(No Model.)

E. J. BROOKS.

METALLIC SEAL.

No. 246,068. Patented Aug. 23, 1881.

Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

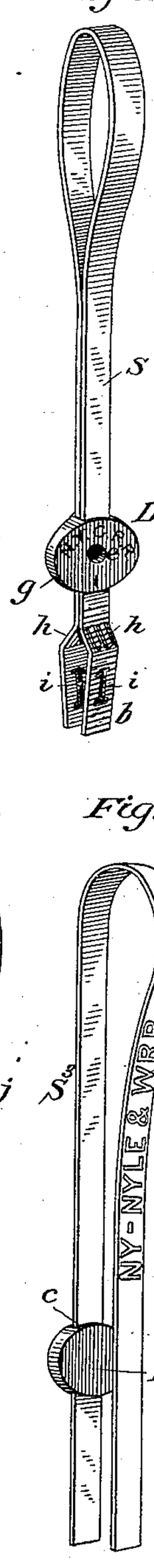


Fig. 6.

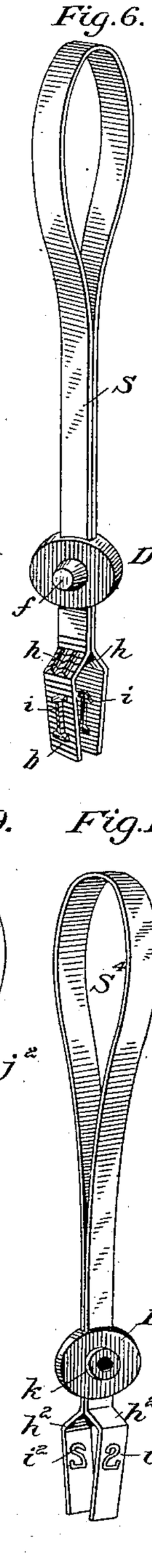


Fig. 7.

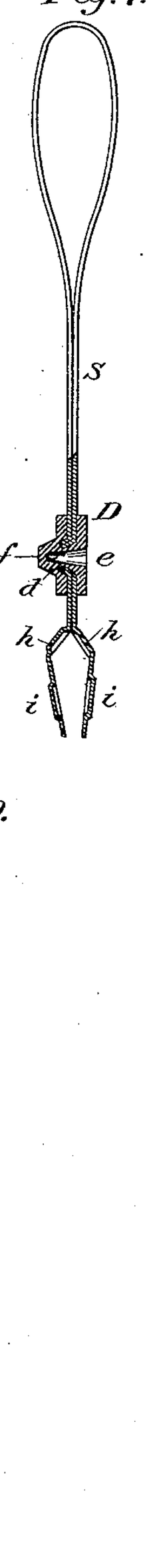


Fig. 8.

Fig. 9.

Fig. 10.

Fig. 11.

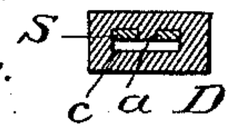
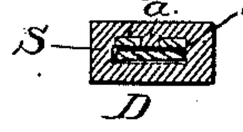


Fig. 12.



Attest:

R. D. Barnes.

W. E. Schaffer

Inventor:

Edward J. Brooks

per Thos. L. Evans,

Attorney.

UNITED STATES PATENT OFFICE.

EDWARD J. BROOKS, OF EAST ORANGE, NEW JERSEY.

METALLIC SEAL.

SPECIFICATION forming part of Letters Patent No. 246,068, dated August 23, 1881.

Application filed June 8, 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 State of New Jersey, have invented a new and useful Improvement in Metallic Seals, of which the following is a specification.

In my specification forming part of Letters Patent No. 154,639, dated September 1, 1874, I describe lead and wire seals, which, in one form, have the seal-disk cast on one end of the shackle-wire, the latter being provided with a safety-coil surrounding the perforation which receives the other end of the wire.

In my specification forming part of Letters Patent No. 178,722, dated June 13, 1876, I describe a seal composed of lead and sheet metal in various forms, one of the modifications shown at Fig. 22 in the drawings forming part of said specification consisting of a plain strip of sheet metal without preliminary roughening, held within the seal-disk by punching a hole through its ends after they are inserted.

In my specification forming part of Letters Patent No. 236,539, dated January 11, 1881, I describe and claim a seal composed of a tag having a contracted threading-hole and a sheet-metal seal-shackle run through said tag, and provided with pressed or stamped retaining-projections on each protruding end; and in my specification forming part of Letters Patent No. 242,259, dated May 31, 1881, I describe and claim a sealing-press of peculiar construction, adapted primarily to press or stamp the threaded end or ends of a sheet-metal seal-shackle, so as to preclude the withdrawal of the same through a contracted threading-hole in a keeper of sheet metal or the like; and in the drawings forming part of said specification I show, at Fig. 7, a pressed seal composed of a shackle-strip of sheet metal and a sheet-metal keeper, the former provided in the press with thickened or stiffened offsets or shoulders, as well as with numbers or distinguishing-marks on its respective ends, to prevent the withdrawal of its ends or either of them.

My present invention is additional to those heretofore patented by me, as aforesaid, its primary object being to furnish a superior "cast-in seal"—that is to say, one having one end of its shackle secured within the seal-disk in the act of casting the latter, so that at the sealing operation there is practically but one part to handle and but one threading end to insert, while in its preferred form the improved seal combines features of all the aforesaid patented seals, with one or more additional features, as heinafter specified.

This invention consists more particularly in the feature of construction hereinafter described and claimed, whereby the following beneficial results are produced, namely: The superior narrow sheet-metal sealing-strip, with all its advantages, is for the first time embodied in a seal of this description, and is securely held within the unpressed seal-disk by means which do not interfere with its cheap production, as heretofore, while they facilitate the preferred pressing operation.

Figure 1 of the accompanying drawings is a face view of the parts of a lead and tin seal as united by casting and furnished for use according to this invention, the outer surface of the sealing strip or shackle and the back of the seal-disk being shown in this view. Fig. 2 is a back view of the same with the seal-disk in section. Fig. 3 is a longitudinal section of the same in a central plane perpendicular to that of Fig. 2; and Fig. 4 is a perspective view thereof with the free end of the shackle inserted preparatory to pressing. Figs. 5 and 6 are perspective views, showing opposite sides of a pressed seal made from the said seal disk and shackle, and Fig. 7 is a longitudinal section thereof in the same plane as Fig. 3. Figs. 8 and 9 are perspective views of unpressed seals, and Fig. 10 is a like view of pressed seals, illustrating modifications; and Figs. 11 and 12 are transverse sections through the unpressed seal-disk.

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

S S^2 S^3 S^4 represent, respectively, the several varieties of shackles, and D a variety of seal-disks.

The shackle S, Figs. 1 to 7, as furnished for use, consists of a flat narrow strip of thin tin—*i.e.*, "tin-plate"—of substantially uniform width and thickness, having near one end a small central hole, *a*, and upon its face at its

extremities transverse printed lines *b*. The tin is printed, and may be perforated in the sheet, so that shackles of proper width may be cut from the prepared sheet ready for use. A seal-disk, D, of lead is cast on the shackle S at the perforation *a*, the lead flowing into and filling said perforation, so as to securely unite the disk and shackle, and at the same operation a threading-hole, *c*, is formed in the disk D in front of the cast-in end, as shown in Figs. 3 and 11. This is readily accomplished by placing the shackle face upward in the seal-mold, upon a flat core-bar of proper thickness to form the threading-hole.

The officer whose duty it is to apply the seal readily carries a handful of the united seal disks and shackles in the condition represented by Figs. 1 to 3, and preparatory to the pressing operation he inserts the one free end of the shackle loosely in the threading-hole *c*, as shown in Figs. 4 and 12, so that its extremity protrudes correspondingly with the other extremity of the shackle, having first passed the same through a pair of sealing-staples or the like. The two protruding extremities are then inserted between the respective die-jaws and the middle die of my said sealing-press, the die-jaws being extended beyond a short middle die, and provided, respectively, with a punch and stamping-surface, and with a matching-pocket and supporting-surface; and in this press or its equivalent the seal-disk and both protruding extremities of the shackle are simultaneously stamped or pressed.

In the pressing operation the perforation *a* facilitates the penetration of the rear shackle end by means of the punch, so as to partially sever both protruding extremities of the shackle within the seal-disk, while the burrs *d*, Fig. 7, formed by the punch, together with the compression of the seal-disk, unite said extremities, as well as the bow of the shackle, with the seal-disk sufficiently to preclude accidental separation. The punch-print *e* in the face of the seal and a matching protuberance, *f*, masking said burrs on the back of the seal, may sufficiently distinguish the pressed seal-disk; but its face has, in addition, been provided with impressed lettering or distinguishing-marks, *g*, Fig. 5. The shackle extremities are each provided with a thickened or stiffened offset or shoulder, *h*, and an outwardly-projecting embossed number or distinguishing-mark, *i*, as described in the specification of my said sealing-press, tending to prevent their withdrawal or reinsertion, should an expert succeed in opening the pressed seal-disk so as to clear the burrs *d*; and said offsets are peculiarly effective in combination with said burrs, the latter serving to prevent the withdrawal of the shackle ends separately, while said offsets preclude their simultaneous withdrawal. The distinguishing-marks *i* demand a particular press, while the lines *b* insure the detection of fraudulent re-pressing after violating a seal, by indicating the extremities of the original shackle.

The shackle S^2 is a sheet-metal sealing-strip provided with ordinary printed lettering, *j*, and S^3 is a sheet-metal sealing-strip provided with embossed lettering j^2, both being united with soft-metal seal-disks D, according to this invention, and adapted to be pressed in the manner herein set forth.

The shackle S^4 illustrates the employment of a plain sheet-metal sealing-strip and the omission of thickened and stiffened offsets in a pressed seal. Its bends h^2 are simply such as are incidental to stamping the embossed numbers or distinguishing-marks i^2 close beneath the seal-disk. The pressed seal, Fig. 10, of which said shackle forms a part, illustrates, also, clinching the burrs thrown up by the punch of the sealing-press, as indicated at *k*.

The perforations may be of any preferred shape, and the shape of the seal-disk may also be changed without materially affecting the aforesaid results or either of them.

I do not claim herein, broadly, uniting a soft-metal seal-disk and a sheet-metal shackle in the act of casting the former; nor the provision of the ends of a sheet-metal sealing-strip with distinguishing-marks, broadly considered; nor the severing of shackle ends within the seal-disk, broadly considered. Neither do I claim herein the within-described mode of indicating the original extremities of the shackle; but I reserve the right to claim the same, together with the method of manufacturing sheet-metal shackles so marked, in a future application for patent.

What I claim as new and of my present invention, and desire to secure by Letters Patent, is—

As a new article of manufacture, a seal-blank composed of a sheet-metal shackle-strip of uniform, or substantially uniform, width and thickness, and a soft-metal seal-disk cast upon a perforated portion of said shackle-strip, and provided with a threading-hole in front of the cast-in end of the shackle-strip, substantially as herein specified, for the purposes set forth.

EDWARD J. BROOKS.

Witnesses:
E. S. INNET,
N. S. KLINE.