7 is a face view

of the seal-disk of a glass and wire seal, and Figs. $7^x$ and $7^z$ edge views of this seal pressed; and Fig. 8 is a sectional edge view of an unpressed seal of transparent glass and any preferred sheet metal, the several sets of figures representing modifications of one and the same improved seal.

Like letters of reference indicate corresponding parts in the several figures.

In all the several forms represented by the drawings, this improved seal is composed of a flexible metallic shackle, A, or $A^5$, or $A^6$, or $A^7$, or $A^8$, and a seal-disk, B, or $B^5$, or $B^6$, or $B^7$, or $B^8$, of glass, which renders it transparent, rigid, and brittle, and at the same time weather-proof and sufficiently strong for practical purposes; and each seal-disk has a contracted threading hole or holes, *h*, and each shackle has threading ends *e* (two or one) fitted to said holes, and adapted to be inserted into and to extend through the seal-disk or a portion thereof therein, and to be provided with fastening projections, *f*, by pressing or stamping, at a point below or beyond an inclosed portion thereof, after the application of the seal to car-door staples C, or whatever they are to unite, without straining the brittle seal-disk at the pressing operation, while, owing to the transparency of the latter, the fastened seal may also be thoroughly inspected without straining it, as aforesaid.

In the preferred form, as represented by Figs. 1 to 3, inclusive, a single threading-hole, *h*, extends inward from the upper edge of an oval seal-disk, B, and is crossed by an oblong pressing-aperture, *a*, extending through the seal-disk from face to back. The latter admits a pair of divided dies, D D′, Figs. 1 and 3, portions of which, fitted loosely to the ends of said aperture *a*, advance first into the aperture, as indicated by arrows 1, Fig. 3, and grasp the threaded shackle ends tightly between them, after which the inner portions of the dies advance, as represented by arrows 2, Fig. 3, and form the fastening projections *f* (in the form of raised numbering-figures, for example) perpendicular to the face of the threaded shackle ends without the possibility of straining the seal-disk. The dies are then retracted to release the pressed seal, and the operation, which is adapted to be as quickly performed as any pressing operation, is thus concluded. The seal-disk B is, moreover, made of transparent glass, so as to expose to view those portions of the shackle ends within it after the seal is pressed, and is molded with cameo and intaglio distinguishing-marks *m m′* on its face and back, respectively, to render counterfeiting difficult or impossible. Colored particles embedded in the glass and other arbitrary or secret marks may also be used. The shackle A is of tin, (tin-plate,) for which any preferred sheet metal—such as thin iron or brass—may be substituted as equivalents. It is of the simple form used in various seals, and is simply provided at the factory with indelible detector-marks *d* in the form of lines or "end shading," as heretofore proposed by me, to insure detection should a shackle end be cut off, reinserted, and repressed. With such detector-marks *d* on the shackle the fastening projections *f* may, with reasonable safety, be raised by simple punches, as illustrated by Fig. 4. They are shown in this figure as a pair, projecting, respectively, forward and backward, simultaneously formed by pyramidal punch-points on a pair of dies, which may be similar otherwise to those represented at D D′, Figs. 1 and 3, as aforesaid. When such simple punch-dies are to be used, distinguishing detector-marks on the shackle—such, for example, as lettering *d′* on the shackle $A^5$—is preferable, and the seal-disk $B^5$ may be advantageously formed of circular or like simple shape, and of small size, with its aperture *a* of corresponding form, the fastening-dies $D^2$ to be made of corresponding face outline, as represented by Fig. 5. This figure shows cameo and intaglio distinguishing-marks *m m′* on and in one and the same side of the seal-disk. Either form may be used, and different combinations and arrangements thereof may aid in designating seals appropriated to different uses, locations, or directions of travel, so as to facilitate distinguishing them by feeling.

In the modification illustrated by Figs. 6, $6^x$, both ends *e* of a plain sheet-metal shackle, $A^6$, are threading ends, and, after insertion together through a single contracted threading-hole, *h*, in a glass seal-disk, $B^6$, of distinctive shape, and provided with intaglio distinguishing-marks *m′*, are provided with fastening projections *f* in the form of raised distinguishing-marks, which may be produced by ordinary seal-presses fitted with single dies, such as I have heretofore proposed and used. (See United States Patent No. 296,124, dated April 1, 1884.) The absolute rigidity and brittleness of the glass seal-disk $B^6$ precludes releasing either shackle end without the aid of the oppositely-raised fastening projections which constituted the basis of a previous invention embodied in "seals and tags" somewhat similar in form to this modification of the present seal, as set forth in my specifications forming part of United States Patents No. 236,539, dated January 11, 1881, No. 242,259, dated May 31, 1881, and No. 258,278, dated May 23, 1882. Moreover, in combination with a substantially similar glass seal-disk, $B^7$, having a pair of threading-holes, *h h*, of appropriate shape and size, round (or square) wire may be used for the metallic shackle $A^7$, as illustrated by Figs. 7, $7^x$, $7^z$, the fastening projections *f* being in this case thrown out laterally in the act of stamping the ends with initials or the like. Wire of soft copper or lead is preferred for this use, and one end may be pressed or stamped before the seal is used, to preliminarily unite the parts, as heretofore proposed by me.

In the modification illustrated by Fig. 8 one end, *e′*, of a sheet-metal shackle, $A^8$, is made

fast within the rigid and brittle seal-disk $B^8$ in the act of molding the latter, as heretofore proposed by me, the other end (not shown) being the threading end, which is fitted to a threading-hole, *h*, in the rigid and brittle seal-disk, being adapted to be fastened by stamping or pressing this threading end below the seal-disk in the same manner, for example, as illustrated by Fig. $6^x$.

The shapes and sizes of the seal-disks, with the widths, lengths, and colors of the shackles, and the marks on each, are immaterial, save as they serve to distinguish genuine seals and seals belonging to different roads or appropriated to particular uses, as heretofore proposed by me, and variations thereof such as are illustrated may be multiplied at will.

I also propose to make seals such as either of those represented by Figs. 1 to 5, inclusive, with seal-disks of pottery or other material, which will render them rigid, brittle, weather-proof, and sufficiently strong for practical purposes.

Having thus described my said improvement in seals, ($G^2$,) I claim as my invention and desire to patent under this specification—

1. An improved seal composed of a rigid and brittle seal-disk of transparent glass, having a contracted threading hole or holes, and a flexible metallic shackle having a threading end or ends fitted to said hole or holes, and adapted to extend through the seal-disk, or a portion thereof, to be exposed beyond the same, and to be provided with fastening projections by pressing or stamping said shackle end or ends at a point so exposed without straining the seal-disk, substantially as herein specified, for the purposes set forth.

2. In combination with a flexible metallic shackle adapted to be provided with fastening projections by pressing or stamping it, a rigid and brittle seal-disk having a contracted threading hole or holes extending inward from one edge, and a pressing-aperture crossing said hole or holes, extending through the seal-disk from front to back, and adapted to admit dies for grasping and pressing or stamping the threaded shackle ends within said aperture without straining the seal-disk, substantially as herein specified.

3. A rigid and brittle seal-disk of transparent glass, having a contracted threading hole or holes extending inward from one edge thereof, and a pressing-aperture crossing said hole or holes, which extends through from face to back, and molded with permanent distinguishing-marks, in combination with a flexible metallic shackle having its ends fitted to said hole or holes and adapted to be pressed or stamped within said aperture, those portions of the shackle within the seal-disk being exposed to view by the transparency of the latter, substantially as herein specified.

EDWARD J. BROOKS.

Witnesses:
L. FARLEY HOVEY,
JAMES E. HOLLEY.