(No Model.)

E. J. BROOKS.

SEAL.

No. 501,042. Patented July 4, 1893.

FIG. 1.

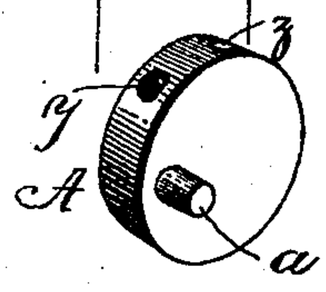


FIG. 2.

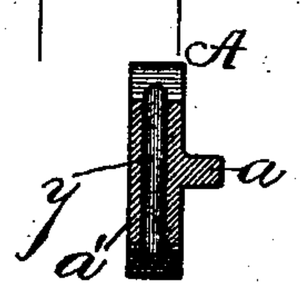


FIG. 8.

FIG. 10.

FIG. 12.

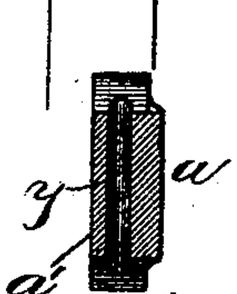


FIG. 4.

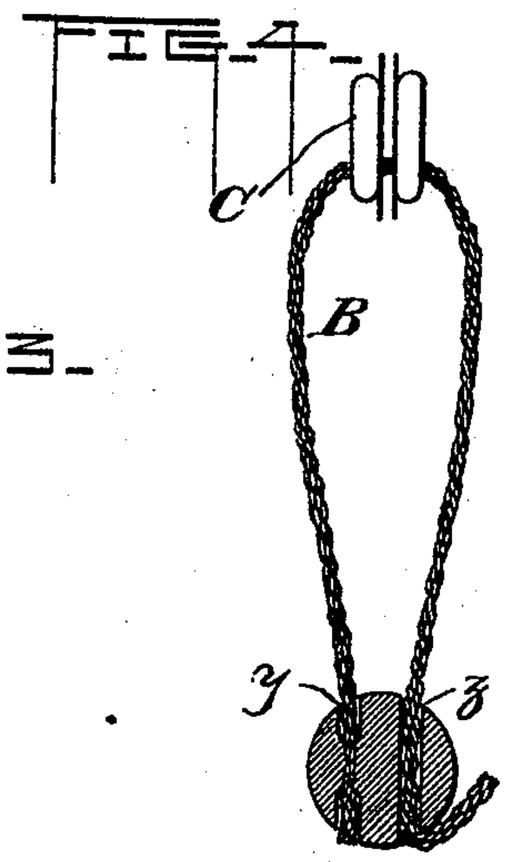


FIG. 9.

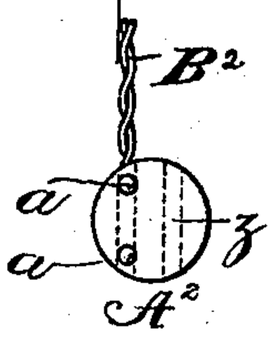


FIG. 11.

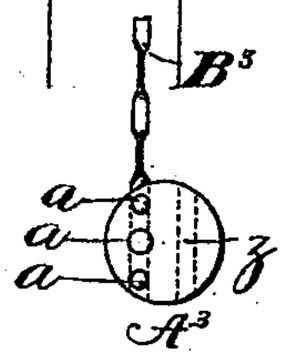


FIG. 13.

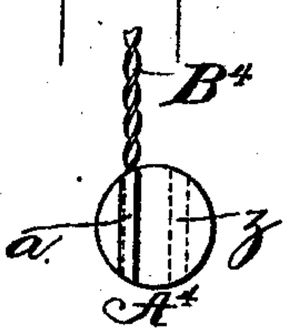


FIG. 3.

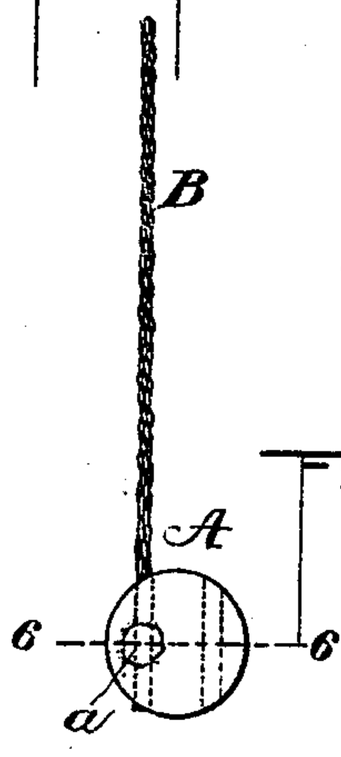


FIG. 14.

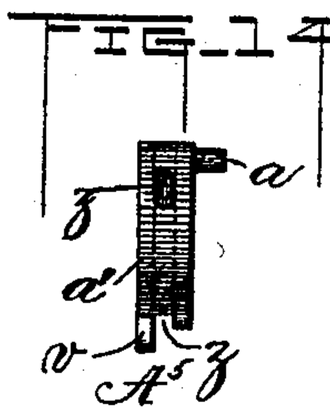


FIG. 15.

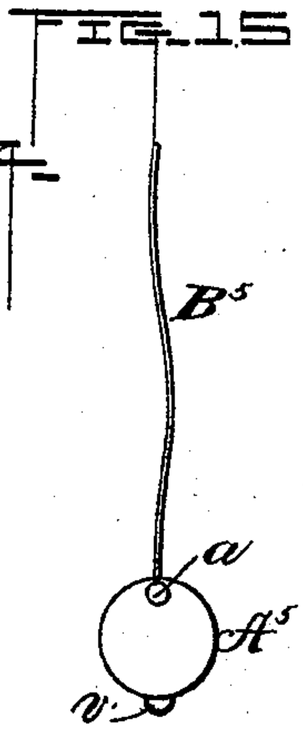


FIG. 16.

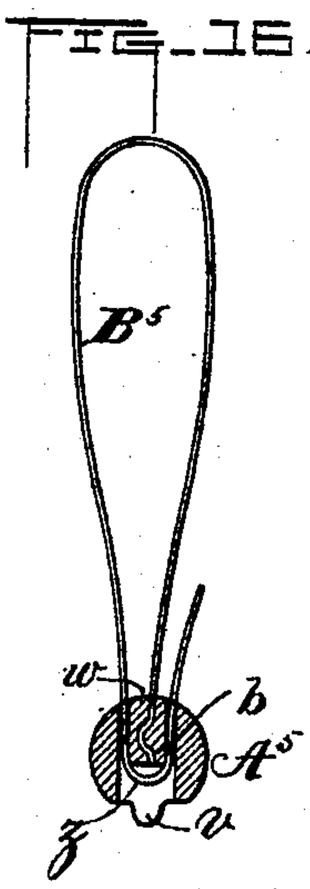


FIG. 5.

FIG. 6.

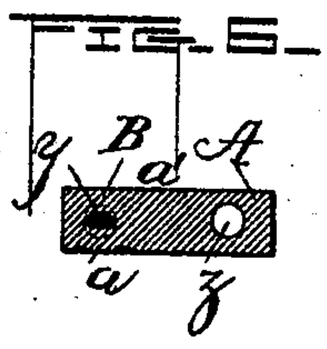
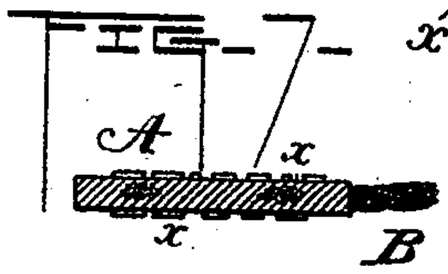


FIG. 7.



Witnesses
E. R. Conner
Geo. W. Whitney

Inventor
Edward J. Brooks
per
L. Lewis,
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. 501,042, dated July 4, 1893.

Application filed February 18, 1893. Serial No. 462,891. (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 Seals, of which the following is a specification.

I have set forth in previous specifications, forming part of numerous Letters Patent of the United States, what I have termed "cast in" seals, or seals in which a seal-disk of lead or the like is cast fast on one end of the wire or other flexible shackle, hereinafter termed the wire, the other end of which is fastened, so as to "seal" a car-door or the like, by compressing the seal-disk around such other end, in a seal-press; this being done in the act of stamping or impressing the seal-disk with distinguishing marks to insure the detection of any tampering with the seal. The insertion of the wires into the hot seal-molds materially reduces the rapidity with which the seals can be manufactured; and it is difficult to so distribute the metal in the seal-disks as to facilitate so pressing them as to render the fastened end perfectly secure and the impression or lettering at the same time uniformly sharp and perfect. Heretofore seal-disks have been preliminarily fastened on wires at one end by indenting the "lead," as the compressible material of the seal-disks is hereinafter termed; but this militates against perfect impressions more than the relatively hard portions of seal-disks cast fast on the wire.

The objects of the present invention are to provide for preliminarily attaching seal-disks to shackle-wires with rapidity and neatness, and, at the same time, for bringing out all the lettering of the dies with clearness and uniformity in the seal-press, and, to provide for so preliminarily attaching seal-disks by means of ordinary hammers or the like or by simple machinery.

The invention consists in certain novel features of construction, embodied in improved seal-disks, as hereinafter set forth and claimed.

A sheet of drawings accompanies this specification, as part thereof.

Figures 1 and 2 of the drawings are respectively perspective and sectional views of one of the simplest forms of seal-disk as cast, illustrating this invention. Fig. 3 is a face view of the same as preliminarily attached to a shackle-wire. Fig. 4 is a sectional view of the seal ready for the press. Fig. 5 shows the same pressed; and Figs. 6 and 7 are cross-sections respectively on the lines 6—6 Fig. 3 and 7—7 Fig. 5. Figs. 8 and 9, Figs. 10 and 11 and Figs. 12 and 13 are respectively sectional edge views of seal-disks of other patterns as cast, and face views thereof as preliminarily attached to wires of other kinds. Figs. 14 to 16 inclusive represent another pattern of seal-disk, and its combination with a shackle of thin wire; Fig. 14 being an edge view of the seal-disk as cast, and Figs. 15 and 16 face and sectional views of the same as preliminarily attached. Figs. 1, 2, 6, 7, 8, 10, 12 and 14 are drawn to one and the same scale, and the other views of the respective seal disks are reduced therefrom.

Like letters refer to corresponding parts in all the figures.

Each of the improved seal-disks A A^2 A^3 A^4 and A^5 is cast with a flat back a' and with an easily compressible projection or projections a on its face which can be readily driven in upon one end of the wire B or B^2 or B^3 or B^4 or B^5 so as to preliminarily attach the seal-disk thereto, as in Figs. 3, 4, 6, 9, 11, 13, 15 and 16, without in any way obstructing the threading-hole or recess z which admits the other end of the wire, and so as to facilitate bringing out the die-formed lettering x on the face and back of the seal-disk, either or both, at the pressing operation which completes the seal, as in Figs. 5 and 7. In the pressed seal the preliminary attaching device is wholly obliterated.

The seal-disks having been cast as above are united at the factory with the wire appropriate to each in the following manner: One end of the wire having been inserted in a first threading-hole y of the seal-disk, the operator by a continuation of the same motion slides the seal-disk upon an even surface with its flat back a' downward, and brings the projection or projections a beneath a reciprocating hammer which drives in the projection or projections flush with the face of the seal-disk as in Fig. 6, without, as aforesaid, in any way closing or obstructing the threading-hole or recess z which admits the other end of the

wire preliminary to the final pressing operation. Seal-disks can be thus preliminarily attached with great rapidity and at so little cost as to render the seals in the market less expensive than otherwise similar seals having seal-disks cast fast on the wire, while the face and back of each seal-disk is or may be as even and well adapted to receive distinguishing marks or lettering as if cast on the wire.

The seal-disk A, Figs. 1 to 7, is cast as in Figs. 1 and 2 with a single stud *a* on its face perpendicular to a first threading-hole, *y*, and at midlength of the latter or thereabout; the disk A^2 Figs. 8 and 9 is cast with two such studs near the respective ends of a first threading-hole *y*, as in Fig. 8; the disk A^3 Figs. 10 and 11 is cast with three such studs perpendicular to a first threading hole *y* as in Fig. 10; and the seal disk A^4 Figs. 12 and 13 is cast with an oblong projection *a* on its face over the entire length of its first threading-hole *y*, as in Fig. 12. These seal-disks A to A^4 are of one class, having parallel or substantially parallel threading holes to receive the respective ends of a shackle-wire which is provided at both ends at least, and preferably throughout its length, with anchoring indentations, bends or enlargements, to resist withdrawal. The wire B is of what is known as "braided" wire; B^2 is of "twisted" wire, having fewer strands of larger gage; B^3 is of flat wire bent and rebent to form holding surfaces at right angles to each other, and B^4 is of flat wire spirally twisted. Either kind, or shackle-wires of other approved kinds, may be used in connection with each of said seal-disks A to A^4. The peculiarities of the seal-disks have reference to completing good faces for different styles of lettering, and to meeting other requirements of individual railway companies and like users of such seals.

In the modification illustrated by Figs. 14, 15 and 16, the seal-disk A^5 has a first threading hole within a central portion *w* Fig. 16, together with a socket therein at bottom for an anchoring bend *b* at one end of the wire B^5, which is a thin single wire. A single stud *a* on the face of the disk, perpendicular to said portion *w*, provides for substantially solidifying said central portion *w* around said anchoring bend *b*, and thus fixedly attaching the disk to the wire. The other end of the wire is threaded and rethreaded through two other holes which are the upper extremities of the recess *z* of this disk, as in Fig. 16, preparatory to pressing the seal. A depending tongue *v*, at bottom, is to facilitate drawing the loop of the wire into said recess *z*.

The various improved seals may be used in connection with ordinary car-door staples C, Figs. 4 and 5, or otherwise applied in any approved way.

Each pattern of seal-disk and each kind of "wire" above described may furthermore be made of different weights or sizes, and other like modifications will suggest themselves to those skilled in the art.

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

A compressible seal-disk having threading holes to receive the respective ends of a flexible shackle, and having a projection on its face perpendicular to its first threading-hole for preliminarily attaching the seal-disk to one end of the shackle-wire in the manner and for the purposes hereinbefore set forth, the face and back of the seal-disk being otherwise flat as shown.

EDWARD J. BROOKS.

Witnesses:
H. L. C. WENK,
L. F. HOVEY.