

(No Model.)

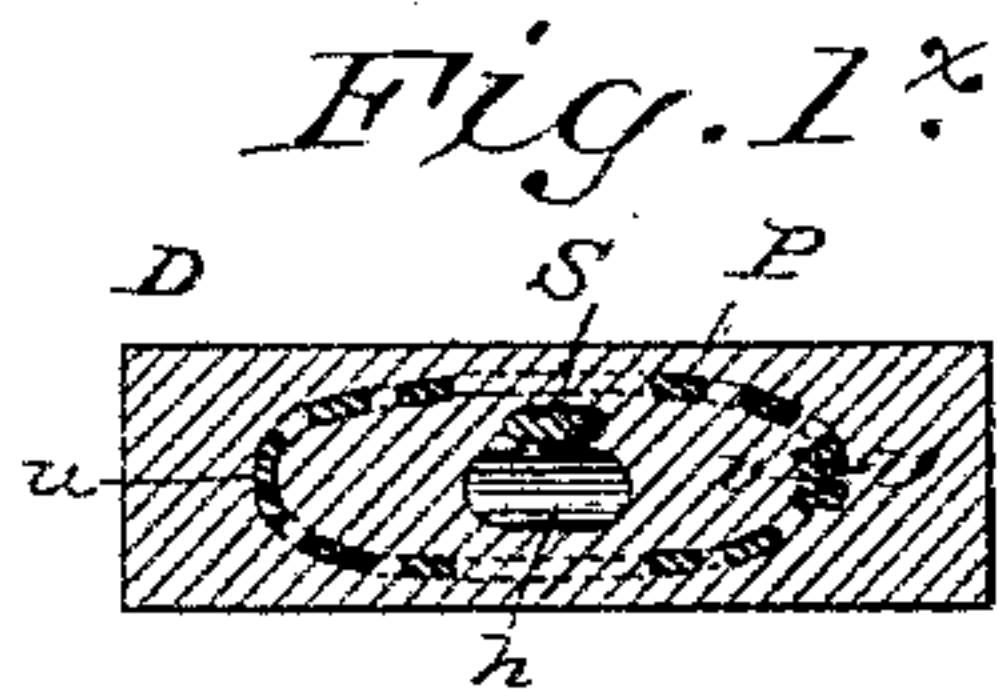
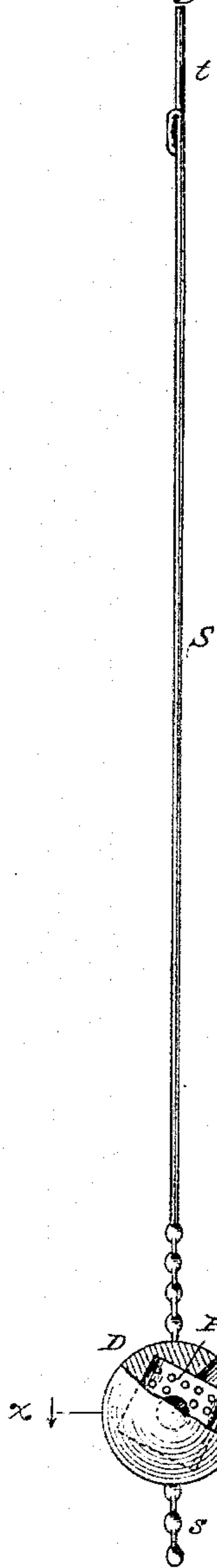
E. J. BROOKS.

SEAL.

No. 321,275.

Patented June 30, 1885.

Fig. 1.



WITNESSES

Ed. A. Newman.  
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Fig. 2.

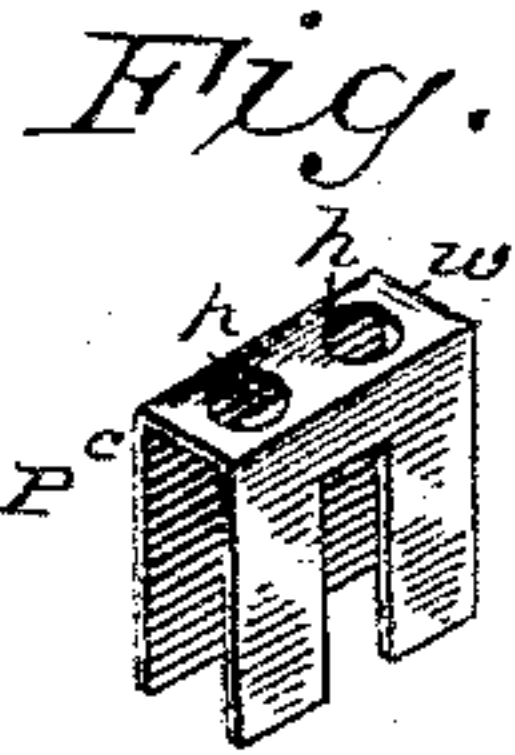
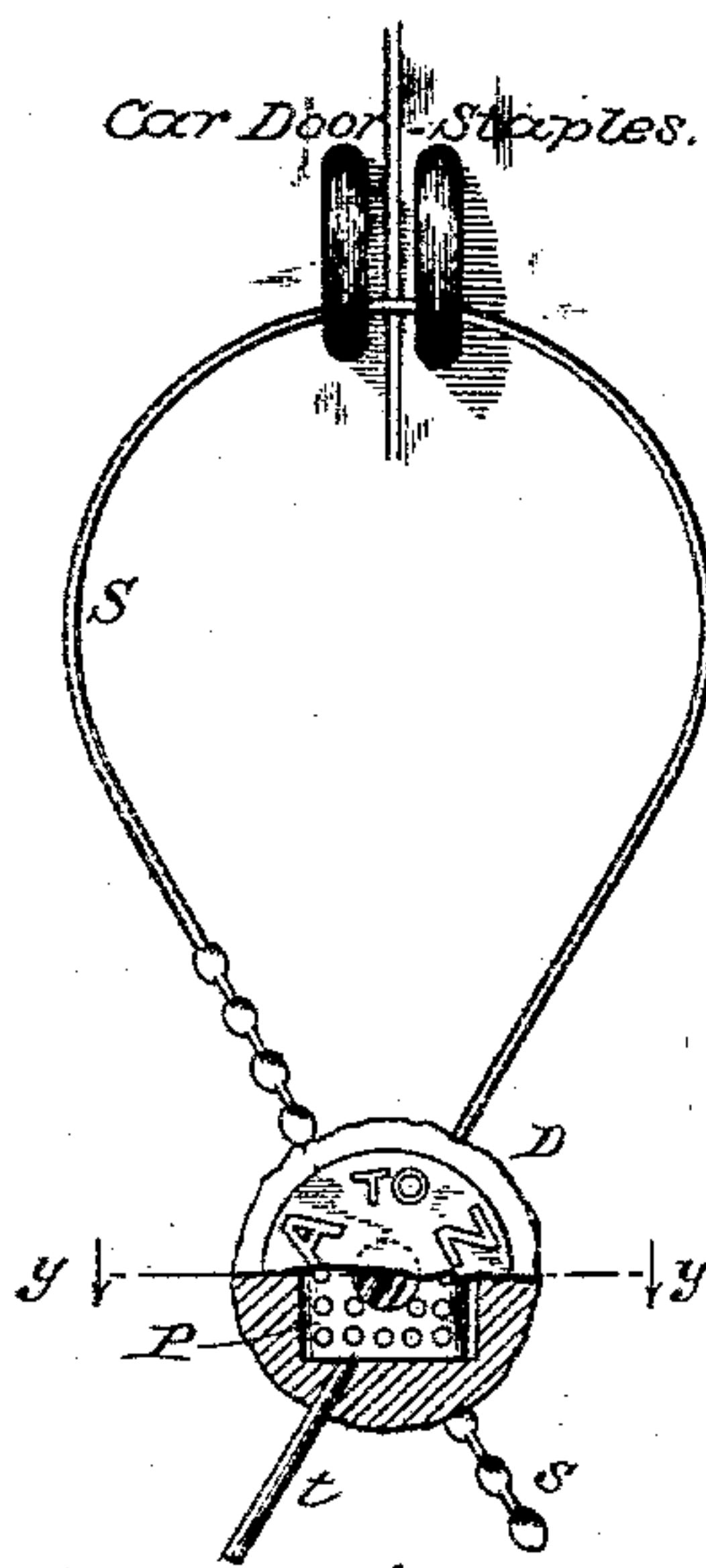


Fig. 6.

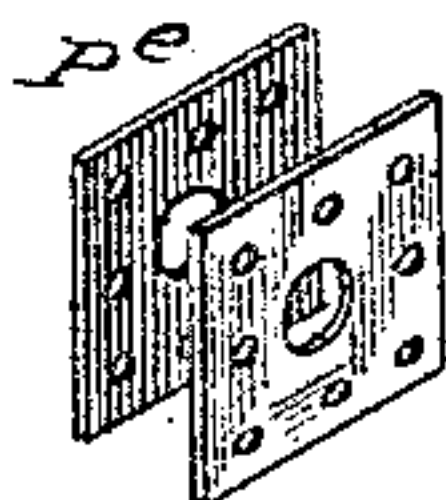


Fig. 7.

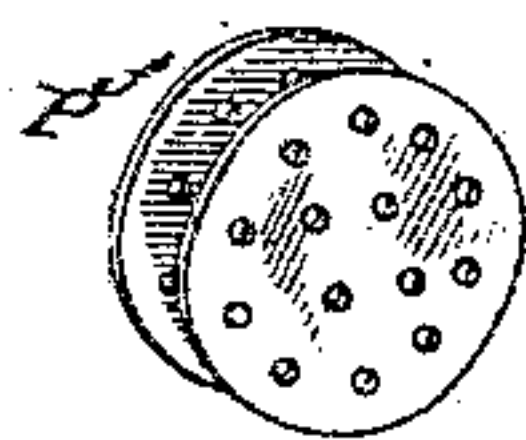


Fig. 8.

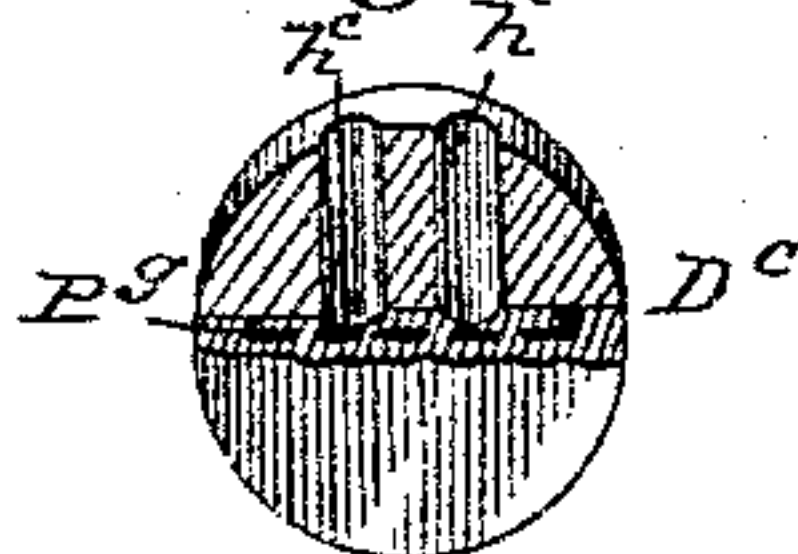


Fig. 3.

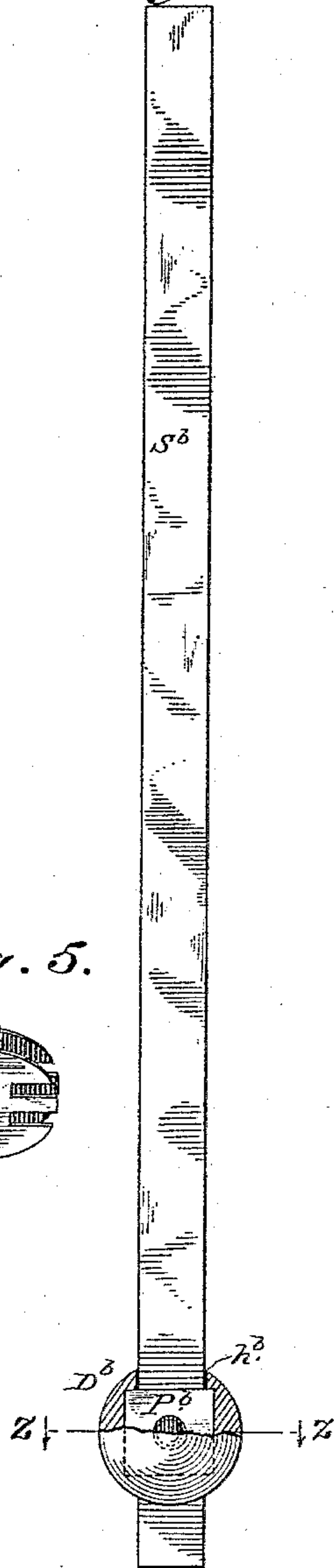


Fig. 5.

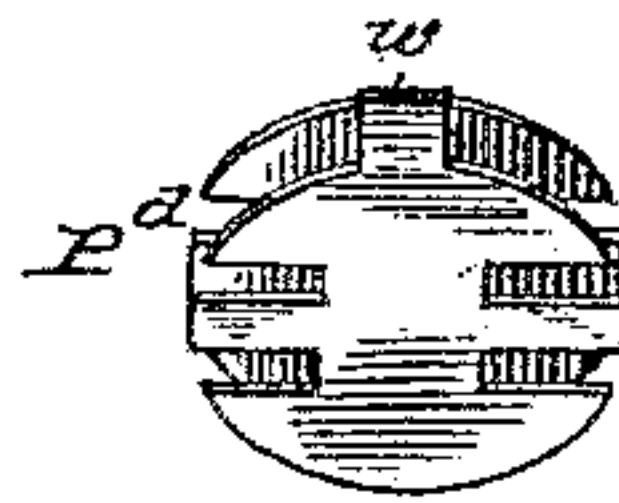
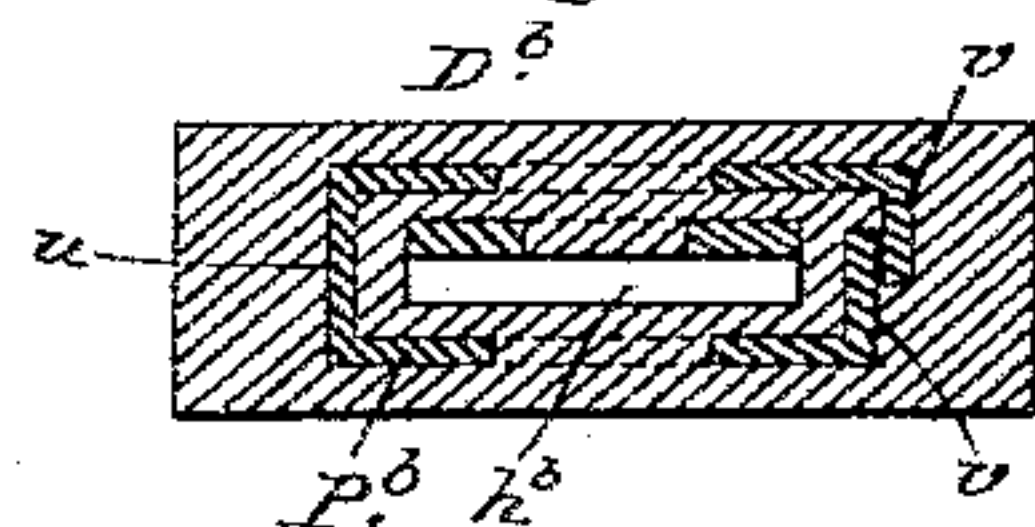


Fig. 3x.



INVENTOR

Edward J. Brooks.

By his Attorney

*[Signature]*



# UNITED STATES PATENT OFFICE.

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

## SEAL.

SPECIFICATION forming part of Letters Patent No. 321,275, dated June 30, 1885.

Application filed May 11, 1885. (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, (A2,) of which the following is a specification.

This invention relates to those seals which are composed in part of soft-metal seal-disks, commonly of lead, being secured or fastened, and at the same time distinctively marked, by pressing or stamping each seal-disk upon shackle ends extending therethrough, so as to permanently unite the latter, and thus prevent or insure the detection of the separation of two car-door staples, or the like, united by the shackle. Tampering with such seals by "stripping" the shackle ends—that is to say, withdrawing them longitudinally from the seal-disk—has heretofore been guarded against by numerous patented devices. Another mode of effecting and hiding violations of such seals has not hitherto been successfully prevented—that is to say, releasing a shackle-end by cutting through the superposed lead in line therewith by means of a sharp knife, bending the seal-disk so as to expose the shackle end, and then manipulating the latter, and hiding the act by carefully replacing the shackle end, rebending the seal-disk so as to tightly close the cut, and neatly smoothing the lead so as to obliterate the mark of the cut. Nearly all "lead" seals can be so tampered with and their violation so concealed; and it is almost impossible to detect the same when it is skillfully done. To prevent this mode of tampering with such seals is the object of my present invention, which, generally considered, consists in providing the soft-metal seal-disks with "protectors" that must themselves be cut to gain access to either shackle end, and that are adapted to resist such cutting, so as to render it impossible or difficult, and thus to preclude making a cut in the seal-disk that can be so reclosed as to avoid detection, as hereinafter more fully set forth.

A sheet of drawings accompanies this specification as part thereof.

Figure 1 of these drawings is a partly sectioned

elevation of the seal-disk and shackle of a "cast-in" lead-and-wire seal, "straight," as they leave the factory; and Fig. 1<sup>a</sup> represents a magnified cross-section of the same. Fig. 2 is a partly sectioned elevation of a pressed seal formed by applying and stamping said seal-disk and shackle, and Fig. 2<sup>a</sup> represents a magnified cross-section thereof. Fig. 3 is a partly sectioned elevation of the seal-disk and shackle of a cast-in lead-and-tin seal, straight, illustrating certain modifications; Fig. 3<sup>a</sup> represents a magnified cross-section on the line *z z*, Fig. 3. Figs. 4 to 7, inclusive, are perspective views of seal-protectors illustrating additional modifications, and Fig. 8 is a partly sectioned perspective view of a detached seal-disk, provided with another variety of such protectors.

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

An improved seal constructed according to the present invention, in either of the represented modifications thereof, consists of a soft-metal seal-disk, D or D<sup>b</sup> or D<sup>c</sup>, preferably of lead, a flexible shackle, S or S<sup>b</sup>, for example, and a protector or protectors, P, P<sup>b</sup>, P<sup>c</sup>, P<sup>a</sup>, P<sup>e</sup>, P<sup>f</sup>, or P<sup>g</sup>, inclosed within the seal-disk and adapted to prevent or resist cutting into the pressed seal-disk represented by D, Figs. 2 to 2<sup>a</sup>, to release either shackle end, as aforesaid.

The improved seal represented by Figs. 1 to 2<sup>a</sup>, inclusive, is, apart from its protector, P, constructed according to inventions of my own, set forth in United States Patents No. 161,475, dated March 30, 1875, No. 179,260, dated June 27, 1876, and No. 192,735, dated July 3, 1877—that is to say, with detector-anchoring indentations in the cast-in shackle end *s*, and detector-anchoring enlargements on the threading end *t* of the shackle, and with a threading-hole, *h*, in the seal-disk, so arranged as to cross the shackle ends when the seal is threaded and cause them to interlock with each other when the seal is pressed. A properly-pressed seal combining these features is believed to be secure against stripping, as before set forth in my specification forming part of United States Patent No. 278,866, dated June 5, 1883. To render the seal otherwise secure it is provided with said pro-



5 tector P, which is embedded in the seal-disk in the operation of casting the latter, having been dropped into the mold in proper position, followed by the shackle end *s* and a  
 10 core-pin to form the threading-hole *h*, both of which pass through it. The particular protector P represented in said Figs. 1 to 2<sup>v</sup>, is preferably made of hardened tagger's tin or other  
 15 sheet-metal which will resist the cutting-edge of a knife sufficiently for the purposes of this invention. It is thus cheaply made in one  
 20 part, with its parallel or substantially parallel disks united at one point, by an edge-guard, *u*, Figs. 1<sup>x</sup>, 2<sup>v</sup>, and provided with edge-guards  
 25 *v*, at a diametrically opposite point, to prevent penetrating the seal-disk from either edge. The disks of the protector P are perforated, as indicated, to permit the lead to  
 30 flow freely through them in the mold. A single hole in each may suffice, as represented in Figs. 3, 3<sup>z</sup>, and the protector may be of any  
 35 of various styles, as represented in Figs. 4 to 8, inclusive. It may also be made of cast-iron, glass, pottery, or the like, in appropriate  
 40 shapes.

The improved seal represented by Figs. 3, 3<sup>z</sup>, apart from its protector P<sup>b</sup>, is constructed according to my invention set forth in United  
 30 States Patent No. 246,068, dated August 23, 1881, with a cast-in shackle, S<sup>b</sup>, of tin, (tin-plate,) and a threading-hole, *h*<sup>b</sup>, in front of the cast-in  
 35 perforated end of the shackle within the seal-disk D<sup>b</sup>. The central perforations of the disks of said protector P<sup>b</sup> facilitate fastening this style  
 40 of seal in the manner set forth in said Patent No. 246,068. Apart from these the protector P<sup>b</sup> is or may be identical with said protector P. Particularly it has said edge-guards *u*, *v*,  
 45 which are essential in a protector for a lead-and-tin seal of this style.

The protectors P<sup>c</sup> P<sup>d</sup> P<sup>e</sup> P<sup>f</sup>, Figs. 4 to 7, illustrate uniting their disks to facilitate  
 50 handling the protectors by connections *w* at one end, so to speak, for seal-disks which do not have to be guarded at their edges; also  
 55 providing such connections with threading-holes *h* to insure the proper location of the protector in the mold; also substituting slots

or slits for more common holes in the protector-disks; also making the disks detached from  
 60 each other and of different shapes. In using such detached protector-disks one is dropped into the mold, the shackle end and core-pin  
 65 or pair of pins are then inserted, and then the other protector-disk is dropped in. The mold is then closed, filled, and emptied in customary manner.

Fig. 8 illustrates the application of a protector, P<sup>s</sup>, to a seal-disk, D<sup>c</sup>, detached from the  
 70 shackle with which it is to be used, and provided with threading-holes *h*<sup>c</sup> *h*<sup>c</sup> to receive both shackle ends. The protector P<sup>s</sup> for this  
 75 style of seal-disks may be of either of the styles hereinbefore described, and should have the described edge-guards *u*, *v*, Figs. 1<sup>x</sup>, 2<sup>v</sup>, if  
 80 the threading-holes are parallel with each other, as in the example.

Having thus described my said improvement in seals, (A2,) I claim as my invention  
 85 and desire to patent under this specification—

1. A soft-metal seal-disk provided with a protector of hard material embedded within  
 90 the same, so as to be interposed between the shackle ends and the respective faces of the seal-disk, substantially as herein specified, to  
 95 prevent or resist cutting into and opening such seal-disk, in the manner set forth.

2. A protector having a pair of disks parallel or substantially parallel with each other  
 100 and provided with edge-guards, substantially as herein specified, in combination with a soft-metal seal-disk, inclosing said protector, and  
 105 a flexible shackle, the ends of which are united within said protector by said seal-disk, for the purpose set forth.

3. A protector having a pair of perforated disks parallel or substantially parallel with  
 110 each other, in combination with a soft-metal seal-disk inclosing said protector, and a flexible shackle, the ends of which are united  
 115 in said protector by said seal disk, substantially as herein specified.

EDWARD J. BROOKS.

Witnesses:

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 L. F. HOVEY.