

No. 640,979.

Patented Jan. 9, 1900.

E. T. WADE.  
RUNNING GEAR.

(Application filed Oct. 30, 1899.)

(No Model.)

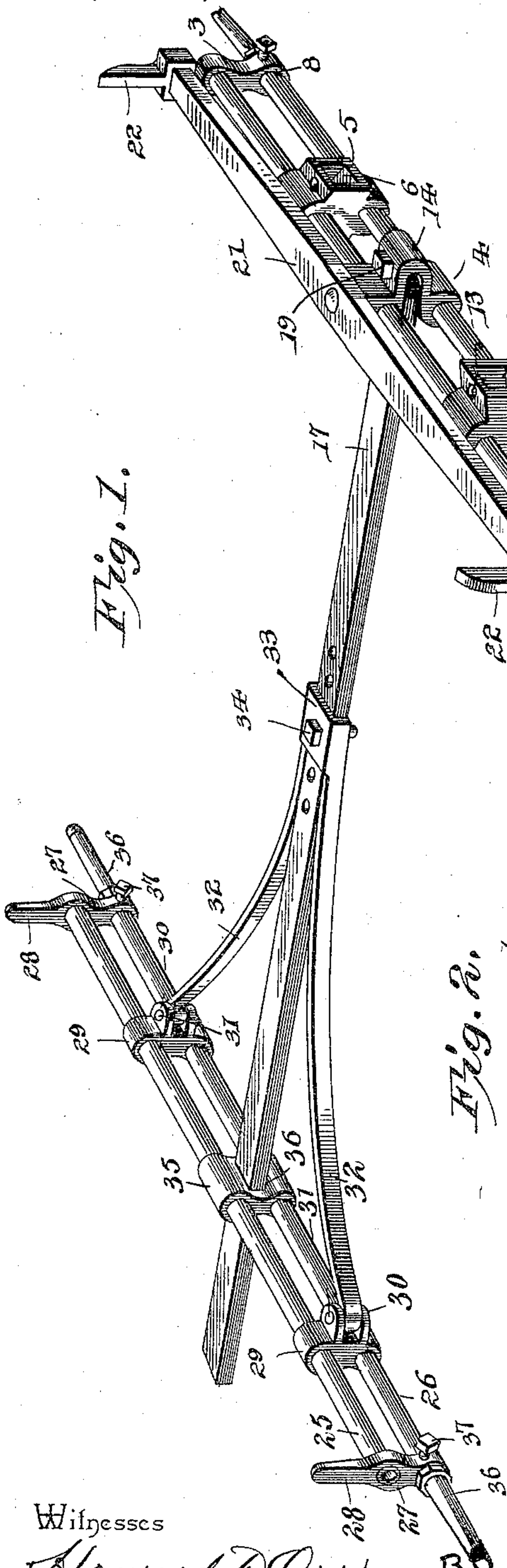


Fig. 1.

Fig. 2.

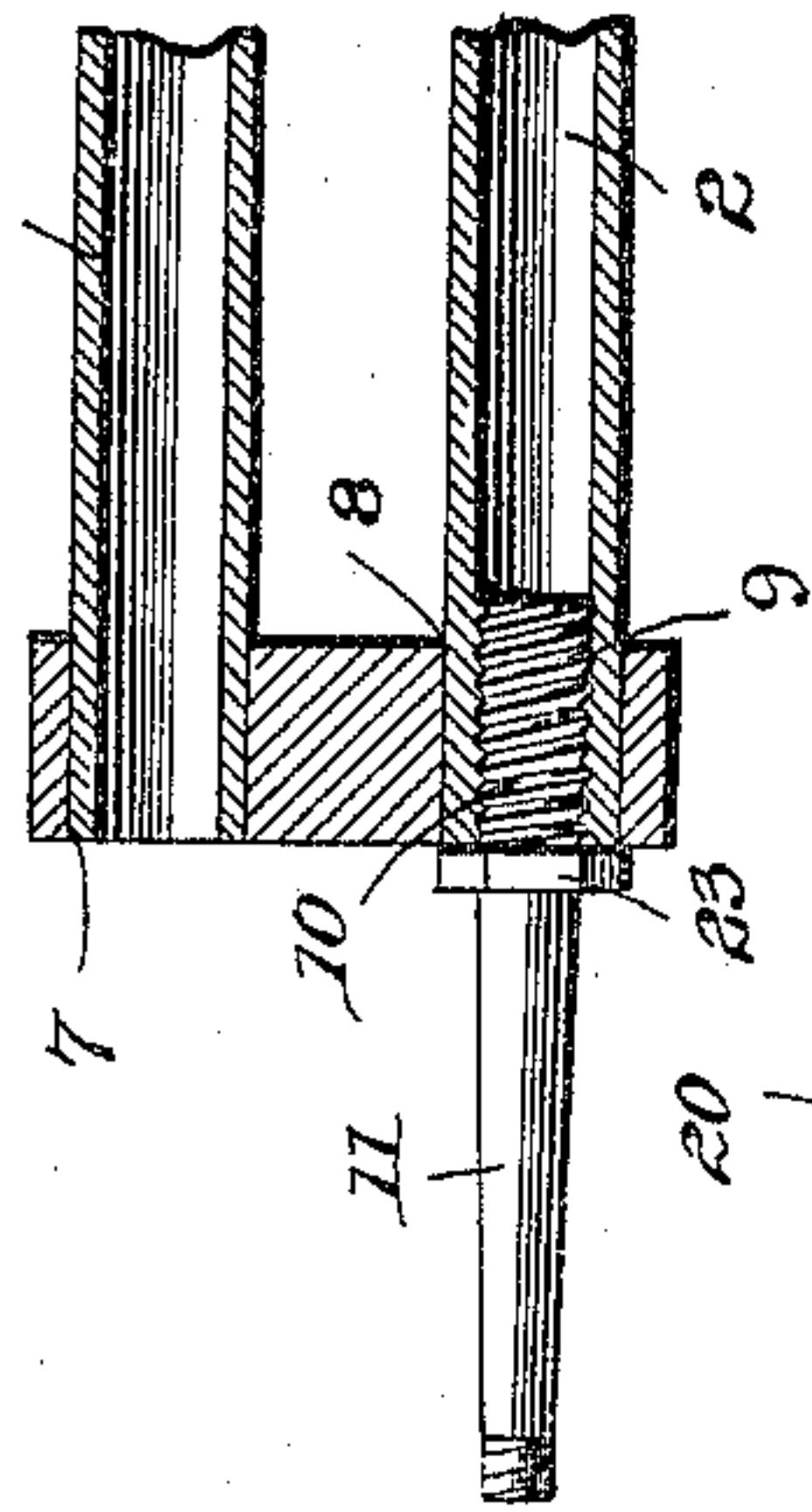


Fig. 3.

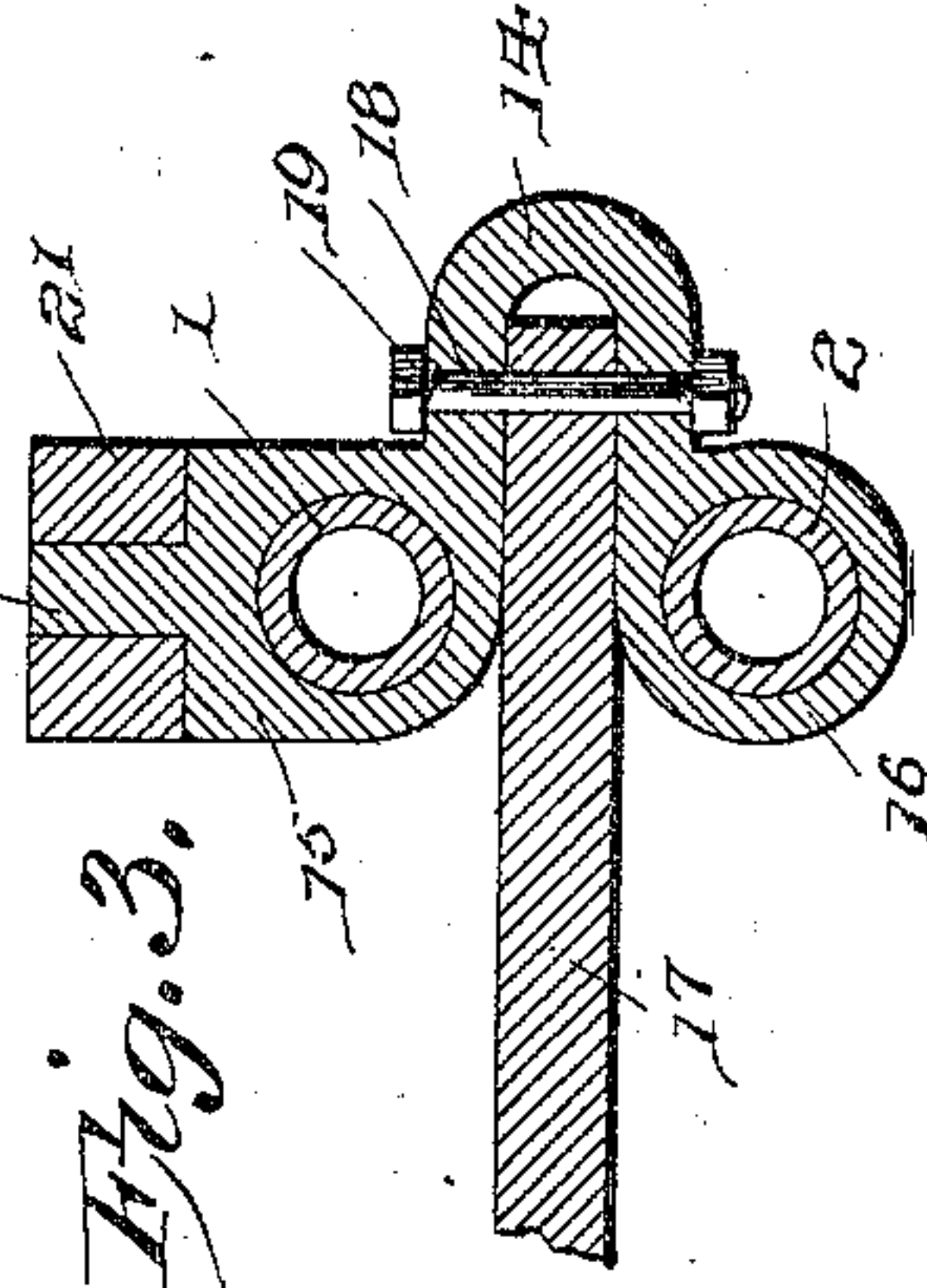
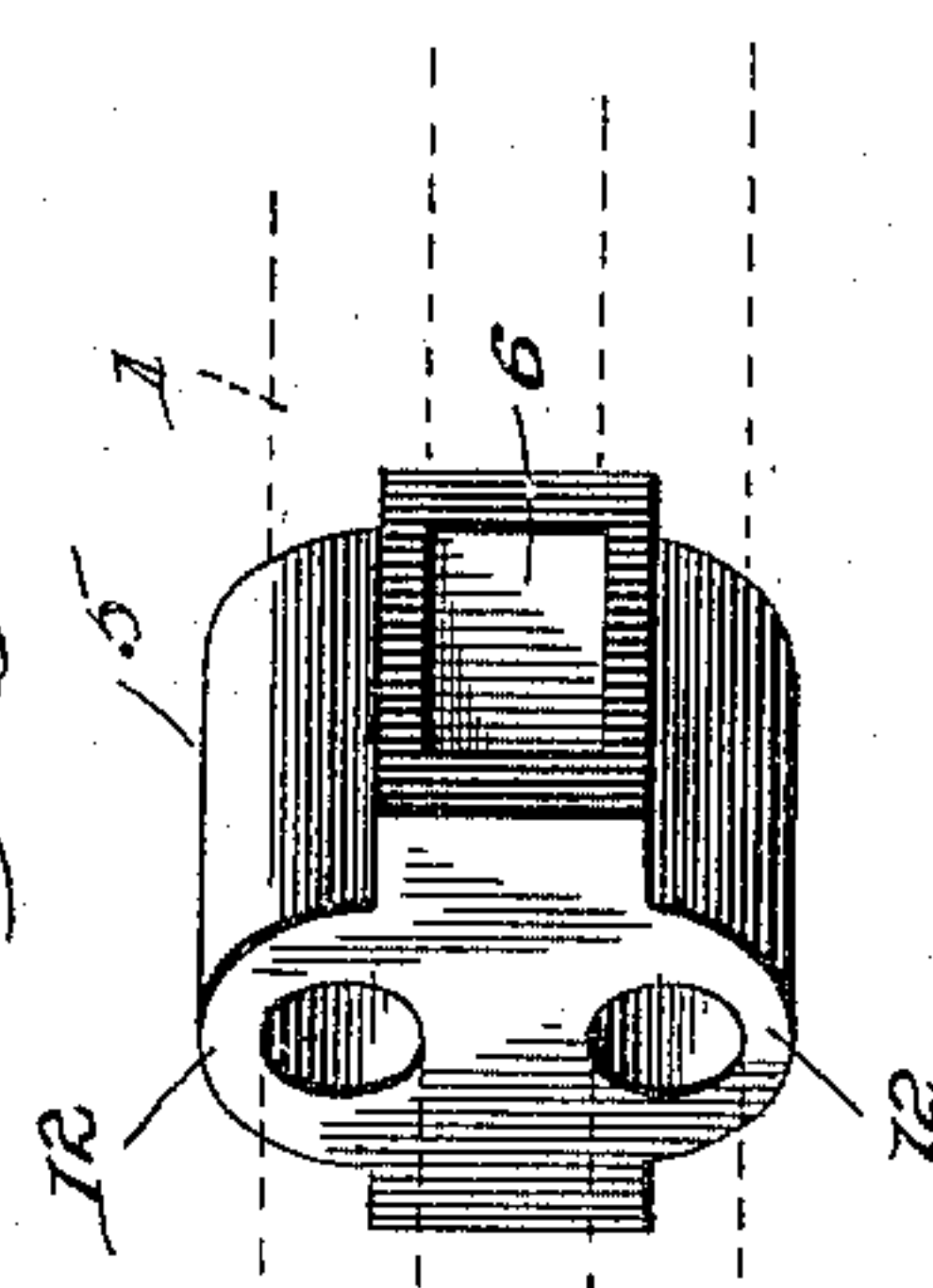
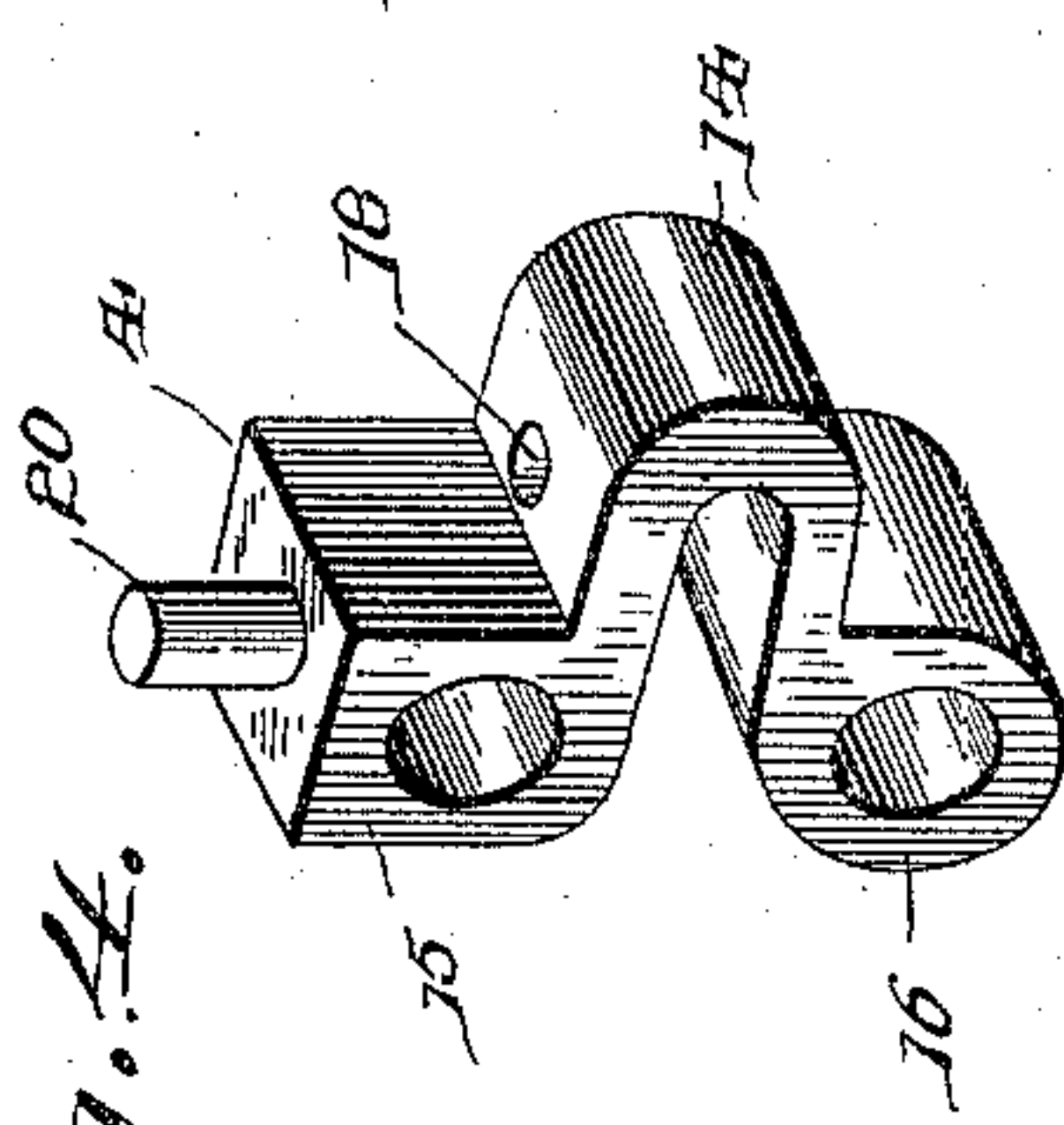


Fig. 4.



Witnesses

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# UNITED STATES PATENT OFFICE.

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## RUNNING-GEAR.

SPECIFICATION forming part of Letters Patent No. 640,979, dated January 9, 1900.

Application filed October 30, 1899. Serial No. 735,306. (No model.)

*To all whom it may concern:*

Be it known that I, EDWIN T. WADE, a citizen of the United States, residing at Clarksdale, in the county of Coahoma and State of Mississippi, have invented a new and useful Running-Gear, of which the following is a specification.

The invention relates to improvements in running-gear.

The object of the present invention is to improve the construction of running-gear for vehicles and to provide one which will be simple and comparatively inexpensive in construction and which will be exceedingly light and at the same time possess the necessary strength and durability.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a perspective view of a portion of a running-gear constructed in accordance with this invention. Fig. 2 is a longitudinal sectional view of one end of one of the axles, illustrating the construction of the removable spindles. Fig. 3 is a detail sectional view illustrating the manner of coupling the reach to the front axle. Fig. 4 is a detail perspective view of the central coupling of the front axle. Fig. 5 is a similar view of one of the hollow blocks or sleeves for supporting the front hounds.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 and 2 designate parallel tubes arranged transversely of the front portion of the running-gear, with the tube 1 directly above the tube 2 and forming the body portion of the front axle. The horizontal tubes 1 and 2 are connected at their terminals by end blocks or bars 3, at the center by a coupling 4, and at intermediate points by hollow blocks or sleeves 5, converging forwardly and provided with rectangular longitudinal openings 6, adapted for the reception of the front hounds of the running-gear. The end blocks or connections 3 are provided with upper and lower openings 7 and 8, receiving the terminals of the tubes, and the lower tube 2 has its ends 9

interiorly threaded and adapted to receive threaded shanks 10 of removable spindles 11. The ends of the tubes 1 and 2 may be secured within the upper and lower openings 7 and 8 of the end blocks or connections by any suitable means.

The hollow blocks or sleeves 5, which are set at an angle to agree with the angle of the hounds, (not shown,) are provided with upper and lower transverse enlargements 12, having openings for the reception of the upper and lower tubes, which are firmly supported and braced by the hollow blocks or sleeves, which are provided at their ends with perforations 13 for the reception of bolts or other suitable fastening devices for securing the hounds to them, but a tongue or pole may be coupled to them by any other suitable means, as will be readily understood.

The central coupling consists of a substantially U-shaped central portion 14 and upper and lower arms or portions 15 and 16, projecting from the U-shaped portion, as clearly shown in Fig. 4 of the accompanying drawings, and provided with transverse openings for the reception of the upper and lower tubes. The central U-shaped portion 14 is disposed horizontally and opens rearwardly to receive the front end of the reach 17 of the running-gear, and it is provided with a vertical perforation 18 for the reception of a bolt 19, which pivots the reach in the said U-shaped portion 14. The U-shaped portion 14, which is open at the sides, permits the front axle to swing or turn on the front end of the reach. The upper arm or portion 15 of the central coupling has a rectangular upper bearing-face, and it is provided with a central pivot 20, which extends into an opening of the bolster 21, whereby the front axle is pivotally connected with the body of the vehicle. The bolster is provided at its ends with standards 22 and is adapted to support an ordinary wagon-body; but it will be readily apparent that the improvements are applicable to carriages and analogous vehicles.

The spindles 11, which are preferably constructed of solid steel, have the threaded shanks 10 at their inner ends and are provided with polygonal collars or flanges 23, located at the inner ends of the shanks 10 and adapted



to abut against the ends of the lower tube 2 and to have the vehicle-wheels abut against them. The polygonal collars or flanges are adapted to receive a wrench, by which the  
 5 spindles may be readily screwed on or off the tube 2. The outer ends of the spindles are threaded for the reception of axle-nuts, and the threads of the spindles at one side of the running-gear will be right-hand threads and  
 10 those at the other side will be left-hand threads, so that the forward rotation of the wheels will not operate to unscrew the spindles or the axle-nuts, as will be readily understood. The end blocks are provided with  
 15 threaded apertures for the reception of clamping-screws 24, arranged to engage the threaded shanks 10; but instead of arranging the clamping-screws at the front of the axle, as shown, they may be located at any other  
 20 point and may also be threaded directly into the lower tube.

The rear axle, which is constructed substantially the same as the front axle, is composed of upper and lower tubes 25 and 26, the lower  
 25 tube forming the body portion of the axle and the upper tube constituting a bolster, and the end blocks or connections 27 are provided with vertical extensions 28, forming standards, as will be readily seen from Fig. 1 of the accom-  
 30 panying drawings. The intermediate blocks 29 are provided with upper and lower openings for the reception of the tubes and have forwardly-projecting perforated ears 30, arranged in pairs and pivoted by vertical bolts 31 to the  
 35 rear ends of the rear hounds 32. These ears 30 extend horizontally from the central portion of the intermediate blocks or connections 29, and the rear ends of the hounds 32 are provided with eyes to receive the pivots 31.  
 40 The front ends of the hounds are connected by a partial sleeve or plate 33, embracing the top and sides of the reach, as clearly shown in Fig. 1, and adjustably secured to the same by a bolt or pin 34, passing through a perforation of the sleeve or plate and adapted to  
 45 engage any one of a series of perforations of the reach. The rear portion of the reach passes through a central block or connection 35, having a central opening 36 to receive the  
 50 said reach and provided with upper and lower transverse openings for the reception of the upper and lower tubes. The rear axle is provided with removable spindles 36, constructed similar to those heretofore described and se-  
 55 cured by clamping-screws 37, which prevent the spindles from accidentally unscrewing.

It will be seen that the running-gear is simple and comparatively inexpensive, that it is light, strong, and durable, and that it is ap-  
 60 plicable to all kinds of wagons, carriages, and analogous vehicles.

What is claimed is—

1. In a device of the class described, the combination of a central coupling consisting  
 65 of a central substantially U-shaped portion, and upper and lower arms, the upper arm being provided with a vertical pivot, the upper

and lower tubes or rods extending through openings of the said arms, and a reach pivoted in the central U-shaped portion of the coupling, substantially as described. 70

2. In a device of the class described, a coupling consisting of a central substantially U-shaped portion, adapted to receive the front  
 75 end of the reach and open at its sides, and the upper and lower arms having transverse openings the upper arm being provided with a vertical pivot, substantially as described.

3. In a device of the class described, the combination of the upper and lower tubes or  
 80 rods, and the converging hollow blocks or sleeves provided with upper and lower transverse openings receiving the tubes or rods, said blocks or sleeves being provided with longitudinal openings for the reception of  
 85 hounds, substantially as and for the purpose described.

4. In a device of the class described, the combination of upper and lower rods or tubes, the converging blocks or sleeves having cen-  
 90 tral longitudinal openings and provided with upper and lower transverse openings receiving the rods or tubes, the central coupling having upper and lower openings to receive the rods or tubes and provided with a central  
 95 horizontal substantially U-shaped portion arranged opposite the space between the upper and lower tubes, and a reach pivoted within the U-shaped portion of the coupling, substantially as described. 10

5. In a device of the class described, the combination of the upper and lower tubes, the end blocks or connections secured to the  
 105 tubes, the removable spindles fitted in the lower tube, the central coupling connecting the upper and lower tubes and provided with an intermediate U-shaped portion arranged to receive the reach, and the hollow blocks or sleeves connecting the tubes at opposite sides  
 110 of the coupling, substantially as described. 11

6. In a device of the class described, the combination of upper and lower tubes or rods, and the end blocks or connections secured to the tubes or rods and provided with vertical  
 115 extensions forming standards, substantially as described.

7. A device of the class described comprising upper and lower tubes or rods, end blocks or connections secured to the rods provided  
 120 with vertical extensions forming standards, the intermediate blocks connecting the rods or tubes and provided with ears for the reception of the rear hounds, and a central block having upper and lower transverse openings to receive the rods or tubes and provided with  
 125 a central opening for the reception of the reach, substantially as described.

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

EDWIN T. WADE.

Witnesses:

J. H. PHIFER,  
 R. E. TAYLOR.