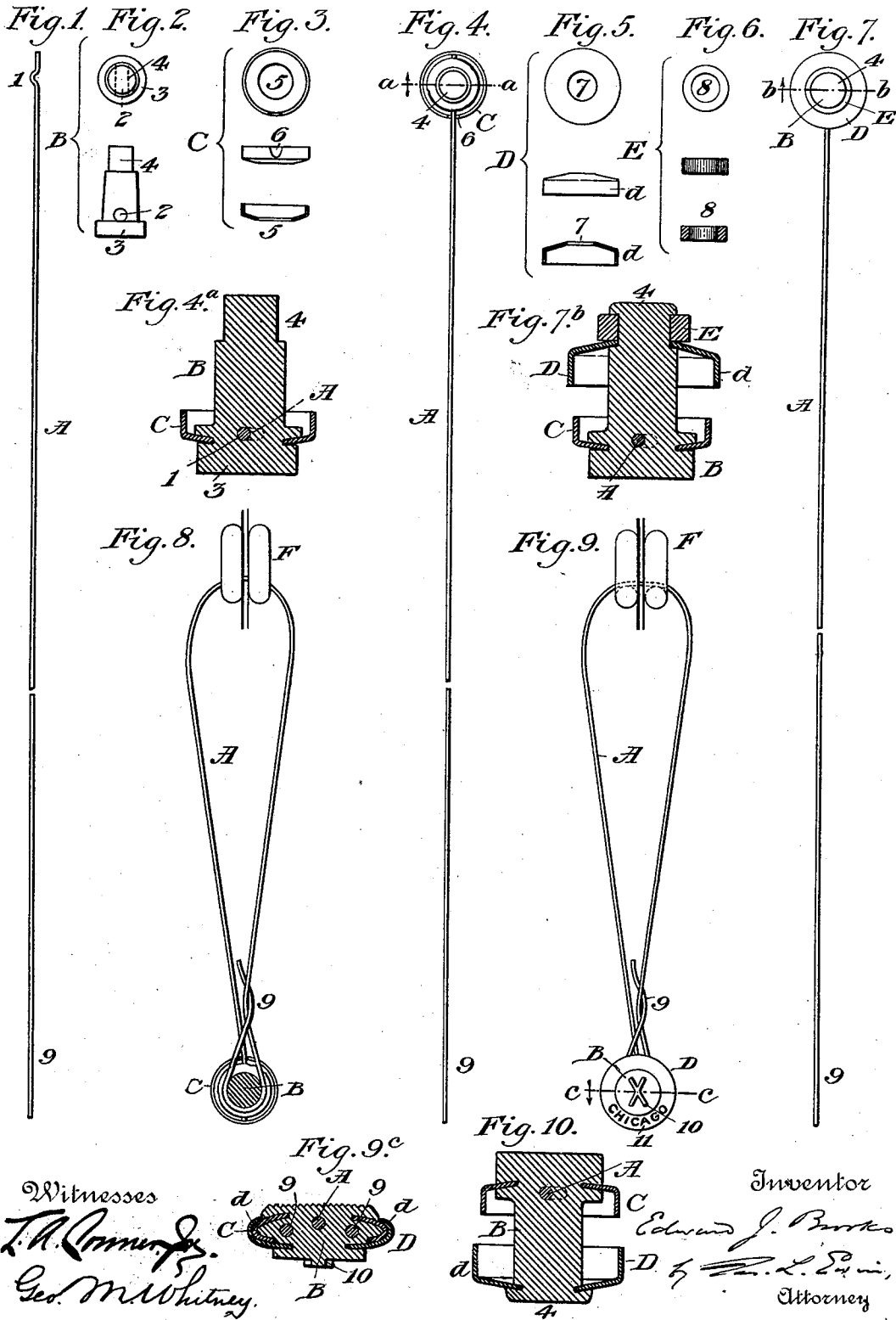


(No Model.)

E. J. BROOKS.
SEAL.

No. 521,135.

Patented June 5, 1894.



UNITED STATES PATENT OFFICE.

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SEAL.

SPECIFICATION forming part of Letters Patent No. 521,135, dated June 5, 1894.

Application filed February 28, 1894. Serial No. 501,842. (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 to improvements on "button seals" as set forth in expired Patent No. 174,797, granted March 14, 1876, to Alphonse Friedrich, and on the metallic seal of Joseph Wappenstein, set forth in expired Patent No. 87,017, granted February 16, 1869. The thin lead disks of the former are in practice liable to become bent so as to contract the space between them, and thus to interfere with the rapid use of the seal; while, in common with all seals composed wholly of lead and wire, there is a liability to the violation of the seal without detection by cutting into the lead and thus loosening one end of the wire, which is afterward replaced and the cut neatly and tightly closed. In said Wappenstein seal, a "hard-metal annular button" is combined with a soft-metal plug to fasten the ends of a shackle-wire and to protect such fastening against violation; but the seal is necessarily composed of three distinct parts, which must be handled and cared for separately in counting, shipping and applying the seals; both ends of the wire must be threaded through holes in the hard-metal button preparatory to the insertion of the soft-metal plug, and the latter only is pressed to fasten the seal.

The present invention consists in an improved seal adapted to be used in the same manner as the aforesaid button-seal, but having cupped disks of sheet-metal which are not liable to be accidentally bent as above, and all the parts of which are permanently united before the seal leaves the factory, so that the seals are counted, shipped and applied as readily as if they were each composed of one part, and the sheet-metal parts are united with each other like metallic button-shells and inclose between them the interlocked portions of the lead and wire so as to render the seal absolutely secure against being tampered with without detection.

A sheet of drawings accompanies this specification as part thereof.

Figure 1 of the drawings is an elevation of a preferred shackle-wire for the improved seal. Fig. 2 shows its lead plug. Fig. 3 shows its smaller cupped disk. Fig. 4 represents said shackle-wire plug and smaller cupped disk united with each other, and Fig. 4^a a magnified cross-section on the line *a— a* Fig. 4. Fig. 5 shows the larger cupped disk of the improved seal. Fig. 6 shows a superposed lead washer which is sometimes employed to enlarge the impression surface of the pressed seal. Fig. 7 represents the improved seal, having said washer, as it leaves the factory, and Fig. 7^b a magnified cross-section on the line *b— b* Fig. 7. Fig. 8 is a sectional face view showing the improved seal ready for the seal-press. Fig. 9 is a face view representing the press-fastened seal, and Fig. 9^c a magnified cross-section on the line *c— c* Fig. 9; and Fig. 10 is a large-scale cross-section through the seal as made without said washer Fig. 6.

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

The improved seal is composed of a flexible shackle A of suitable wire, a soft-metal plug B preferably of lead, and a pair of cupped disks C D, preferably of thin iron such as is used for metallic button-shells, but which may be of bright tin (tin-plate) sheet brass or other suitable sheet-metal, with or without a washer E of lead or of the same soft-metal as the plug B.

A somewhat thin single wire is preferred for the shackle A, and one end thereof is provided with an anchoring device 1. This may be of any approved description. As shown in Fig. 1 it consists of a re-entrant bend, which is rapidly produced by means of dies.

The plug B has a transverse hole 2 to receive said anchoring device of the shackle-wire, and its respective ends are constructed with a head 3 and a rivet-stud 4, both of which may be small, as their main functions are to preliminarily unite the parts.

The smaller cupped disk C has an aperture 5 fitted to the body of the plug B immediately above its head 3, and is further preferably provided with a notch 6 to facilitate inserting the anchoring device 1 of the wire A into the hole 2 of the stud B after said disk C is applied to the stud. The larger disk D has an

aperture 7 fitted to the rivet-stud 4, and its rim (d) is opposed to and adapted to surround that of the smaller disk C, and serves to unite the disks at the pressing operation as hereinafter more particularly described.

The washer E is a small annulus having an aperture 8 fitted to said rivet-stud 4.

The shackle-wire A plug B and smaller disk C are first united, as in Figs. 4 and 4^a, by upsetting the plug B to a sufficient extent to fasten the wire A within it and at the same time to fasten the disk C upon the head 3 of the plug. A hollow punch having its bore loosely fitted to the rivet stud 4 and that end of the plug, and of somewhat less length than that portion of the plug which is to project above the disk C, is all that is required for this operation. A small hammer is of course all that is required for the riveting operation, which completes the improved seal after the disk D is applied to the rivet-stud 4, with or without the washer E, as in Figs. 7, 7^b and 10.

In applying the seal to a car-door, a piece of baggage, or the like, the "free end" 9 of the shackle wire A is passed through a pair of sealing staples F or the like, and is then wrapped one or more times around the shank formed by the plug B between the disks C and D, as in Fig. 8; and any suitable seal-press is then applied to force the disks together and to unite or interlock their edges by means of said rim d, and at the same time

to stamp the exposed leaden portions with distinguishing marks 10, which completes the fastened seal Figs. 9 and 9^c.

The modification illustrated by Fig. 10 consists solely in the omission of the washer E. (Fig. 6). Either or neither of the disks C D may be provided in course of manufacture with the lettering or distinguishing marks in cameo or intaglio represented at 11 Fig. 9, as additional guards against counterfeiting; the improved seal may of course be made in various sizes and of different weights or proportions to suit the demands of the trade, 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—

An improved button-seal having a flexible shackle of suitable wire, a soft-metal plug, and a pair of sheet-metal disks, all of which are preliminarily united by the metal of said plug, one of said sheet-metal disks having a marginal rim to securely interlock the edges of said disks with each other when the seal is finally press-fastened, substantially as hereinbefore specified.

EDWARD J. BROOKS.

Witnesses:

ELLEN JOSEPHINE BROOKS,
LILA P. MUDGE.