

No. 630,321.

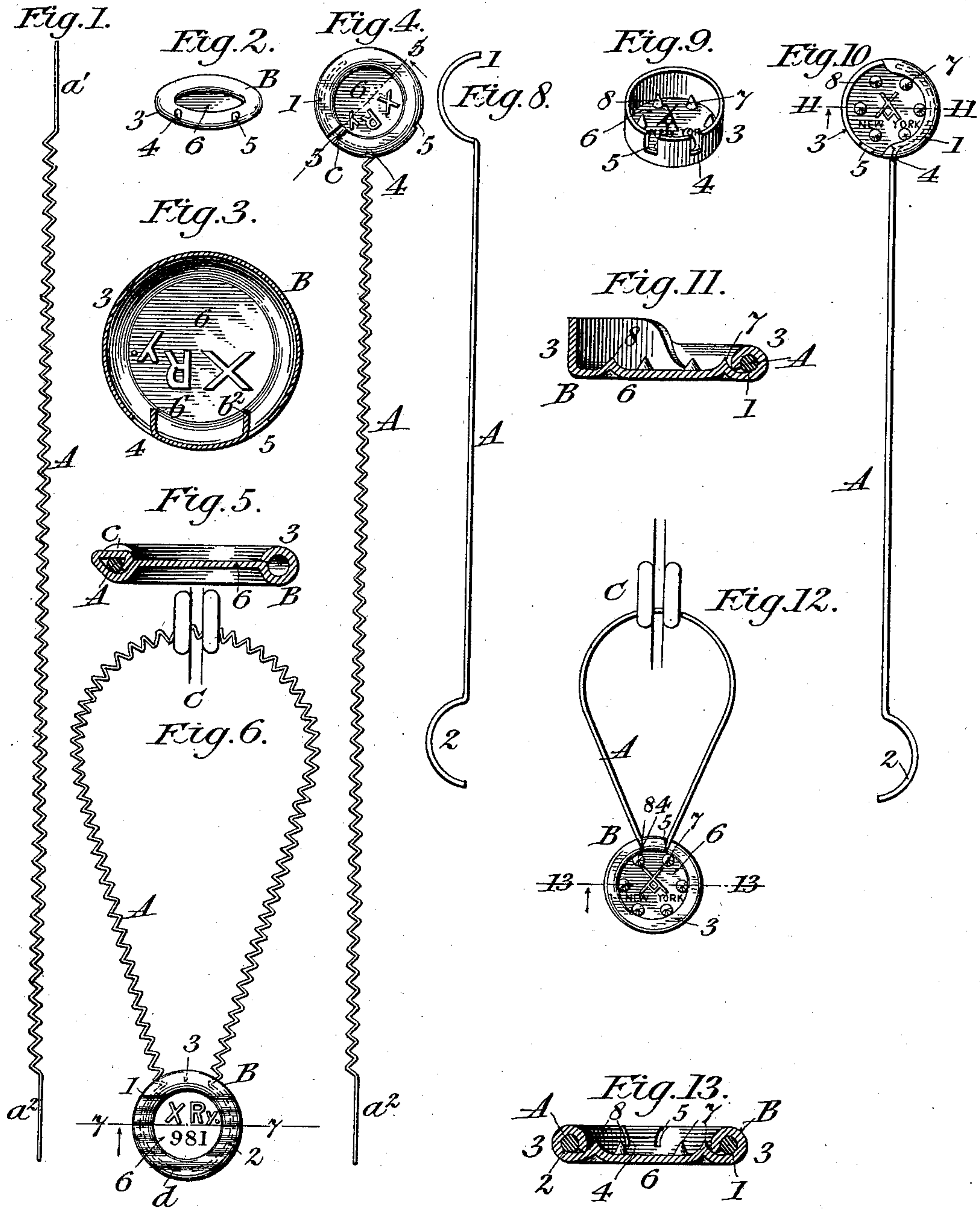
Patented Aug. 8, 1899.

E. J. BROOKS.

SEAL.

(Application filed May 20, 1899.)

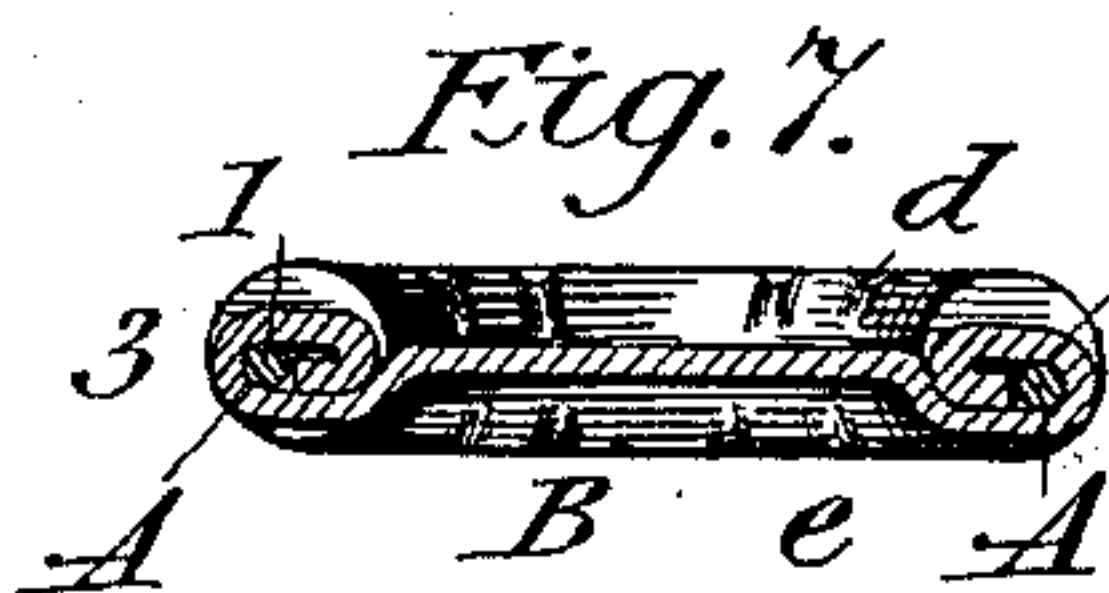
(No Model.)



Witnesses:

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# UNITED STATES PATENT OFFICE.

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## SEAL.

SPECIFICATION forming part of Letters Patent No. 630,321, dated August 8, 1899.

Application filed May 20, 1899. Serial No. 717,638. (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 press-fastened seals the shackles and seal-disks of which are of flexible wire and of sheet metal, respectively.

Heretofore such seals of the preferred round form have consisted of three or more parts unless the seal-disk was of such size as to constitute a tag, as set forth in my specification forming part of United States Letters Patent No. 524,674, dated August 14, 1894, and this has appeared to be absolutely necessary.

The present invention consists in a secure two-part wire and tin seal adapted to be made as small as may be desired, to have the parts permanently united at the factory, and to be finally fastened by a suitable seal-press, and also in certain novel combinations of parts in a seal of this description.

The objects of the invention are to render the improved seal of the least possible weight and cost, to facilitate the effective use of light annealed shackle-wire in such seals and threading the seal-disk in the manner familiar to those accustomed to using lead seals, and to prevent refastening either shackle end after tampering with the seal.

A sheet of drawings accompanies this specification as part thereof.

Figure 1 of the drawings is an elevation of the shackle of an improved wire and tin seal, illustrating this invention; and Fig. 2 is a perspective edge view of its seal-disks as they appear before being united. Fig. 3 represents a magnified section of the seal-disk in a plane parallel to its face. Fig. 4 is a face view of the seal as it leaves the factory. Fig. 5 is a magnified cross-section on the line 5 5, Fig. 4. Fig. 6 is a face view of the seal as it appears after being finally press-fastened. Fig. 7 is a magnified cross-section on the line 7 7, Fig. 6. Fig. 8 is an elevation of the shackle-wire, and Fig. 9 is a perspective view of the sheet-metal seal-disk of a modified seal. Fig. 10 is a face view of the modified seal as it leaves the factory. Fig. 11 is a magnified cross-section on the line 11 11, Fig. 10. Fig. 12 is a face view of the modified seal as it appears

after being finally press-fastened; and Fig. 13 is a magnified cross-section on the line 13 13, Fig. 12.

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

The improved seal in either of its forms is composed of a flexible shackle-wire A and a sheet-metal seal-disk B, the former having at its respective extremities in the seal as finally press-fastened rebent anchoring portions 1 and 2, which are preferably and conveniently of one and the same shape, while the seal-disk B is constructed with a marginal rim 3 to overlie both shackle ends, a pair of openings 4 and 5 to admit the respective shackle ends therethrough, and a disk portion 6 between the two shackle ends in the fastened seal, provided in the course of manufacture with permanent distinguishing-marks, which may be embossed or indented therein in the process of stamping the seal-disk blank or may be applied thereto in any other approved way. In the examples said distinguishing-marks are respectively "X Ry" and "A X (in monogram) New York," but will vary, of course, with the users of the improved seal. Both of the seals shown in the drawings have, moreover, small round seal-disks adapted to be inexpensively produced from tin scrap in the most convenient manner and form. The marginal rim 3 is in each case continuous or practically continuous and forms immediately within it an annular chamber round in cross-section, within which the shackle ends are successively secured, and the shackles are in common completed without a loop at either end, which materially reduces the cost of manufacture as compared with looped shackles, their rebent anchoring portions being in the form of approximately semicircular portions of one and the same circle.

In the specific seal represented by Figs. 1 to 7, inclusive, the shackle A, Fig. 1, is of soft annealed wire of light weight—say No. 20 to No. 25—and its ends  $a'$  and  $a''$ , Fig. 1, which form the respective anchoring portions 1 and 2, are originally straight, as shown in this figure, and preferably connected with each other by a zigzag body portion, which contrasts with the ends  $a'$  and  $a''$ , so that it may be readily seen whether the latter are properly inserted within the seal-disk. The sheet-metal disk B, Figs. 2 and 3, has its anchoring-rim 3 uniformly curled or turned over all



the way around at the original stamping operation, but loosely, so that the shackle ends  $a'$  and  $a^2$  may be provided with the rebent anchoring portions 1 and 2 by successively inserting the respective shackle ends lengthwise into said annular chamber within said rim 3 at the respective lateral edges of the seal-disk through the openings 4 and 5. These openings are punched as the last step in completing the seal-disk before the parts are united and in such a manner that the displaced metal forms a pair of rigid inwardly-projecting lips  $b'$  and  $b^2$ , Fig. 3, at those sides of the respective openings nearest each other to guard the space between at what becomes the top of the disk. The shackle end  $a'$  is inserted through the hole 4 and preliminarily secured in place by a cross-indentation  $c$ , Figs. 4 and 5. The two parts of the seal are thus permanently united at the factory and are shipped and handled in the form represented by Fig. 4. After passing the shackle end  $a^2$  through a pair of car-door staples C, Fig. 6, or their equivalent said shackle end  $a^2$  is inserted through the opening 5 to form the rebent anchoring portion 2, and a seal-press is then applied to the disk, so as to securely fasten both shackle ends by cross indentations or corrugations  $d$ , Figs. 6 and 7. The seal-disk B may at the same time conveniently receive the number "981," Fig. 6, of a sealing-station or any like distinguishing-mark.

It is difficult to insure fully pressing the entire width of the seal-disk, and it is unnecessary to so press the disk of the seal above described owing to its provision with said internal lips  $b'$  and  $b^2$ . Without these lips it would be possible after breaking one shackle end within the disk and violating the seal to reunite the parts so as to escape detection until too late, perhaps, to locate the violation by reinserting the broken extremity into the space within the rim 3 between the openings 4 and 5. This is effectually prevented by said internal lips  $b'$  and  $b^2$ , which thus add materially to the security of the seal and render it unnecessary to indent or corrugate the entire width of the disk in order to securely fasten the shackle ends.

In the modified seal represented by Figs. 8 to 13, inclusive, the anchoring portions 1 and 2 of the shackle-wire A are substantially rigid, and the marginal rim 3 is originally in the form of a crown-flange fitted internally to the convex backs of the anchoring portions 1 and 2 and adapted to cover them both side by side. The openings 4 and 5 are in the form of notches in said flange, and said disk portion 6 is provided with protuberances 7 and 8 to engage with the concave faces of the respective anchoring portions, so as to facilitate locating them in contact with the rim 3 in the act of assembling the parts at the factory and preliminary to the final application of the seal-press. The modified seal is completed at the factory by inserting the anchor-

ing portion 1 and upsetting its half of the inclosing rim 3, so as to permanently unite the parts, as in Figs. 10 and 11. After passing the other end of the shackle through a pair of car-door staples C, Fig. 12, or the like the anchoring portion 2 is adjusted within its half of the inclosing flange 3, and the fastening operation is completed by applying a suitable seal-press in customary manner, the fastened seal presenting the appearance represented in Figs. 12 and 13.

In addition to changes in lettering or distinguishing-marks and in the sizes of seal-disk and wire either of the disks B may be further modified as to shape, provided it accommodates within it a pair of effectively-rebent shackle ends inclosed by a continuous or practically continuous rim. Either seal-disk may, for example, be oval, or it may be triangular, square, or polygonal with rounded angles. The lettering or distinguishing-marks may also be omitted in the manufacture of the seal, leaving the same to be supplied by the seal-press, the middle or bow portion of the shackle A, Fig. 1, or the whole length thereof, may be of plain wire, 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. An improved press-fastened seal composed of a flexible shackle-wire both ends of which terminate in rebent anchoring portions, and a seal-disk of sheet metal having a marginal rim, provided with edge openings, and forming an annular chamber within it which incloses the respective shackle ends and secures the same against withdrawal, and a central disk portion provided with the distinguishing-marks of the seal.
2. The combination with a flexible shackle, of soft annealed wire, having originally straight shackle ends of a rounded seal-disk, of sheet metal, having a continuous marginal rim forming within the same an annular chamber, and provided with edge openings through which the respective shackle ends are successively inserted lengthwise into said chamber and are thus provided with rebent anchoring portions within the seal-disk.
3. The combination, in a seal, of a flexible shackle, of soft annealed wire, both ends of which terminate in rebent anchoring portions, and a seal-disk, of sheet metal, having a continuous marginal rim which forms an annular chamber within the same and is provided with a pair of openings extending into said chamber from one edge of the seal-disk and a pair of rigid internal lips guarding the space between said openings at said edge of the seal-disk, substantially as hereinbefore specified.

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Witnesses:

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