

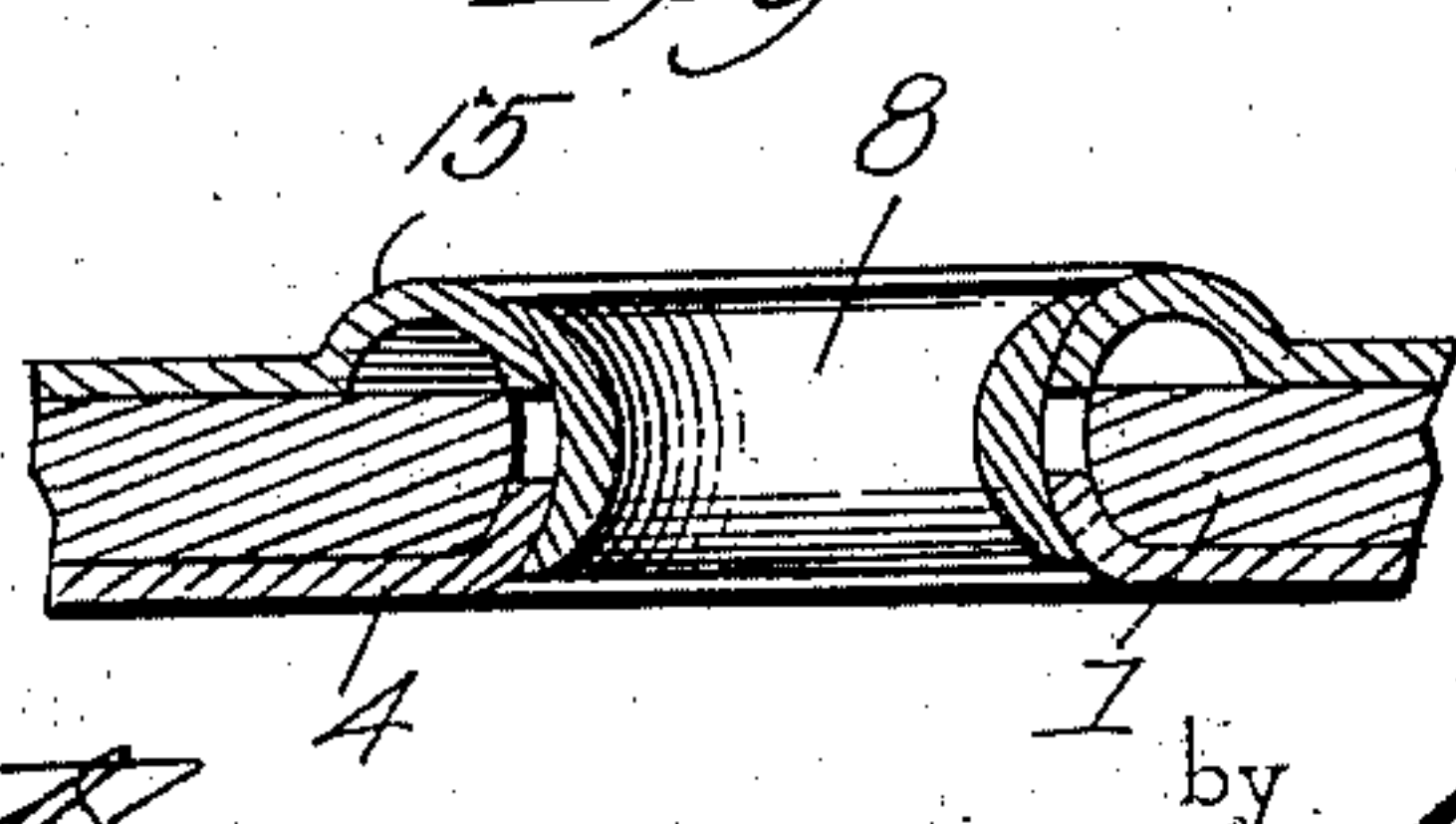
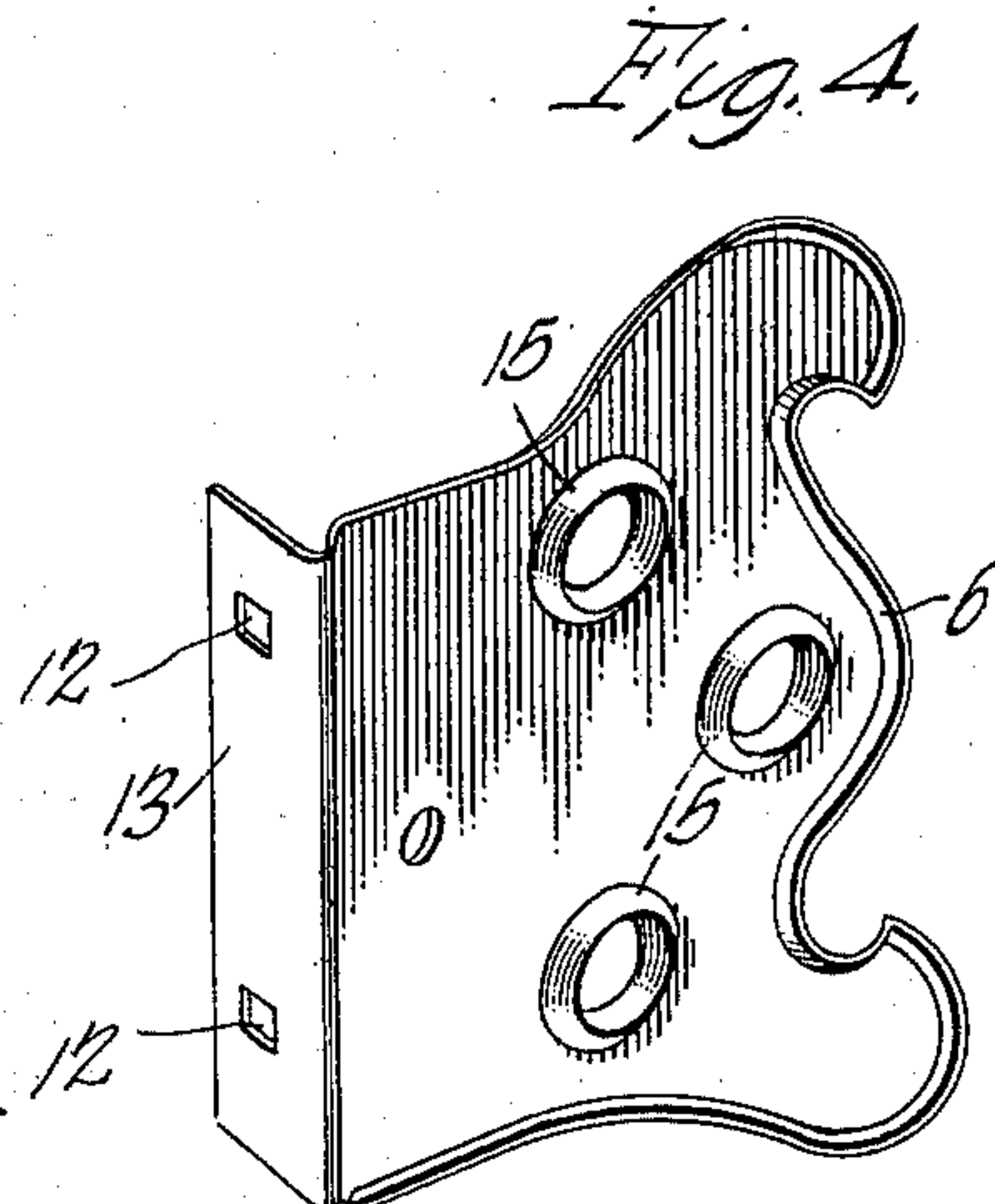
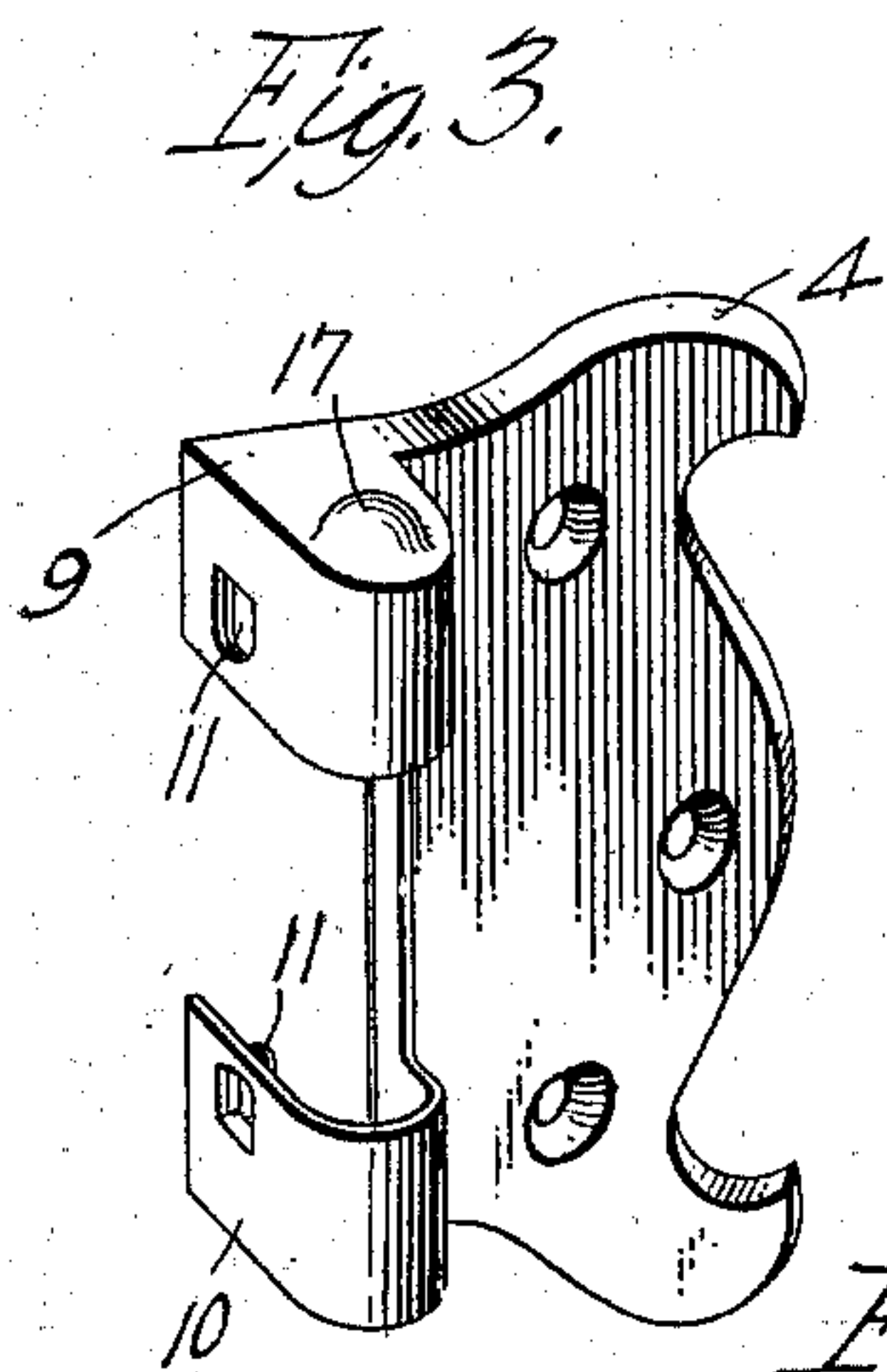
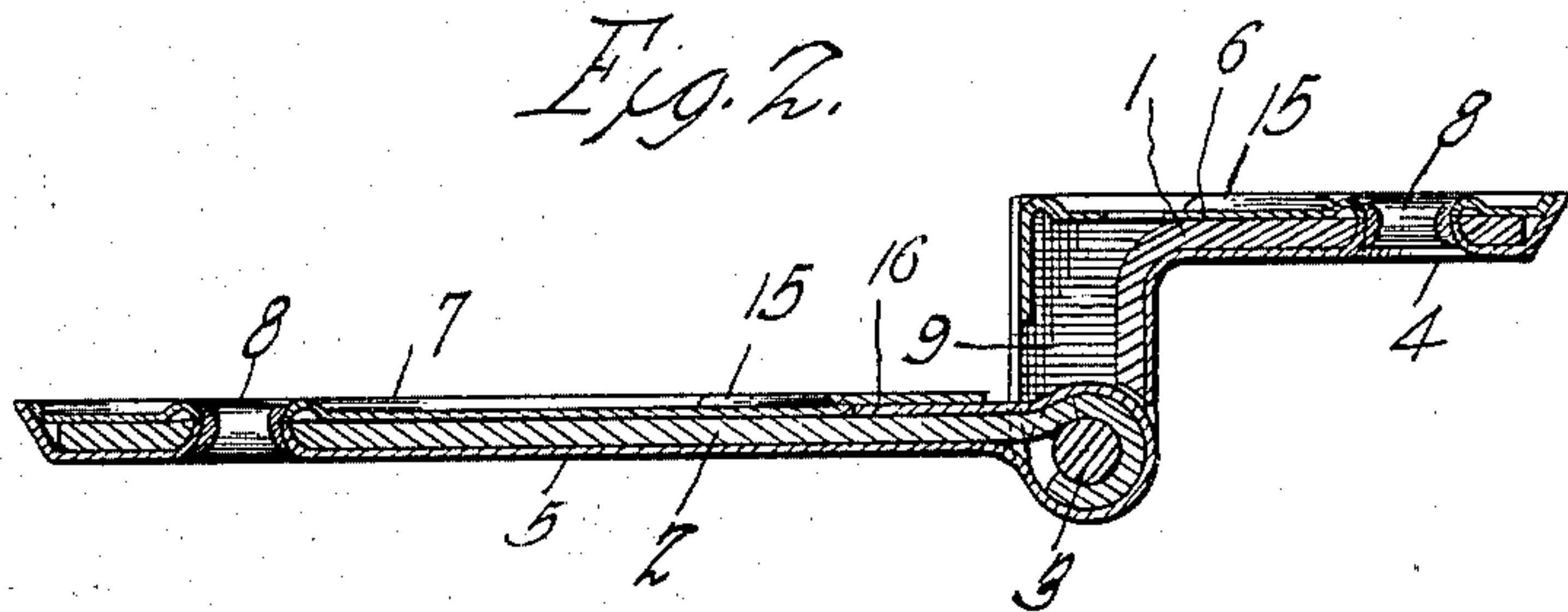
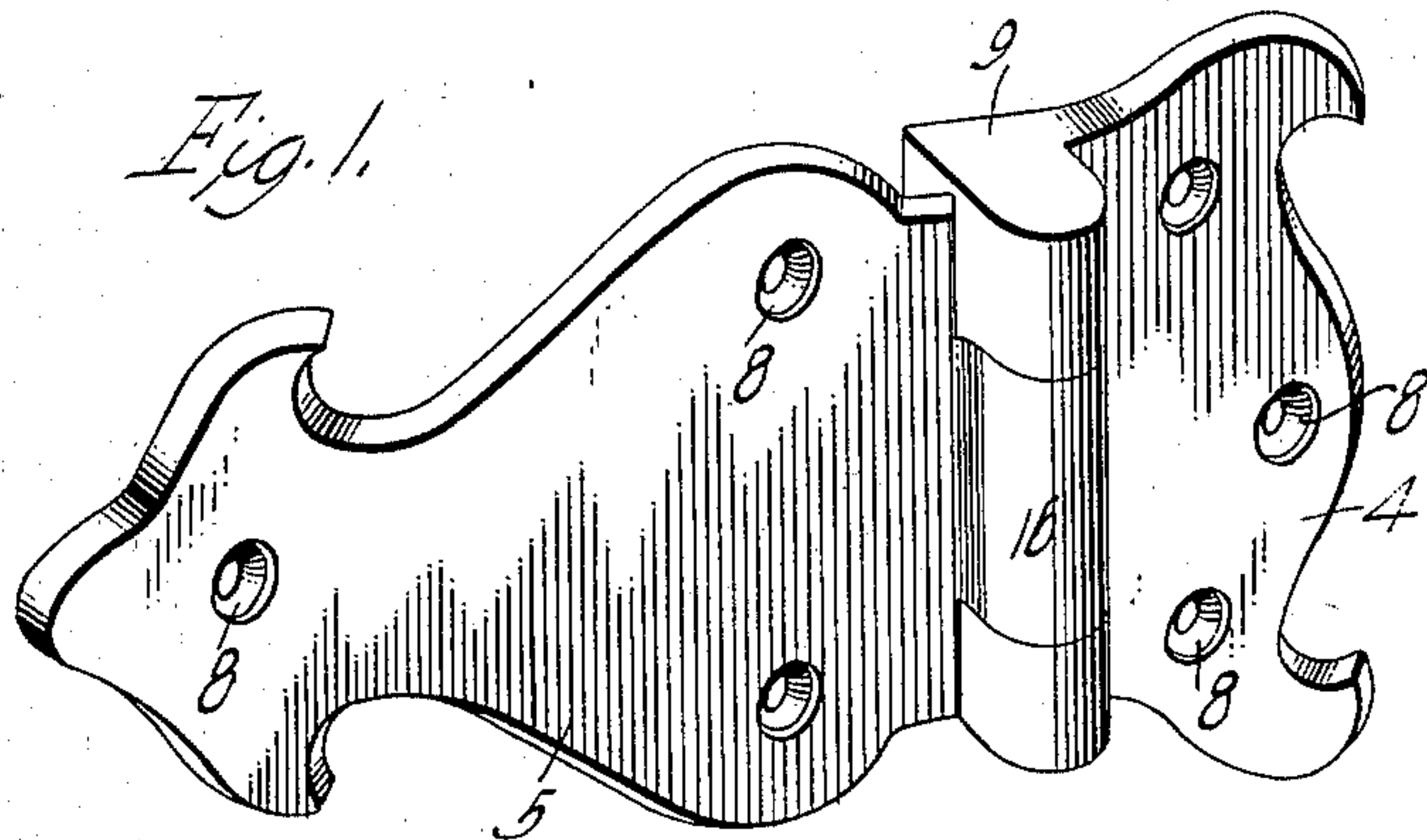
No. 749,411.

PATENTED JAN. 12, 1904.

D. W. TOWER.
HINGE.

APPLICATION FILED DEC. 8, 1902.

NO MODEL.



Witnesses:
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UNITED STATES PATENT OFFICE.

DANIEL W. TOWER, OF GRAND RAPIDS, MICHIGAN.

HINGE.

SPECIFICATION forming part of Letters Patent No. 749,411, dated January 12, 1904.

Application filed December 8, 1902. Serial No. 134,412. (No model.)

To all whom it may concern:

Be it known that I, DANIEL W. TOWER, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented a new and useful Hinge, of which the following is a specification.

This invention relates generally to hinges, and particularly to that class in which the straps are inclosed in a metallic casing of different metal than the straps.

The present invention is designed as an improvement upon a hinge for which I secured Letters Patent of the United States, February 26, 1901, No. 669,018. The specific features of novelty of the present invention over what is shown in said patent are the constructing of the strap-casings in such manner as to permit of their being finished—that is, nickel-plated, copper-plated, or otherwise ornamented prior to being assembled with the straps—the entire hiding of the knuckle-pin, and the novel manner in which one of the casings is held assembled with one of the straps.

With these and other objects in view, as will appear as the nature of the invention is better understood, the same consists in the novel construction and combination of parts of a hinge as will be hereinafter fully described and claimed.

In the accompanying drawings, forming a part of this specification, and in which like characters of reference indicate corresponding parts, there is illustrated one form of hinge constructed in accordance with the present invention, it being understood that the elements therein exhibited may be varied or changed as to shape, proportion, and exact manner of assemblage without departing from the spirit thereof.

In the drawings, Figure 1 is a view in perspective of the completed hinge. Fig. 2 is a view in vertical longitudinal section. Fig. 3 is a perspective detail view of one of the strap-casings. Fig. 4 is a view in perspective of one of the back plates. Fig. 5 is an enlarged sectional detail view showing the manner of connecting the casing and back plate with the strap.

Referring to the drawings, 1 and 2 design-

nate, respectively, the straps which are held assembled for pivotal movement by an ordinary pin 3. Hereinafter in referring to the straps the strap 1 will be termed the "fixed" strap, as this is the one that will be secured to a stationary part of the structure, and the strap 2 a "swinging" strap, as this will be the part to be attached to a door or the like. It is understood that the invention is not to be limited to the precise contour of the hinge and its applied casings, as various other designs may be employed and still be within the scope of the invention.

Each of the straps is inclosed by a casing 4 and 5, respectively, which is struck up from sheet metal and corresponds in shape to the straps and is associated therewith through the medium of back plates 6 and 7 and eyelets 8, passing through the back plates, through openings in the straps, and through openings in the casings.

The feature of the casing that incloses the fixed strap as defining it from the patent referred to is in forming the end walls 9 of the knuckle-receiving portion solid or devoid of openings, thus effectively to hide the knuckle-pin and to give the hinge when positioned the appearance of being made of solid metal throughout. Furthermore, the front wall of the casing 4 is provided with two tongues 11, which are adapted to engage openings 12 in a flange 13, formed on one edge of the back plate 6 at right angles thereto, thus to hold the back plate properly associated with the fixed strap-casing until the eyelets 8 thereof shall have been assembled therewith.

At the points where the eyelets are associated with the back plates of the two straps there are provided integral reinforces 15, formed by striking up the metal of the plates in any well-known manner, and this obviates the necessity of employment of separate washers, such as heretofore employed, and at the same time imparts rigidity to the back plates which they would not otherwise possess. When the eyelets have been seated in the openings in the parts and are bushed or spread, the flaring portions will engage, respectively, with the reinforces, with the plates, and with the walls of the openings in the casings, and

thus operate firmly and positively to hold the parts of the structure assembled against possibility of accidental separation.

As stated at the outset of this specification, one of the salient features of the invention resides in constructing the strap-casings in such manner as to permit of their being secured to the straps after they have been ornamented, as by being nickel-plated, copper-plated, or otherwise treated. This is effected by the manner of constructing the casings, the casing of the swinging strap being provided with a tongue 16, that is folded around the center knuckle and then against the swinging strap, in which position it is clamped by the back plate when the same is secured in position. By obviating the necessity of riveting the pin in the knuckles after the fixed strap-casing is positioned a highly ornamental knuckle-covering is provided, and to enhance its beauty those portions that lie opposite the pin may be ornamented by being struck up to represent a turned pin, a washer, or the like, as shown at 17.

After the casings have been ornamented as desired the casing of the swinging strap is secured in position and then the casing of the fixed strap, and when the article is completed by the inclusion of the eyelets a highly-ornamental and durable form of hinge is presented which to all appearances is of solid metal throughout.

By making the hinge in the manner described its cost of production is greatly reduced, and while the hinge will have the appearance of being made, say, of solid brass and to all intents and purposes will subserve the same functions as if so made its cost will be greatly less than that of a hinge made of the same metal throughout.

In some instances it might be desired to hide the screws in the fixed strap, and this will be effected by making the same devoid of eyelet-receiving openings, the casing being held associated with the strap by interlocking the tongues 11 with the openings 12 of the depending flange of the back plate 6.

Having thus described the invention, what I claim is—

1. In a hinge, the combination with one of the straps, of a casing having a portion to house and totally conceal the knuckle and the ends of the hinge-pin.

2. In a hinge the combination with one of the straps, of an inclosing casing therefor provided with a housing for a knuckle and the hinge-pin, said housing having imperforate end walls.

3. In a hinge, the combination with one of the straps, of a casing having a portion to house and totally conceal the knuckle and the hinge-pin, and provided on its inner side with integral tongues, in combination with a back plate provided with openings to be engaged by the tongues.

4. In a hinge, the combination with one of the straps, of a casing to inclose the same and provided with a portion to house the knuckle and the hinge-pin, said housing having imperforate end walls and provided with integral flexible tongues, and a back plate having openings to be engaged by the tongues to hold it associated with the strap.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

DANIEL W. TOWER.

Witnesses:

GEORGE F. SINCLAIR,
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