(No Model.)

C. L. POND.

METALLIC SEAL.

No. 332,556. Patented Dec. 15, 1885.

Fig. 1.

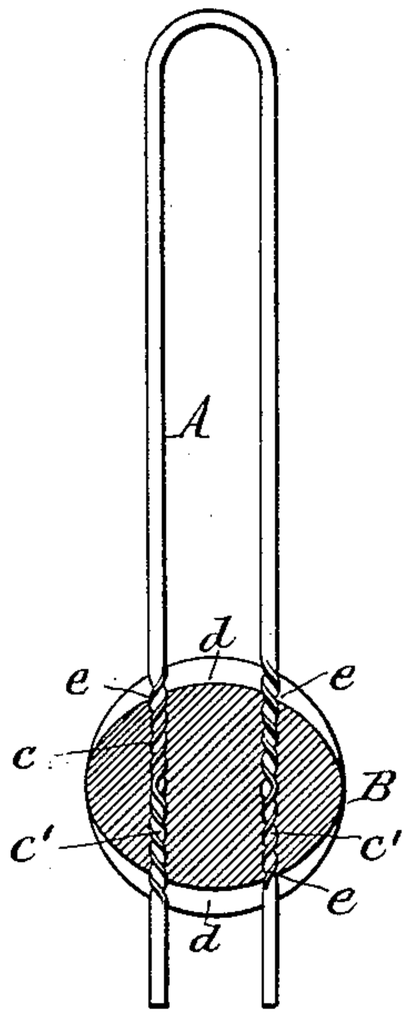

Fig. 2.

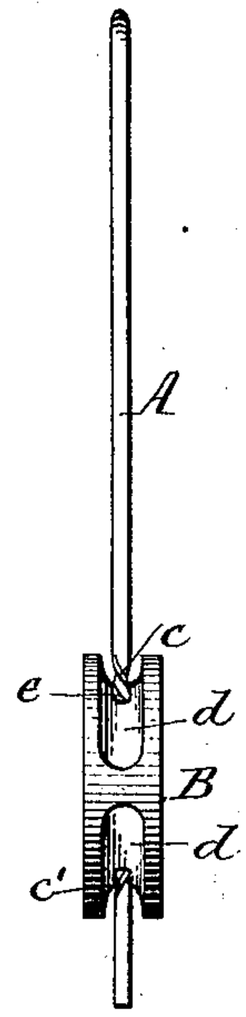

Fig. 3.

Fig. 4.

Witnesses:
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Chas. J. Buehheet.

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UNITED STATES PATENT OFFICE.

CHARLES L. POND, OF BUFFALO, NEW YORK.

METALLIC SEAL.

SPECIFICATION forming part of Letters Patent No. 332,556, dated December 15, 1885.

Application filed August 31, 1885. Serial No. 175,686. (No model.)

To all whom it may concern:

Be it known that I, CHARLES L. POND, of the city of Buffalo, in the county of Erie and State of New York, have invented a new and useful Improvement in Metallic Seals, of which the following is a specification.

This invention relates to an improvement in that class of metallic seals which are composed of a shackle-wire and a disk of soft metal, which is connected with the threading end of the wire by pressure.

The object of this invention is to roughen the wire in a simple and inexpensive manner, so as to enable it to take a secure hold upon the metal of the seal-disk and prevent the latter from being stripped from the wire without detection; also, to construct the seal-disk so as to facilitate the introduction of the wire into the threading-hole.

My invention consists, to these ends, of the improvements which will be hereinafter fully set forth, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a sectional elevation of a seal provided with my improvements. Fig. 2 is an edge elevation of the same. Figs. 3 and 4 are elevations, on an enlarged scale, of the end of the shackle-wire.

Like letters of reference refer to like parts in the several figures.

A represents the shackle-wire, and B the seal-disk of soft metal, which may be cast upon one end of the shackle-wire, if desired. The latter has both of its ends roughened by twisting the same so as to form right and left twisted portions *c c'* upon each part of the wire which is inserted in the seal-disk. These twisted portions are formed upon the wire by clamping the wire at two points corresponding with the outer ends of the twisted portions to be formed, and then seizing the wire midway between the points at which it is clamped and twisting it, whereby two twists are formed which run in opposite directions from the central point to the points at which the wire is clamped. When a flat or an edged wire is used, as represented in Fig. 4, the wire is twisted at once in its original form; but when a round wire is used, as represented in Fig. 3, the portions of the wire which are to be twisted are first flattened between suitable dies. The twists *c c'* form comparatively deep grooves in the wire, running spirally around the same in opposite directions on the same end of the wire without materially enlarging the diameter of the wire. The metal of the seal-disk, flowing into these spiral grooves, either by casting the disk on one end of the wire or by pressing the disk on the threading end, firmly and closely embraces the wire, and as these spiral grooves run in opposite directions around the wire, it is impossible to disturb the connection of the seal-disk with the wire without detection.

The seal-disk is provided in its edge with a recess, *d*, which extends across the end of the threading-hole *e*. The bottom of the recess *d* is curved or inclined from the center outward to the edge of the disk, so that the inner edge of the threading-hole is higher than the outer edge, forming a shoulder in the bottom of the recess. The end of the wire which is to be threaded through the hole *e* can be easily introduced into the recess at either end thereof. Upon moving it along the bottom of the recess it strikes against the inner edge of the threading-hole, whereby the wire is stopped opposite the threading-hole, and can then be easily inserted into the threading-hole without requiring the latter to be seen.

I do not desire to claim in this application, broadly, the combination, with the seal-disk, of a shackle-wire having its end provided with right and left screw-threads, as this is claimed in another application for patent filed by me August 31, 1885, No. 175,685.

I claim as my invention—

1. A shackle-wire having its end provided with right and left twisted portions, substantially as set forth.

2. The combination, with a shackle-wire having its end provided with right and left twisted portions, of a soft-metal disk applied to the twisted portion of the wire, substantially as set forth.

3. A seal-disk provided with a threading-hole, *e*, and a recess, *d*, having its bottom ex-

tending across the end of the threading-hole and opening at both ends in the edge of the seal-disk, substantially as set forth.

4. A seal-disk provided with a threading-hole, *e*, and a recess, *d*, having its bottom extending to the edge of the disk, and the inner and outer edges of the threading-hole arranged in the bottom of the recess *d* at different heights, substantially as set forth.

Witness my hand this 28th day of August, 1885.

CHARLES L. POND.

Witnesses:
JNO. J. BONNER,
OSCAR SCHAUB.