

(No Model.)

E. J. BROOKS.

SEAL.

No. 395,481.

Patented Jan. 1, 1889.

Fig. 1.

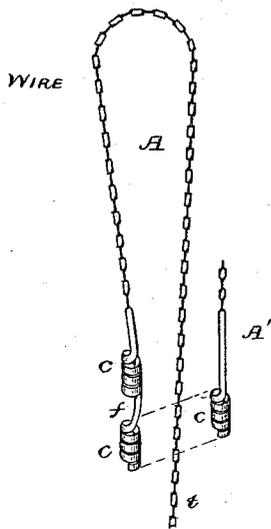


Fig. 4.

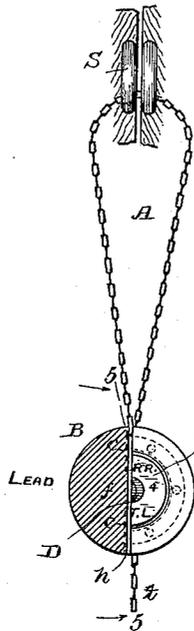


Fig. 9.

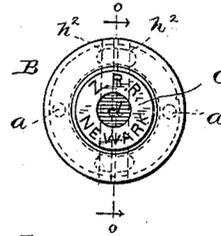


Fig. 5.

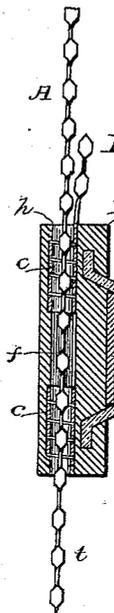


Fig. 10.

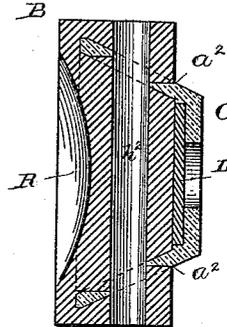


Fig. 2.

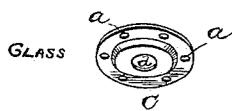


Fig. 6.



Fig. 12.

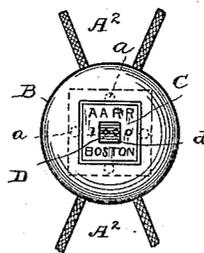


Fig. 7.

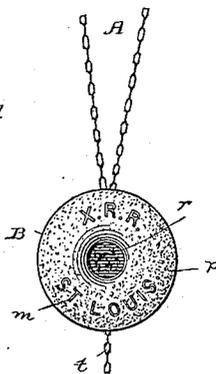


Fig. 3.



Fig. 11.

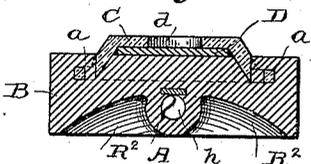
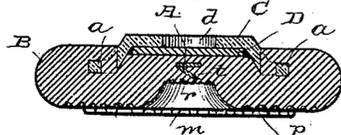


Fig. 8.



Inventor.

EDWARD J. BROOKS.

By *[Signature]*

Attorney.

Witnesses.

H. A. Lawley
Wm. Phillips

UNITED STATES PATENT OFFICE.

EDWARD J. BROOKS, OF EAST ORANGE, NEW JERSEY, ASSIGNOR TO THE
E. J. BROOKS & COMPANY, OF NEW YORK, N. Y.

SEAL.

SPECIFICATION forming part of Letters Patent No. 395,481, dated January 1, 1889.

Application filed October 27, 1888. Serial No. 289,274. (No model.)

To all whom it may concern:

Be it known that I, EDWARD J. BROOKS, a citizen of the United States, and a resident of East Orange, in the State of New Jersey, have invented a new and useful Improvement in
5 Seals, of which the following is a specification.

This invention relates to press-fastened seals complete in themselves for securing the
10 doors of railway freight-cars and for other like uses, and is additional to my previously-patented seals of this general description, in which one of the parts of each seal is of transparent glass. For such previously-patented
15 seals I refer to United States Patents No. 304,164, dated August 26, 1884, No. 320,904, dated June 23, 1885, and No. 379,885, dated March 20, 1888.

The present invention consists, primarily,
20 in a transparent face-plate or "crystal" of transparent glass adapted to be readily press-molded and combined with a compressible disk-body of soft metal and a label of paper or the like for inseparably attaching the latter
25 and exposing it to view.

This invention consists, secondly, in a flexible shackle of flat wire having one end provided with a coil or coils in which the wire is disposed flatwise, whereby the coil is rendered
30 close and of the least possible diameter, the other end of the shackle being constructed with the peculiar anchoring-twist set forth in United States Patent No. 271,224, dated January 30, 1883, in combination with a seal-disk
35 cast fast upon said coiled end, the object being to reduce the thickness and consequent weight of the seal-disk.

It consists, thirdly, in a flexible shackle provided at one end with a pair of tubular coils
40 separated by a fastening-space, in combination with a seal-disk cast upon this end of the shackle, with a single threading-hole extending through said coils, whereby provision is made for securely embedding the threaded
45 shackle end in the soft metal of the seal-disk at said fastening-space, while said coils preclude opening either end of the threading-hole or cutting into it lengthwise.

It consists, fourthly, in the combination, in
50 a press-fastened seal, of a shackle-wire having a pair of tubular coils at one end sepa-

rated by a fastening-space and a seal-disk cast fast upon this end of the shackle, inclosing also the other end of the shackle, which extends through said coils, and having a crystal
55 with a central hole at the face of the disk and a label located behind said crystal so as to be secured and exposed to view by the latter, said label preventing the escape of the molten lead through said hole, and said hole serving
60 to admit one die of the press, so as to preclude straining the glass at the fastening operation.

It consists, lastly, in the combination, in a
65 press-fastened seal, of a shackle-wire having at one end a pair of tubular coils separated by a fastening-space and a seal-disk cast fast upon this end of the shackle, inclosing also the other shackle end, which extends through
70 said coils, and having a crystal with a central hole at the face of the disk and a central recess in its back, between which and said hole the solidification of the compressible body of the disk around both shackle ends is readily
75 insured.

A sheet of drawings accompanies this specification as part thereof.

Figures 1, 2, and 3 of the drawings are perspective views of the shackle, crystal, and label of a seal illustrating this invention. Fig. 4
80 represents a face view, half in section, of the completed seal as applied to car-door staples and ready for the press. Fig. 5 represents a magnified section on the line 5 5, Fig. 4. Fig. 6 is a face view of the pressed seal. Fig. 7 is a
85 back view thereof. Fig. 8 represents a magnified section on the line 8 8, Fig. 6. Fig. 9 is a face view of a seal-disk constructed according to the same invention in part. Fig. 10 represents a magnified section on the line
90 O O, Fig. 9. Fig. 11 represents a magnified cross-section of another unpressed seal-disk, and Fig. 12 represents a face view of a pressed seal illustrating additional modifications.

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

Each of the seals represented by the drawings comprises a flexible shackle, as A or A², and a seal-disk composed of a compressible
100 body, B—of lead, for example—a dish-shaped crystal, C, of glass, and a label, D, which is preferably a distinct disk of paper, card-

board, or the like. The latter is provided with permanent distinguishing-marks, preferably the initials of a railway, a serial number, and the name of a sealing-station, the legibility of which is thus insured. Such disks may be punched from printed sheets with the requisite economy. The label is confined behind the transparent face of the crystal C, and is consequently at all times exposed to view, as indicated in Figs. 4, 6, 9, and 12. Each crystal is provided with anchoring-holes a in its margin, and is so shaped as to facilitate molding or pressing it in process of manufacture, said holes being accordingly perpendicular to the face of the crystal, as shown. The body B is molded in customary manner, save that it is cast upon the margin of the crystal, so as to inseparably attach the latter. This is readily accomplished by placing the crystal with a label therein back upward in a recess in the body-mold corresponding with the face portion of the crystal which is to protrude. The generic features of the shackles A A² are old.

The shackle A of the seal represented by Figs. 1 to 8, inclusive, is of peculiar construction, being made from flat wire with a pair of tubular coils, c , at one end, in which the wire is laid flatwise, as aforesaid, and connected by a straight portion of the wire, so as to form a fastening-space, f , between the coils, which is central in the seal-disk, the body B of the latter being cast fast upon said coiled end of the shackle, with a single threading-hole, h , Figs. 4 and 5, extending lengthwise through the coils.

The "threading end" t of the shackle has, by preference, the peculiar anchoring-twist set forth in Patent No. 271,224 aforesaid, and the same is conveniently extended nearly to the coiled portion. The crystal C has a central die-admitting hole, d , in its face portion. The escape of the molten lead through or into this hole at the casting operation is adequately prevented by the label D, which bridges the hole, and may be rendered tight by cement.

After applying the shackle A to a pair of car-door staples, S, or to a fastening of any description and threading the shackle end t through the hole h , as illustrated by Fig. 4, the seal is fastened by a press operating as follows: The center of the seal-disk is first grasped between a pair of center dies, one of which enters loosely said hole d in the crystal C and bears upon the lead immediately surrounding the same to relieve the glass from strain. Against the center of this die the other center die presses, forming a central recess, r , Figs. 7 and 8, in the back of the pressed seal-disk as it solidifies the lead around the shackle-wire in the fastening-space f between the coils c . (See Fig. 8.) Supposing the disk to be pressed in the position represented in this figure, the back of the seal-disk now comes in contact with the face of the bed-die and an outer upper die begins to descend. The bed-die finally impresses the back of the

disk with suitable die-marks, m , and preferably with "pebbling," as indicated at p in Figs. 7 and 8, to facilitate detecting any attempt to tamper with the seal from the back of the disk. This pebbling, however, forms no part of my present invention, having been in public use as applied to seals for many years.

In the modification illustrated by Figs. 9 and 10 the crystal C is made of sufficient depth to accommodate marginal holes a^2 , which serve at once as anchoring-holes and as shackle-guards, a pair of parallel threading-holes, h^2 , by way of example, extending there-through.

R, Fig. 10, represents a molded recess in the back of the seal-disk to lighten it. The disk, with or without said recess, may be employed in connection with any flexible shackle, including cord or twine and the like. Such alternative shackles are illustrated by one of braided wire at A², Fig. 12.

R² R², Fig. 11, represents a pair of lightening recesses in the back of a seal-disk which is otherwise similar to the one shown in Figs. 1 to 8, illustrating a convenient way of recessing the same to any desired extent.

The modified seal represented by Fig. 12 has its shackle A² crossed at the center of the seal-disk, as set forth in my specification forming part of United States Patent No. 161,475, dated March 30, 1875, and its crystal C, die-admitting hole d , and label D are rectangular, illustrating immaterial variations in shape.

In some cases the shackle A may have only one coil, as illustrated at A', Fig. 1, and other like modifications will suggest themselves to those skilled in the art.

Details which have not been specified may be of any approved description.

Having thus described my said improvement in seals, I claim as my invention and desire to patent under this specification—

1. In a press-fastened seal, a seal-disk comprising a body of soft metal, a dish-shaped crystal having its margin provided with holes perpendicular to its face and embedded in the soft metal, and a label bearing distinguishing-marks behind the face of said crystal, substantially as hereinbefore set forth.

2. In a press-fastened seal, a flexible shackle of flat wire having one end provided with a tubular coil or coils in which the wire is disposed flatwise, in combination with a seal-disk having a body of soft metal cast fast upon said coiled end, the other end of the shackle being provided with an anchoring-twist and inclosed at a point or points by said coils, substantially as hereinbefore set forth.

3. In a press-fastened seal, a flexible metallic shackle having one end provided with a pair of tubular coils in one and the same line separated by a fastening-space, in combination with a seal-disk having a body of soft metal cast fast upon said coiled end, the other shackle end extending lengthwise through said coils and securely embedded in the soft

metal at said fastening-space, substantially as hereinbefore set forth.

4. The combination, in a press-fastened seal, of a flexible metallic shackle having one end provided with a pair of tubular coils in one and the same line separated by a fastening-space, and a seal-disk cast fast upon this end of the shackle, inclosing also the other shackle end, which extends lengthwise through said coils and is securely embedded in the soft metal at said fastening-space, and having a crystal with a central hole at the face of the disk and a label behind the face of said crystal, substantially as hereinbefore set forth.

5. The combination, in a press-fastened seal,

of a flexible metallic shackle having one end provided with a pair of tubular coils in one and the same line separated by a fastening-space, and a seal-disk inclosing said coils, with said space at the center of the disk inclosing also the other shackle end, which extends lengthwise through said coils, and having a crystal with a central hole at the face of the disk and a central recess in its back, substantially as hereinbefore set forth.

EDWARD J. BROOKS.

Witnesses:

HENRY L. C. WENK,
N. S. KLINE.