

No. 629,925.

Patented Aug. 1, 1899.

W. SCHENKER.
VEHICLE SHAFT.

(Application filed Aug. 27, 1898.)

(No Model.)

FIG. 1

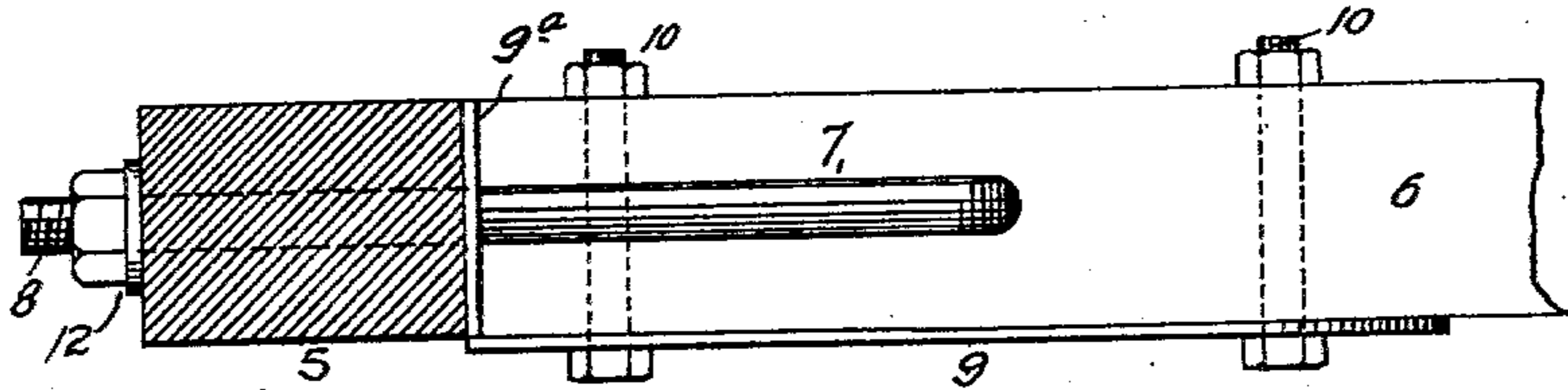


FIG. 2

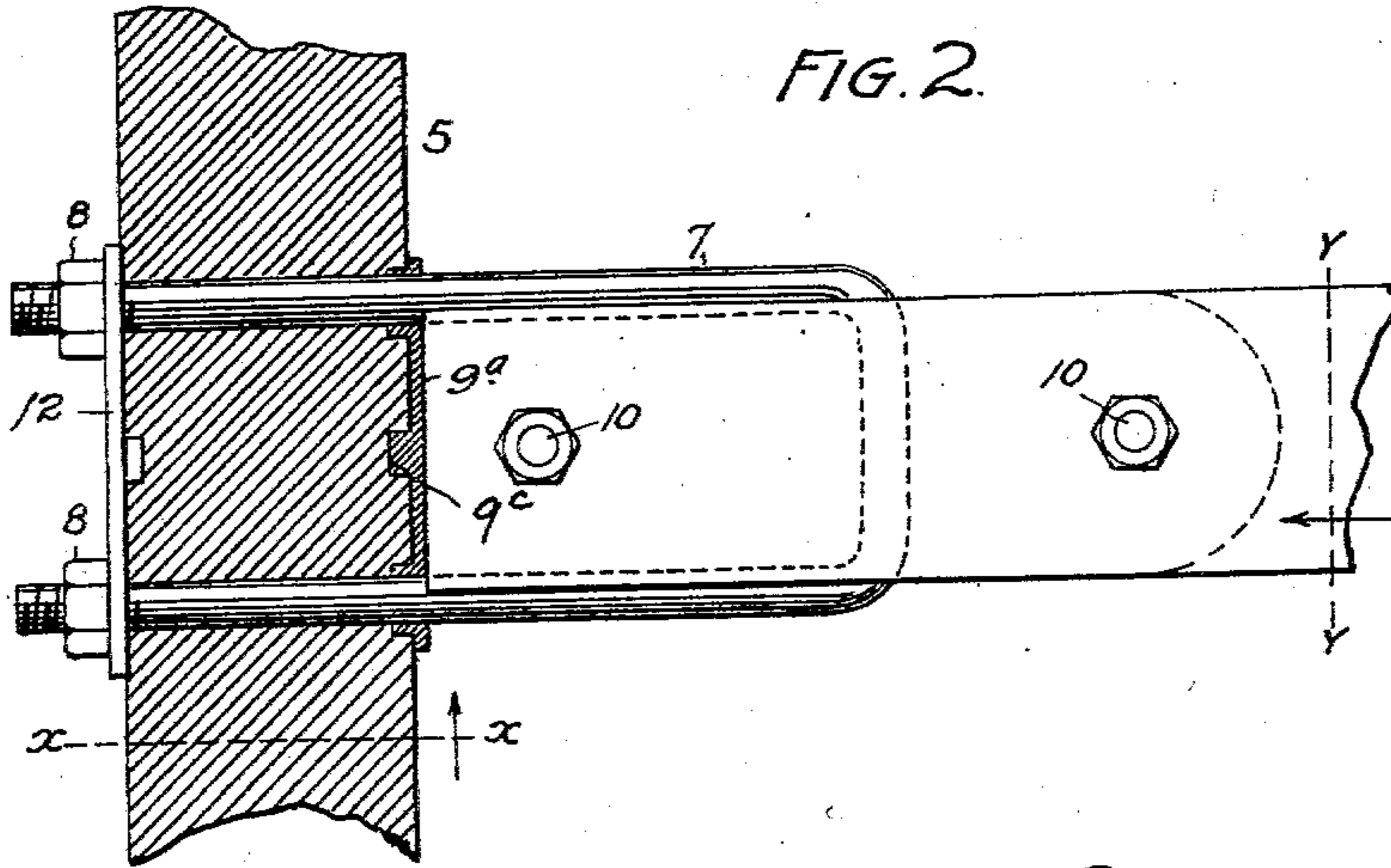


FIG. 3

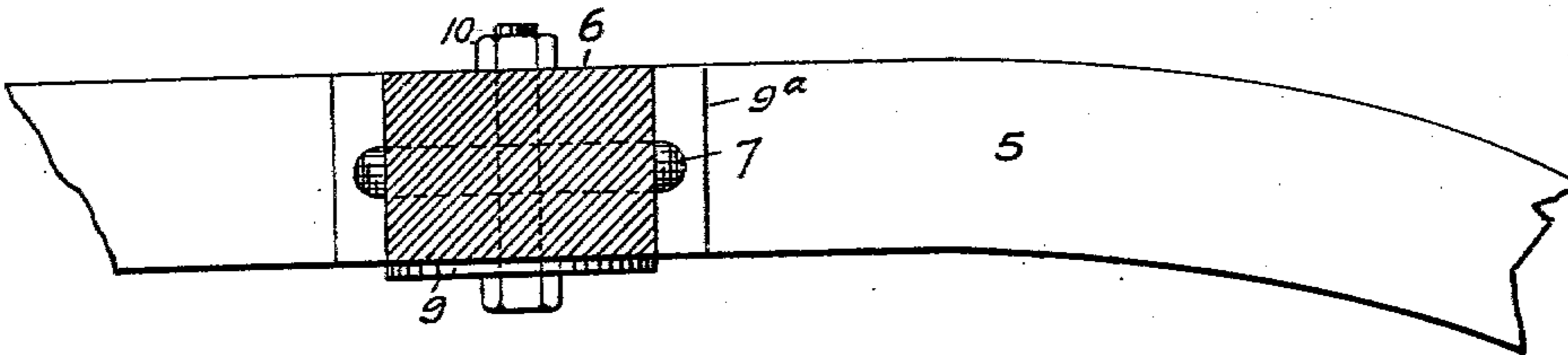
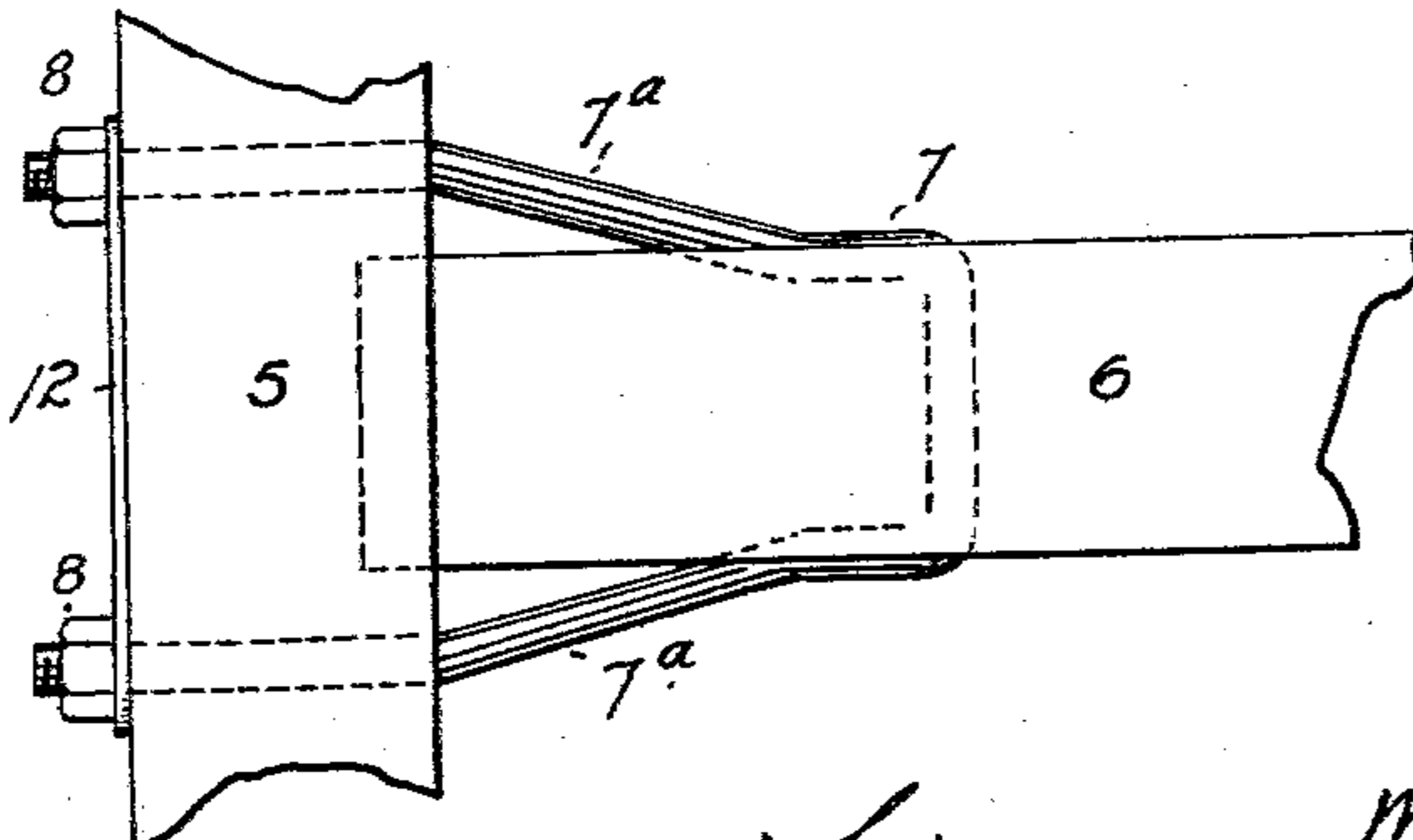


FIG. 4



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VEHICLE-SHAFT.

SPECIFICATION forming part of Letters Patent No. 629,925, dated August 1, 1899.

Application filed August 27, 1898. Serial No. 689,678. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM SCHENKER, a citizen of the United States of America, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Vehicle-Shafts and Like Articles; 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 figures of reference marked thereon, which form a part of this specification.

My invention relates generally to improvements in vehicle-shafts, and specially to the means for connecting the cross-bar extremities with the shaft members.

My improvements may also be employed in connecting parts of a similar nature regardless of the class of construction involved—that is to say, wherever a transverse part abuts against another part extending in a different direction. The invention will be described specially with reference to its use in connection with vehicle-shafts; but, as before stated, it must be understood that it is not limited thereto. My object is to form a connection or joint of this class which shall be simple in construction, economical in cost, reliable, durable, and efficient in use; and to these ends the invention consists of the features hereinafter described and claimed, all of which will be fully understood by reference to the accompanying drawings, in which is illustrated an embodiment thereof.

In the drawings, Figure 1 is a section taken through one of the shaft members to the rear of the cross-bar, which is shown in elevation and partly broken away. This section is taken on the line *xx*, Fig. 2. Fig. 2 is a fragmentary top view, partly in section, of a shaft member and cross-bar connected by means of my improved construction. Fig. 3 is a section taken on the line *yy*, Fig. 2. Fig. 4 shows a slightly-modified form of construction.

Similar reference characters indicating corresponding parts in these views, let the numeral 5 designate one of the shaft members, and 6 the cross-bar, whose extremity abuts thereagainst. The cross-bar is connected with the shaft member by means of a U-

shaped clip 7, which is passed through an opening in the cross-bar formed at a suitable distance from its extremity. The two branches 55 of this U-shaped member, which engage grooves in the side of the bar 6, pass thence through the shaft member, being secured by nuts 8 on the opposite side. I preferably employ in connection with this clip a plate 9, 60 which extends along the bottom of the cross-bar, is bent upwardly at right angles, and passed between the shaft member and the abutting end of the bar, as shown at 9^a. This interposed part 9^a of the plate is apertured to receive the branches of the U-shaped clip. 65 This plate is further fastened by bolts 10, passed through registering apertures formed in the plate and the bar. On the opposite side of the shaft member a double washer or plate 70 12 is placed. The extremities of the clip are passed through apertures formed in this washer, and the nuts 8 are screwed down upon the threaded extremities of the clip to engagement with the washer or plate. 75

In the construction shown in Fig. 4 the branches of the clip are bent outwardly on opposite sides of the bar 6, as shown at 7^a, whereby the bar is braced and the structure given additional strength and security. In 80 this view the angle-plate 9 is omitted, a tenon being formed on the abutting extremity of the bar 6, the tenon engaging a mortise formed in the shaft member.

In forming the openings in the angle-plate 85 for the branches of the U-shaped clip the material is preferably punched out, forming circular collars or flanges, which indent the adjacent shaft member. Between these openings a lug 9^c may be formed, which engages 90 a counterpart socket in the member 5.

Having thus described my invention, what I claim is—

1. The combination with the shaft member and the cross-bar abutting against said member, said bar being provided with grooves on 95 opposite sides, of the U-shaped clip, whose closed extremity passes through the bar, while its branches engage the grooves in the bar and pass through the shaft, where their extremities are suitably fastened. 100

2. The combination with the cross-bar and the shaft member, of a U-shaped clip connecting the bar extremity with the shaft, and

an angle-plate engaging the bar on one side and passing between the extremity of the bar and the shaft, the said plate being apertured to receive the branches of the clip which are
5 passed through the shaft and suitably fastened on the opposite side.

3. The combination with the cross-bar and the shaft member, of a U-shaped clip connecting the bar extremity with the shaft, and
10 an angle-plate engaging the bar on one side and passing between the extremity of the bar and the shaft, the said plate being apertured to receive the branches of the clip, which are
15 passed through the shaft and suitably fastened on the opposite side, the openings in the angle-plate being surrounded by collars, which indent the adjacent shaft member.

4. The combination with the cross-bar and the shaft member, of a U-shaped clip connecting the bar with the shaft, and an angle-
20 plate engaging the bar on one side and passing between the angle-plate and the shaft, the said plate being apertured to receive the branches of the clip, which are passed through

the shaft and fastened on the opposite side, 25 the angle-plate being provided with a lug located between the openings for the clip branches, the said lug engaging a counterpart socket formed in the shaft member.

5. The combination with the cross-bar and 30 its cooperating shaft member, of an angle-plate engaging the side of the bar and passing between its extremity and the shaft, the said plate being provided with holes and a lug located between the holes, the said lug 35 engaging a recess formed in the shaft, and a U-shaped clip passed through the bar, its branches being bent and passed through the openings in the angle-plate and coinciding apertures formed in the shaft, the outer ex- 40 tremities of the clip being threaded to receive fastening-nuts.

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

WILLIAM SCHENKER.

Witnesses:

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