

(No Model.)

L. J. COX.
METALLIC TRUCK FRAME.

No. 597,839.

Patented Jan. 25, 1898.

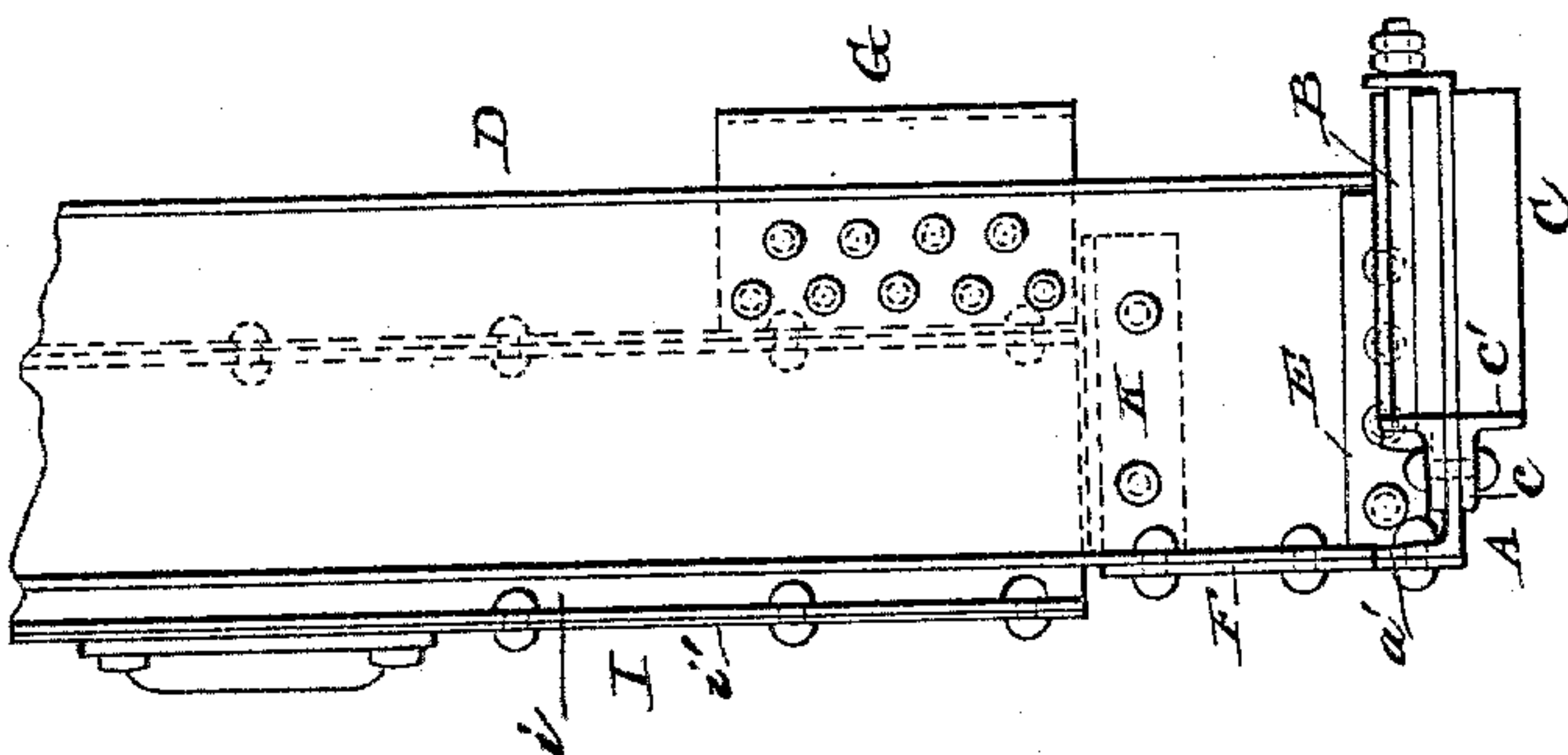


Fig. 2

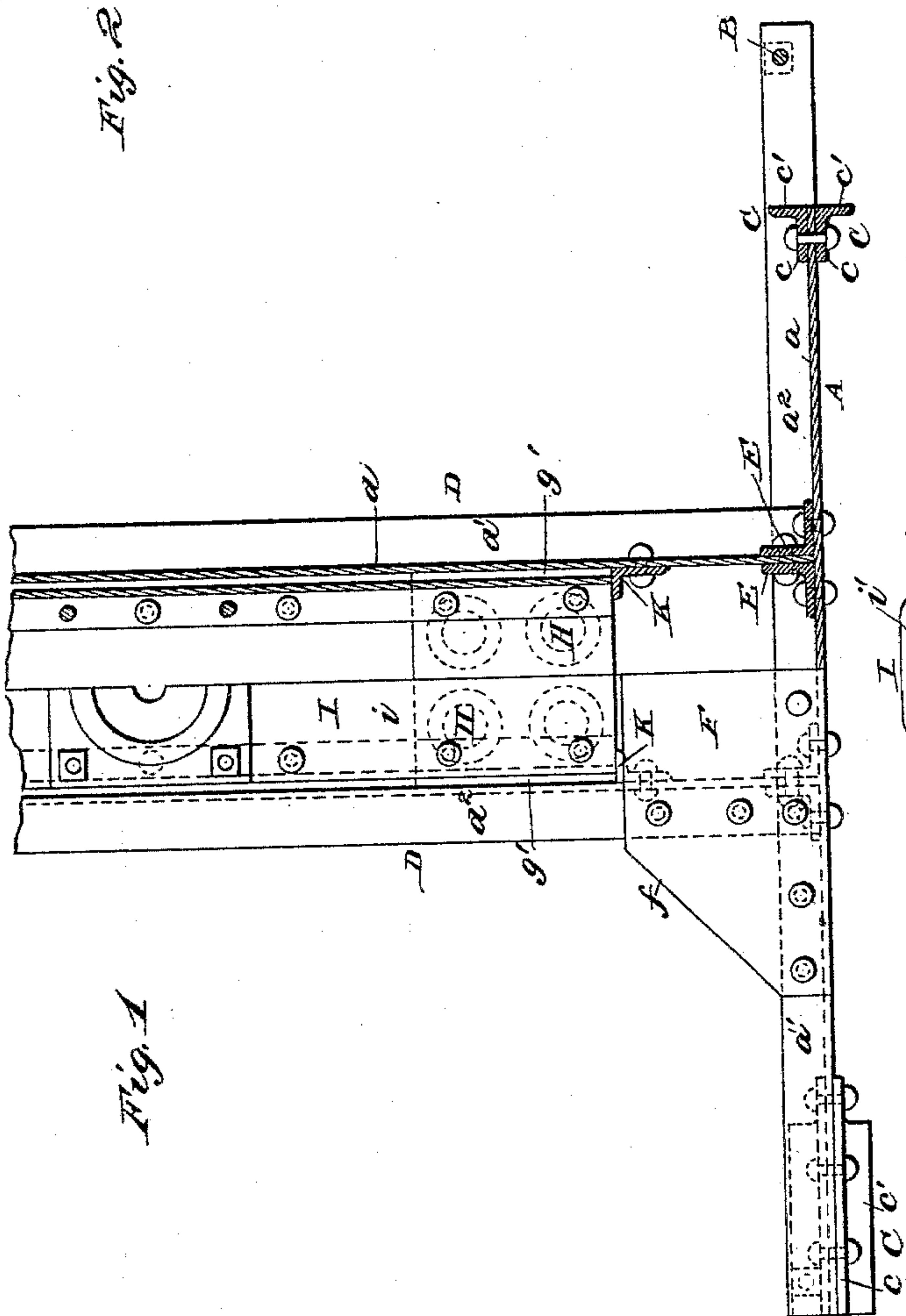
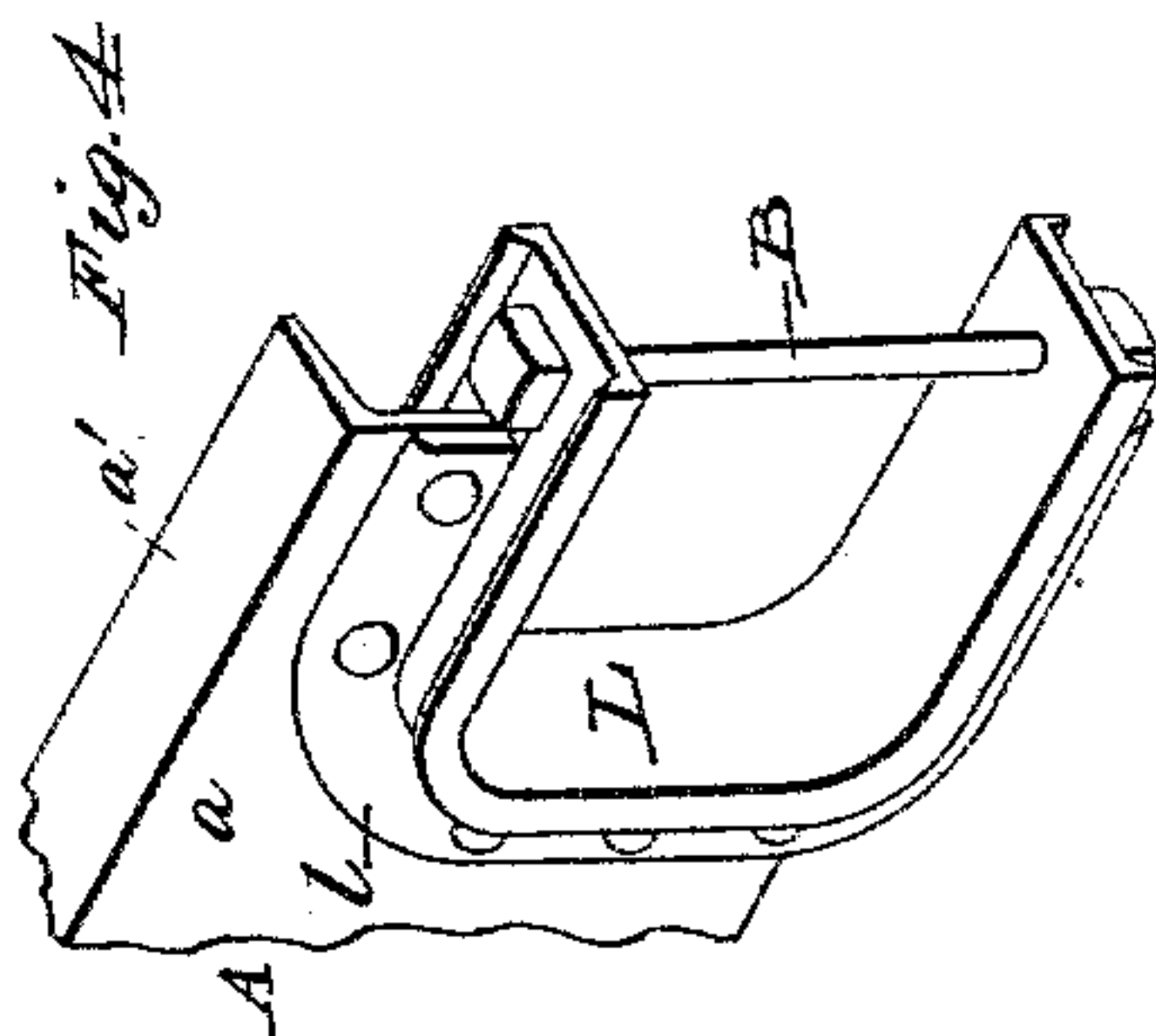


Fig. 1

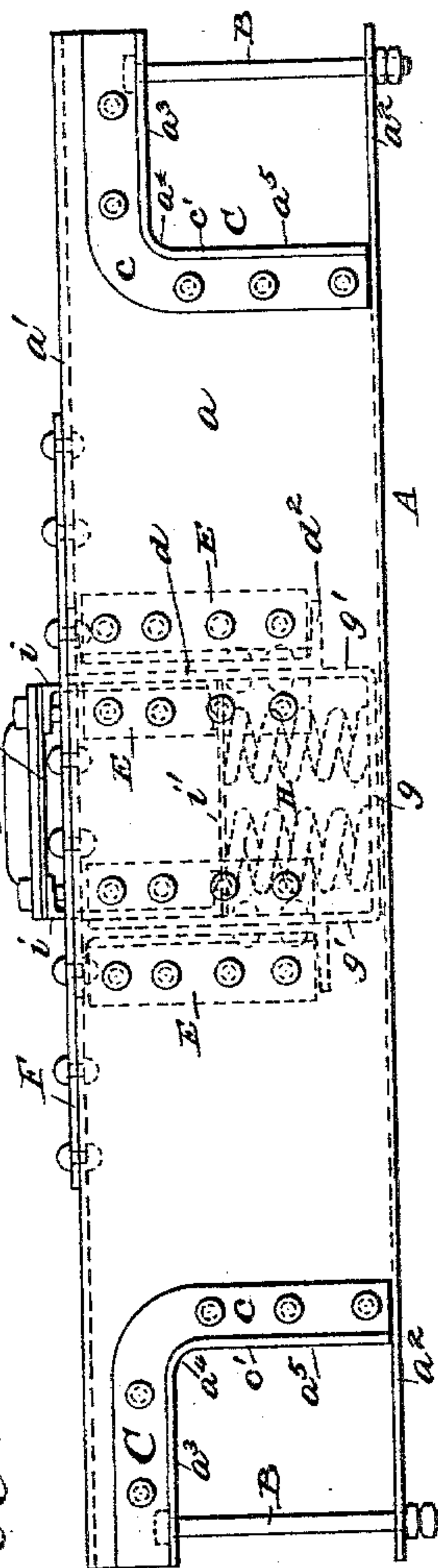


Fig. 3

Witnesses.

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UNITED STATES PATENT OFFICE.

LEWIS J. COX, OF TERRE HAUTE, INDIANA.

METALLIC TRUCK-FRAME.

SPECIFICATION forming part of Letters Patent No. 597,839, dated January 25, 1898.

Application filed June 9, 1897. Serial No. 640,062. (No model.)

To all whom it may concern:

Be it known that I, LEWIS J. COX, a citizen of the United States, residing at Terre Haute, in the county of Vigo and State of Indiana, have invented certain new and useful Improvements in Metallic Truck-Frames; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to metallic car-trucks; and its object is to render it possible to build a truck-frame entirely of commercial shapes of metal with a minimum of labor.

The invention consists in certain details of construction, as hereinafter set forth, and particularly pointed out in the claims.

In the drawings, Figure 1 is a top plan view of a portion of a truck-frame and bolster embodying my improvements, said view being half in section. Fig. 2 is an end elevation, and Fig. 3 is a side elevation, of the same. Fig. 4 shows a modification.

The side frames A are metallic beams of iron or steel, having webs a and flanges a' a^2 , the latter being turned toward the inside of the truck-frame. The upper and lower edges of the side frames are straight and parallel, the frames being, in fact, plain commercial channel-irons. At each end of each side frame provision is made for attaching an axle-box. To this end a large notch is cut in the end of the beam, the web a being cut away on a line a^3 running in from the end of the beam a little below and parallel with the upper flange a' , then merging by an easy circular curve a^4 into an upright line a^5 , descending to the lower flange a^2 . The web inside these lines is entirely removed, leaving the lower flange a^2 extending out to the end of the beam to receive the lower end of a bolt B, which confines the axle-box in the recess or pedestal thus made for it.

Along the lines a^3 a^4 a^5 a right-angled angle-iron C is fastened by its flange c , the other flange c' projecting and forming a wide bearing for the axle-box.

The angle-irons C are placed both inside and outside of the beam, as shown, and with the

lower flange a^2 form the jaws of a horizontal jaw in the end of the side frame A. The bolt B passes through the flange c' of preferably the inside angle-iron C.

The side frames A are connected by transoms D, which are commercial channel-irons, preferably not so deep as the side frames, with webs d , flanges d' d^2 , and straight parallel upper and lower edges. The upper flanges d' are cut away at each end to let the webs d and the lower flange d' enter between the flanges a' a^2 of the side frames and abut against the webs a .

Angle-irons E are placed on each side of the ends of the transoms D and are fastened both to the transoms and to the webs a of the side frames. The upper edges of the side frames and the transoms are in the same plane, and a gusset or brace-plate F is laid upon and secured to their flanges a' d' . The outer edge of the gusset is the longer, the inner edge being substantially as long as the distance across the two transoms. The ends of the gussets are therefore chamfered off at f to remove superfluous metal.

The spring-supports G are U-shaped pieces of metal whose bottoms g are flat to receive the springs H, and whose upright arms g' are attached to the webs of the transoms on the inside and about on the inside line of the inner edges of the gussets. The spring-supports preferably depend below the lower edges of the transoms to about the plane of the lower edges of the side frames.

The bolster I is shorter than those in common practice at present. The bolster may be of any desired construction; but it is preferably a box-girder composed of channel-irons i , with intumed flanges and the top and bottom plates i' secured thereto. Endwise play of the bolster is limited by right-angled angle-iron stops K, secured to the inside of the transoms in an upright position, about in the plane of the inner edge of the gusset.

Fig. 4 shows a modified construction of the pedestal, in which the recess in the end of the side frame is strengthened by a T-shaped iron L, bent into a U shape and riveted to the web a by its flange l . The lower flange a^2 is in this case cut away below the recess. The ends of the iron L project beyond the end of the side frame to receive the bolt B,

the middle flange *l* of the iron being here cut away. In the construction shown by Fig. 4 two angle-irons may be substituted for the T-iron L.

5 It will be seen that my truck is strong and rigid and yet is extremely light in weight and economical of metal. The short bolster saves in length and weight of the metal necessary for this part of the truck. The springs shown
10 are coil-springs; but the location of the spring-supports renders it possible to use elliptic springs, if desired. The recessing of the side frames to form the pedestals for the axle-boxes may be so carried out that the frame
15 will be brought up to the proper height for the car-body whatever it may be. The horizontally-arranged jaws permit the wheels to be removed without jacking up the car beyond what is necessary to take the weight off
20 the axle-box.

The entire truck is extremely simple in design and can be readily and cheaply built.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A metallic car-truck frame consisting of straight channel-iron side frames A having at each end a portion of the web cut away to form a recess, reinforcing flanged irons at-

tached to the web along the upper and inner 30 edges of said recess, straight channel-iron transoms D, fitted between the side frames, angle-irons E connecting said transoms and side frames, flat gussets F laid upon and attached to the upper flanges of the side frames 35 and transoms, U-shaped spring-supports G attached to the transoms inside the line of the inner edges of the gussets, and bolster-stops K consisting of angle-irons secured to the inside of the transoms adjacent to the inner 40 edges of the gussets, substantially as described.

2. A metallic car-truck frame, comprising straight channel-iron side frames A having at each end a portion of the web cut away to 45 form a recess with straight upper and inner sides and a curved corner, and a reinforcing U-shaped T-iron L fitted into said recess and attached to the web *a* with its ends projecting beyond the end of the side frame, and 50 adapted to receive a bolt B, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

LEWIS J. COX.

Witnesses:

GEORGE S. COX,
W. H. WELLER.