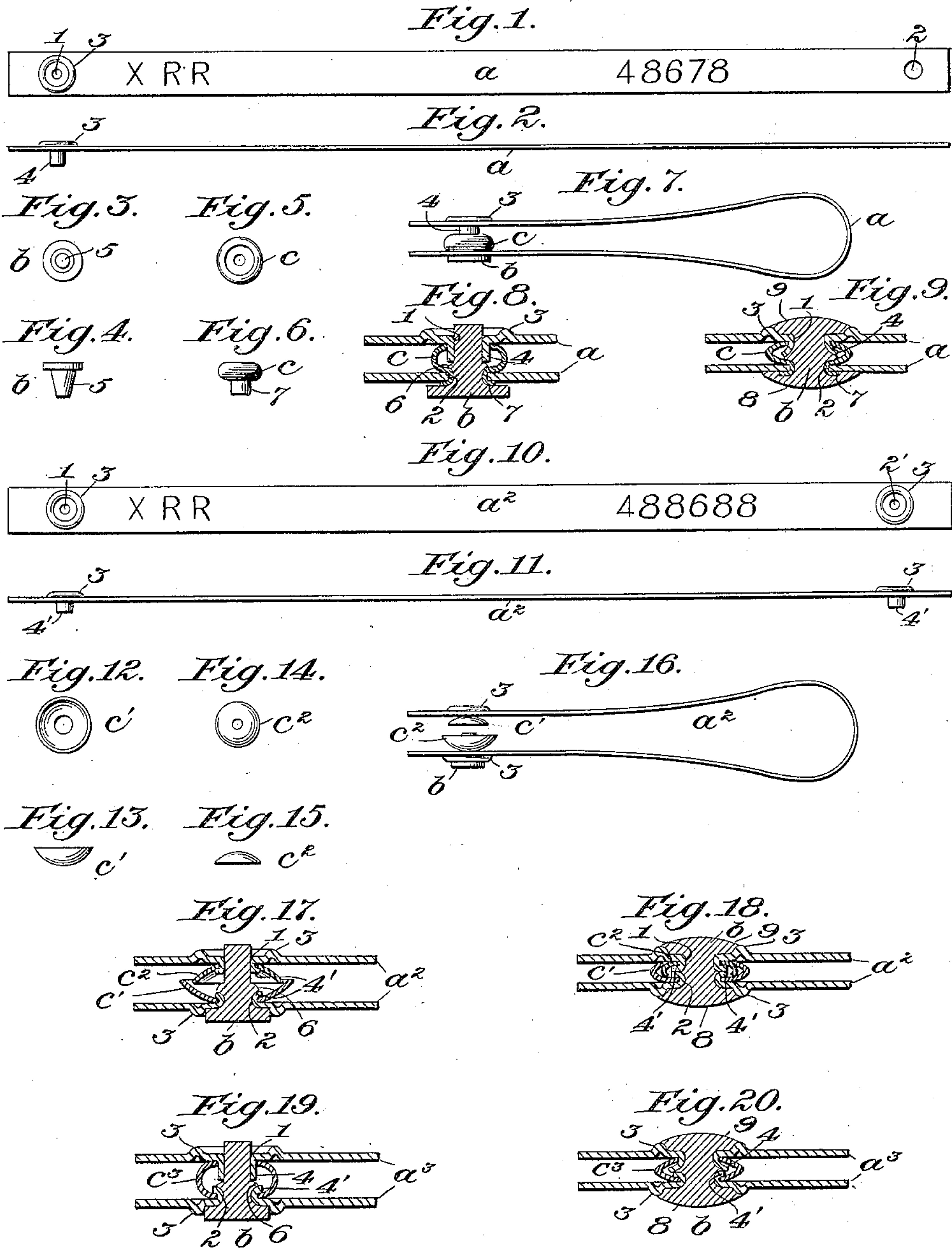


E. J. BROOKS.
SEAL.

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917,410.

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UNITED STATES PATENT OFFICE.

EDWARD J. BROOKS, OF EAST ORANGE, NEW JERSEY.

SEAL.

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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 is additional to the improvement in press fastened or press fastenable seals set forth in my specification forming part of United States Letters Patent No. 524,975, dated August 21, 1894, having reference to such seals comprising rivets of soft metal, commonly lead, and flexible shackles or combined tags and shackles of sheet metal, commonly tin plate ("tin"), together with sheet-metal means between the shackle ends to prevent cutting through the soft-metal rivet between the shackle ends.

The present invention consists in certain novel combinations of parts, and in an improved press fastenable seal embodying such combinations or any of them, all as hereinafter more particularly described and claimed.

The leading object of this invention is to protect the protruding ends or disks of the rivet in the fastened seal, and particularly the disk formed by the rivet head which receives the principal press mark, against being cut off and replaced in tampering with the seal.

Other objects will be set forth in the general description which follows:

A sheet of drawings accompanies this specification as part thereof.

Figures 1 and 2 are respectively a face view and an edge view of the sheet-metal shackle of an improved seal constructed according to the present invention; Figs. 3 and 4 are respectively end and side views of its soft-metal rivet; Figs. 5 and 6 are respectively end and side views of another sheet-metal part of the same seal; Fig. 7 is an edge view of the seal ready for the seal press, showing the parts as united at the factory; Figs. 8 and 9 are fragmentary sectional views on a larger scale, showing the seal respectively at the beginning and end of the press fastening operation; Figs. 10 and 11 are respectively face and edge views of the shackle of another seal constructed according to the same invention in part; Figs. 12 and 13 are respectively face and edge views of another sheet-metal part of the same seal; Figs. 14 and 15 are respectively face and

edge views of another sheet-metal part of the same; Fig. 16 is an edge view of the seal ready for the seal press, showing the parts as united at the factory; Figs. 17 and 18 are fragmentary sectional edge views on a larger scale showing the seal respectively at the beginning and end of the press fastening operation; and Figs. 19 and 20 are like fragmentary sectional edge views illustrating another species of the same invention.

Like reference characters refer to like parts in all the figures.

The improved seal in any of its forms is composed of a flexible sheet-metal shackle, a or a^2 or a^3 , a soft-metal rivet, b , and one or more supplemental sheet-metal parts, c , or c' and c^2 , or c^3 ; said supplemental sheet-metal parts being constructed and arranged in the press-fastened seal so as to guard the soft-metal of the rivet between the shackle ends against being cut through; and the sheet-metal parts as a whole serving also to effectively guard the ends or disks of the pressed rivet b (Fig. 9, Fig. 18 or Fig. 20) against the excision of either disk of the rivet. Without such provision one of the disks of the rivet has been cut off and fastened back in place, so as to enable the seal to be violated without detection.

In all the species, the sheet-metal shackle is constructed with a pair of eyelet holes, 1 and 2, in its respective ends, and with a guard collar, 3, on the outer side of the shackle concentric with one or each of said holes; also with an eyelet collar or collars, 4, or 4', or 4 and 4', formed by the metal punched from one or each of the rivet holes.

The sheet-metal rivet b is or may be of one and the same pattern in all the species, and is characterized by a shank, 5, Figs. 3 and 4, increasing in diameter toward the head of the rivet, so that a collar, 6, Figs. 8, 17 and 19, may be formed thereon by a hollow punch, to fasten the rivet in place at the factory.

In all the species the sheet-metal shackle is or may be further provided with the principal distinguishing marks of the seal as is customary, as represented by "XRR" and "48678" in Fig. 1, and "XRR" and "48688" in Fig. 10.

In the species represented by Figs. 1 to 9 inclusive, the eyelet collar 4 projects in its original cylindrical or substantially cylindrical form from the shackle end with which it is integral until the press fastening operation, and the supplemental sheet-metal part

c is constructed in the form of an open-ended hollow oblatum with an eyelet collar, 7, at one end, by which this part is preliminarily attached to the other shackle end at the rivet hole 2. Compare Figs. 6 and 8. When the shackle a is looped, and the ends are brought together preparatory to the application of the seal press, as in Figs. 7 and 8, said eyelet collar 4 projects into the hollow sheet-metal part c as in Fig. 8, and when the seal is pressed the endwise compression of the rivet b serves to expand the inner end of the eyelet collar 4 within said sheet-metal part c as in Fig. 9. At the same time said hollow sheet-metal part is or may be flattened to any desired extent, as represented in Fig. 9; and disks, 8 and 9, formed respectively by the head of the rivet b and by the surplus metal therein, are formed on the outside of the shackle ends and appropriately stamped. In this species said eyelet collar 7, as upset on the outer side of the shackle end, suffices to protect the disk 8 at the head end of the rivet against excision, and the other disk 9 is formed within and protected by the guard collar 3 at the other end of the shackle.

In the species represented by Figs. 10 to 18 inclusive, both ends of the shackle a^2 are alike, and their eyelet collars, 4', are utilized to preliminarily attach the respective supplemental sheet-metal parts c' and c^2 to the respective shackle ends, concentric with the respective rivet holes 1 and 2; after which the rivet b is fastened in place as above described, with its head partly within one of the guard collars 3. Said sheet-metal parts c' and c^2 are simply cup-shaped disks adapted to be interlocked with each other by an appropriate seal press, and at the press-fastening operation said sheet-metal parts are thus interlocked with each other, and the disks 8 and 9 of the pressed rivet are formed and stamped, each of the latter being in this form located within one of the guard collars 3, and protected thereby against excision.

In the species represented by Figs. 19 and 20, the shackle, a^3 , is or may be identical with the shackle a^2 more fully shown by Figs. 10 and 11, as originally formed; but the eyelet collar 4 at one end projects in its original form until the seal is pressed, as in the first species, and the eyelet collar 4' at the other end serves to attach the supplemental sheet-metal part c^3 in the same manner as each of the eyelet collars 4' of said shackle a^2 . After so attaching the supplemental sheet metal part c^3 the rivet b is preliminarily fastened in place as already described, and the seal leaves the factory in this condition. The supplemental sheet-metal part c^3 in this species is in the form of a hollow open-ended oblatum, substantially similar to the supplemental sheet-metal part c of the first species. When the shackle a^3 is looped and its ends are brought together preliminary to

the application of the seal press, as in Fig. 19, said eyelet collar 4 projects into the supplemental sheet-metal part c^3 through the opening in its outer end, as shown in this figure, and when the seal press is applied said eyelet collar 4 is expanded by the soft metal of the rivet b within said supplemental sheet-metal part c^3 ; the latter is flattened more or less; and disks 8 and 9 are formed at the respective ends of the rivet and appropriately stamped, both of the disks being located within the guard collars 3 of the shackle ends, and protected thereby against excision.

The shackles a , a^2 and a^3 may obviously be of any required length and of such width as may be necessary to accommodate any desired lettering; and other like modifications will suggest themselves to those skilled in the art.

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

1. A press fastenable seal having, in combination, a flexible shackle of sheet metal constructed with rivet holes in both ends, a soft-metal rivet fastened in one of said rivet holes and constructed to protrude through the other rivet hole preliminary to the press fastening operation, and sheet-metal means constructed to surround the rivet between the shackle ends in the fastened seal, the sheet-metal parts of the seal being further constructed with guard devices at the outer sides of the shackle ends to prevent cutting off and replacing either disk of the pressed rivet, such devices including a guard collar on the shackle concentric with one of said rivet holes, and said sheet-metal means between the shackle ends including an eyelet collar concentric with said guard collar on the same shackle end.

2. A press fastenable seal having, in combination, a flexible shackle of sheet metal constructed with rivet holes in both ends, a soft-metal rivet fastened in one of said rivet holes and constructed to protrude through the other rivet hole preliminary to the press fastening operation, and sheet-metal means constructed to surround the rivet between the shackle ends in the fastened seal, said sheet metal means between the shackle ends including a normally projecting eyelet collar on one shackle end and a hollow open-ended oblatum attached to the other shackle end and within which said eyelet collar is expanded at the press fastening operation by the expansion of the sheet metal of the rivet due to its endwise compression.

3. A press fastenable seal having, in combination, a flexible shackle of sheet metal constructed with rivet holes in both ends, a soft-metal rivet fastened in one of said rivet holes and constructed to protrude through the other rivet hole preliminary to the press fastening operation, and sheet-metal means

constructed to surround the rivet between the shackle ends in the fastened seal, the sheet-metal parts of the seal being further constructed with guard devices at the outer
5 sides of the shackle ends to prevent cutting off and replacing either disk of the pressed rivet, including a guard collar on the shackle concentric with one of said rivet holes and an eyelet collar integral with one member of
10 said sheet-metal means between the shackle ends extending outward through the other rivet hole and up-set on the outer surface of the shackle end in which the rivet hole last named is located and to which said member
15 is attached, and said sheet-metal means be-
tween the shackle ends including a normally projecting eyelet collar on one shackle end concentric with said guard collar and a hollow open-ended oblatum attached to the other shackle end and within which said eye- 20
let collar is expanded at the press fastening operation by the expansion of the sheet metal of the rivet due to its endwise compression, substantially as hereinbefore specified.

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