

(Model.)

B. D. WASHBURN.  
Strap Hinge.

No. 236,124.

Patented Dec. 28, 1880.

Fig. 1.

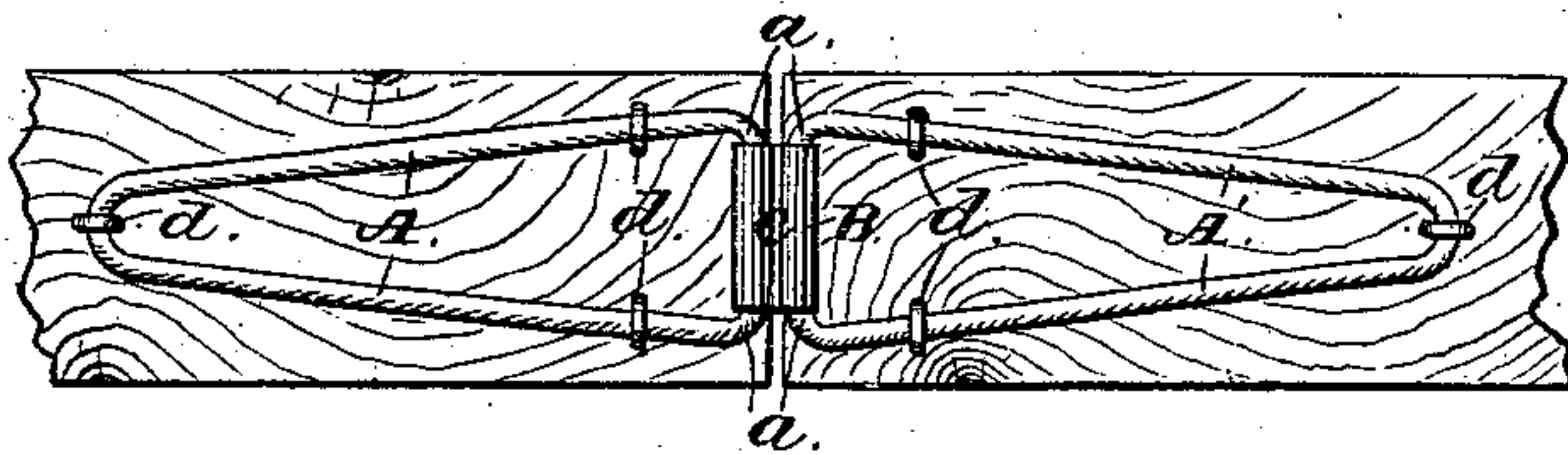


Fig. 2.



Fig. 3.

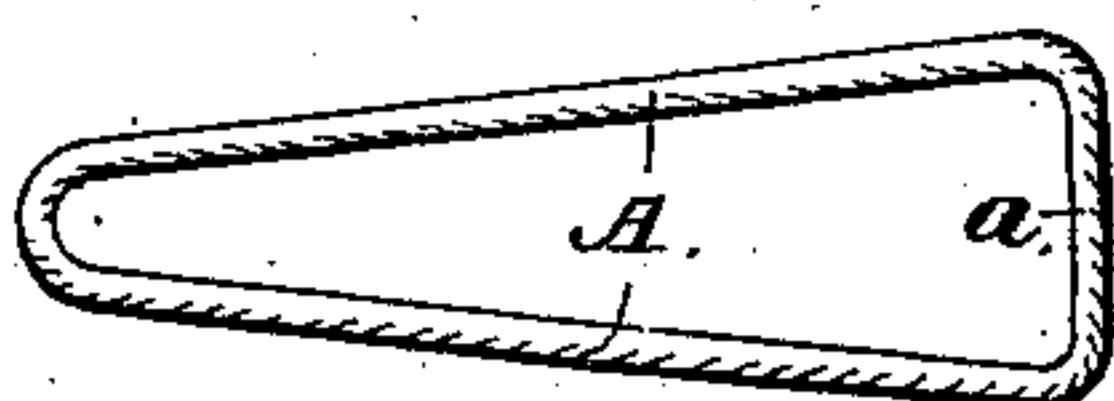


Fig. 4.

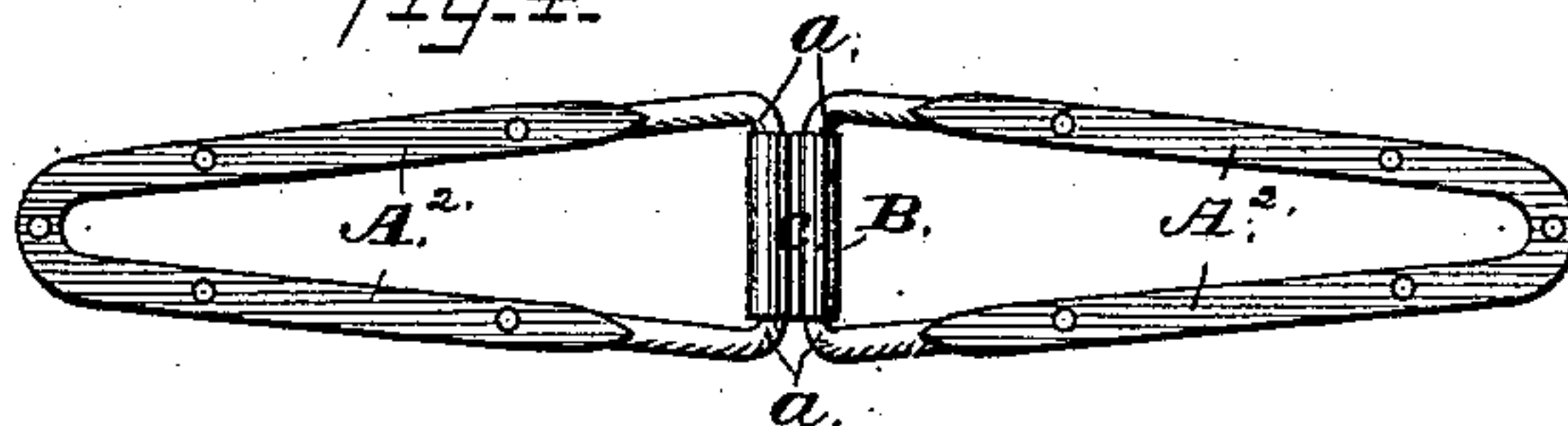


Fig. 5.

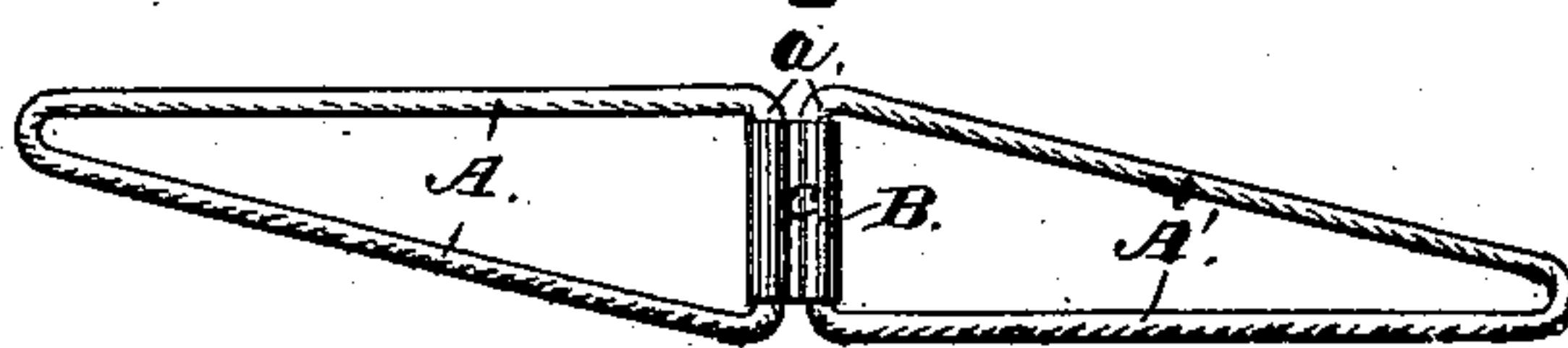


Fig. 6.

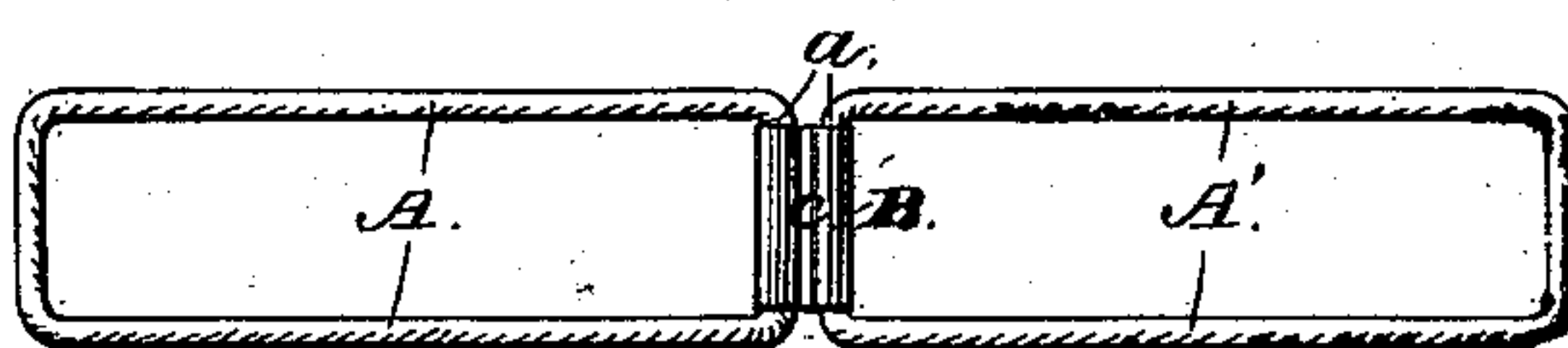
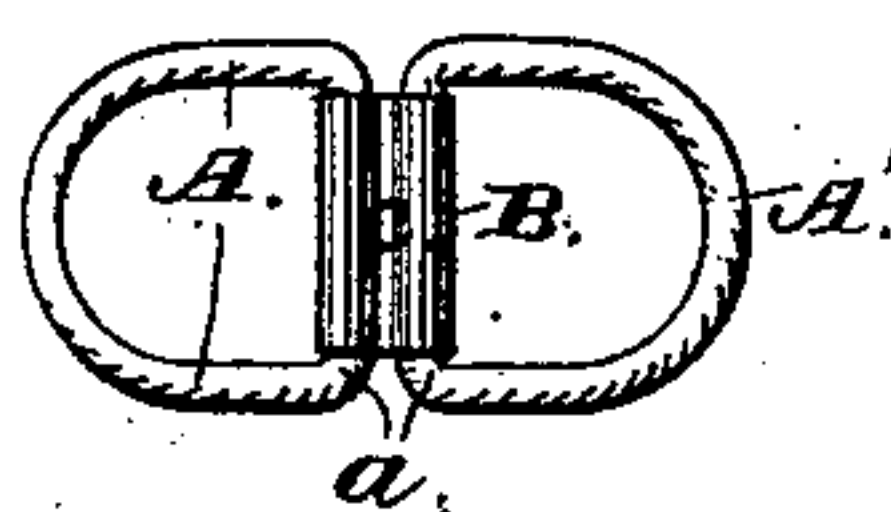


Fig. 7.



WITNESSES.

Jas. E. Hutchinson  
 J. A. Rutherford

INVENTOR-

B. D. Washburn,

by James L. Norris.  
Att'y.

# UNITED STATES PATENT OFFICE.

BENJAMIN D. WASHBURN, OF BOSTON, MASSACHUSETTS.

## STRAP-HINGE.

SPECIFICATION forming part of Letters Patent No. 236,124, dated December 28, 1880.

Application filed May 31, 1880. (Model.)

*To all whom it may concern:*

Be it known that I, BENJAMIN D. WASHBURN, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Strap-Hinges, of which the following is a specification.

This invention relates to an improvement in strap-hinges, its object being to economize metal and secure a maximum strength of the hinge with respect to its size and weight.

It is well known that the main strength of a hinge consists in the resistance opposed to the rupture of its eyes, either by actual breakage or unrolling of the metal, the latter being most frequently the cause in strap-hinges, which are usually made of wrought-iron. The straps should have a sufficient width and length to enable their firm attachment to the articles upon which used, and the greater their width the better. In securing a proper width a vast quantity of metal is wasted as hinges have heretofore been constructed.

My invention consists in a strap-hinge the wings of which are skeleton-frames, of wire or wrought rods of metal, one side of each frame or skeleton-wing serving as a pintle, the two of which are embraced and connected by a loose eye formed of flattened and preferably seamless metal tubing. The skeleton form of the wings renders lightness consistent with extended base, and the seamless tubular eye, while permitting the greatest freedom of movement at the joint, is not liable to become unfolded, as it is as strong in one place as another.

In the accompanying drawings, Figure is a face view of my improved hinge as applied to a gate. Fig. 2 is a longitudinal section of the hinge. Fig. 3 shows one of the wings detached. Fig. 4 illustrates a modification of the wings. Fig. 5, 6, 7 illustrate other modifications of the wings.

The letters A and A' designate the wings, each of which is made of wire bent into the form of an isosceles triangle, the base or short side *a* of which serves as a pintle. This form for the wings, while preferable, is not essential, as it is obvious that the form of a right-angled triangle, as in Fig. 5, a parallelogram,

as in Fig. 6, or a semicircle, as in Fig. 7, would answer the same purpose.

The hinge-eye B is formed of a piece of seamless metal tubing, of a length equal to that of the pintles, and indented in opposite sides to form internal ridges, *c*, dividing the eye into two chambers, which embrace the respective pintles *a* and keep them from contact with each other, thus preventing binding and unnecessary wear of said pintles.

In constructing the hinges the eyes are preferably partially formed, first, by cutting suitable lengths from a tube, and then straight pieces of wire for the wings are passed through the eyes, bent to the required shape, and welded together at their ends. The wings, as shown in Figs. 1, 2, 3, 5, 6, 7, are to be attached to the wood by means of staples, as shown at *d*; but in the modification shown in Fig. 4 the wires of the wings A<sup>2</sup>, except the pintles, are flattened and pierced with holes for screws, by which the hinge may be secured in place. This form I prefer for heavy gates and barn-doors.

For strength, lightness, economy of metal, and cheapness of construction, the improved hinge, as described in its various modifications, will commend itself to persons who have occasion to use this class of articles.

What I claim is—

1. A strap-hinge the wings of which are skeleton-frames of wire or wrought rods of metal, one side of each frame or skeleton serving as a pintle, the two of which are embraced and connected by a loose eye formed of flattened and preferably seamless metal tubing, substantially as described.

2. The combination, in a strap-hinge, of the skeleton wire wings A A', connected by the loose eye B, having the inwardly-projecting ridges *c*, substantially as and for the purpose set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

BENJAMIN D. WASHBURN.

Witnesses:

REUBEN L. ROBERTS,  
ALBERT H. NORRIS.