E. J. BROOKS.

METALLIC SEALS.

No. 179,260. Patented June 27, 1876.

Fig. 1.

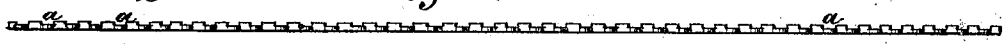


Fig. 2.

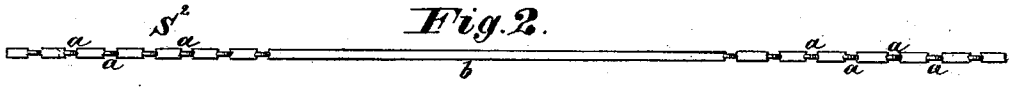


Fig. 3.

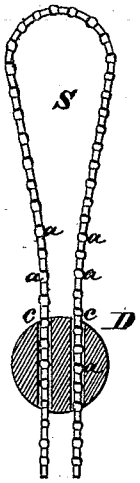


Fig. 4.

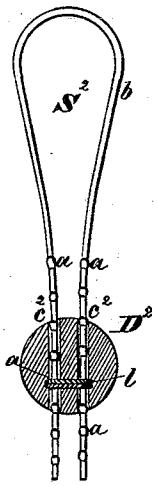


Fig. 5.

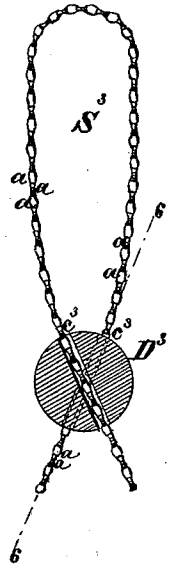
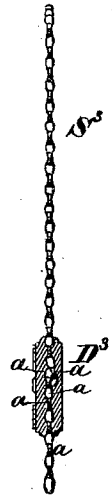


Fig. 6.



WITNESSES

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IMPROVEMENT IN METALLIC SEALS.

Specification forming part of Letters Patent No. **179,260**, dated June 27, 1876; application filed May 4, 1876.

To all whom it may concern:

Be it known that I, EDWARD J. BROOKS, of the city of New York, in the county and State of New York, 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 shackles of lead and wire seals for securing the doors of railway freight-cars, and for other purposes.

The invention consists, first, in a sealing-shackle constructed of single hard wire of sufficient thickness, and provided with permanent transverse indentations of variable form and dimensions in one or more of its sides, covering those portions which will be inclosed in the seal-disk, with or without an intermediate plain portion to form the bow. The primary object is the most simple provision for the locking of the shackle ends in the pressed seal, so as to preclude their withdrawal. The improved shackle is also adapted to be introduced or threaded without difficulty, requiring no nice adjustment within the seal-disk. It is adapted, also, to exhibit its character outside of the seal-disk, and to be manufactured cheaply by means of dies. The invention consists, secondly, in the combination of a shackle of single hard wire, having permanent transverse indentations, and a seal-disk of soft metal compressed around the indented ends to securely unite them, with or without provision in the seal-disk for interlocking the indented ends with each other, or with a separate locking device anchored within the seal-disk, as hereinafter set forth, the object being a simple and secure seal.

Figures 1 and 2 are elevations of two indented shackle-wires illustrating this invention. Figs. 3 and 4 are elevations of the same bent as in use, with seal-disks applied thereto ready for the press, the disks being shown in section. Fig. 5 is a sectional elevation of another unpressed seal, illustrating additional modifications. Fig. 6 represents a sectional edge view of this seal after it is pressed. The plane of the section is indicated by the line 6 6, Fig. 5.

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

Shackles S S^2 S^3 are constructed, according to this invention, of single metallic wire, of larger size than is commonly employed, the same being provided with transverse indentations or notches *a a*, which are adapted to be formed by rotary or other dies as the wire issues from the drawing-dies, or in the act of cutting the wire into shackle lengths, or at an intermediate or subsequent distinct operation. The employment of ordinary iron wire is contemplated; but wire of any other metal which will receive and hold the indentations may be used. The indentations may be in one side only, as illustrated in Figs. 1 and 3, or in two or more sides, as illustrated in Figs. 2, 4, 5, and 6, and they may extend throughout the length of the wire, as illustrated in Figs. 1, 3, 5, and 6, or only at and near the ends, with an intermediate plain portion, *b*, in each shackle, to form the bow, as shown in Figs. 2 and 4. A sufficient extent of indented surface is, however, preferred, and readily formed, to obviate any necessity for nicely adjusting or stopping the ends in the seal-disk, and to exhibit the character of the shackle outside of the pressed disks, as well as to form efficient holding-surfaces within the disks. Square indentations at right angles to the longitudinal axis of the wire, as shown, are considered the best form; but indentations of other shapes, and more or less oblique, would answer the same purpose, and the indentations may be made at greater or less distances apart, as preferred.

An improved shackle of any of the forms above described is adapted to be employed in combination with a plain seal-disk, D, Fig. 3, having simply a pair of threading apertures, *c c*, to receive the shackle ends, in which case the soft metal is compressed into the indentations and around the wire on all sides in the act of pressing the seal, so as to hold each of the shackle ends securely against withdrawal. For greater security a seal-disk, D^2, Fig. 4, may be employed, of the construction described in my Patent No. 154,639, dated September 1, 1874, having a supplemental lock, *l*, of hard metal anchored within the soft metal in the process of casting the latter, this lock, in the illustration, being a double coil of wire, through which the threading apertures c^2 c^2 pass. When a seal of this description is

pressed, one or more of the indentations in each end of the shackle will coact with the embedded lock. Or one of my improved seal-disks with crossed threading apertures c^3 c^3, patented March 30, 1875, may be employed, as illustrated in Figs. 5 and 6. In this case the indented ends will interlock with each other, as well as with the compressed soft metal, as shown in Fig. 6.

I propose furnishing the shackles straight, as illustrated in Figs. 1 and 2, for use in connection with seal-disks of any preferred form, perforated to receive both ends of each shackle; but the seal-disk may be cast on one end of its shackle, as described in my Patent No. 154,639, hereinbefore referred to, if preferred.

A roughened leaden shackle, the character of which is modified in the act of pressing the seal, is hereby disclaimed as forming no part of the invention.

I claim as my present invention—

1. As a new article of manufacture, a shackle-wire for lead and wire seals, constructed of hard metal, with permanent transverse indentations formed therein, as herein illustrated and described.

2. The single-wire sealing-shackle of hard metal, having permanent transverse indentations, in combination with the seal-disk of soft metal, adapted to be pressed into said indentations, and around the indented ends, so as to unite and retain the latter, in the manner herein set forth, for the purpose specified.

EDWARD J. BROOKS.

Witnesses:
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ABNER C. THOMAS.