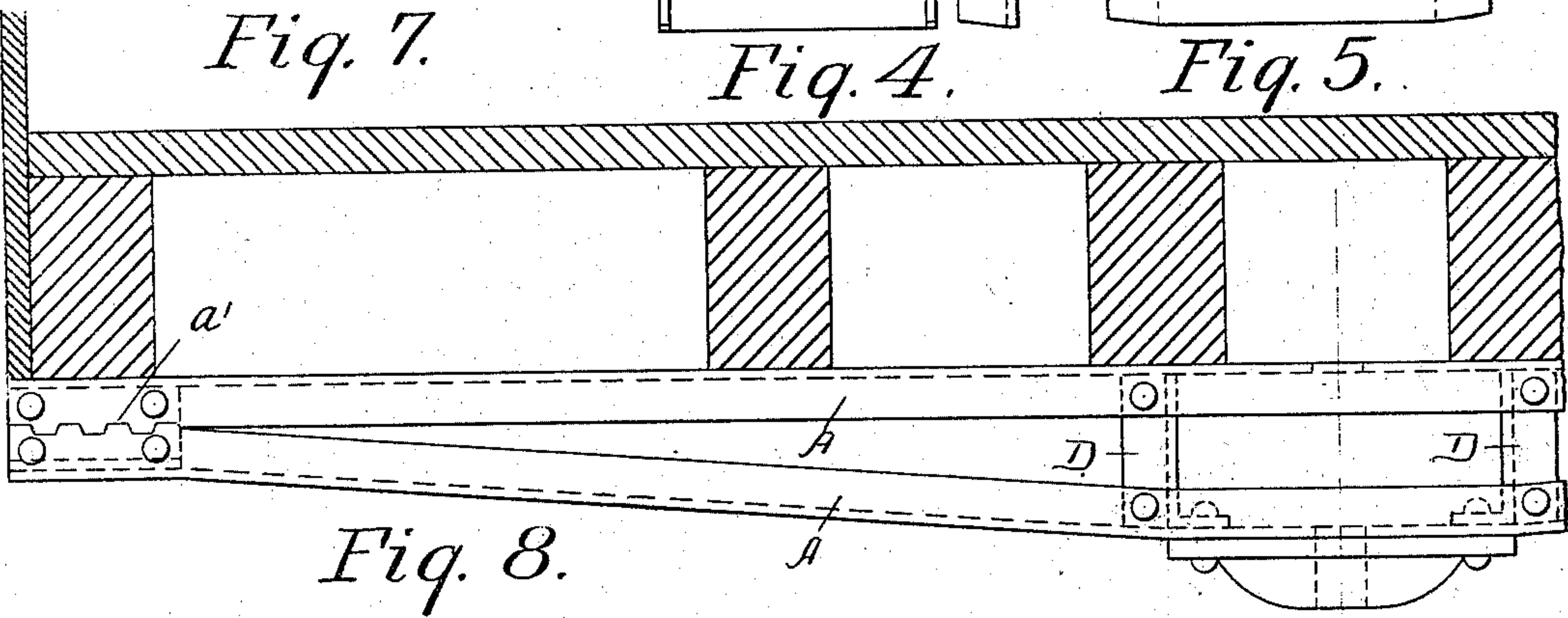
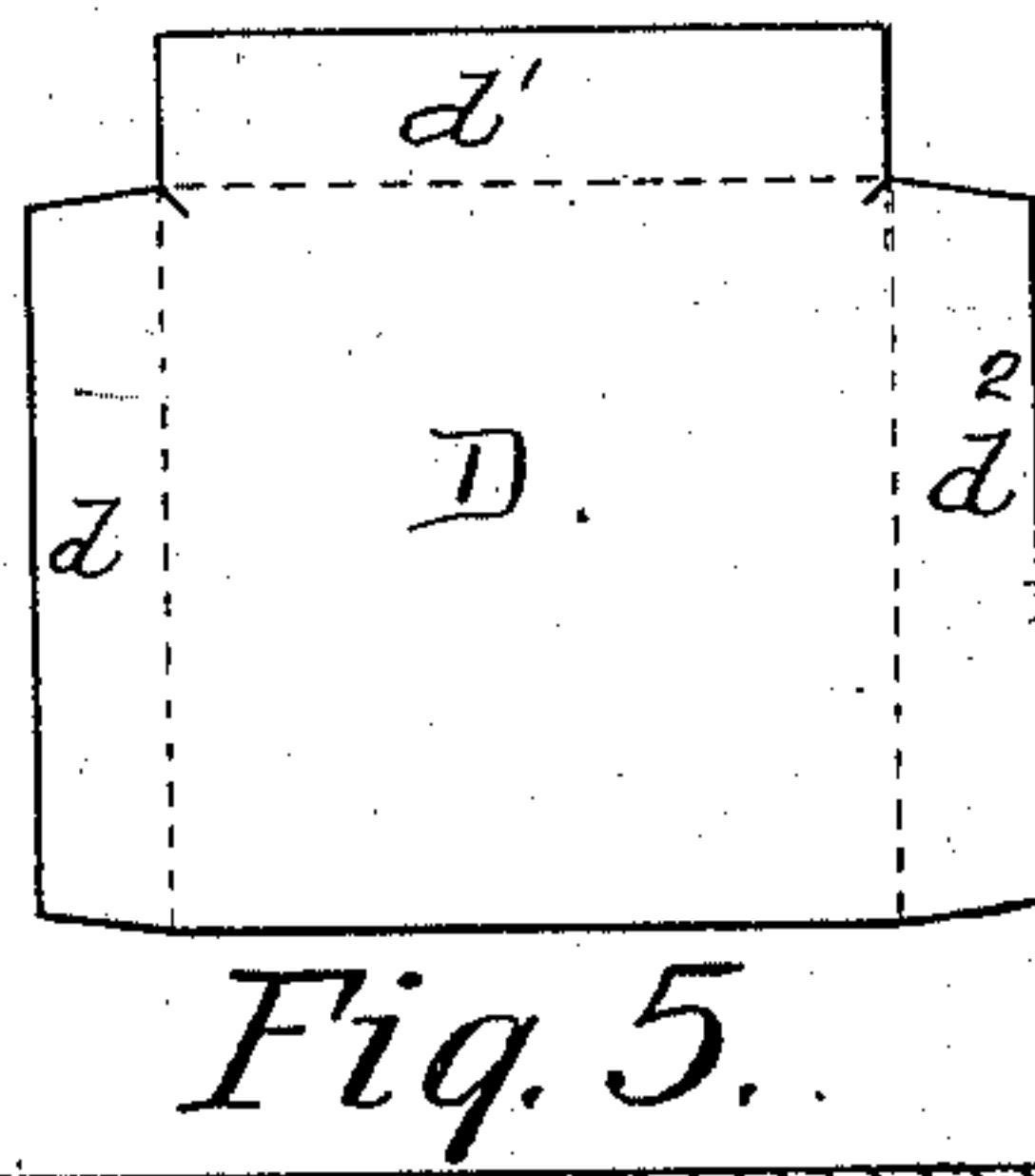
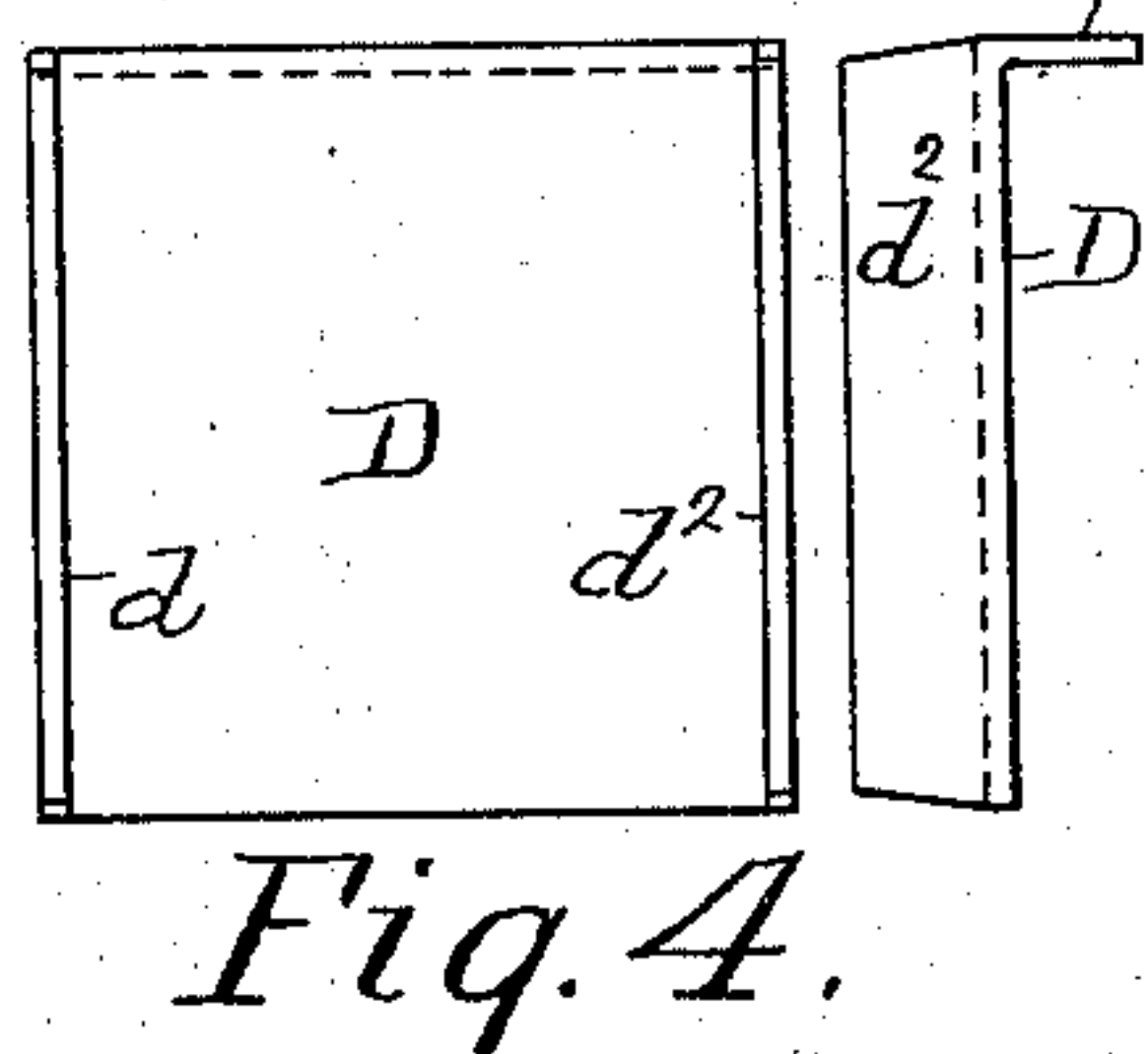
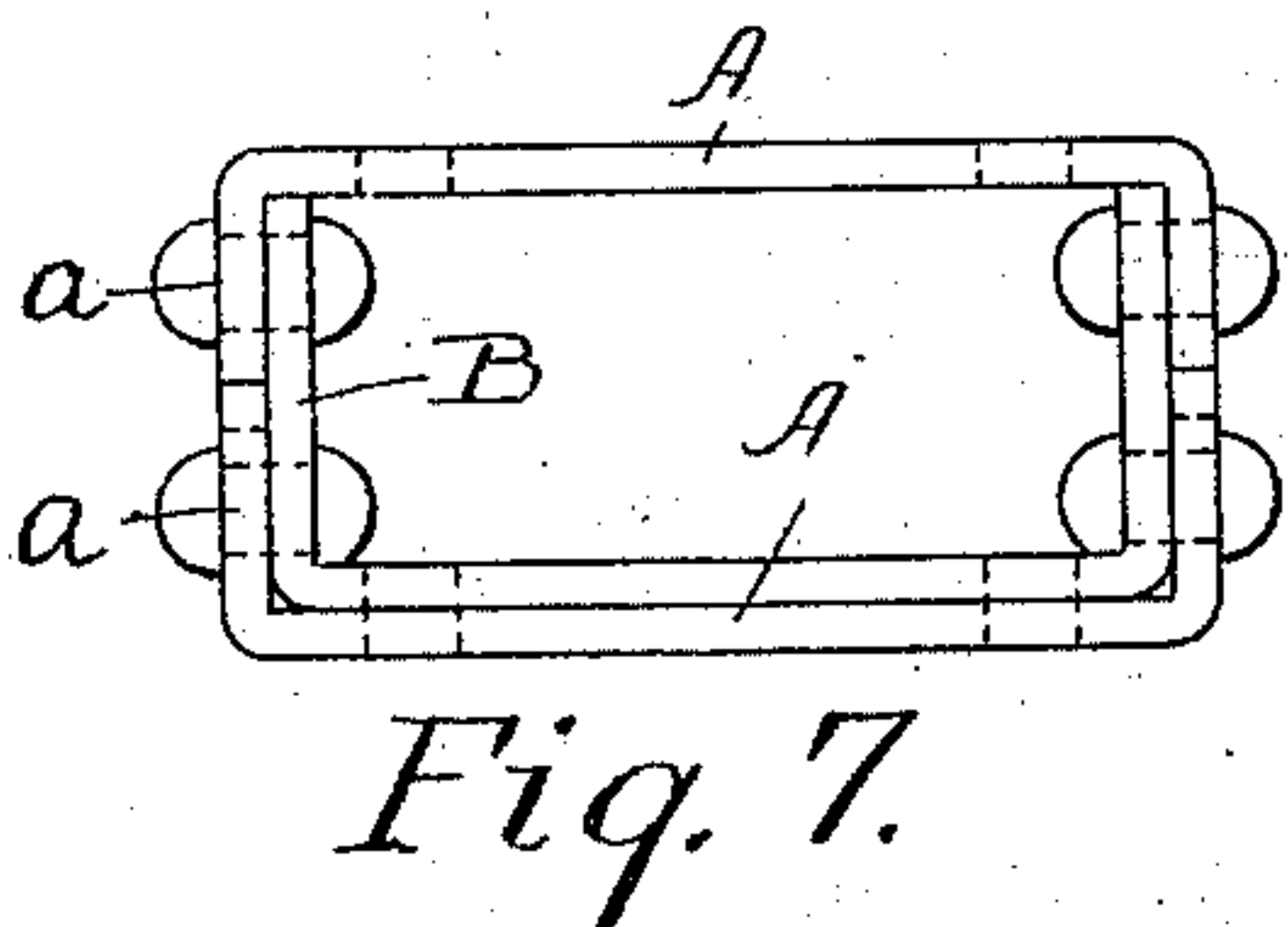
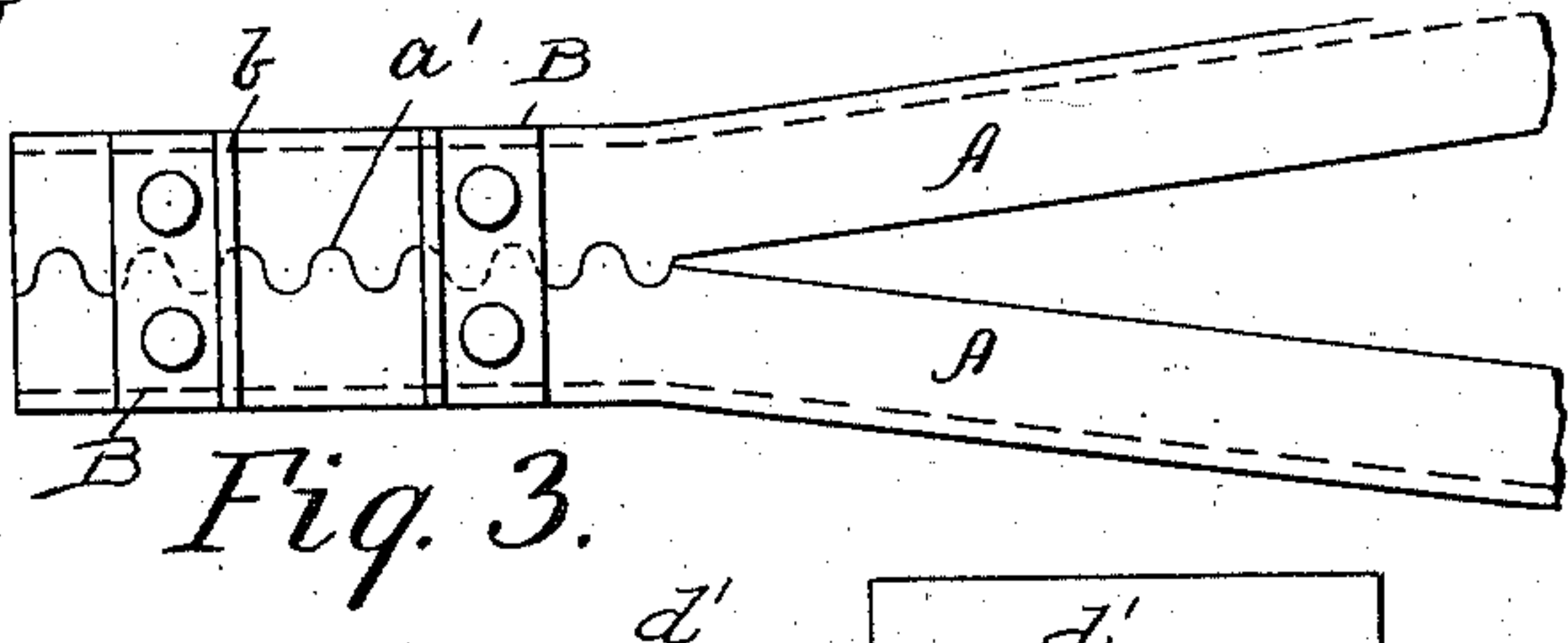
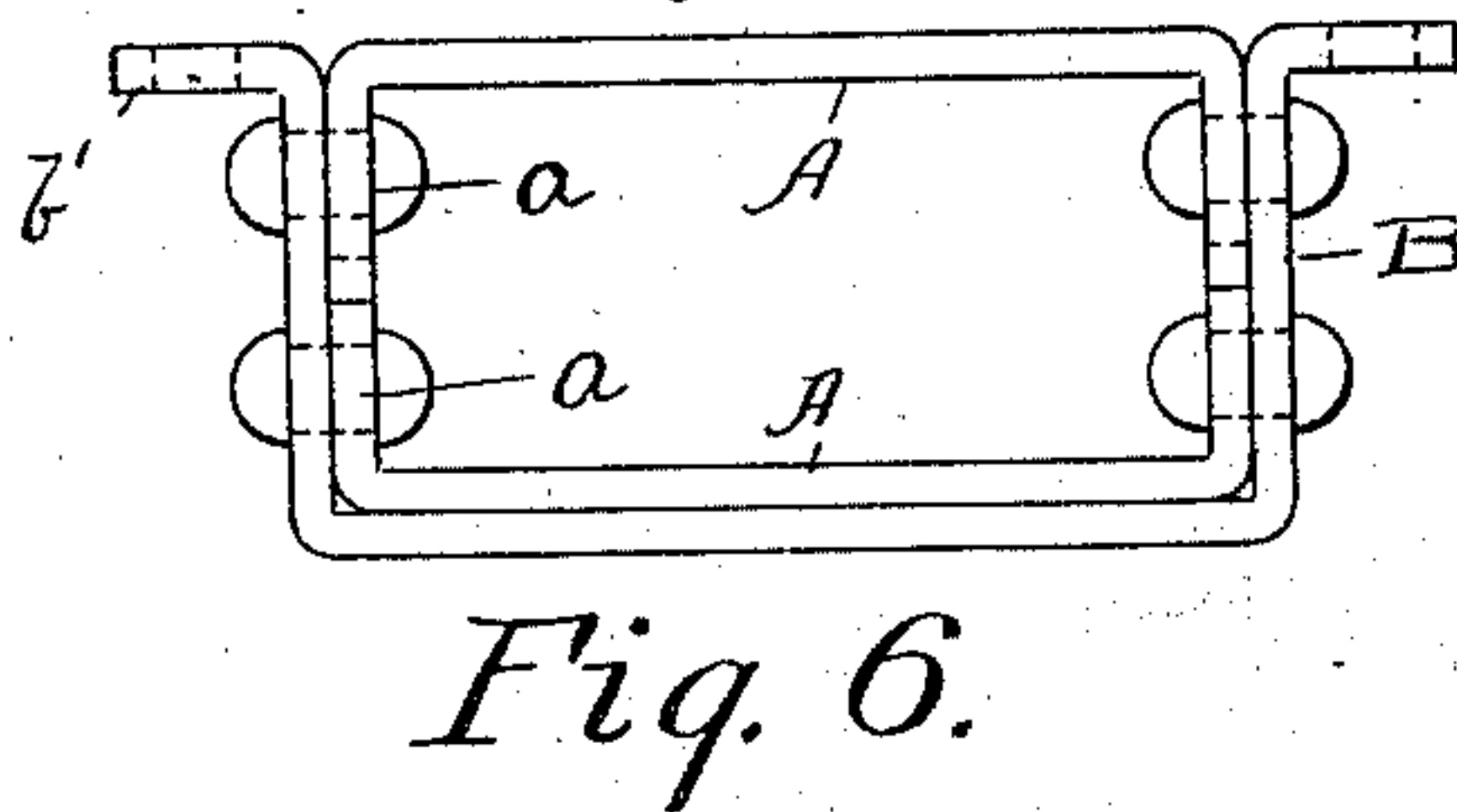
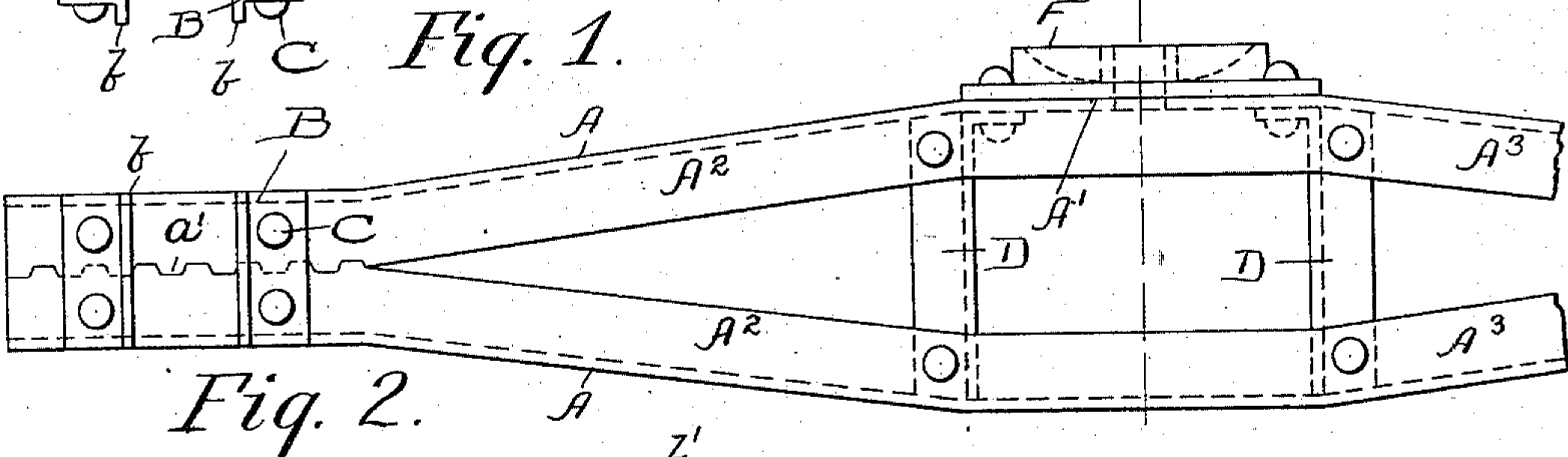
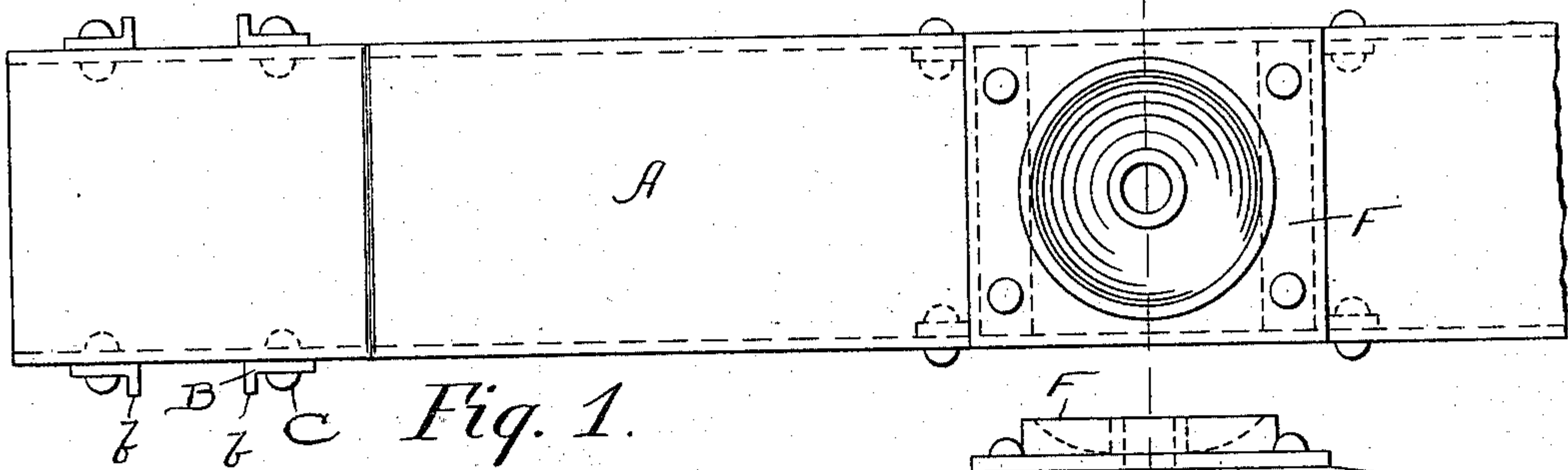


(No Model.)

J. W. CLOUD.  
BOLSTER FOR CARS, &c.

No. 559,365.

Patented May 5, 1896.



Witnesses:

Charles E. Tetley  
H. M. Munday,

Inventor  
John W. Cloud  
By his Attorneys  
Munday, Courts & Adcock.



# UNITED STATES PATENT OFFICE.

JOHN W. CLOUD, OF CHICAGO, ILLINOIS.

## BOLSTER FOR CARS, &c.

SPECIFICATION forming part of Letters Patent No. 559,365, dated May 5, 1896.

Application filed February 15, 1896. Serial No. 579,393. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN W. CLOUD, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Bolsters for Cars or other Vehicles, of which the following is a specification.

My invention relates to the construction of bolsters made of pressed or rolled steel plates or bars for use on the trucks or bodies of railroad-cars.

The object of my improvement is to provide a simple, strong, and economical construction of pressed or rolled steel plate or bar bolster which may be made without waste of material and in which at the same time the material is so disposed as to give the greatest strength to the structure for the weight of material employed against the peculiar strains to which the bolster of a car truck or body is subjected in ordinary use, such strains being chiefly vertical and somewhat in the nature of successive shocks or blows, although the bolster is sometimes required to resist severe lateral or twisting or wrenching strains.

To this end my invention consists in a bolster composed of two rolled or pressed steel channel bars or plates placed one on top of the other with their flanges meeting each other at the two opposite ends of the bolster, where the meeting flanges are notched or serrated and the two channel-bars suitably bound together by tie-pieces, the two channel-bars being spread apart at their middle and held in such position by a suitable strut or spacing-piece, which is firmly riveted or secured to the two channel-bars. Either one or both of the channel-bars may be bent or bowed for the purpose of spreading the two apart at their middle portion. For use in a car-truck I prefer to bend or bow both of the channel-bars, but for use in a car-body I prefer to leave the upper channel-bar straight, as it is thus better adapted for attachment to the sills or framework of the car-body. The tie-pieces at the end of the bolster for holding the notched or serrated channel-bars together at their ends, as well as the strut or spacing-piece for holding them apart at their middle, may be of any suitable form or construction.

In the accompanying drawings, forming a part of this specification, I have shown the preferred form of my invention as applied to and embodied in a truck-bolster and also the preferred form as applied to and embodied in a body-bolster of a car.

In said drawings, Figure 1 is a plan view of a truck-bolster embodying my invention. Fig. 2 is a side elevation. Fig. 3 is a side elevation showing a slightly-modified form of the serrations or notches in the channel-bar. Fig. 4 shows detail front and edge views of one of the struts or spacing-pieces for holding the channel-bars apart at their middle, and Fig. 5 is a detail view of the blank from which said strut or spacing-piece is formed. Fig. 6 is an end view of the bolster, showing one form of tie-piece for holding the channel-bars together at their ends. Fig. 7 is a similar end view showing the tie-piece placed inside instead of outside the channel-bars. Fig. 8 is a side elevation of a body-bolster embodying my invention, a portion of the car-body to which the bolster is secured being shown in section.

In the drawings, A A are the channel-bars composing the bolster, the same being placed one above the other, with their flanges *a a* meeting at the ends of the bolster, where said flanges are provided with notches or serrations *a'*. The channel-bars A A (one or both) are bent or bowed away from each other, so that they are spread apart at their middle portions, the bend or bow in one or both of the channel-bars extending preferably from the notches or serrations at one end to those in the other.

B B are the tie-pieces for holding the channel-bars firmly and rigidly together at their meeting ends. One or more of these tie-pieces is employed at each end of the bolster, and the tie-pieces may be made of any suitable form or shape. As shown in Figs. 1 and 2, there are four tie-pieces employed at each end of the bolster, each consisting of an angle-piece securely riveted to the channel-bars. In this form the flanges *b* of the angle-pieces serve as a column-guide for the end of the truck-bolster. In the form shown in Fig. 7 a single tie-piece B, made of a bent shape conforming to the interior wall of the channel-bars, is employed. In the modified form



shown in Fig. 6 the tie-piece is of a similar shape to that shown in Fig. 7, excepting that it fits outside of the channel-bars instead of inside, and excepting, further, that the tie-piece B is provided with lateral flanges  $b'$  to adapt it to be bolted to the car-body, this form being specially designed for use on a body-bolster.

C represents the rivets by which the pieces B are secured to the channel-bars.

The channel-bars A A are held apart at their middle by one or more, preferably two, struts or spacing-pieces D. These may be of any suitable shape or construction. I prefer, however, to make them from a blank of plate-steel—such, for example, as that shown in Fig. 5—by pressing it into the form shown in face and edge views in Fig. 4, the pressing operation consisting in bending the flanges  $d$   $d'$   $d^2$  at right angles to the face of the plate. The strut or spacing-piece is permanently and rigidly secured to the channel-bars by rivets or other suitable means  $D'$ .

To give a proper seat for the center plate F of the bolster the channel-bars A A are provided with straight or parallel portions  $A'$  uniting the oppositely-inclined portions  $A^2$   $A^3$  of each of the channel-bars. The struts or spacing-pieces D are preferably located at the angles between the straight or parallel portion  $A'$  and the inclined portions  $A^2$   $A^3$  of the channel-bars.

I claim—

1. The bolster for car bodies or trucks, com-

posed of two channel-bars bent or spread apart at their middle and provided with notches or serrations at or near their meeting ends, tie-pieces for holding the channel-bars together at their meeting ends, and a strut or spacing-piece for holding them apart at their middle, substantially as specified.

2. The bolster consisting in the combination of two channel-bars tied together at their meeting ends and spread apart at their middle, the flanges of said channel-bars being serrated or notched at the meeting ends of the bars, substantially as specified.

3. The bolster for car bodies or trucks, composed of two channel-bars bent or spread apart at their middle and provided with notches or serrations at their meeting ends, tie-pieces for holding the channel-bars together at their meeting ends, and a strut or spacing-piece for holding them apart at their middle, the tie-pieces at the meeting ends of the channel-bars consisting of angle-pieces the flanges of which form column-guides for the bolster, substantially as specified.

4. The combination of two bent or bowed channel-bars A A, having notched or serrated flanges at the meeting ends of the bars, and spacing-pieces D D at the middle thereof, substantially as specified.

JOHN W. CLOUD.

Witnesses:

H. M. MUNDAY,  
EDMUND ADCOCK.