

No. 702,851.

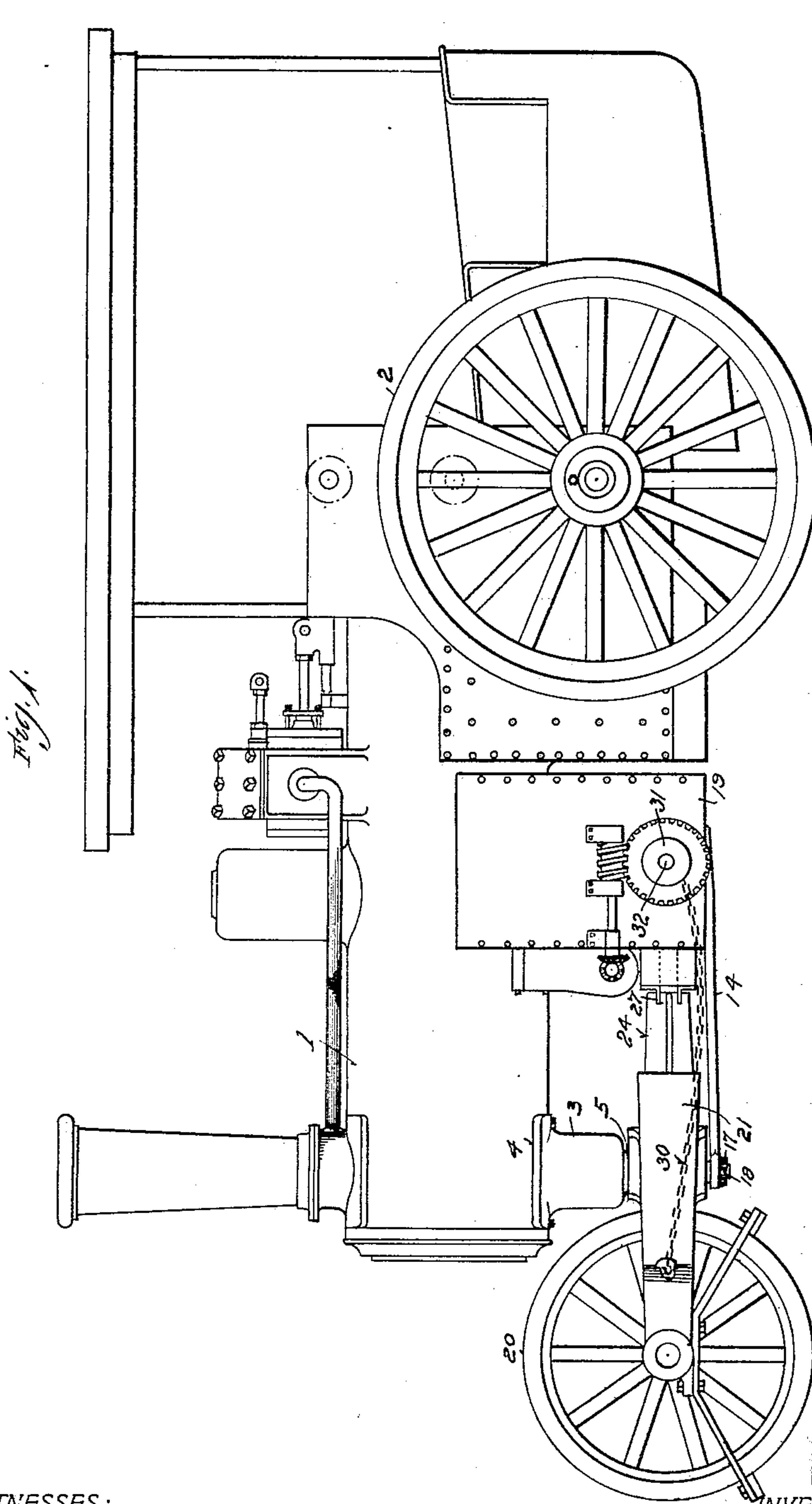
Patented June 17, 1902.

T. WRIGHT.
STEAM ROAD ROLLER.

(Application filed Feb. 26, 1902.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

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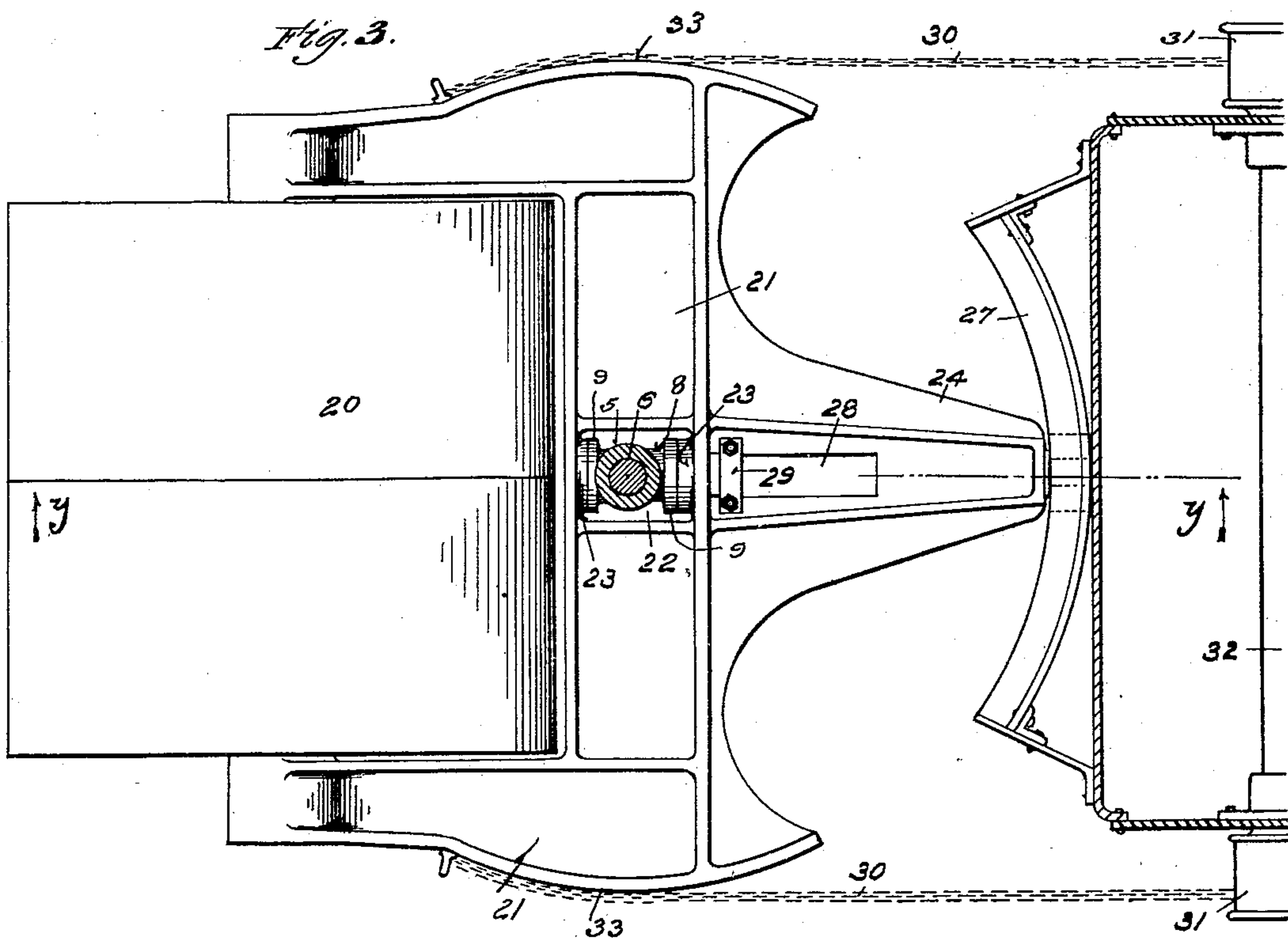
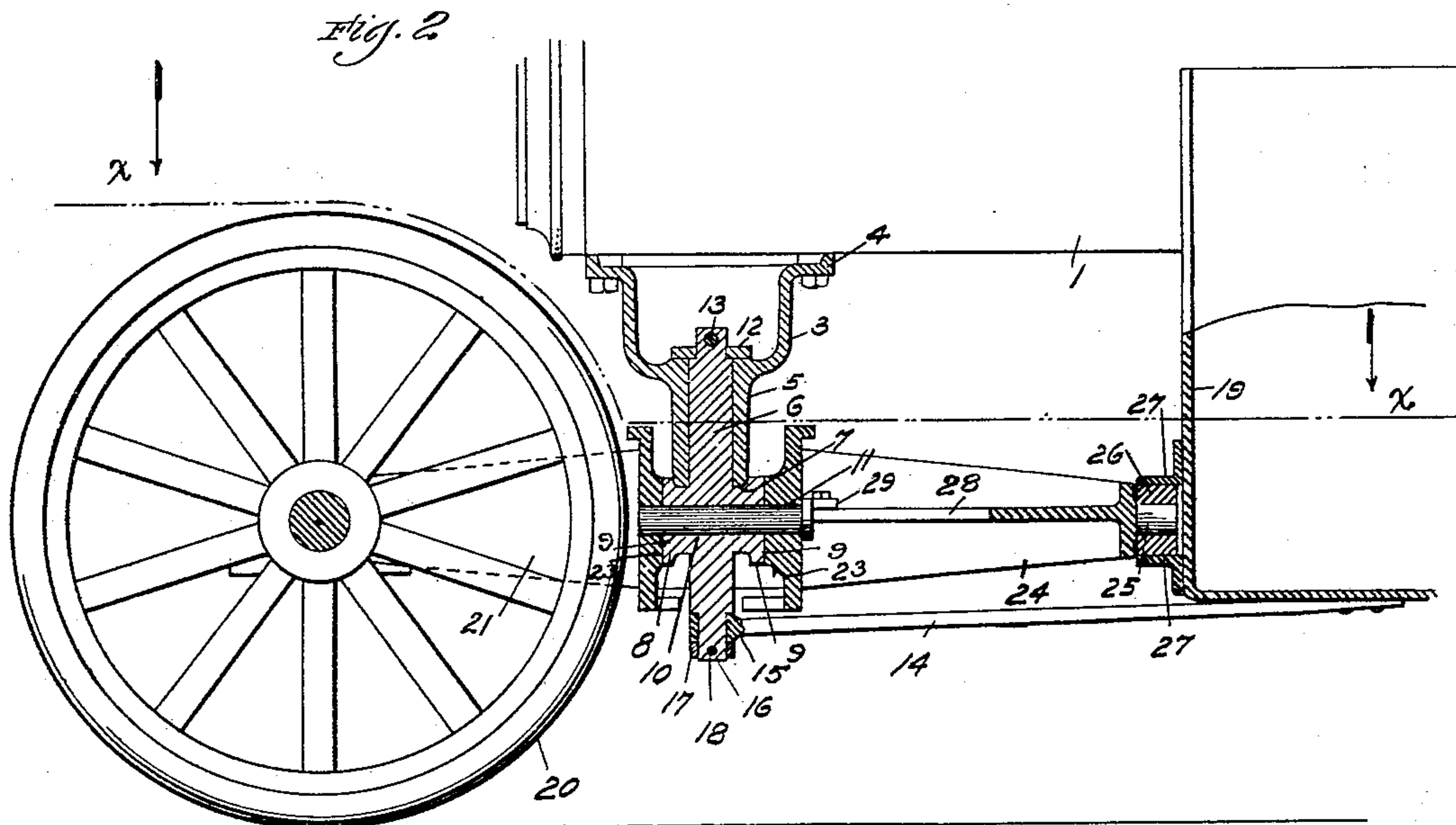
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WITNESSES:

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UNITED STATES PATENT OFFICE.

THOMAS WRIGHT, OF SPRINGFIELD, OHIO.

STEAM ROAD-ROLLER.

SPECIFICATION forming part of Letters Patent No. 702,851, dated June 17, 1902.

Application filed February 26, 1902. Serial No. 95,790. (No model.)

To all whom it may concern:

Be it known that I, THOMAS WRIGHT, a subject of the King of Great Britain and Ireland, residing at Springfield, in the county of Clark and State of Ohio, have invented certain new and useful Improvements in Steam Road-Rollers, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to steam road-rollers, and more particularly to rollers of the now generally accepted type comprising a horizontal boiler and frame, driving-wheels located on each side of the rear of the machine, and a steering-roller located at the front of the machine.

The present invention relates more particularly to the connection and support of the front steering-roller, and has for its object to obviate certain objections attendant upon the usual mode of connecting the front roller with the boiler. This connection is in the nature of a universal joint, the roller being supported in a yoke, between which and the boiler there are interposed two pivotal connections at right angles to each other, the one vertical and the other horizontal. Heretofore, so far as I am aware, this connection has been uniformly effected by attaching to the boiler-front a housing or connection, by means of which the vertical pivot or king-post is supported directly in front of the boiler. This construction is disadvantageous for several reasons, but chiefly on account of the fact that it obstructs access to the front end of the boiler for the purpose of inspecting the same or cleaning the flues and also for the reason that it limits to a very material extent the height or diameter of the front roller. It is the purpose of my present invention to obviate these difficulties; and to this end my said invention consists in certain novel features, which I will now proceed to describe and will then particularly point out in the claims.

45 In the accompanying drawings, Figure 1 is a side elevation of a road-roller having my improvement applied thereto. Fig. 2 is an enlarged vertical section upon the line *yy* of Fig. 3 and looking in the direction of the arrows, portions of the device being shown in elevation; and Fig. 3 is a plan section taken on the line *xx* of Fig. 2.

In the said drawings, 1 indicates the boiler, which is of the usual horizontal type and which is supported at its rear end by the driving-wheels 2. At the front end of the boiler and underneath the same is located a casting 3, comprising a saddle 4, secured to the under side of the boiler, and a housing 5, forming a bearing for the king-bolt 6, which is mounted to turn therein. The lower end of the housing 5 rests upon a bearing-surface 7, formed about midway of the body of the king-bolt, which is provided at its central portion with a horizontal part 8, cylindrical in general outline, although terminating in enlarged disk-shaped heads 9, and apertured, as indicated at 10, for the passage of a horizontal pin 11, which forms the horizontal pivot of the universal joint by which the front roller is connected to the boiler. The king-post 6 is provided at its upper end with a washer 12 and pin 13, by means of which it is secured in position in the housing 5, and its lower end is braced by means of a rod 14, provided at its forward end with an eye or collar 15, fitted on the reduced lower part 16 of the king-post and held in position by a collar 17 and pin 18 or in any other suitable manner. The rear end of the brace-rod 14 is secured to the under side of the front tank 19 or to any other suitable part of the machine.

The front roller 20 is mounted in a horizontal yoke 21, which is provided with a central opening 22 to receive the king-post 6 and provided with front and rear bearing-disks 23, against which the enlarged heads 9 of the horizontal portion 8 of the king-post bear. The horizontal pivot-pin 11 passes through the yoke 21 in the manner shown and serves to connect the same to the king-post. The yoke has a rearward extension 24, provided with a guide-pin 25, having a roller or block 26 thereon, fitting between guides 27, consisting, preferably, of arc-shaped flanges secured to the front of the tank 19. In order to facilitate removal of the pin 11, the rearward extension 24 of the yoke is slotted, as indicated at 28. A locking-plate 29 is employed to hold the pin 11 in position.

The usual steering-chains 30 are secured to the yoke 21 and connected to the steering-drums 31 on the steering-shaft 32. The yoke 21 is provided at its sides with segmental

wings or extensions 33, lying in the plane of the body of the yoke, the same being segments of circles drawn from the center of the king-post and serving to act as chain guards 5 or guides for the steering-chains.

It will be noted that by employing a horizontal yoke and locating the universal-joint connection of said yoke below the boiler instead of in front of the front end thereof the boiler-front is entirely unobstructed, so that the front end of the boiler, which usually constitutes the smoke-box, may be made of full diameter and of any desired length. Moreover, since the boiler-front is entirely 15 unobstructed access may be had to the interior thereof and to the boiler-flues for the purpose of inspection and for cleaning the flues, it being possible to use a cleaning-tool of any desired length. Moreover, if it is desired to increase the diameter of the front 20 roller this can readily be done by extending the horizontal yoke forward a distance sufficient to accommodate the increased diameter of the roller. It will also be seen that the driving strain is in the plane of the yoke when this latter is horizontal instead of being transverse thereto, as in the case of the usual vertical yoke, which latter construction requires a heavy yoke and causes a severe strain on 30 the king-post or pivot.

I do not wish to be understood as limiting myself to the precise details of construction hereinbefore described, and shown in the accompanying drawings, as the same may obviously be modified without departing from the principle of my invention. 35

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

40 1. In a steam road-roller, the combination, with a horizontal boiler provided with driving-wheels at its rear end, of a steering-roller located at the front of the boiler, a horizontal yoke in which said roller is mounted, said 45 yoke extending rearward from said roller under the boiler, and a universal joint connecting said yoke with the under side of the boiler, said joint being located under the boiler and back of the front end of the same, 50 whereby the boiler-front is unobstructed, substantially as described.

2. In a steam road-roller, the combination, with a horizontal boiler provided with driving-wheels at its rear end, of a steering-roller 55 located at the front of the boiler, a horizontal yoke in which said roller is mounted, said yoke extending rearward from said roller under the boiler, and a universal joint connecting said yoke with the under side of the boiler, 60 whereby the boiler-front is unobstructed, said yoke being provided with a rearward extension, and fixed horizontal guides between

which said extension moves, substantially as described.

3. In a steam road-roller, the combination, 65 with a horizontal boiler provided with driving-wheels at its rear end and having a vertical housing located under its front end, of a king-post pivotally mounted in said housing, a horizontal yoke connected with said 70 king-post by a horizontal pivot, and a steering-roller mounted in said yoke, substantially as described.

4. In a steam road-roller, the combination, with a boiler having a saddle-casting secured 75 to its under side at the front and provided with a vertical housing, of a king-post mounted in said housing, a horizontal yoke pivotally connected with said king-post by a horizontal pivot and provided at its forward end 80 with a steering-roller and at its rear end with a bearing-roller, and horizontal guides secured to a fixed part of the machine and receiving between them said bearing-roller, substantially as described. 85

5. In a steam road-roller, the combination, with a horizontal boiler having a vertical housing secured underneath its front end, of a king-post mounted in said housing and having a bearing-surface upon which the lower 90 end of the housing rests, and a transverse portion terminating in front and rear bearing-disks, a steering-roller, a horizontal yoke in which said steering-roller is mounted, said yoke being provided with an opening having 95 bearing-surfaces to abut against the bearing-disks of the king-post, and a horizontal pin passing through said yoke and through the king-post, substantially as described.

6. In a steam road-roller, the combination, 100 with a horizontal boiler having driving-wheels at the rear and a front tank, of a housing located under the front end of the boiler, a king-post rotatably mounted in said housing, a horizontal yoke connected with said housing 105 by a longitudinal pivot, a steering-roller mounted in the forwardly-extending arms of the yoke, said yoke being provided with a rearward extension, horizontal guide-plates secured to the front of the tank, the rear- 110 ward extension of the yoke being provided with a bearing-roller located between said plates, and a brace-rod connecting the lower end of the king-post and the tank, substantially as described. 115

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

THOMAS WRIGHT.

Witnesses:

IRVINE MILLER,

WILL O'LAUGHLIN.