

No. 635,254.

Patented Oct. 17, 1899.

H. P. JENSEN.
SLEIGH.

(Application filed May 25, 1899.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

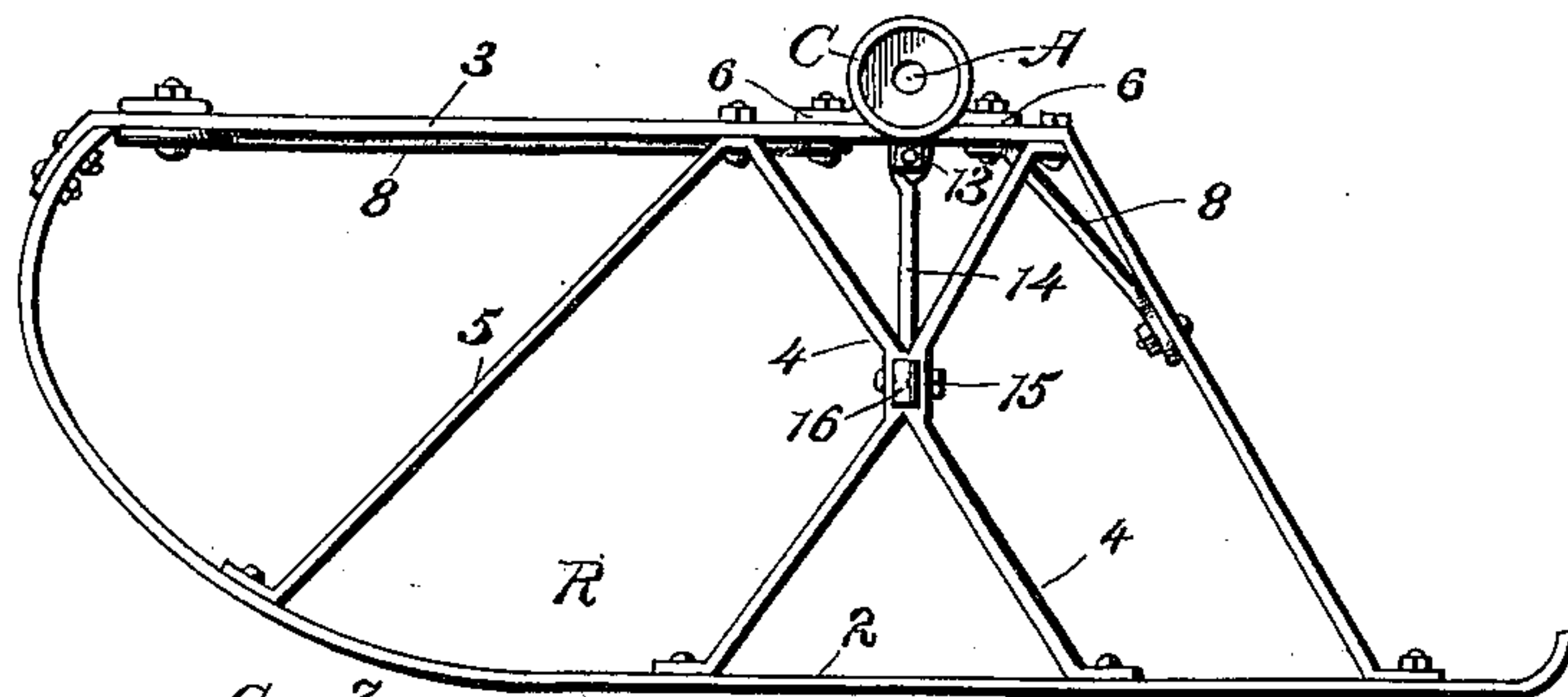


Fig. 2.

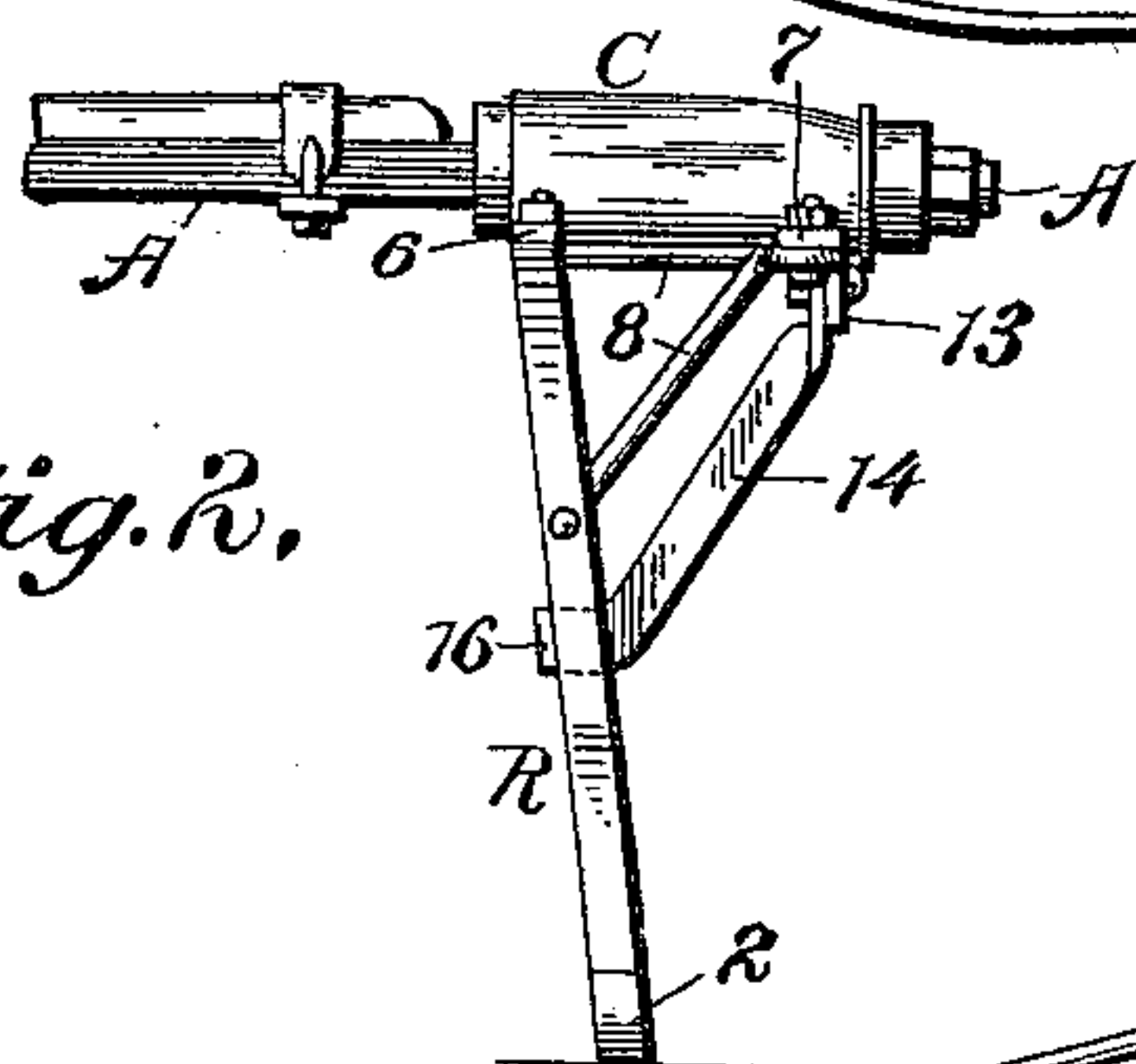


Fig. 3.

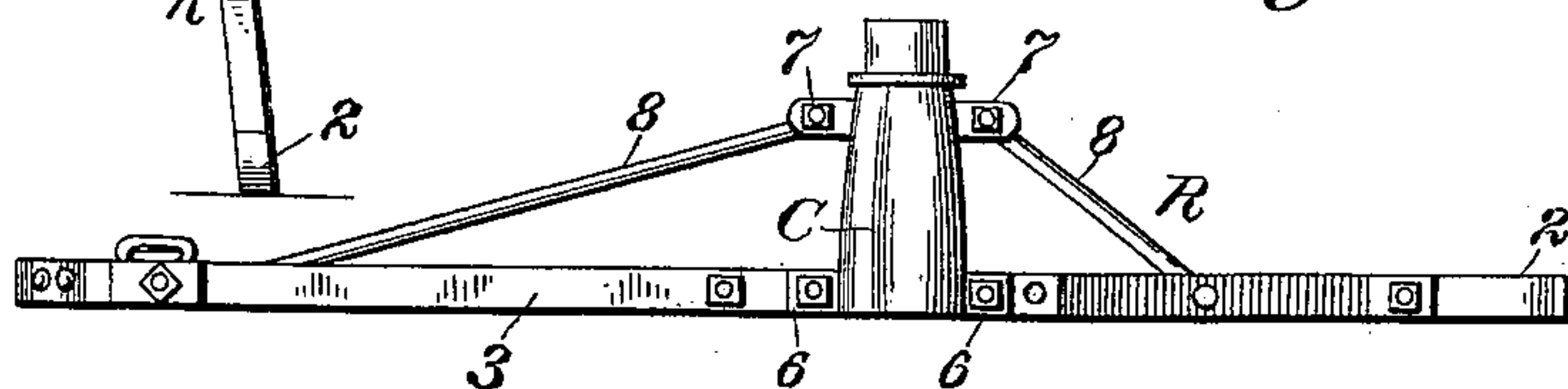


Fig. 4.

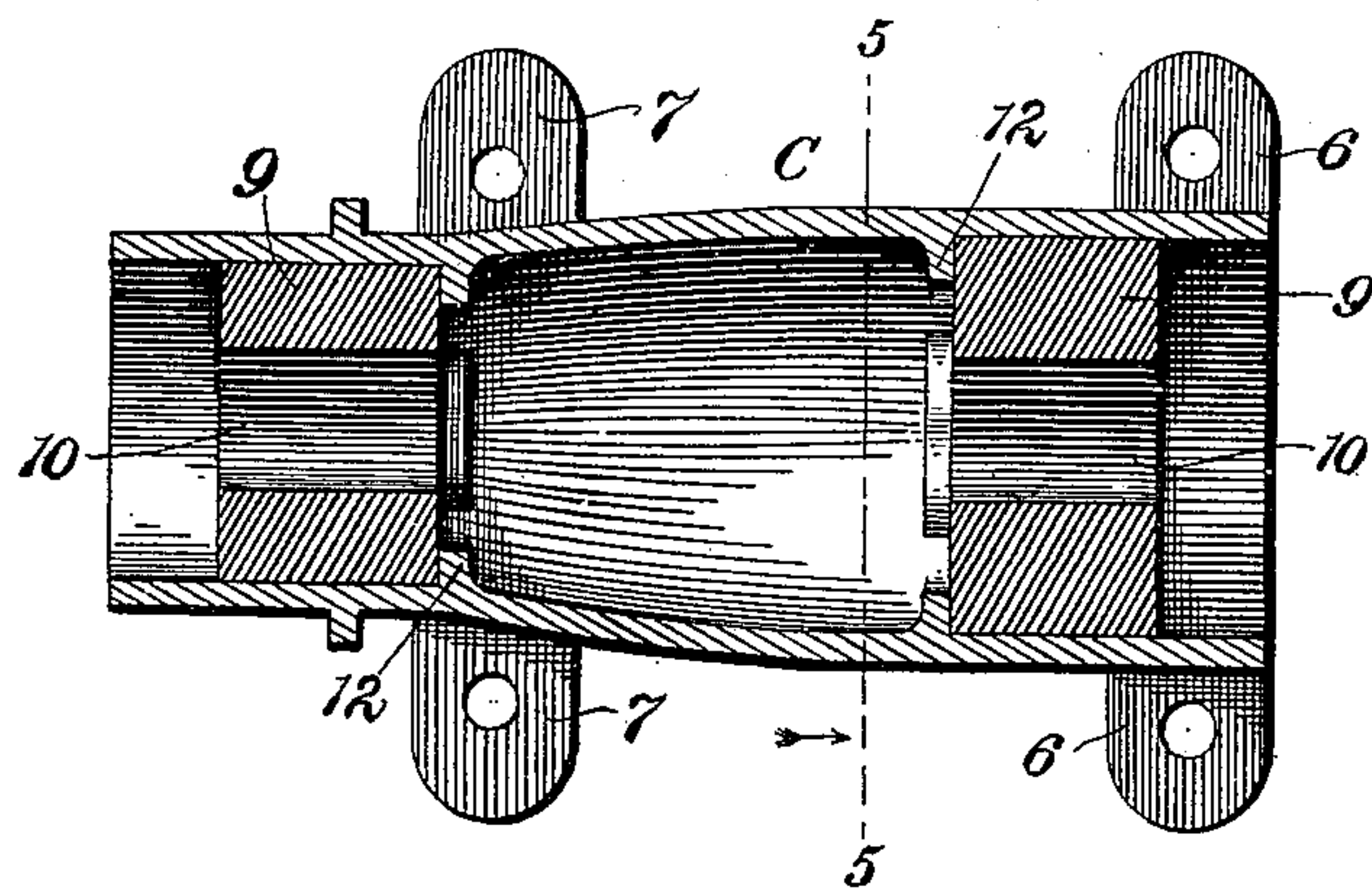
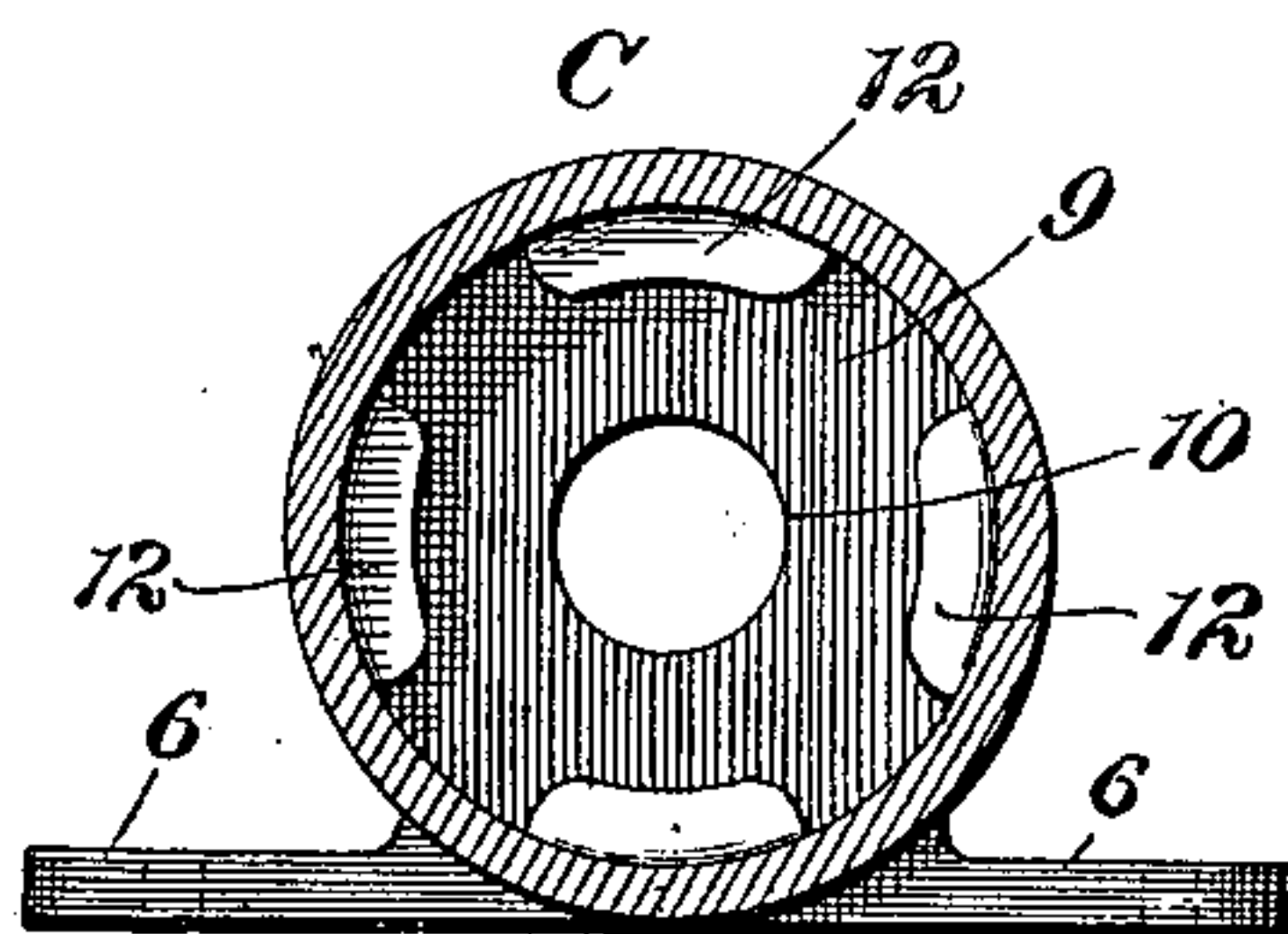


Fig. 5.



Witnesses

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Fig. 6.

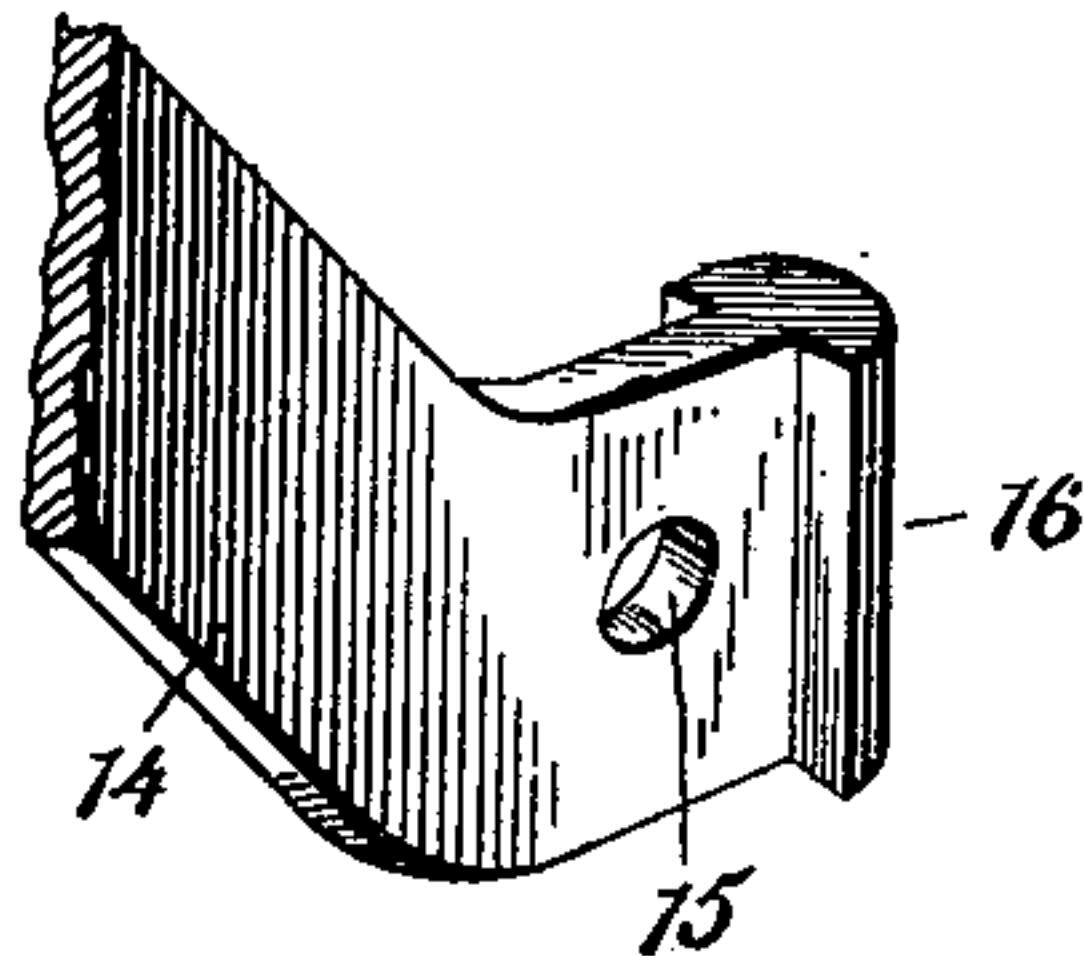


Fig. 7.

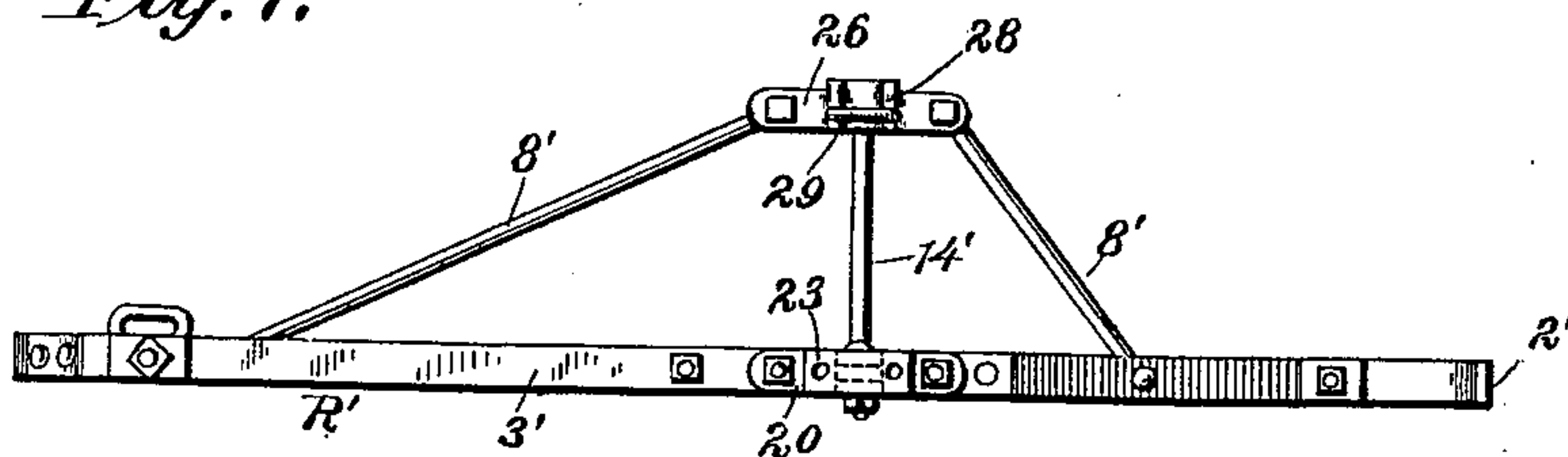


Fig. 8.

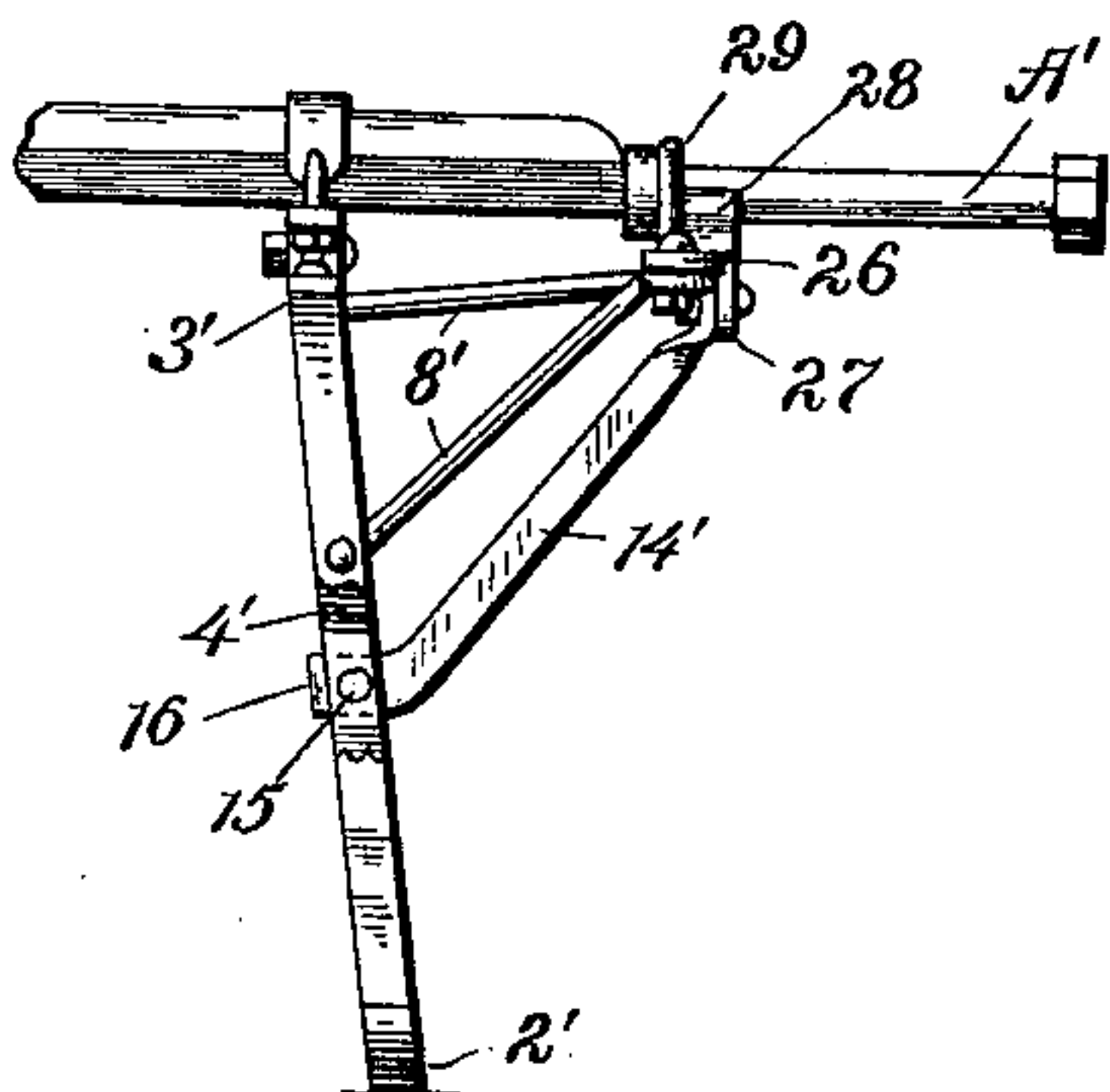


Fig. 9.

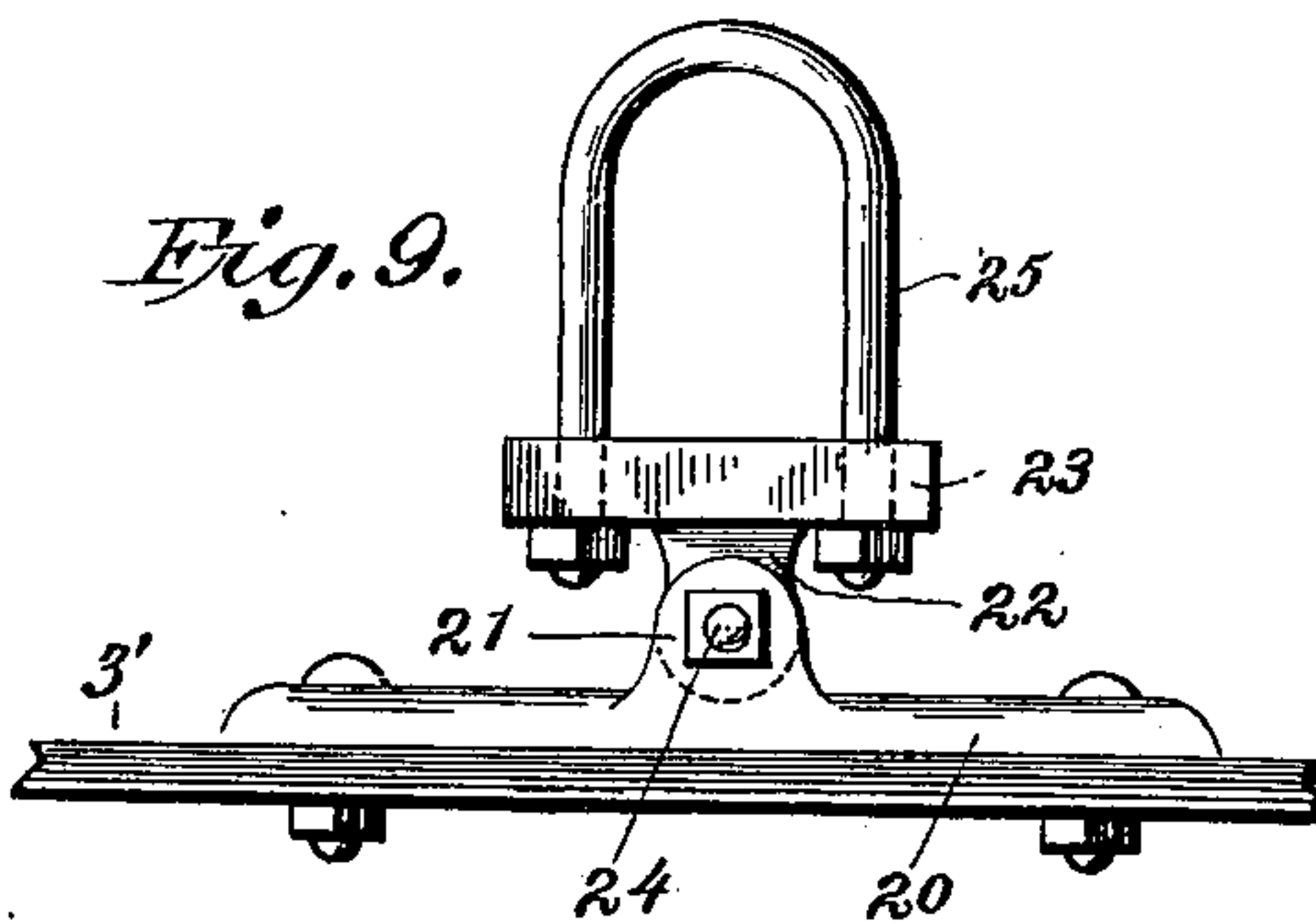
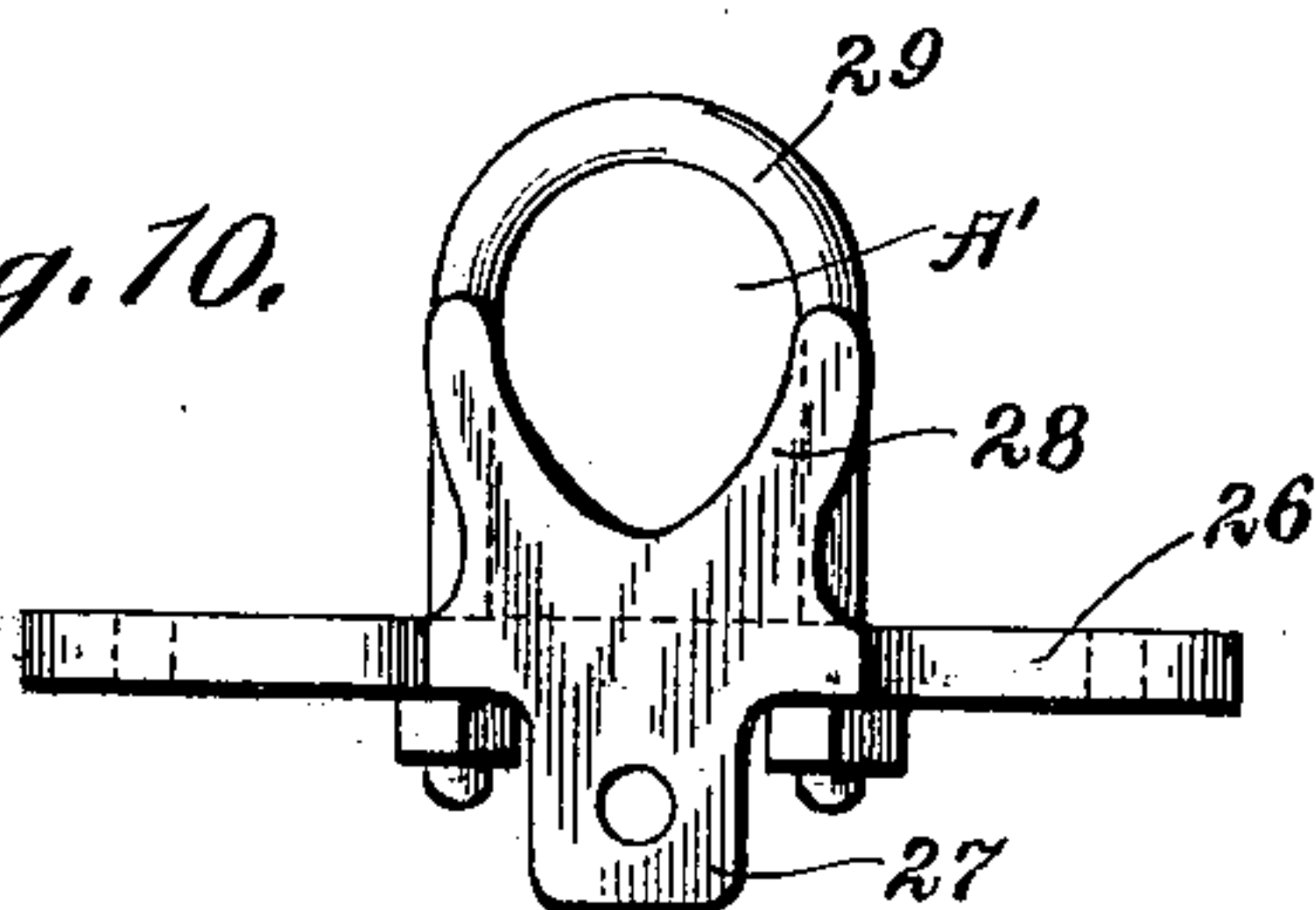


Fig. 10.



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HANS P. JENSEN, OF MANKATO, MINNESOTA.

SLEIGH.

SPECIFICATION forming part of Letters Patent No. 635,254, dated October 17, 1899.

Application filed May 25, 1899. Serial No. 718,143. (No model.)

To all whom it may concern:

Be it known that I, HANS P. JENSEN, a citizen of the United States, residing at Mankato, in the county of Blue Earth and State of Minnesota, have invented a new and useful Sleigh, of which the following is a specification.

This invention relates to sleighs, and more especially to the runners thereof; and the object of the invention is to provide a simple and effective device of the last-named character which can be quickly and readily attached to an axle of a buggy or other vehicle, which is strong and which permits the necessary oscillatory motion of the runner without straining the parts, and which involves means for coupling it to an axle or other projecting part at separated or spaced points, thereby avoiding unnecessary friction on the coupling device as the latter turns.

With these ends in view the invention consists in the combination of elements and in the construction and arrangement of parts, which will be hereinafter fully described and claimed.

To enable others to understand the invention, I have illustrated the preferred embodiment thereof in the accompanying drawings, forming a part of this specification, and in which—

Figure 1 is a side elevation of a sleigh-runner constructed in accordance with my invention and showing the same applied to an axle. Fig. 2 is a rear elevation of the same. Fig. 3 is a top plan view. Fig. 4 is a longitudinal central sectional plan view of the coupling-hub. Fig. 5 is a transverse section on the line 5 5, Fig. 4, looking in the direction of the arrow. Fig. 6 is a detail perspective view of the transverse angular brace. Fig. 7 is a top plan view showing a modified form of securing the runner to an axle. Fig. 8 is a rear elevation of the same. Figs. 9 and 10 are side elevations of the two clips employed in the modified form for engaging the axle at different points in its length.

Like characters denote like and corresponding parts in each of the several figures of the drawings.

In the drawings, Figs. 1, 2, and 3, I have represented a runner R of the kind shown in Letters Patent No. 530,948, granted to me December 18, 1894; but it is evident that

other types of runners can be employed in connection with my improvements.

The shoe of the runner is denoted by 2, and it is bent or curved upward at its forward end and is secured at the extremity of such curved portion to the rave 3, and these two parts are maintained in fixed relation by means of the braces 4, disposed substantially in the form of an X and being riveted or otherwise secured to the respective parts. A third brace is shown at 5, and its ends are secured, respectively, to the rave and to the shoe of the runner at a point slightly above the ground.

The runner is secured to the axle A of the vehicle by means of a coupling device, as C, which consists, preferably, of a longitudinal hub or sleeve adapted to surround the end of the axle and to turn thereon, so as to permit the requisite oscillatory motion of the runner when the vehicle or sleigh is in use.

The coupling device is secured to the rave 3 of the runner and is preferably made of steel or other suitable material possessing the necessary strength, and it extends laterally from the rave and is provided interiorly thereof with separated axle-bearing devices, which may be constructed of wood or other suitable material and which are detachable, so that when they become worn they can be readily removed and new ones inserted in their stead, thereby avoiding the expense of purchasing an entirely new hub.

The coupling device is provided near one end with the oppositely-disposed lugs or ears 6, adapted to receive suitable fastening devices, which enter the rave, thereby to hold said parts in assembled relation, and said coupling device is provided near its opposite end with a similar pair of lugs or ears, as 7, adapted to receive the brace-rods 8, which extend angularly therefrom and which are connected at their opposite ends to the rave at suitable points in the length of the latter.

The coupling device C is adapted to receive the bearings 9 of substantially cylindrical form and snugly fitting therein against the correspondingly-shaped interior wall of the coupling device, although it will be observed that these bearings are of different diameters. Said bearings consist, preferably, of wooden plugs, although it is apparent that other suitable material can be employed in

their formation, and they are removably fitted in the coupling-sleeve, so that one or both of them can be removed easily and quickly when worn or broken, and these bearings or plugs have central openings or holes 5 10, circular in cross-section, adapted to receive and to permit the turning of the axle-spindle therein, and as the bearing or contact between the two parts 9 is at remote or separated points unnecessary friction is avoided, 10 as is the case in structures having a continuous surface engagement between said parts.

The hub C has interiorly thereof and located beyond its opposite ends the two series 15 of lugs 12, arranged in circular order therein and against which the inner faces of the bearing-plugs 9 are adapted to fit the lugs, serving as convenient spacing devices to separate said bearing-plugs the proper distance apart.

20 The hub C has a pendent lug 13, to which the brace 14 is connected, said brace extending downward and inward therefrom and having a bend at its inner end, which is inserted between the braces 4 and which receives the bolt 15, that unites said last-mentioned braces, and the single brace 14 is 25 shouldered, as at 16, at its rear end to engage the outer faces of cooperating braces, thereby forming a stable structure at this point.

30 The construction hereinbefore described is adapted for connection with buggies or carriages requiring wide track-runners, while Fig. 7 shows a modified form adapted for attachment to vehicles requiring narrow track-runners. 35

In the modified organization I have used similar characters to denote corresponding parts, with prime-marks added.

40 The longitudinal plate 20 is secured to the upper side of the rave 3', and it is provided substantially at its middle with the vertical pair of lugs 21, between which is the cooperating lug 22, depending from the block 23, and the pivot-pin 24 extends through registering 45 eyes or openings in the three lugs. The block has openings in its opposite ends to receive the lower threaded portions of the clip-bolt 25, which straddles the axle-spindle near the inner shoulder or collar thereon and which 50 is provided with nuts engaging its threaded portions to hold it tightly in place. The brace-rods 8' are connected at their inner ends to the runner R' and are united at their opposite ends to the clip-plate 26, which has near its 55 middle the lateral lug 27, united to the brace 14', which receives at its inner end the bolt 15, that joins the duplicate braces 4', disposed between and secured to the runner 2' and the rave 3'. The clip-plate 26 is provided with 60 the vertical yoke 28, in the socket of which

the axle A' of the vehicle is adapted to rest, and at this point the axle is embraced by the U-shaped clip member 29, the opposite legs or branches of which engage the branches of the yoke 28 and are extended vertically through 65 openings in the clip-plate 26 at opposite sides of the yoke, and the projecting portions of said part 29 are threaded to receive nuts, which hold the clip member, consisting of the yoke and the U-shaped bolt 29, in firm 70 engagement with the axle.

From the preceding description it will be evident that both forms of the runner are light and strong and they are maintained properly in place against lateral movement and that 75 the necessary oscillation of the runner when the vehicle is in motion is assured.

Changes in the form, proportion, size, and the minor details of construction within the scope of the appended claims may be resorted 80 to without departing from the spirit or sacrificing any of the advantages of this invention.

Having thus described the invention, what I claim is—

1. In a sleigh, the combination with a runner, 85 of a hub having terminal offstanding lugs and inner extensions, the outer end portions of the bore being of uniform diameter, bearings removably fitted in the end portions of the bore against said inner extensions, oppositely-offstanding projections upon the hubs 90 for securing the inner end of the hub to the runner, additional oppositely-offstanding projections upon the hub, brace-rods attached to the last-named projections of the hub and inclining inwardly and downwardly on divergent lines and attached at their lower ends to the ends of the runner, a pendent lug upon the hub and a third brace attached at its outer 95 end to the pendent lug and having its lower end secured to the runner. 100

2. In a sleigh, the combination of a runner, a hub having terminal offstanding lugs and inner extensions, the outer end portions of the bore being of uniform diameter, bearings 105 removably fitted in the end portions of the bore against said inner extensions, means for securing the inner end of the hub to the runner, and brace-rods attached to the outer end of the hub and inclining inwardly and downwardly on divergent lines and attached at 110 their lower ends to the runner, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in 115 the presence of two witnesses.

HANS P. JENSEN.

Witnesses:

J. R. HUGHES,
W. D. FUNK.