(No Model.)

E. J. BROOKS.

METALLIC SEAL.

No. 253,674. Patented Feb. 14, 1882.

Fig. 1,

Fig. 2,

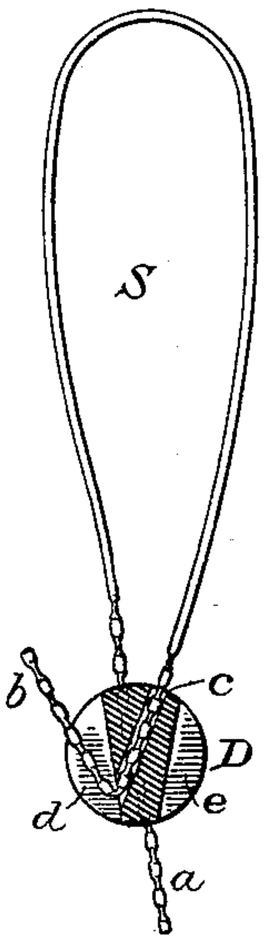


Fig. 3,

Fig. 4,

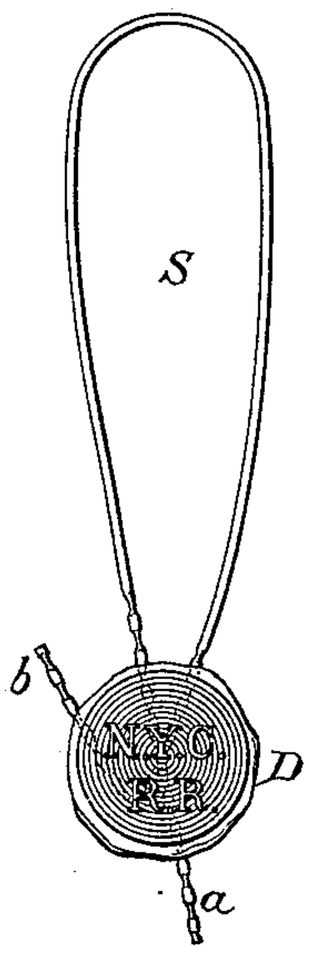


Fig. 5.

Fig. 6,

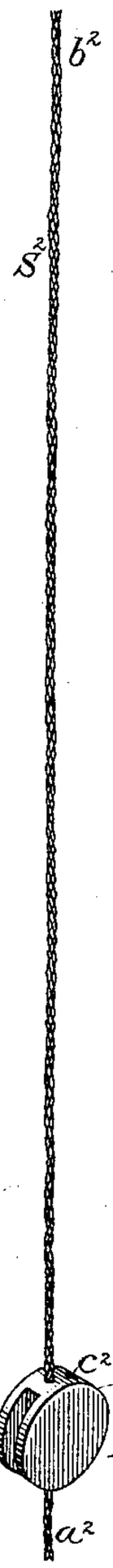


Fig. 7,

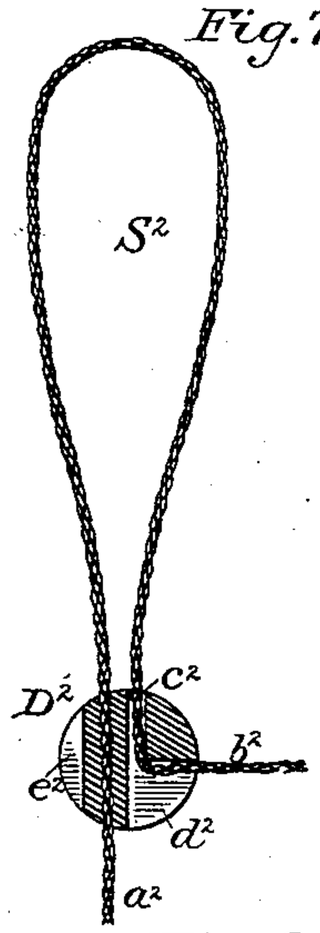


Fig. 8,

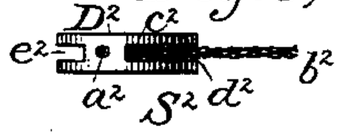
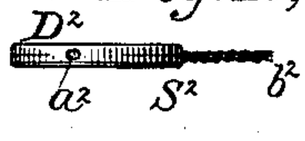


Fig. 9,

Fig. 10,



WITNESSES

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UNITED STATES PATENT OFFICE.

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

METALLIC SEAL.

SPECIFICATION forming part of Letters Patent No. 253,674, dated February 14, 1882.

Application filed September 14, 1881. (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 county of Essex and State of New Jersey, have invented a new and useful Improvement in Metallic Seals, of which the following is a specification.

The present invention relates to the construction of the seal-disks of lead and wire seals and the mode of securing the ends of the shackle-wires therein for sealing the doors of railway freight-cars, and for like purposes.

When a seal-disk is cast on one end of a shackle of my indented detective wire patented June 27, 1876, or a shackle of cable-wire or the like, as heretofore proposed by me, this end is rendered absolutely secure, and this cast-in style of seal has recently become popular, owing to the facility it affords for carrying and rapidly applying the seals, as set forth in the specification of my cast-in lead and tin seal patented August 23, 1881, Letters Patent No. 246,068; but prior to my present invention seals of said description were peculiarly liable to be left with the threaded end of the shackle insecure, owing to the great power required to compress the nearly-solid seal-disk sufficiently to cause its metal to flow into the indentations of the threaded shackle end. Attempts have heretofore been made to avoid this difficulty; but, so far as I am aware, they have invariably involved an abandonment of the said advantageous cast-in characteristic, besides rendering the seal much more expensive and complicating the sealing operation, one or both.

My invention, hereinafter described and claimed, consists in a seal-disk of novel construction, in combination with a shackle-wire of the aforesaid description, for rendering a cast-in lead and wire seal free from the aforesaid objections, and at the same time lighter, and consequently in this respect cheaper, and in its preferred forms materially easier both to thread and to press.

Figure 1 of the accompanying drawings is a perspective view of one of my cast-in lead and wire seals as furnished for use. Fig. 2 is a sectional face view thereof threaded but unpressed, and Fig. 3 a view of the same from below; and Fig. 4 is a face view, and Fig. 5 a view from below, of the same seal pressed. Figs. 6 to 10, inclusive, are like views in series of another of my cast-in lead and wire seals as it appears before and after the pressing operation, illustrating modifications of my invention, Fig. 6 being a perspective view, Figs. 7 and 9 face views, the former in section, and Figs. 8 and 10 edge views from below.

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

S S^2 represent manufactured shackle-wires of different varieties, and D D^2 seal-disks of different patterns, cast upon the respective shackle-wires in suitable molds. The shackle-wire S is of the variety patented by me June 27, 1876, and known as "indented detective wire." In the example it is united with a seal-disk, D, having in substance the characteristic of my improved seal-disk patented March 30, 1875, the straight ends *a b* of the shackle-wire being crossed at or near the center of the disk in the act of threading the last end, *b*, owing to the arrangement of the threading-aperture *c*, formed in the seal-disk for its reception, as illustrated by Fig. 2, which shows said aperture *c* in the plane of section with the threaded end *b* therein, so that when the seal-disk is properly pressed the crossed shackle ends will by their indentations interlock within the disk, as indicated in Fig. 4. The shackle S^2 is of cable-wire—such as is commonly used—and is shown in connection with a seal-disk, D^2, having its aperture c^2 for the reception of the threaded end b^2 of the shackle-wire parallel to the cast-in end a^2; but either variety of shackle-wire, or any other having indentations or any equivalent thereof adapting one end to be simply cast in for securing it, may be used in connection with either pattern of seal-disk; and the latter, as regards the form of threading-apertures and means, if any be used, for interlocking the threaded shackle end with the cast-in end or with a locking-piece of hard metal, may be of other styles.

For securing the threaded shackle end *b* or b^2 within the pressed seal-disk, with or without the aid of interlocking, as above described, and for lightening the seal-disk and facilitating the threading and pressing operations, the seal-disk of either pattern or style is con-

structed with recesses *d e* or d^2 e^2 in its respective lateral edges, and substantially in the plane of the threading-hole *c* or c^2, said recesses being adapted to be readily formed in connection with the threading-aperture by a core-bar or core-bars at the casting operation. One of these recesses, *d* or d^2, is in communication with said threading-aperture *c* or c^2 at the lower end of the latter, and in the examples serves to shorten said aperture, which facilitates threading, while the threaded end *b* or b^2 is readily bent into it by a simple lateral movement, which is customary in temporarily securing ordinary seal-disks preparatory to pressing, and the whole depth of the seal-disk is utilized as anchorage for the cast-in end. The other recess, *e* or e^2, serves in connection with the former to lighten the seal-disk and to facilitate the pressing operation, while in pressing the bent threaded end *b* or b^2 is securely embedded in the walls of said recess *d* or d^2, so that "stripping" it is effectually prevented. At the same time both faces of the unpressed seal-disk are smooth, and the disk expands and receives a sharp impression, which may be of any description, as perfectly as if it were not recessed, as illustrated in the drawings; and the improved seals, owing to the saving in metal, can be furnished as cheaply or nearly as cheaply as those of common make.

Having thus described my present invention, I claim as new—

1. In combination with a suitable shackle-wire, as herein specified, a soft-metal seal-disk cast on one end of said wire, and constructed with a threading-aperture to receive its other end, and with a recess in one of its lateral edges, into which the threaded shackle end is readily bent by a simple lateral movement, substantially as herein described.

2. The combination, in a metallic seal, of a soft-metal seal-disk constructed with recesses in its respective lateral edges, and with a threading-hole which extends into one of said recesses, and a suitable shackle-wire, as herein specified, having a straight cast-in end held in a solid portion of the seal-disk, substantially as herein described, for the purposes set forth.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD J. BROOKS.

Witnesses:
JAS. L. EWIN,
L. FARLEY HOVEY.