

No. 737,712.

PATENTED SEPT. 1, 1903.

J. F. COURSON.  
DRAW HEAD FOR CARS.  
APPLICATION FILED JUNE 11, 1903.

NO MODEL.

Fig. 1.

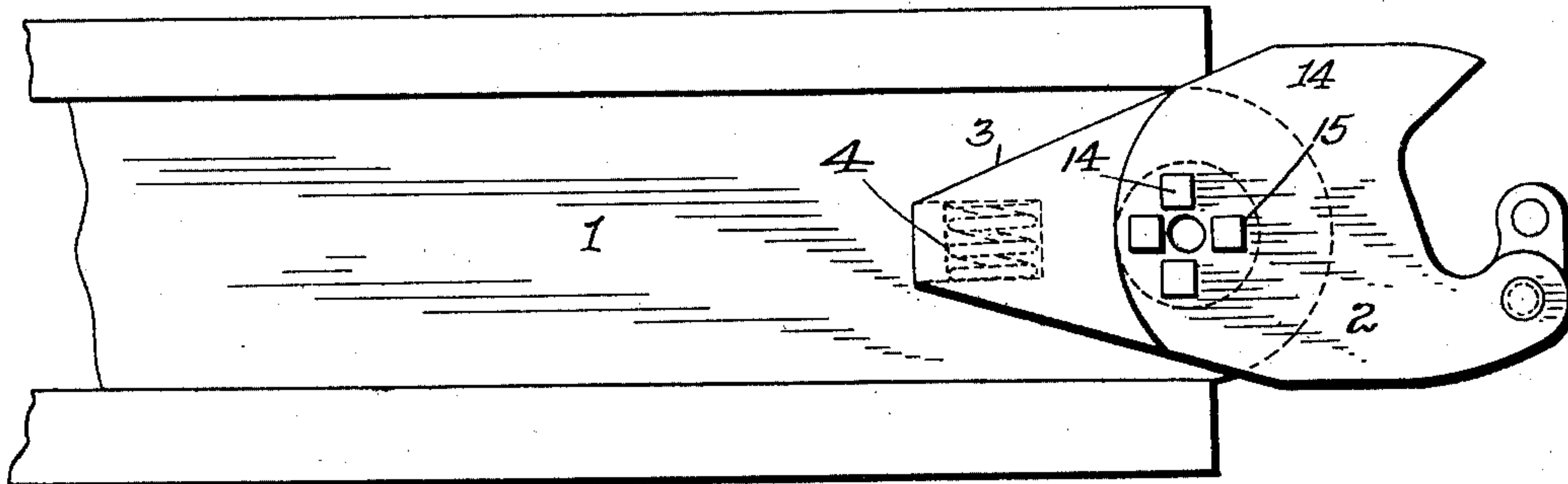


Fig. 2.

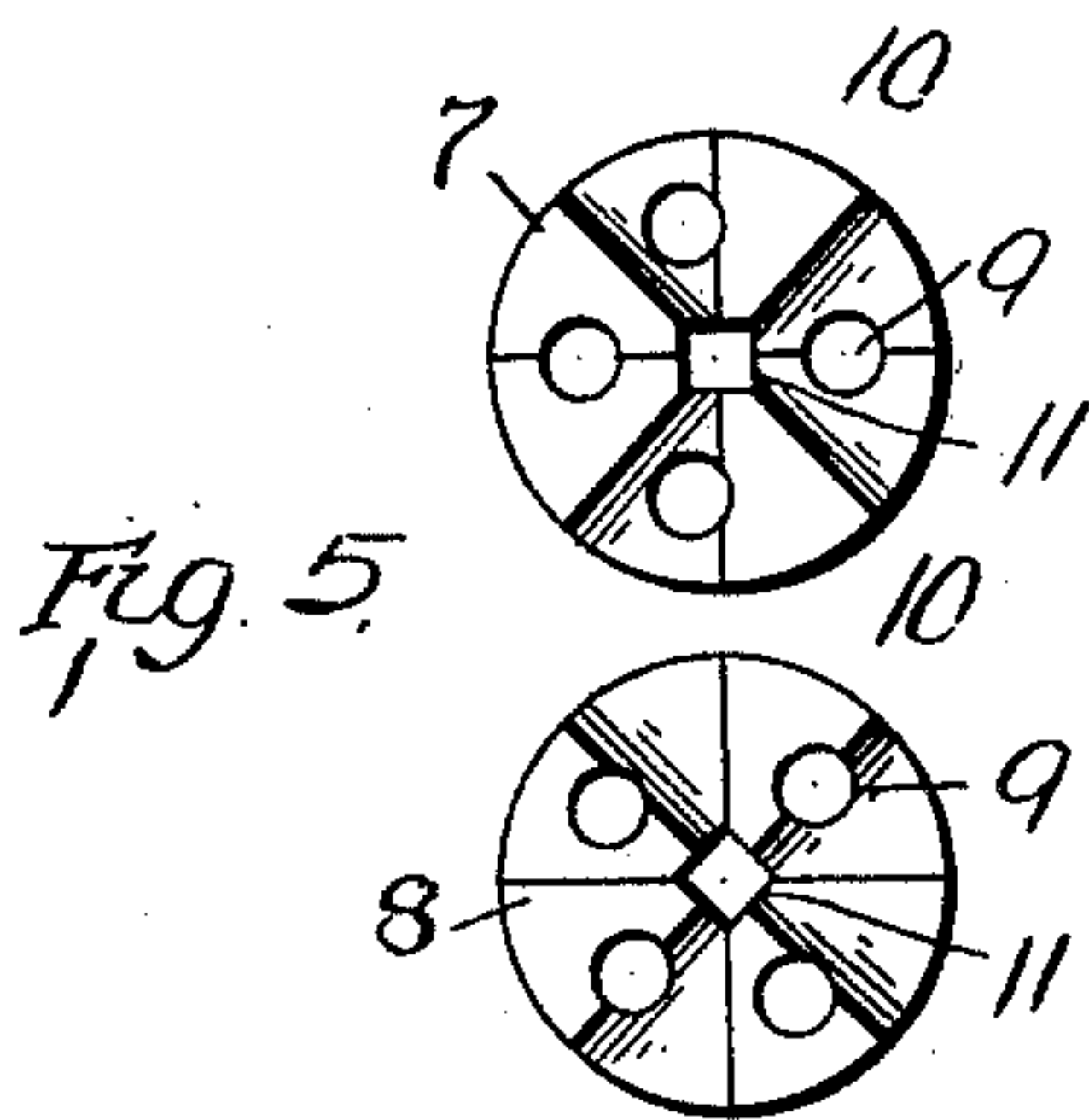
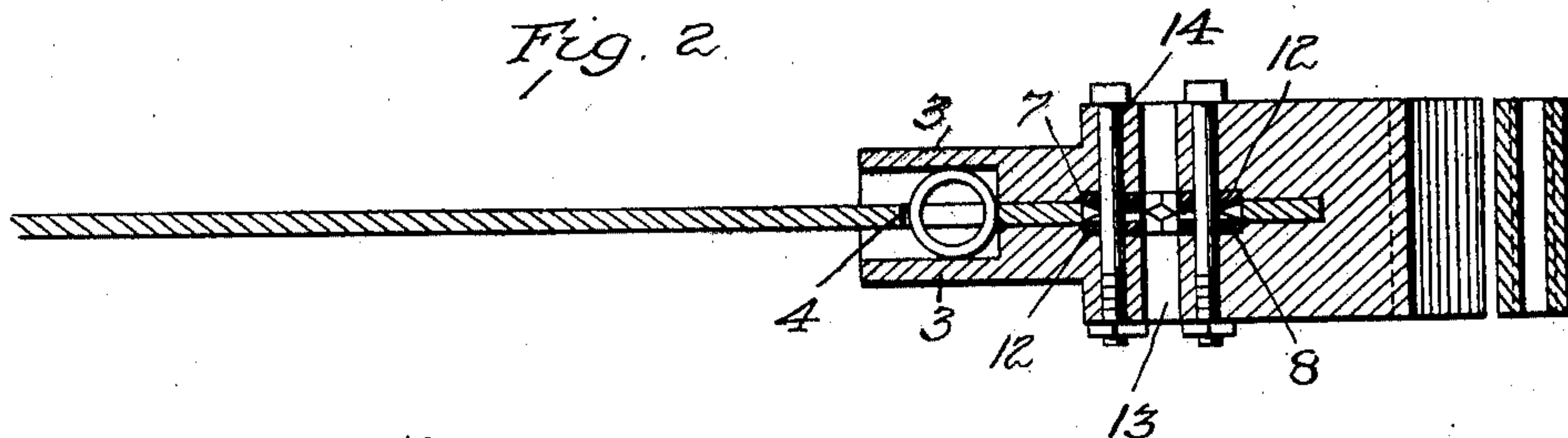


Fig. 3.

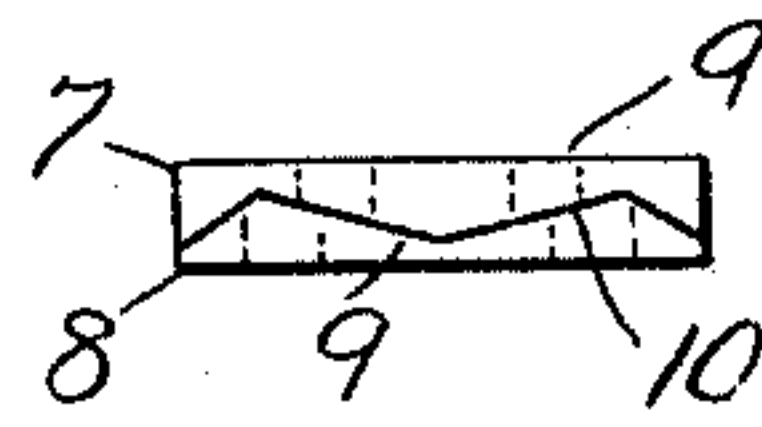


Fig. 4.

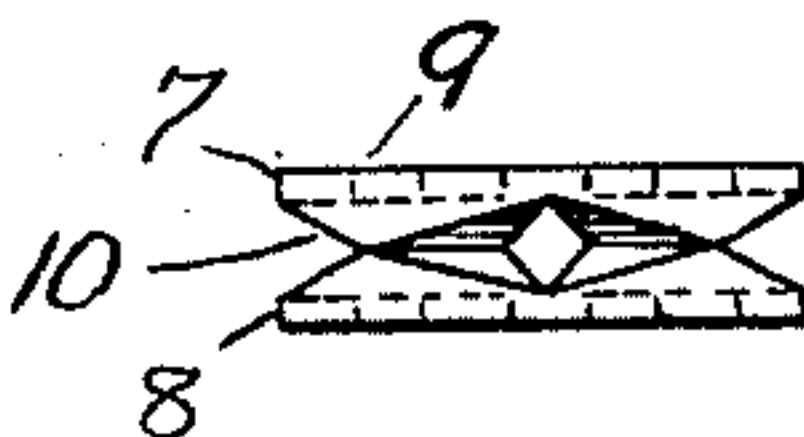


Fig. 6.

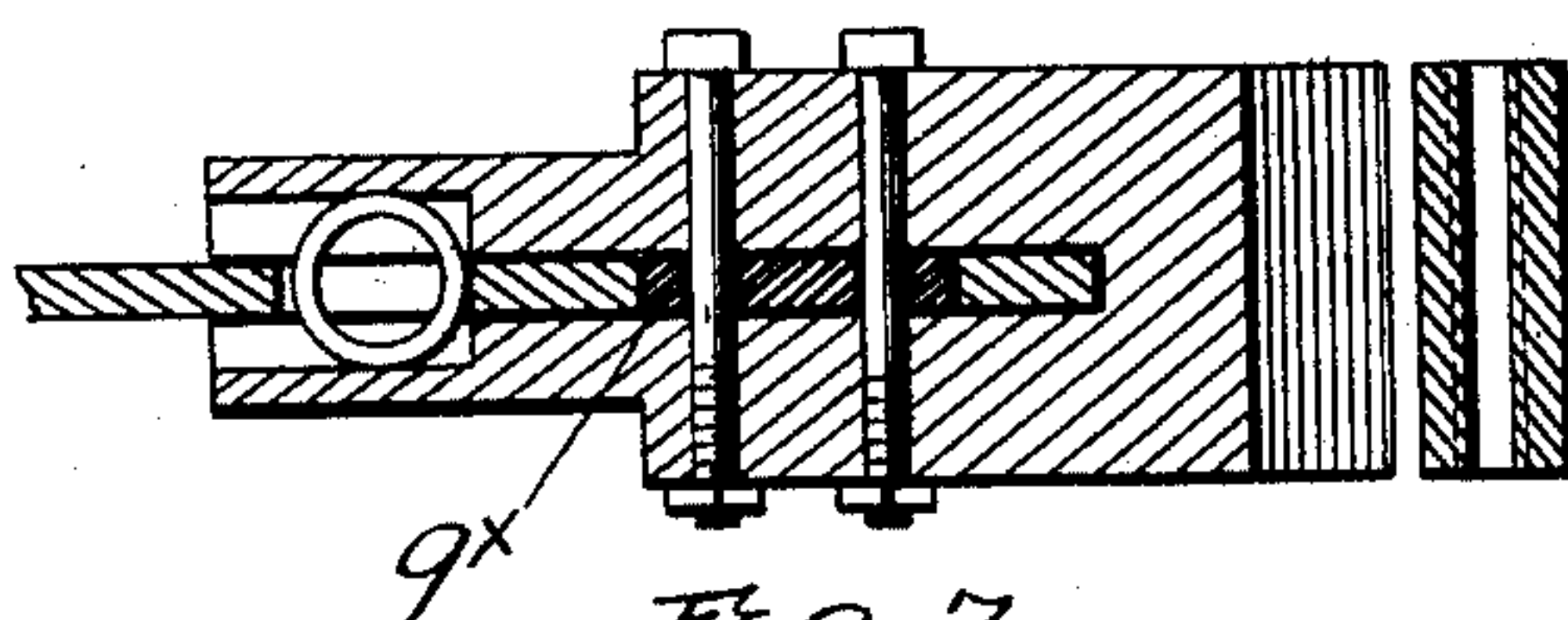
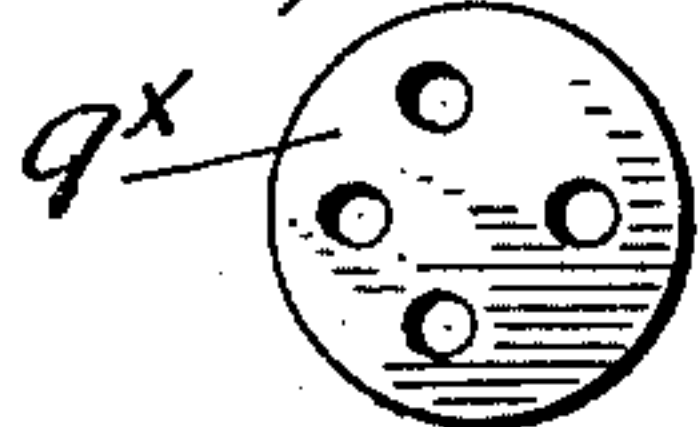


Fig. 7.



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# UNITED STATES PATENT OFFICE.

JOHN F. COURSON, OF PITCAIRN, PENNSYLVANIA.

## DRAW-HEAD FOR CARS.

SPECIFICATION forming part of Letters Patent No. 737,712, dated September 1, 1903.

Application filed June 11, 1903. Serial No. 161,092. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN F. COURSON, a citizen of the United States, residing at Pitcairn, Pennsylvania, have invented certain new and useful Improvements in Draw-Heads for Cars, of which the following is a specification.

My invention relates to draw-gears for railway-cars, and more particularly to the means for connecting the draw-head with the draw-bar.

The invention consists in the features and combination and arrangement of parts hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a plan view of the invention. Fig. 2 is a longitudinal sectional view. Figs. 3, 4, and 5 are details of the pivot-plates. Fig. 6 is a sectional view of a modification. Fig. 7 is a detail of Fig. 6.

The draw-bar 1 and the draw-head 2 are of any desired construction, generally speaking. The draw-head has rearward-extending arms 3, provided each with a recess therein to receive a coil-spring arranged in an opening 4 in the draw-bar, the said spring extending in a direction transversely of the draw-bar.

At a point in front of the spring a circular opening is made in the draw-bar, and this receives a pivot, about which the draw-head is adapted to turn. This pivot consists of upper and lower parts or members 7 8, each provided with a series of holes 9 and having on their meeting faces cams 10. Each plate also is provided with a square central opening 11. The draw-head is adapted to fit over this pivot, and it is provided with upper and lower recesses 12 of circular form and of a diameter equal to that of the pivot-plate. In placing the parts in position the pivot-plates are placed in the circular opening of the draw-bar with the high part of the cam on one plate fitting in the low part of the cam-surface of the other plate. When in this position, the sum of the thickness of the two plates is equal to the thickness of the draw-bar, and the openings 9 in the two members of the pivot-plate are not in alinement. When the plates are in this position and the draw-head is placed on a draw-bar with its recesses alining vertically with the pivot-

plate, a key or wrench is passed up through an opening 13 in the draw-head, which is in line with the central square opening of the lower pivot-plate or member, and this member is then turned to make its cam-surface ride up on the high or thick part of the cam-surface of the adjacent upper plate or member, and thus these plates are spread in relation to each other, and their upper and lower edges project above and below the upper and lower faces of the draw-bar and project into the upper and lower recesses in the draw-head. Previous to turning the lower plate, however, bolts 14 have been dropped through openings 15 in the draw-head, these being four in number, and these bolts will have engaged with their lower ends the four openings arranged around the margin of the upper pivot member or plate, and in the turning of the lower member or plate by means of the wrench or key the upper plate or member will be held against turning for the proper separation of the pivot members, and when the lower member has been turned to get the maximum separation the four marginal openings of the lower plate will be brought in alinement with those of the upper plate, and the bolts, which, as before stated, were inserted from above, will fall through the lower plate and through the lower portion of the draw-head, and then by applying nuts to the lower ends of the bolts the fastening is completed.

It will be noticed as an essential and advantageous feature of this invention that the pivot-plates projecting from the draw-bar into the upper and lower recesses of the draw-head will afford a strong pivot connection between the draw-head and the draw-bar. All strain will be removed from the bolts, and the resistance to strain will be afforded by the projecting portions of the pivot-plates engaging the solid wall of the recesses in the draw-head. The spring at the rear of the draw-head keeps the same centrally in relation to the draw-bar and returns it to this position when the draw-head swings aside in either direction.

Instead of using a two-part pivot-plate I may, as shown in Fig. 6, employ a single pivot-plate 9<sup>x</sup>, having its upper and lower faces



- flush with the faces of the draw-bar, and in this case, like the previous one, I employ four bolts passing down from the draw-head and through four openings arranged around the margin of the pivot-plate. In this construction the strain will be taken by the bolts collectively and will be better distributed by means of this pivot-plate than by the use of a single bolt.
- Where I refer in the accompanying claims to a "pivot-plate," it will be understood that this includes, broadly, a plate or part made of a single piece or a pivot made up of two parts.
- I claim as my invention—
1. In combination with a draw-bar a draw-head pivoted thereto and a spring connection between the draw-bar and draw-head, substantially as described.
  2. In combination with a draw-bar having an opening therein extending through it vertically, a spring located in said opening, a draw-head pivoted to the draw-bar and having portions engaged by the said spring, substantially as described.
  3. In combination a draw-bar having an opening therein, a coil-spring in the said opening extending transversely of the draw-bar and a draw-head having upper and lower arms embracing the draw-bar and engaged by the spring, substantially as described.
  4. In combination a draw-bar having a circular opening therein, a pivot-plate arranged therein and a draw-head connected with said pivot-plate, substantially as described.
  5. In combination a draw-bar, a pivot-plate carried thereby and a draw-head connected with said pivot-plate, substantially as described.
  6. In combination a draw-bar, a pivot and a draw-head with a plurality of bolts connecting the said draw-head with the pivot, said bolts passing through the pivot, substantially as described.
  7. In combination a draw-bar having a circular recess, a circular pivot therein and a plurality of bolts connecting the pivot with the draw-head, said bolts passing through the pivot, substantially as described.
  8. In combination a draw-bar, a draw-head and a pivot-plate comprised in the connection between said parts and arranged with its periphery to afford a bearing for both the draw-bar and the draw-head, substantially as described.
  9. In combination a draw-bar, a pivot-plate projecting from the said draw-bar and a draw-head having a recess receiving the said pivot-plate, substantially as described.
  10. In combination a draw-bar, a draw-head and a two-part pivot comprised in the connection between them, substantially as described.
  11. In combination a draw-bar, a draw-head and a pivot formed of two members with cam-surfaces between them, substantially as described.
  12. In combination a draw-bar, a draw-head and a pivot-plate arranged partly in the draw-bar and partly in the draw-head, substantially as described.
  13. In combination a draw-bar, a draw-head, a pivot made of two members, each member being arranged partly in the draw-bar and partly in the draw-head, substantially as described.
  14. In combination a draw-bar, a draw-head, a pivot formed of two members, a bolt adapted to pass through openings in the members, said members each having a cam-surface and the said openings being disalined when the members are in closed position and means whereby one of the members may be turned in relation to the other and to aline their openings to allow the bolt to pass through, substantially as described.
  15. In combination a draw-bar, a draw-head, a pivot made of two members and having cam-surfaces between them, said members when spread projecting from the draw-bar into the draw-head and having a marginal opening in each member and means whereby one member may be turned in relation to the other with a bolt adapted to pass down through the marginal openings, substantially as described.
  16. In combination a draw-bar having a circular recess therein, a pivot formed of two members with cam-surfaces between them and with disalined openings when the pivot is in closed position, a bolt arranged to pass through the opening in the upper member to rest upon the lower member and means whereby the lower member may be turned to make its opening aline with the bolt and also to spread the members apart to make them engage the draw-head, substantially as described.
  17. In combination a draw-bar, a draw-head and an expansible-pivot connection between them, substantially as described.
  18. In combination a draw-bar having a recess or opening, a draw-head fitting over the said recess and an expansible pivot carried in the said recess arranged to engage the draw-bar when expanded, substantially as described.
  19. In combination a draw-bar having a recess or opening, a draw-head fitting over the said opening and a pivot arranged loosely in the said draw-bar and confined by the draw-head, said pivot being expansible from the draw-bar into the draw-head, substantially as described.
- In testimony whereof I affix my signature in presence of two witnesses.
- JOHN F. COURSON.
- Witnesses:  
R. PEALE,  
J. R. McNARY.