

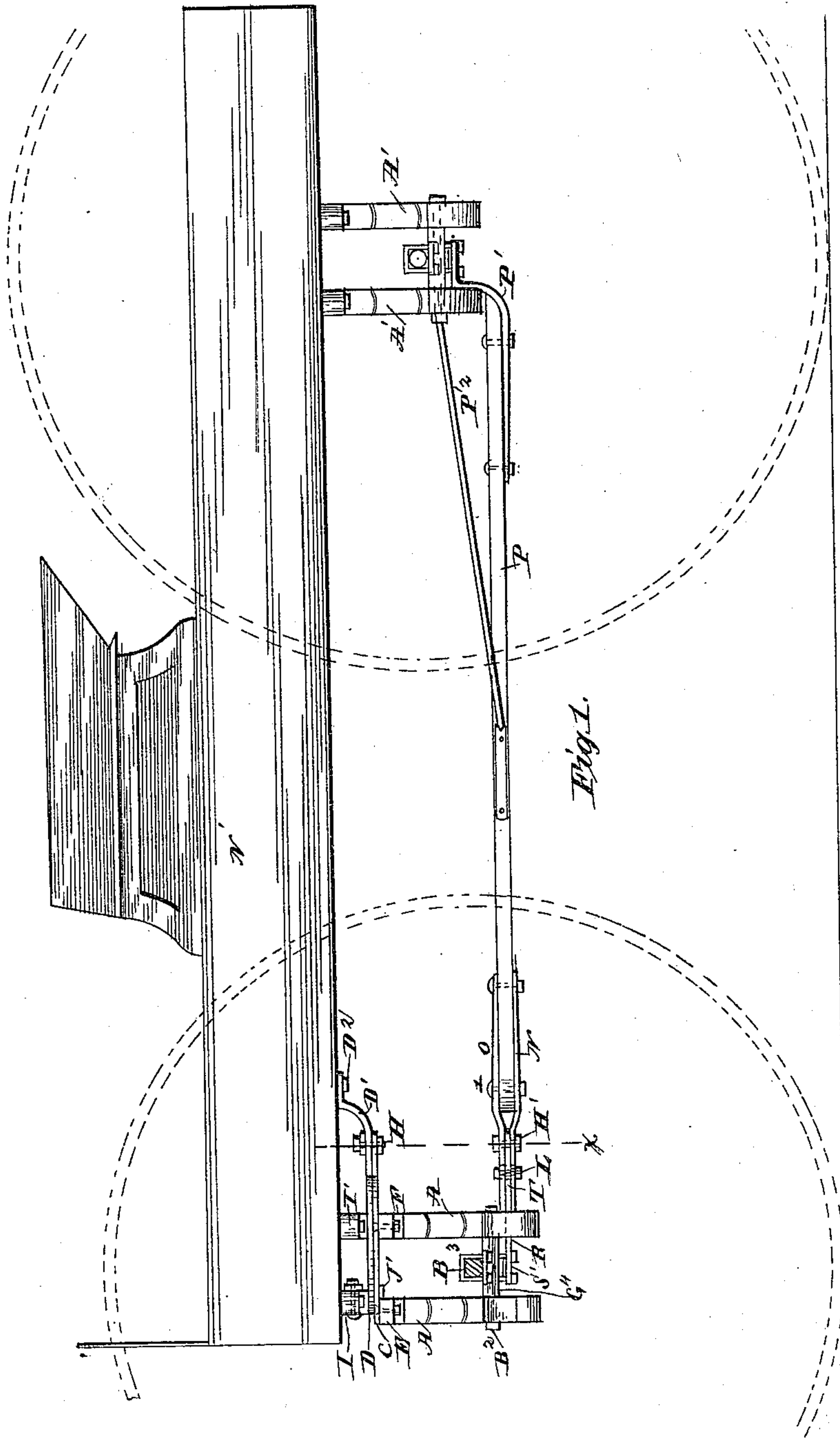
(No Model.)

4 Sheets—Sheet 1.

C. W. SALADEE.
RUNNING GEAR FOR ROAD WAGONS.

No. 438,189.

Patented Oct. 14, 1890.



Witnesses
Wm M. Monroe
J. M. Carrington

Inventor
C. W. Saladee

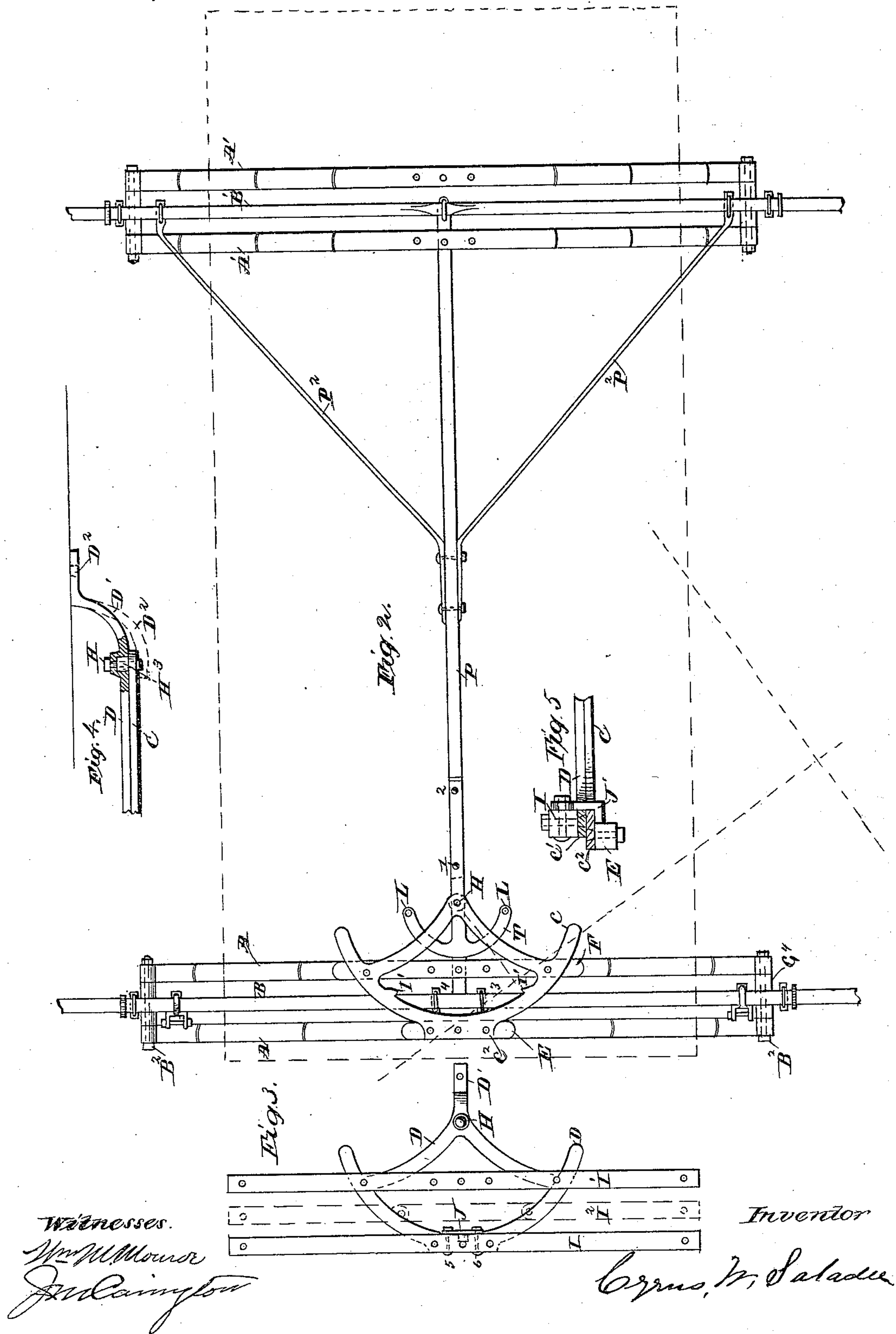
(No Model.)

4 Sheets—Sheet 2.

C. W. SALADEE.
RUNNING GEAR FOR ROAD WAGONS.

No. 438,189.

Patented Oct. 14, 1890.



4 Sheets—Sheet 3.

No. 438,189.

Patented Oct. 14, 1890.

Fig. 6.

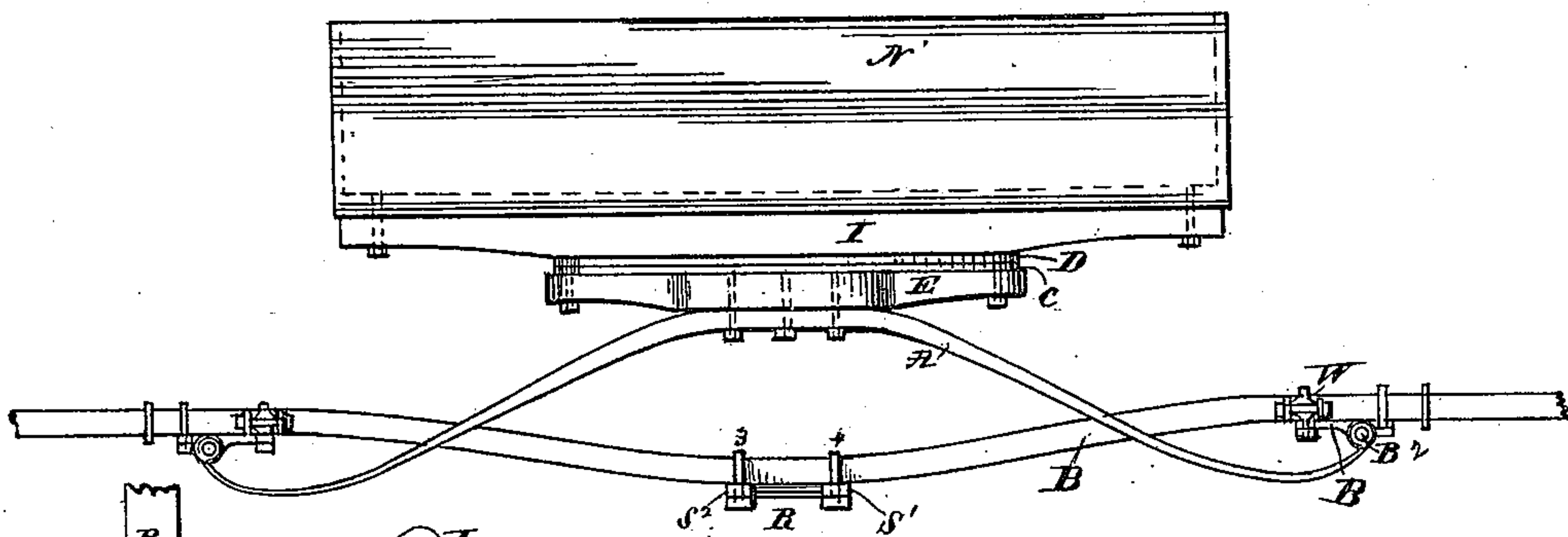


Fig. 7.

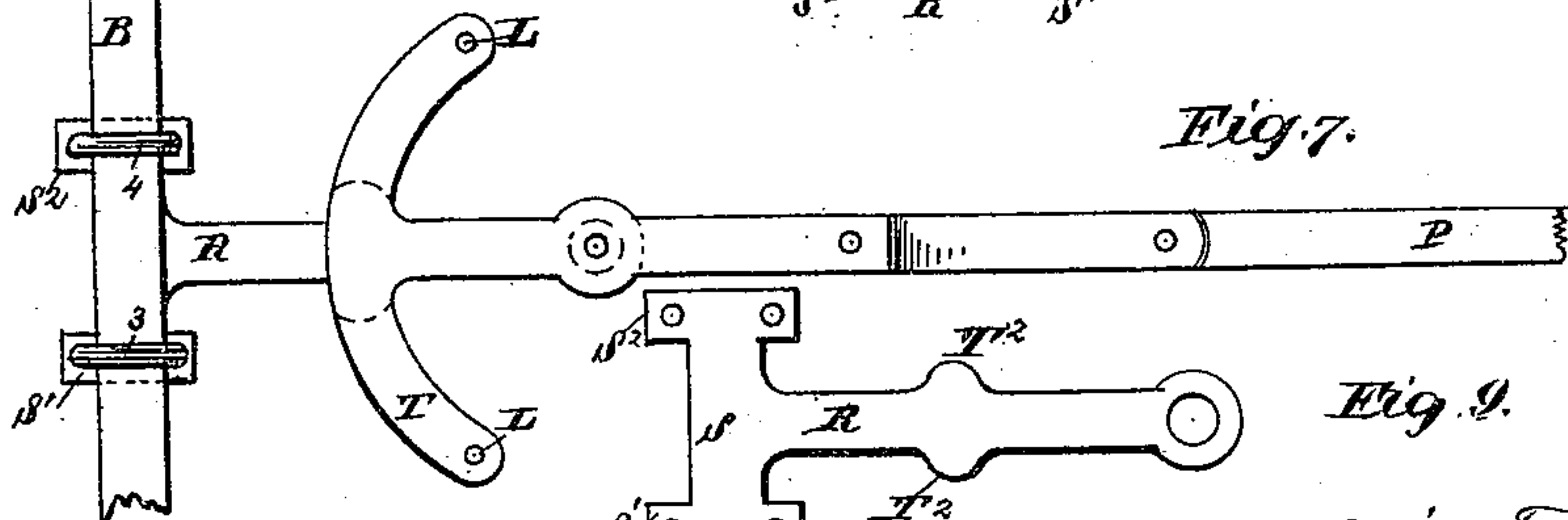


Fig. 9.

Fig. 8.

Fig. 10.

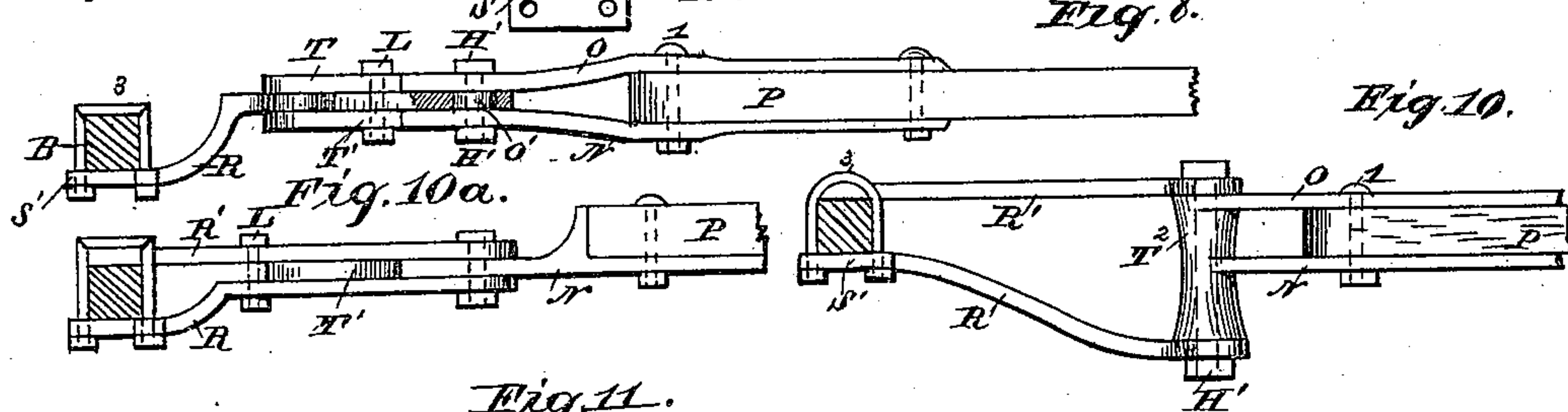


Fig. 11.

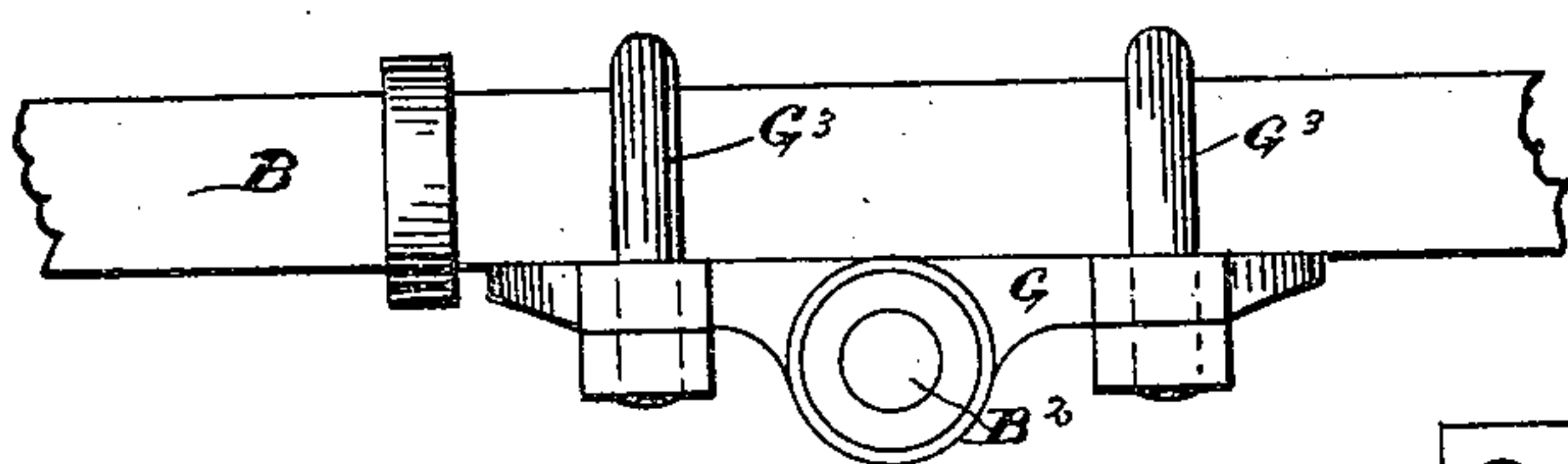
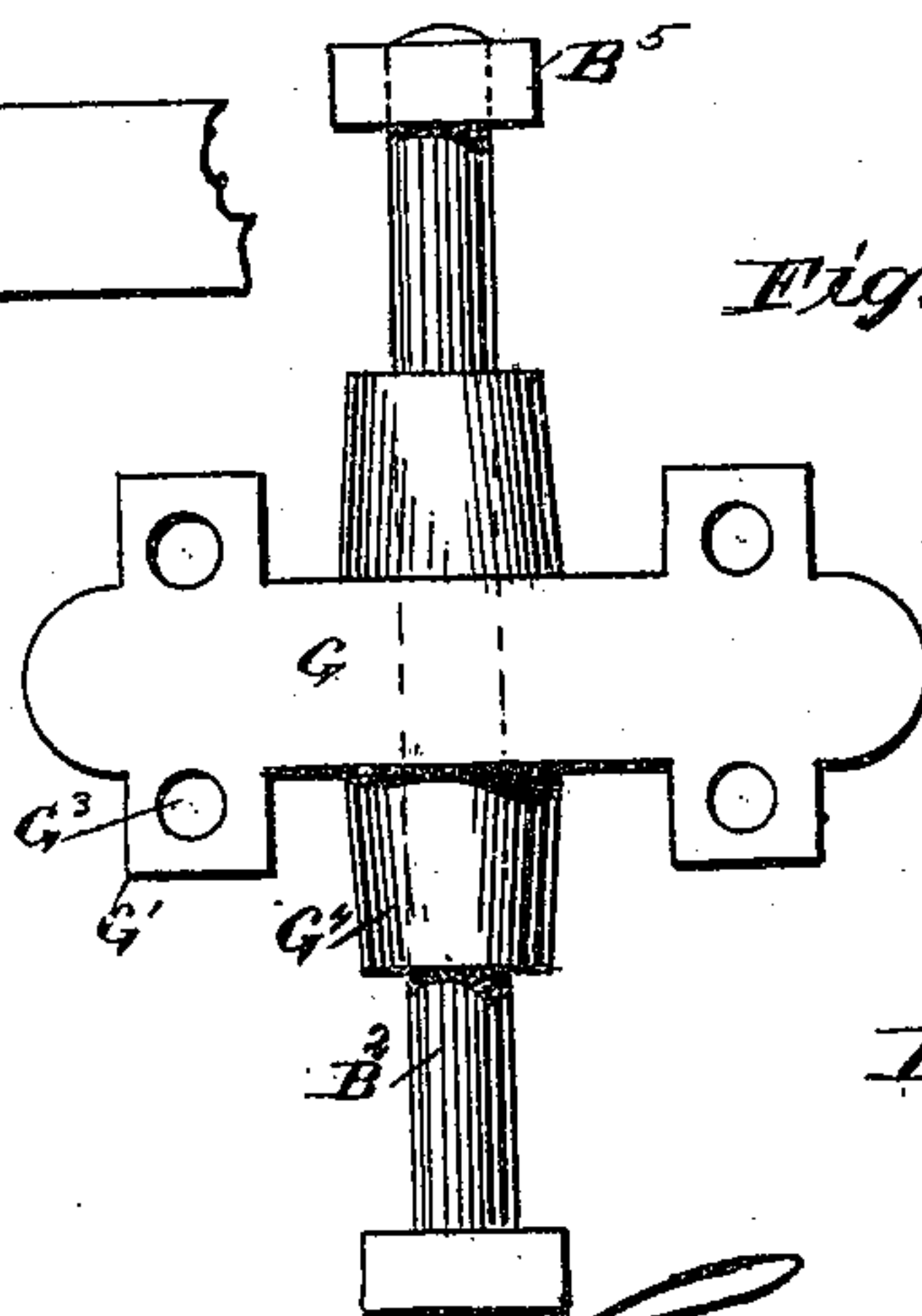



Fig. 12.



Inventor:

Witnesses

Wm W Monroe
J M Carrington

 Ernest H. Saladen
ES

(No Model.)

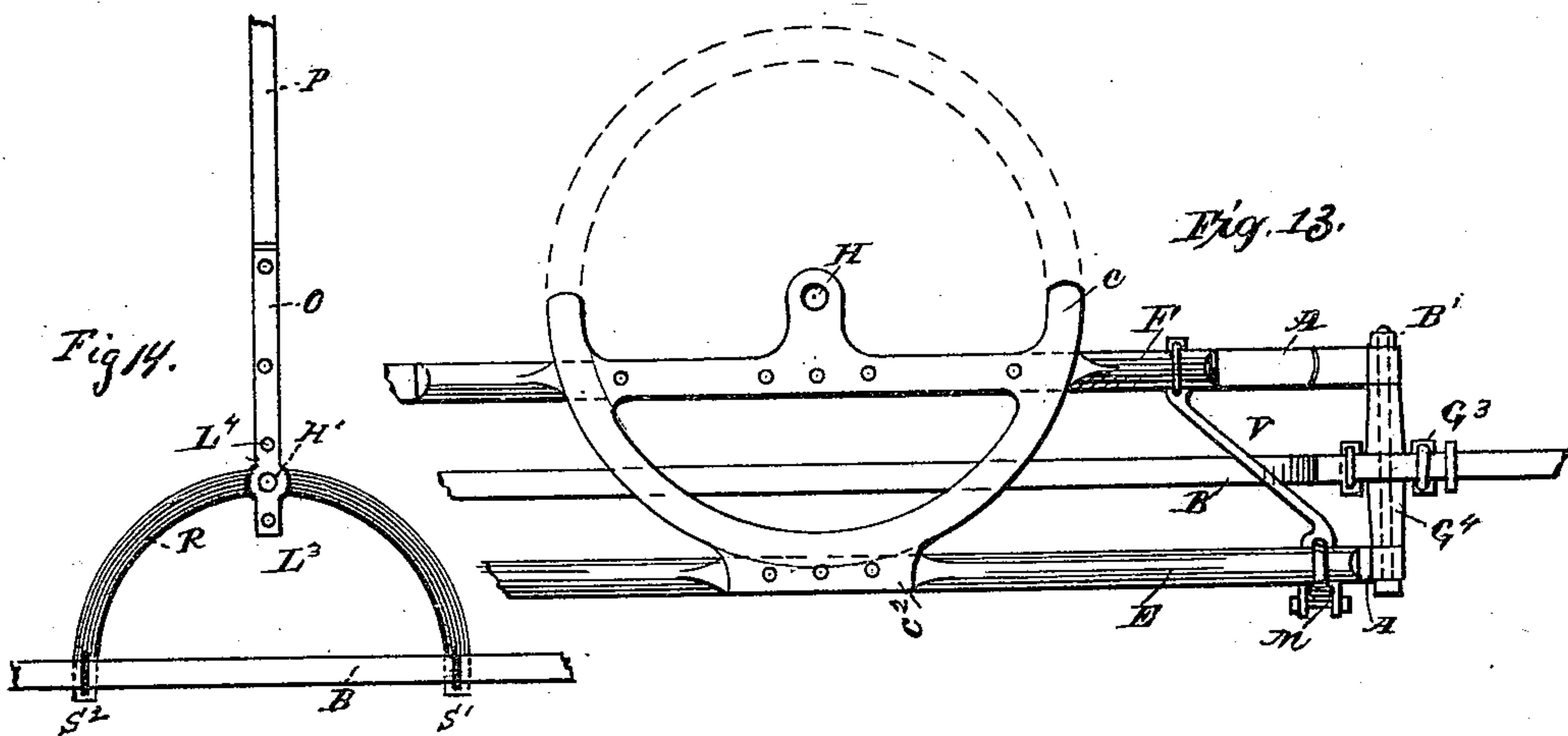
4 Sheets—Sheet 4.

C. W. SALADEE.

RUNNING GEAR FOR ROAD WAGONS.

No. 438,189.

Patented Oct. 14, 1890.



Witnesses.

Wm M. Moore
J. C. Carington

Inventor.

Inventor.
J. M. Salade

UNITED STATES PATENT OFFICE.

CYRUS W. SALADEE, OF CLEVELAND, OHIO.

RUNNING-GEAR FOR ROAD-WAGONS.

SPECIFICATION forming part of Letters Patent No. 438,189, dated October 14, 1890.

Application filed September 2, 1889. Serial No. 322,714. (No model.)

To all whom it may concern:

Be it known that I, CYRUS W. SALADEE, a citizen of the United States, residing in the city of Cleveland, State of Ohio, have invented certain new and useful Improvements in Running-Gears for Road-Wagons, the same being constructed, combined, and arranged to operate as hereinafter fully set forth, and specifically pointed out in the appended claims.

The first part of my invention relates to the fifth-wheel coupling in road-wagons constructed with or without a reach connecting the axles; and it consists in mounting the fifth-wheel upon a transversely-arranged spring-support connected directly to and on a line with or parallel to the axle, preferably a single or duplex spring having its terminal eyes connected to the axle at or near its opposite shoulders, and said fifth-wheel having its vertical center or king bolt arranged to operate in the rear of said spring-support, whereby to facilitate the turning of the vehicle in a shorter circle than if the king-bolt were placed in a vertical line with the axle or immediately at the side of it, as is the general practice now in vogue.

The second part of my invention relates to the manner of connecting the front end of the reach to the axle, whereby, in combination with the arrangement of fifth-wheel above described, to facilitate the short turning of the vehicles; and it consists in a rearwardly-extended arm or bearing having its front end or ends rigidly attached to the center portion of the front axle, a forwardly-extended arm or arms from the front end of the reach, and the respective arms united by a vertical pivotal connection, which latter is placed in a line with the king-bolt of the fifth-wheel mounted upon said transverse spring-support, as above described.

The third part of my invention relates to the manner of securing said fifth-wheel in its above-described position; and it consists in the devices hereinafter more fully set forth.

As before intimated, my invention applies to running-gear for road-wagons constructed with or without a reach connecting the axle; also, that the transverse spring-support shown and described may be used in connection with the front axle, while any other suitable spring-support may be employed in connection with

the hind axle and adapted to carry that end of the body.

In the drawings, Figure 1 represents a side elevation of a complete road-wagon embodying my invention. Fig. 2 is a detached plan view of the running-gear seen in Fig. 1, with the body and top plate of the fifth-wheel removed. Fig. 3 is a detached plan view of the upper plate of the fifth-wheel with the body-supporting bars in their proper position. Fig. 4 is an enlarged detached side elevation of the rear portion of the fifth-wheel, showing its king-bolt connection in section. Fig. 5 is an enlarged side elevation of the front portion of the fifth-wheel in section, representing a friction-hook clasping both plates of the wheel. Fig. 6 is a front elevation of Fig. 1. Fig. 7 is an enlarged detached plan view of the center portion of the front axle with the front end of the reach connected therewith. Fig. 8 is a side elevation of Fig. 7. Fig. 9 is a detached plan view of the rearwardly-extended axle-arm R seen in Figs. 7 and 8. Figs. 10 and 10^a are modifications of Fig. 8. Fig. 11 is a detached enlarged front elevation of the axle, showing the trunnion-plate clipped to the under side thereof. Fig. 12 is a detached plan view of the plate seen in Fig. 11. Fig. 13 is a plan view substantially the same as Figs. 1 and 2, omitting the reach. Fig. 14 is a modification.

In carrying out my invention I proceed, preferably, as follows: To the front axle B, which is preferably of a depressed or "cranked" form, is secured a duplex transverse spring A, as seen in either of the Figs. 1, 2, or 13, having its terminal ends pivotally connected to the axle at or near its opposite shoulders in any of the well-known methods of making this connection; but I prefer the device represented in Figs. 11 and 12, consisting of plate G, the opposite ends of which are provided with the clip-bars G', integral therewith, pierced with holes G² to receive the clips G³. (Seen in Fig. 11.) In a transverse position to said plate G, on opposite sides, is formed integral therewith the hollow spool-bearings G⁴, through which is passed the detachable trunnion-bolt B². This plate is rigidly secured to the under side of the axle by clips G³, as seen in Fig. 11. The terminal eyes of said duplex springs A, which latter

are preferably of the self-compensating form, are connected to the spool-bearing G^4 by the trunnion-bolt B^2 , passing through the latter and the eyes in the spring; or, when preferred, said detachable bolt may carry a link-connection similar to that seen in my patent, No. 355,341.

On top of the spring A is placed the cross-bars $E F$, and on these bars (see Fig. 1) is secured the lower plate c of the fifth-wheel, the upper plate D secured, preferably, to the body-supporting bars $I I'$; or, omitting the latter, attach the plate D directly to the bottom frame of the body, in which case the rearwardly-extended arm D' is omitted and the king-bolt H is passed through the center longitudinal sill of the body; but I prefer the use of the two bars $I I'$, and the upper plate D being provided with the arm D' , as seen in Figs. 1, 3, and 4.

The fifth-wheel plates C and D are preferably of the form seen in Figs. 2 and 3, and yet the form shown is not essential, since it may be changed to other shapes answering the same purpose. The front portion of the lower plate C , Figs. 2 and 5, is extended beyond the front portion of the upper plate D and secured upon the center of the front spring of the pair, as in Fig. 2. This leaves the rearward or inner edge of the lower plate extended over the spring-bar E , as plainly seen in Fig. 5, and flush with the inner edge of the upper plate D . The bar I is secured to the top side of plate D even with its inside edge. Thus the inside surface of the bar I and the inner edges of the two plates $C D$ are on a line with each other, whereby to admit of the application of the safety-hook J' , as seen in Fig. 5, having its top end rigidly secured to the bar I and its lower end terminating in the hook which clasps the bottom plate C , all as clearly represented in the last-named figure. By means of this hook J' the upper plate D is firmly held down upon the lower plate c , and yet admitting of the latter sliding around between the plate D and the hook end of J' . When preferred, the rearwardly-extended arm D' of the fifth-wheel plate D may be wrought separately, and having its outer end secured to the body and its inner end passing under the plate C and receiving the lower end of the king-bolt H , as seen by the dotted lines D^2 . Stops $I' I'$, Fig. 2, are made integral with the lower plate C , whereby to regulate the operation of the latter by coming in contact with the hook J' , and thereby prevent the front wheels from striking the sides of the body when turning the vehicle.

It will be seen by consulting Fig. 2 that the king-bolt center H and the front spring A may be retained in their present position, and the diameter or periphery of the segmental plates C may be reduced to any desirable extent by the forwardly-extended portion C^2 , which reaches to and connects with the spring in front.

When a reach is employed connecting the

axles, as in Fig. 2, in combination with the arrangement of fifth-wheel described, its front end is pivotally connected to the rear of the axle in a vertical line with the king-bolt H by either of the means shown in Figs. 7, 8, 10, 10^a, and 14. A rearwardly-extended arm R , Figs. 7, 8, and 9, has its forward end formed, preferably, with a T-head S , Fig. 9, terminating in clip-bars $S' S^2$, by which latter it is clipped to the under side of the axle, as in Figs. 7 and 8. Intermediate between its ends lugs $T^2 T^2$ are formed on its opposite edges, and the rear end is pierced with a hole to receive the hollow boss O' , which latter is formed, preferably, on the under side of the reach-arm O , Fig. 8. Forwardly-projected arms O and N extend from the front end of the reach P , terminating in the segmental plates $T T'$, Figs. 7 and 8, and between which is secured the axle-arm R by the center-bolt H' , which latter is in a vertical line with the king-bolt H of the fifth-wheel, as on the dotted line X , Fig. 1. Through the outer ends of the segmental plates $T T'$ is passed the bolts $L L$, whereby to secure said plates in their relation to each other and the axle-arm R , held between them, and also to prevent these parts from becoming loose and rattling, as whatever wear occurs may be taken up by tightening the nuts on the bolts L and H' . In Fig. 10^a the arrangement of parts last described is changed—that is, the reach-arm N is held between two axle-arms R and R' —and in Fig. 10 two rearwardly-extended arms from the axle and two forwardly-extended arms from the reach are united to the vertical boss T^2 , which are connected by the center-bolt H' , and I propose to employ either of the devices seen in said Figs. 7, 8, 9, 10, and 10^a, as circumstances may require or the fancy suggest; but I prefer that seen in Fig. 10 as the most simple and practical.

In Fig. 13 the arrangement of parts seen in Figs. 1 and 2 are adopted in the absence of any reach connecting the axles, and in which the front cross-bar E is extended to form the draft-bar, to the opposite ends of which are secured the shaft or pole shackles M , and a brace V is extended from the shaft-bar to the rear bar F , whereby to stay the former. When preferred, one or both of the fifth-wheel plates seen in Fig. 16 may be a complete circle, as indicated by the dotted lines in this figure, the lower plate having the forwardly-projecting part c^2 .

In Fig. 14 the rearwardly-extended axle-arm R takes the form of a semi-circle having its ends clipped to the axle at widely-separated points. The reach-arms $N O$ hold the circular arm R between them by the center bolt H' , passing through an enlarged center bearing formed on the arm R , and bolts L^3 and L^4 , passing through both reach-arms in front and rear of axle-arm R at that point, serve to hold all the parts together and prevent their becoming loose or rattling.

In Fig. 3 is shown a centrally-arranged

cross-bar I^2 in dotted lines. When this is used, the bars I and I' are omitted.

The dotted line B^2 , Fig. 2, represents the position of the front axle and axle-arm connected to the reach when in the act of turning the vehicle.

The king-bolt H is preferably located in the rear of said duplex-spring support, as shown in the drawings, whereby to secure the turning of the vehicle in the shortest possible area; but when this feature is not desired to its utmost extent the king-bolt may pass directly through the center of the rear spring of the pair, or in close proximity to either side of it.

Without limiting my claims to the precise arrangements of the several parts shown and described, I claim—

1. In combination with the front axle of a road-wagon, duplex flexion-springs arranged parallel to and on opposite sides of said axle, having their terminal eyes pivotally connected to the latter at or near the shoulders thereof, and a fifth-wheel device interposed between said spring-support and the body, with its pivotal center or king-bolt placed in close proximity to either side of the rear spring of the pair, substantially as and for the purpose set forth.

2. The combination, in a running-gear for road-wagons, of duplex flexion-springs arranged parallel to and on opposite sides of the front axle, having their terminal eyes pivotally connected to the latter at or near its opposite shoulders, a fifth-wheel device interposed between said spring-support and the body, with its pivotal center or king-bolt placed in close proximity to either side of the rear spring of the pair, and a reach connecting the axles, its forward end being secured to the front axle by a vertical pivotal bearing placed in a line with the king-bolt of said fifth-wheel device, substantially as and for the purpose set forth.

3. The combination, in a running-gear for road-wagons, of duplex springs arranged parallel to and on opposite sides of the front axle, having their terminal eyes pivotally connected to the latter at or near its opposite shoulders, a fifth-wheel device interposed between said spring-support and the body, with its pivotal center or king-bolt placed in close proximity to either side of the rear spring of

the pair, a reach connecting the axles, and a rearwardly-extended arm or segment R, rigidly secured to the front axle and pivotally united to said reach in a vertical line with the king-bolt of said fifth-wheel device, substantially as and for the purpose set forth.

4. The combination, with the front axle B, duplex springs A A, and a reach connecting the axles, of the rearwardly-extended arm or segment R and forwardly-extended reach-arms N O, the front ends of the latter pivotally supporting between them said arm or segment R in a vertical line with the king-bolt H, substantially as and for the purpose set forth.

5. The combination, with the front axle B and a reach connecting the axles, of the rearwardly-extended arm or segment R and reach-arms N O, the front ends of the latter terminating in the segmental plates T T', between which the arm or segment R is pivotally secured by the vertical bolts H' and L L, substantially as shown and described.

6. In combination with the front axle B, a transversely-arranged duplex spring A A, having its terminal eyes pivotally connected to the axle at or near its opposite shoulders, spring-bars E F, secured to the top of said springs, the shaft or pole shackles M, attached to the opposite ends of the front bar E, cross-brace V, connecting said spring-bars, and a fifth-wheel device mounted upon the latter, having its vertical center or king-bolt H placed in close proximity to either side of the rear spring of the pair, substantially as set forth.

7. In connection with the front axle of a road-wagon, duplex springs arranged parallel to and on opposite sides of said axle, a fifth-wheel mounted on said spring-support, consisting, preferably, of two segmental plates C D, the lower of which has its front portion extended beyond the upper plate and secured to or upon the front spring of the pair, rearwardly supported upon the hind spring of the pair, and having its king-bolt H placed in the rear of said axle, substantially as and for the purpose set forth.

CYRUS W. SALADEE.

Witnesses:

J. M. CARRINGTON,
G. L. BROWN.