

(No Model.)

E. J. BROOKS.
SEAL.

No. 521,758.

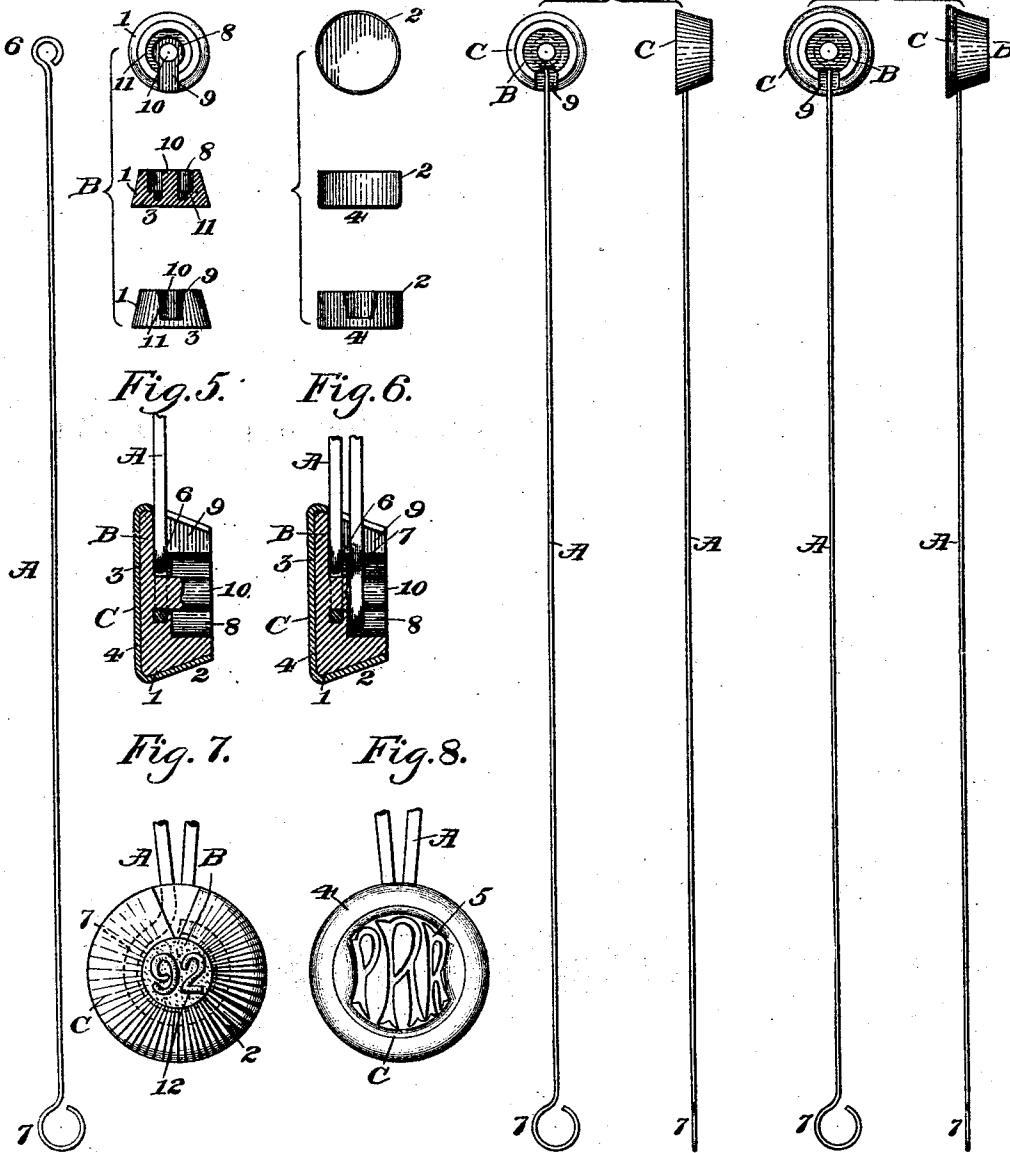
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Fig. 1. Fig. 2.

Fig. 3.

Fig. 4.

Fig. 9.



Witnesses
W. Smith
Geo. M. Whitney.

Inventor
Edward J. Brooks
by *[Signature]* Attorney.

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. 521,758, dated June 19, 1894.

Application filed March 9, 1894. Serial No. 503,033. (No model.)

To all whom it may concern:

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

This invention relates primarily to those press-fastened seals known as "horseshoe" seals as set forth in my previous specifications forming part of United States Patents Nos. 294,576, 368,126, and 512,274, but is applicable in part to other patterns of "lead and wire" seals; its objects being to facilitate preliminarily attaching cut-proof caps to what may be termed and are hereinafter termed the backs of the compressible seal-disks, to provide for effectively stamping such caps in the seal-press, and to produce a horseshoe-seal adapted to be shipped and handled as one part and to be manipulated in customary manner and at the same time possessing superior security against being successfully tampered with.

The invention consists in a compressible seal-disk of soft metal cast with an outward flare adjoining its back.

The invention consists in certain novel combinations of parts existing in the unpressed seal, and all of them uniting to form the improved horseshoe seal above characterized, as hereinafter set forth and claimed.

A sheet of drawings accompanies this specification as part thereof.

Figures 1, 2 and 3 of the drawings represent respectively the shackle-wire, the compressible seal-disk and the cut-proof cap of an improved horseshoe-seal as they appear before being preliminarily united with each other. Fig. 4 represents face and edge views of the seal as it leaves the factory. Fig. 5 represents a magnified sectional view of the disk and of the latter. Fig. 6 is a like sectional view showing the seal ready for the seal-press. Figs. 7 and 8 represent respectively the obverse and reverse of the pressed seal. Fig. 9 represents face and edge views of another improved horseshoe-seal as it leaves the factory, illustrating a modification; and Figs. 10, 11, 12 and 13 represent cross-sections through the seal-disks of other lead and wire

seals provided with like cut-proof caps as hereinafter described.

Like letters and numbers refer to like parts in all the figures.

Each of the improved seals represented by the drawings comprises a flexible shackle A of suitable wire, a compressible seal-disk B of suitable soft-metal, preferably lead, and a compressible but cut-proof cap or caps C of suitable sheet-metal, preferably very thin iron such as is used for metallic button-shells; each of said caps C being preliminarily attached to the seal-disk B to which it is applied by means of a peripheral flare 1 on the seal-disk tightly overlapped by an inturned rim 2 on the cap; and such flare adjoins a flat back 3 on the seal-disk against which the disk 4 of the cap C is solidly supported, so that said cap may be provided in the seal-press with distinct and effective impressions 5, Fig. 8, as substitutes for or in addition to any desired lettering, &c., stamped on the cap blanks, Fig. 3, in the act of forming the latter in stamping dies.

In the specific horseshoe-seal represented by Figs. 1 to 8 inclusive, the shackle A has loops 6 and 7 at its respective ends, and the compressible disk B is cast with a beveled edge to form said flare 1, and has a recess 8 in its face to receive said loops 6 and 7 of the shackle, a notch 9 through which both shackle-ends ultimately extend, a central stud-pin 10 to engage with said loops, and an annular shoulder 11 which preliminarily attaches the seal-disk to the shackle when it is upset upon said loop 6, as set forth in said Patent No. 512,274, said shoulder being conveniently formed on the wall surrounding said recess, and said loops 6 and 7 of the shackle-wire being fitted respectively as to size to the stud-pin 10 and to the recess 8 to provide for a large outer loop; and the cut-proof cap C is formed with a notched rim 2 of sufficient depth to cover the edges of the seal-disk when turned in against the latter to preliminarily attach the cap, and, in connection with said loop 7, to insure overlapping said loop by the rim of the cap when the seal is pressed, as illustrated by Fig. 7, while at the same time it clears said notch 9 in the seal-disk as shown at 9 in Fig. 4. Ordinarily it may suffice to

employ a cap C the rim 2 of which is made low enough to clear said notch 9 in the seal-disk as illustrated by Fig. 9, which shows an improved horseshoe-seal having such low rim and otherwise like the seal shown more in detail by Figs. 1 to 8.

In making either of the above horseshoe-seals the cap C is originally stamped with its rim 2 substantially cylindrical as in Fig. 3, and is preliminarily attached to the seal-disk by turning said rim in upon the beveled edge of the seal-disk, which operation may be performed before, after or simultaneously with the upsetting of said shoulder 11 to preliminarily attach the seal-disk to the shackle. The parts are thus preliminarily united (Fig. 4 or Fig. 9) at the factory, so that the improved seals are counted, shipped and applied as readily as if each composed of but one part; after passing the free end of the shackle A through a pair of car-door staples or the like its loop 7 is engaged with the recess 8, and any ordinary or improved seal-press is then applied to press the seal-disk and cut-proof cap and to stamp either or both of them, preferably both, with suitable distinguishing marks, including said impression 5 in the lead-supported disk of the cut-proof back as in Fig. 8 and the customary press-marks 12 Fig. 7 in the exposed lead at the face of the seal.

Either or each of the usual circular sides of a threaded seal-disk may be termed its back, and is so termed for the purposes of this specification. Four such seal-disks B, provided with cut-proof caps C in the manner and for the purposes hereinbefore set forth, are shown in cross-section by Figs. 10 to 13 inclusive, as aforesaid. The specific seal represented by Fig. 10 is an ordinary seal with a loose shackle, the seal-disk being provided with a pair of threading-holes 13 and with a single cap which clears said threading-holes. The specific seal represented by Fig. 11 is one having a flexible shackle A of flat wire, having one end provided with a tubular coil in which the wire is disposed flatwise, in combination with a seal-disk B cast fast upon said coiled end and provided with a single threading-hole 13 extending through said coil, and with a single cut-proof cap C the rim of which clears said threading-hole. The specific seals represented by Figs. 12 and 13 correspond respectively with those represented by Figs. 10 and 11, except that they are each provided with a pair of said cut-proof caps C the rims of which clear the threading-holes in the seal-disks. It will be apparent that said cut-proof caps may be applied in like manner to other styles of soft-metal seal-disks, and that the improved seals may be of different sizes and proportions; and other like modifications will suggest themselves to those skilled in the art.

I do not claim broadly herein a cut-proof cap combined with a soft-metal seal-disk and a flexible shackle, as this combination of parts

broadly considered is set forth in the Wappenstein expired patent, No. 87,017. In my improved seals the cut-proof cap is distinguished from the "hard-metal annular button" shown in this patent, and from any such button or cap known to me, by the following characteristics: All the parts of the improved seal may be permanently united at the factory as in Figs. 4 to 6, Fig. 9 and Figs. 11 and 13, or the improved cap may be permanently attached to the seal-disk before inserting the wire as in Figs. 10 and 12, either of which is absolutely impossible in the Wappenstein seal. In assembling the parts it is only necessary to place the seal-disk in the cap like a cup in a saucer and then to bend in the rim of the cap, which is done by machinery at the factory without appreciable labor. There is no threading of the wire through the cap in any case as in the Wappenstein seal and in other capped seals heretofore produced by myself and others. I refer to my specification forming part of United States Patent No. 208,953, dated October 15, 1878. The cap when preliminarily attached as above is tightly dovetailed to the flat back of the seal disk; and, being itself compressible, and its disk being thus tightly held against said flat back of the seal-disk, is adapted to be stamped with effective distinguishing impressions as illustrated by Fig. 8.

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

1. The combination, in an unpressed seal, of a compressible seal-disk of soft metal having an outward peripheral flare adjoining its back and a compressible cut-proof cap of sheet-metal tightly overlapping said flare and thereby fixedly dovetailed to the seal-disk with the disk of the cap in solid contact with said back of the seal-disk, whereby said disk of the cap is itself adapted to receive a distinguishing impression when the seal is pressed, substantially as hereinbefore specified.

2. An improved horseshoe-seal composed of a flexible shackle of suitable wire, a compressible seal-disk of soft metal, preliminarily fastened on one end of said wire, having a solid flat back a beveled edge forming an outward peripheral flare adjoining said back a loop-receiving recess in its face and a notch through which both shackle ends ultimately extend, and a compressible cut-proof cap of sheet-metal preliminarily attached to said seal-disk independently of the shackle-wire, said cap having an inturned rim which tightly overlaps said flare in the unpressed seal without obstructing said notch, and a flat disk held in close contact with said back of the seal-disk, substantially as hereinbefore specified.

3. The combination in a horseshoe-seal of a compressible seal-disk of soft metal having a loop-receiving recess and a notch in its face and a stud-pin and annular shoulder within said recess, said shoulder being formed on

the wall surrounding said recess, a flexible shackle-wire having loops at its respective ends fitted to said stud-pin and to the outer portion of said recess, and a compressible cut-
5 proof cap of sheet-metal having a rim which tightly embraces said disk without obstructing said notch and is adapted to extend over

the outer loop of the shackle-wire when the seal is finally pressed, substantially as hereinbefore specified.

EDWARD J. BROOKS.

Witnesses:

JAS. L. EWING,
T. E. SEWELL.