

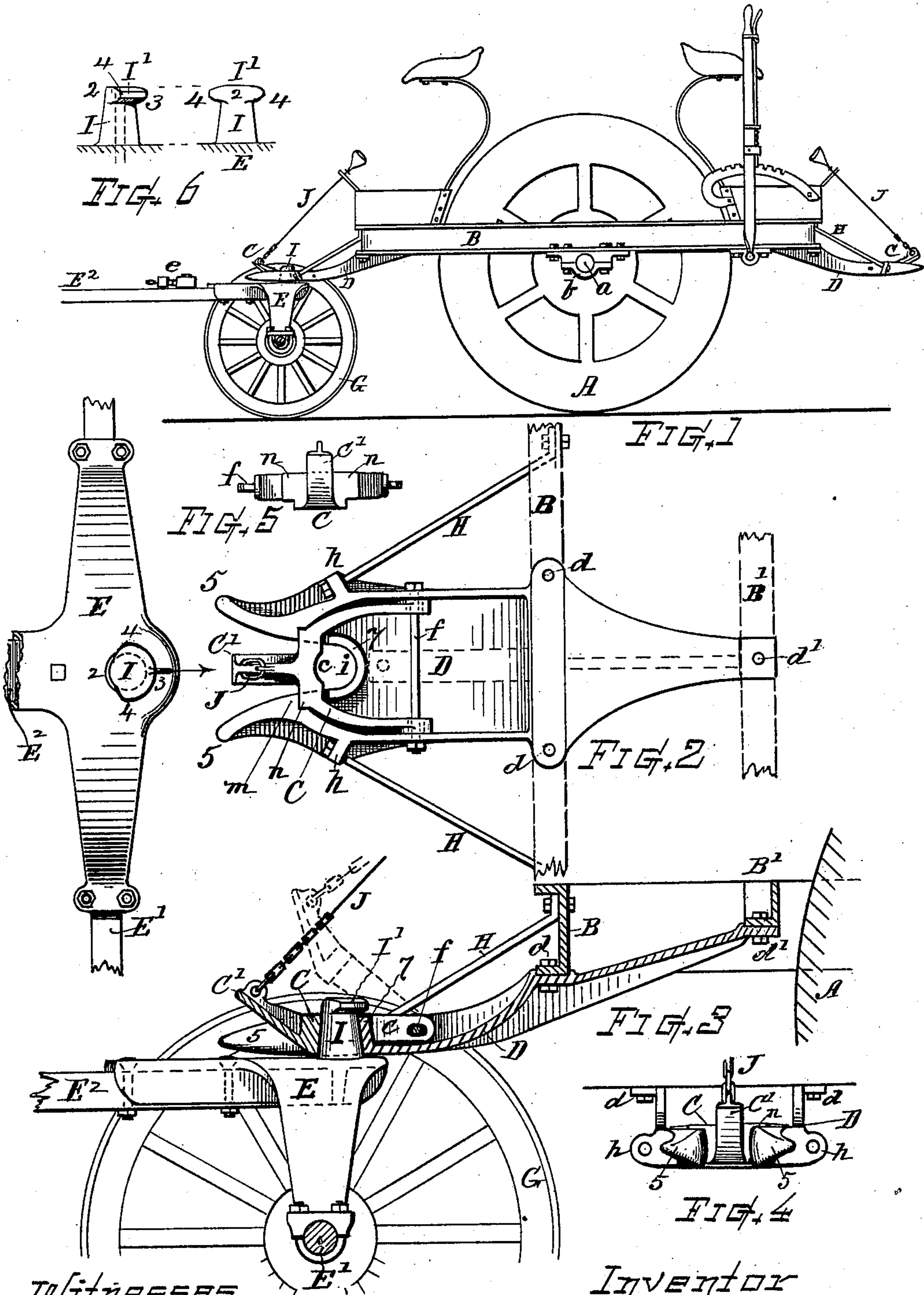
(No Model.)

G. W. TAFT.

TONGUE TRUCK CONNECTION FOR REVERSIBLE ROAD ROLLERS.

No. 601,819.

Patented Apr. 5, 1898.



Witnesses

W. E. Buck  
Simon & King

Inventor

George W. Taft.  
By Chas. H. Burleigh  
Attorney



# UNITED STATES PATENT OFFICE.

GEORGE WARNER TAFT, OF KENNETT SQUARE, PENNSYLVANIA.

TONGUE-TRUCK CONNECTION FOR REVERSIBLE ROAD-ROLLERS.

SPECIFICATION forming part of Letters Patent No. 601,819, dated April 5, 1898.

Application filed December 6, 1897. Serial No. 660,882. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE WARNER TAFT, a citizen of the United States, residing at Kennett Square, in the county of Chester and State of Pennsylvania, have invented a new and useful Improvement in Tongue-Truck Connections for Reversible Road-Rollers, of which the following, together with the accompanying drawings, is a specification sufficiently full, clear, and exact to enable persons skilled in the art to which this invention appertains to make and use the same.

In the operation of large and heavy rollers for compacting broken stone or other material on roads it is desirable and customary to reverse the direction of movement of the roller for back-and-forth travel over the road-surface without swinging the roller around laterally. To accomplish this, an advantageous method is the detachment of the team from one end of the roller-frame and its transfer and attachment to the opposite end of the roller-frame whenever the direction is to be reversed.

My present invention relates to an improvement applicable to this class of road-rollers, the object being to provide a reversible road-roller with an efficient means for quickly detaching and attaching the tongue-truck and team at either end of the roller-frame, as required, and to facilitate reversing the direction of draft or movement of the roller in its operation upon the road.

Another object is to provide means for the ready detachment and attachment of the tongue-truck or team at either end of the road-roller frame and in which the attachment is automatically effected by local contact of parts while the detachment is under control of the driver or attendant, as more fully hereinafter explained.

These objects I attain by the mechanism illustrated in the drawings, wherein—

Figure 1 is a side view of a road-roller embracing my invention. Fig. 2 is a plan view of the attaching appliances on a somewhat larger scale. Fig. 3 is a longitudinal sectional view of the same. Fig. 4 is a front end view of the connection plate and fastener. Fig. 5 is a front end view of the fastener or yoke

separate, and Fig. 6 shows by side and front views the form of the pintle-stud.

Referring to parts, A indicates the road-roller, and B the body or frame, constructed in well-known form to horizontally surround the roller and provided with bearings *b*, in which the journals or axle-shaft *a* of the roller is mounted. The machine is of "double-end" type, its frame and draft connections being made of similar form at each end and so that the road-roller can be operated "reversible" or in either direction. At the respective ends of the body-frame there are provided outwardly-projecting connection-plates D D, that alternately serve as the front support for the frame. Said plates are of similar construction and in accordance with my invention are made and adapted for operation in combination with the accompanying devices, in the peculiar manner as hereinafter more fully described.

When in use, the advance end of the roller-frame is carried upon the limber or truck, consisting of the axle *E'* and wheels *G*, the arched axle-plate *E*, fixed on said axle, and the draft-pole or tongue *E*<sup>2</sup>, having its end secured to said axle-plate, as shown. Said tongue is provided with the usual swing-bar and whiffletrees *e* or suitable appliances for the harnessing of the team thereto. This group of devices is herein termed the "tongue-truck."

The tongue-truck on its plate *E* is provided with an upwardly-projecting boss or stud *I*, rigidly fixed thereon, and which serves as the king pivot or pintle for draft connection. This pintle-stud is best formed, as shown in Figs. 3 and 6, with a body portion which is about three inches (more or less) in height, slightly tapered upward, and furnished at its top end with a cap or head *I'*, that projects, as a flange, rearward at 3 and laterally, as at 4, but presents no projection at the forward part 2. This head can be made integral with the body and plate or be attached by a bolt, as indicated by dotted line, Fig. 6. The pintle-stud *I* projects upright from the plate *E*, its axis being preferably disposed somewhat to the rearward of the vertical central plane of the axle and wheels *G*, as illustrated.



The connection-plate D is formed with a bifurcated fore end, representing a semicircular pintle-seat *i*, and a V-shaped mouth between two forwardly-projecting outward curved or inclined horns 5, tapering toward their fore end and having their inner surfaces rounded or shaped for directing the pintle-stud to the seat *i*, which seat is backed by a semicircular flange 7, integrally formed on the plate D.

The connection-plate is suitably flanged on its edges to give the required rigidity and is formed with suitable bearing-surfaces and holes *d d'*, whereby it is bolted to the frame A and to the frame cross-bar A'. Side ears *h* are best formed on the exterior of the plate for receiving the lateral stay-braces H, which extend therefrom obliquely to the frame A.

An upwardly-swinging yoke or loop-shaped catch C is loosely hinged upon the connection-plate D by the horizontal pin or bolt *f*, confining the two arms of said yoke between the side flanges of the plate. The inner front portion of the yoke at *c* is formed to match the front of the pintle-stud I, while its outer part is provided with a forwardly-projecting part C', the under surface of which is upwardly inclined toward the front and which extends forward between the horns 5 in the manner shown.

A suitable lifter J is attached to the projection C' and extended to a convenient position for manipulation by the attendant and by means of which the yoke C can be raised when desired, as indicated by dotted lines on Fig. 3.

The inner faces of the horns 5 are provided with lugs or shoulders *m*, and the yoke C is fitted with surfaces *n*, that take bearing against said shoulders for sustaining the draft stress when the roller is at work. The holes in the yoke for the hinging-pin *f* are longitudinally slotted to permit slight endwise play of the yoke, so that it will be self-adjusting to take proper bearing position and also sufficiently loose to work with freedom when making a shift.

In the operation the team and tongue-truck can be detached from the road-roller by simply raising the yoke C, so as to release the pintle-stud I from the seat-space *i*. This can be done by the driver by aid of the lifter J or by lifting the nose C' of the yoke. The team is then driven to the opposite end of the roller-frame and the tongue-truck is backed up to the connection-plate D, so that the pintle-stud I will enter between the projecting horns 5, and these, embracing its neck, guide the pintle-stud into the seat *i*. The inclined upper and lower surfaces of the horns 5, acting against the plate E and beneath the projecting sides 4 of the head I', serve to give vertical guidance, while the curved or inclined sides of the mouth serve to give horizontal guidance, so that the pintle-stud is readily backed into place. As the pintle-stud enters

between the horns 5 its top end strikes the inclined under surface of the projection C', and the yoke is thereby automatically raised, allowing the pintle-stud to pass into the seat-space *i*. The yoke then automatically drops in front of the stud, locking it in position, and thus attaching the tongue-truck and team, ready for drawing the road-roller in reverse direction from that at which the truck was detached. The head of the pintle-stud, rearwardly overhanging the flange or rim 7 of the pintle-seat *i*, prevents the escape or separation of the parts in vertical direction while permitting full horizontal swivel movement required for the swing of the truck in turning to the right or left as the road-roller is drawn from place to place.

It will be understood that I do not claim the reversal of a road-roller by detachment and shift of the team to the opposite end of the frame, as such manner of working has been heretofore practiced; but

What I claim, and desire to secure by Letters Patent, is—

1. The combination, with the road-roller, the frame carrying the bearings for the roller axle or journals, and the detachable tongue-truck; of a connection-plate fixed to said frame, and having the forwardly-tapered horns, V-shaped mouth, and seat for receiving the pintle-stud, and the locking yoke or loop hinged upon said connection-plate and adapted to fall in front of the pintle-stud for confining the same in said seat; said yoke provided with the forward projection having the upwardly-inclined under surface, substantially as set forth.

2. In combination, substantially as described, with a road-roller, its draft-frame, and the detachable tongue-truck having means for harnessing the team thereto, and carrying the pintle-stud; a tongue-truck connection at each end of said draft-frame, each comprising a projecting bifurcated plate having forwardly-tapered arms or horns with a pintle-receiving space between, and a movable yoke or fastener adapted for automatic elevation, and instant engagement with the pintle-stud of said tongue-truck when backed into said receiving-space, and means under control of the attendant for retracting said fastener and thereby detaching said tongue-truck, for the purposes set forth.

3. In a tongue-truck-attaching appliance, the connection-plate having a pintle-seat and forwardly-open mouth leading into said seat, the side portions fitted with lugs or shoulders *m*; and the upwardly-swinging yoke, its arms loosely hinged on said plate, its fore part having a forwardly upwardly inclined projection, an inner seat for embracing the pintle-stud, and its outer angles fitted with surfaces *n* that engage or abut on said shoulders, in combination with the tongue-truck having the pintle-stud fixed thereon.

4. In a tongue-truck-attaching appliance,



the pintle-stud rigidly fixed upon the tongue-plate, said stud having a head or flange that projects rearward and laterally beyond the cylindrical body of the stud, but presenting  
5 no projection at its forward side; in combination with the connection-plate provided with a pintle-seat recess with a semicircular flange or lip over which said head engages; and a yoke or drop-fastener adapted to fall

in front of said pintle-stud for retaining said ro pintle with said head and lip in conjunction, substantially as set forth.

Witness my hand this 30th day of November, 1897.

GEORGE WARNER TAFT.

Witnesses:

C. C. WILDER,  
J. M. CHALFANT.