

No. 747,748.

PATENTED DEC. 22, 1903.

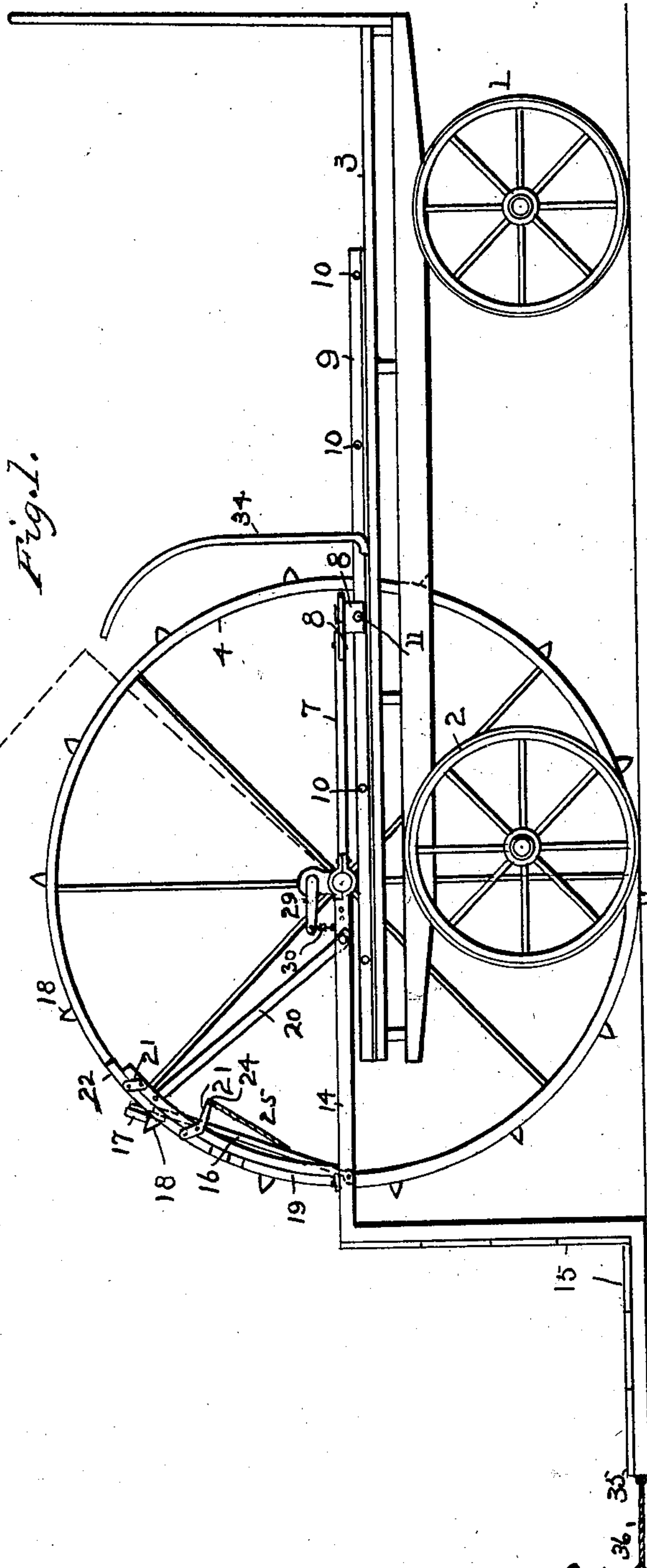
T. W. MOORE.

# AUTOMATIC LOADING ATTACHMENT FOR WAGONS.

APPLICATION FILED MAR. 27. 1903.

NO MODEL.

3 SHEETS--SHEET 1.



Inventor

Thomas W. Moore  
J. W. White  
Attorney

Attorney

Witnesses

Morris A. Clark.  
 Richard H. Tucker.

Richard H. Tucker.

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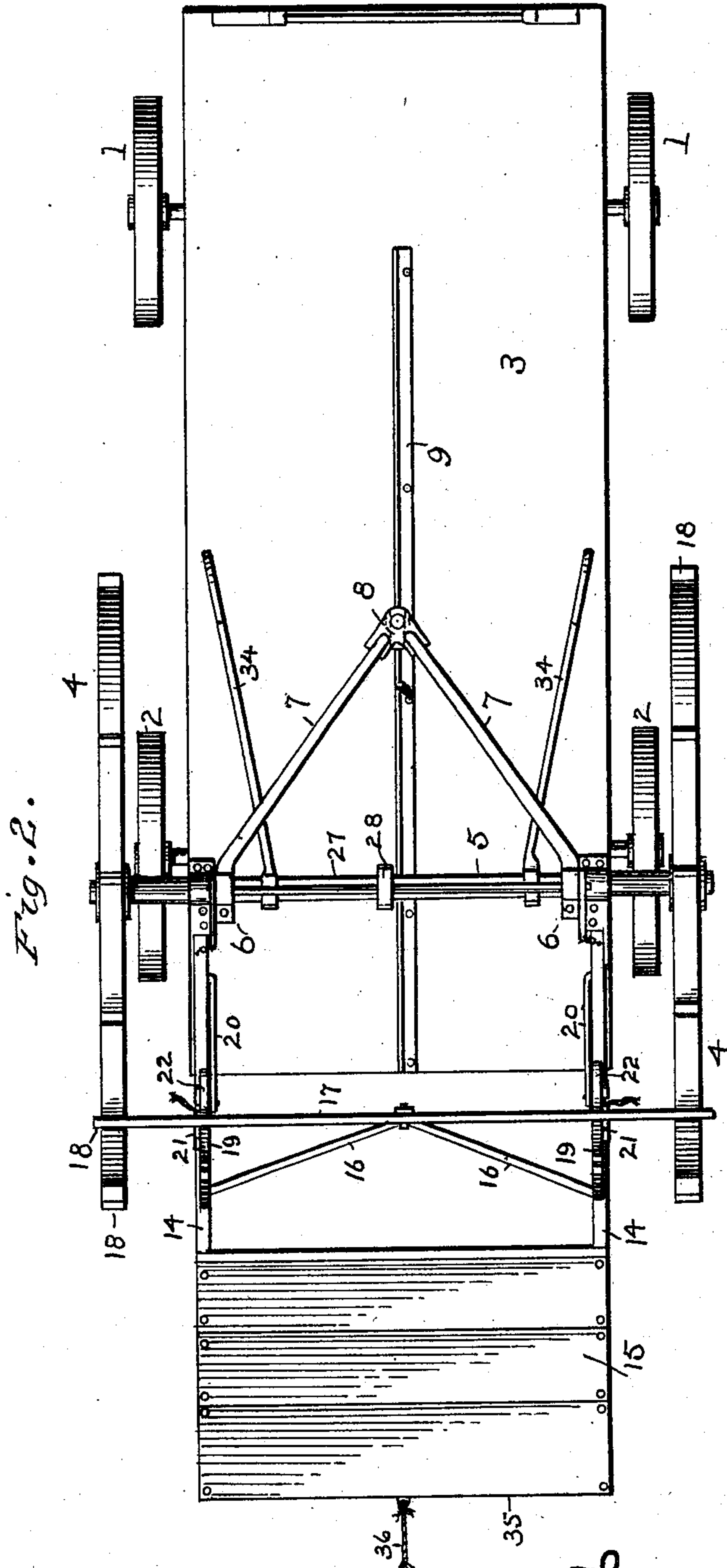
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Inventor

Thomas W. Moore

By

J. P. Hunter  
Attorney

Witnesses

Norris H. Clark.

Richard H. Tucker.

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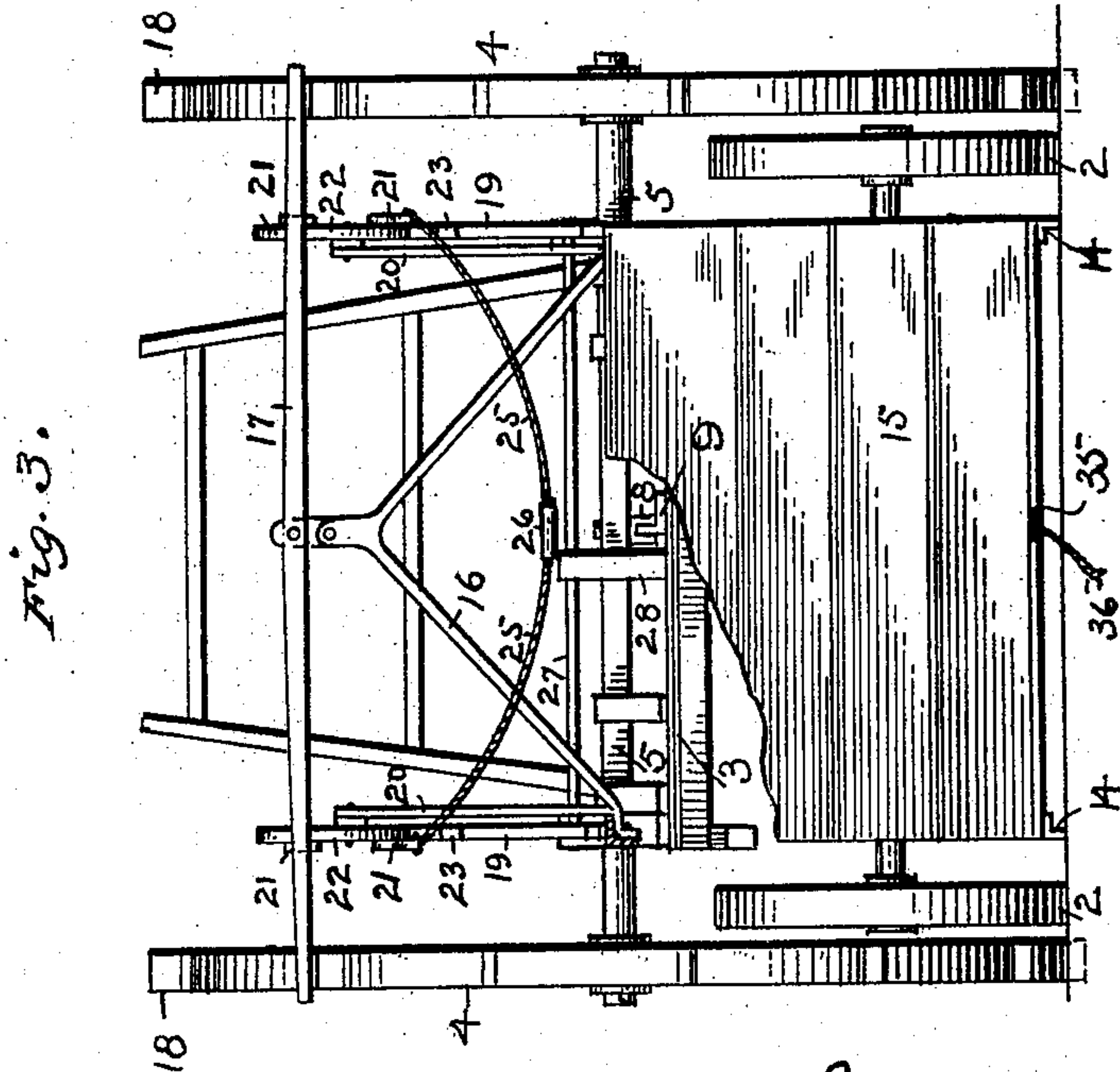
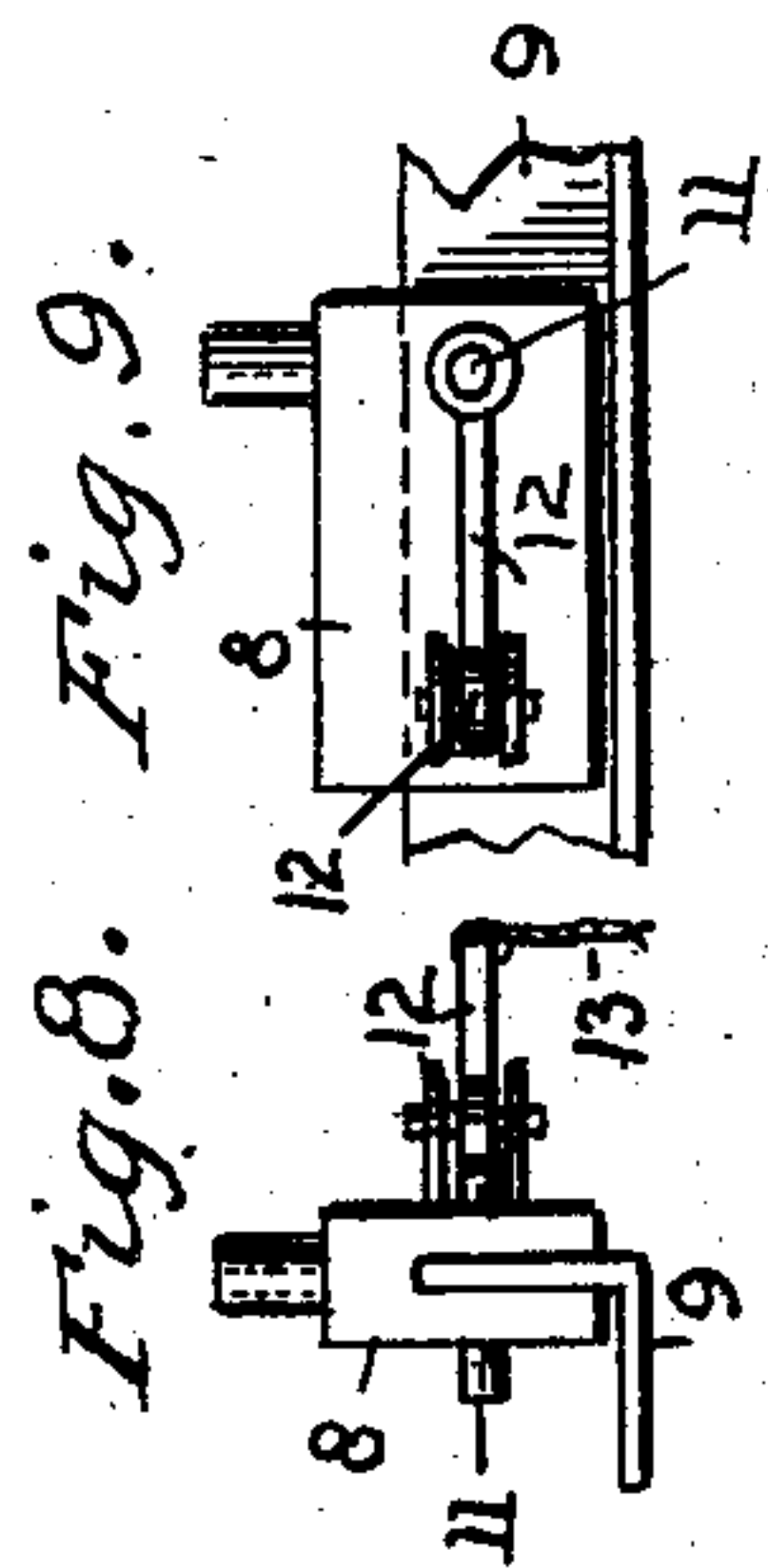
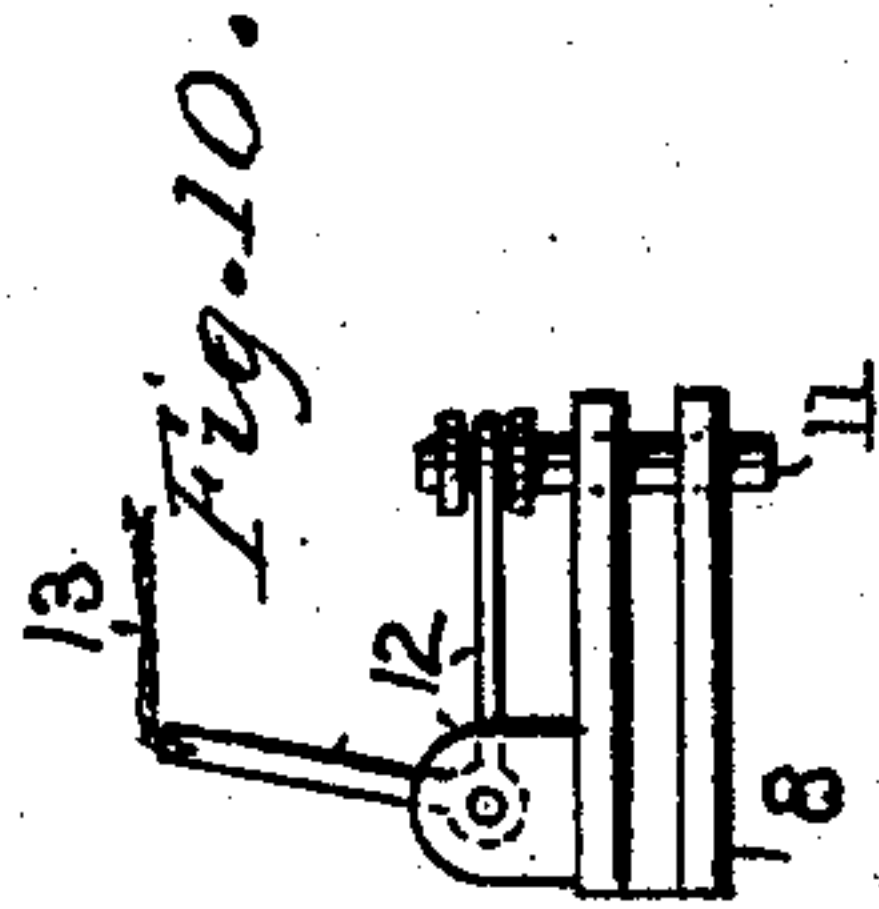
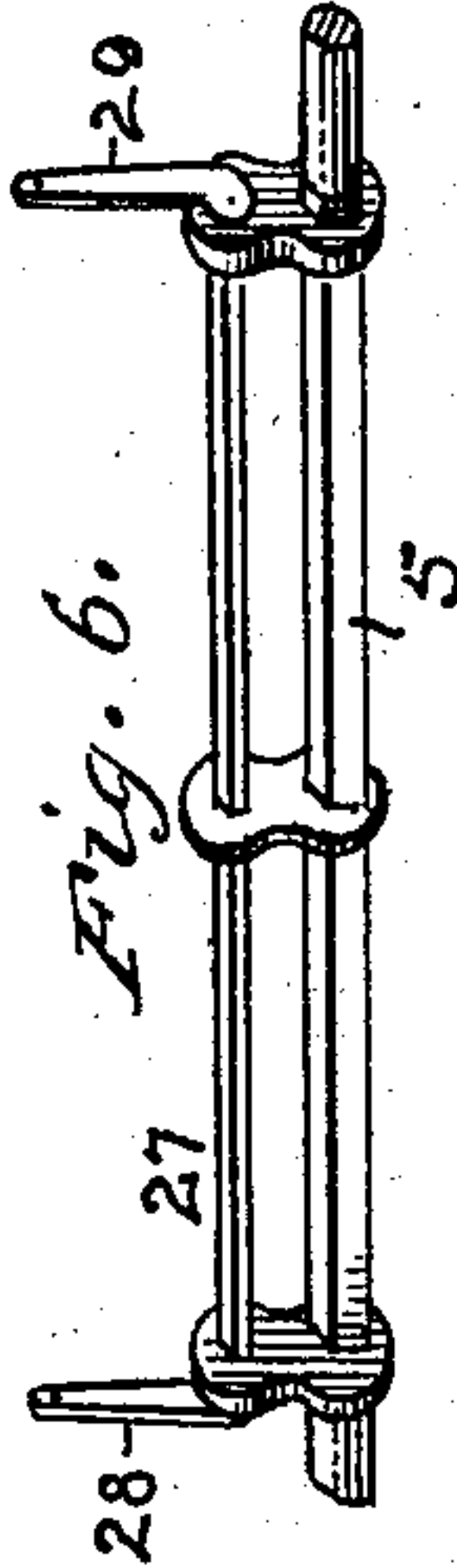
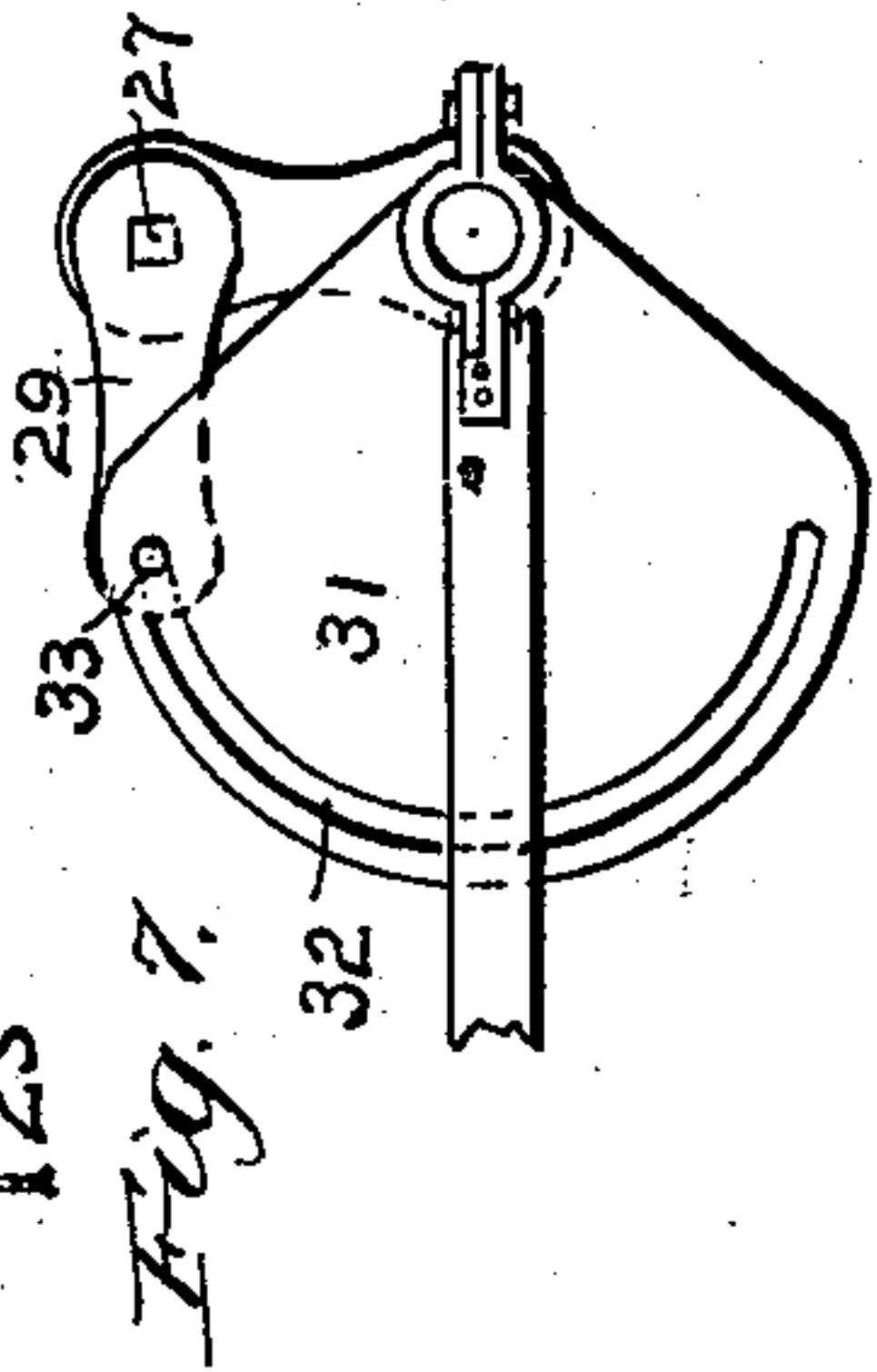
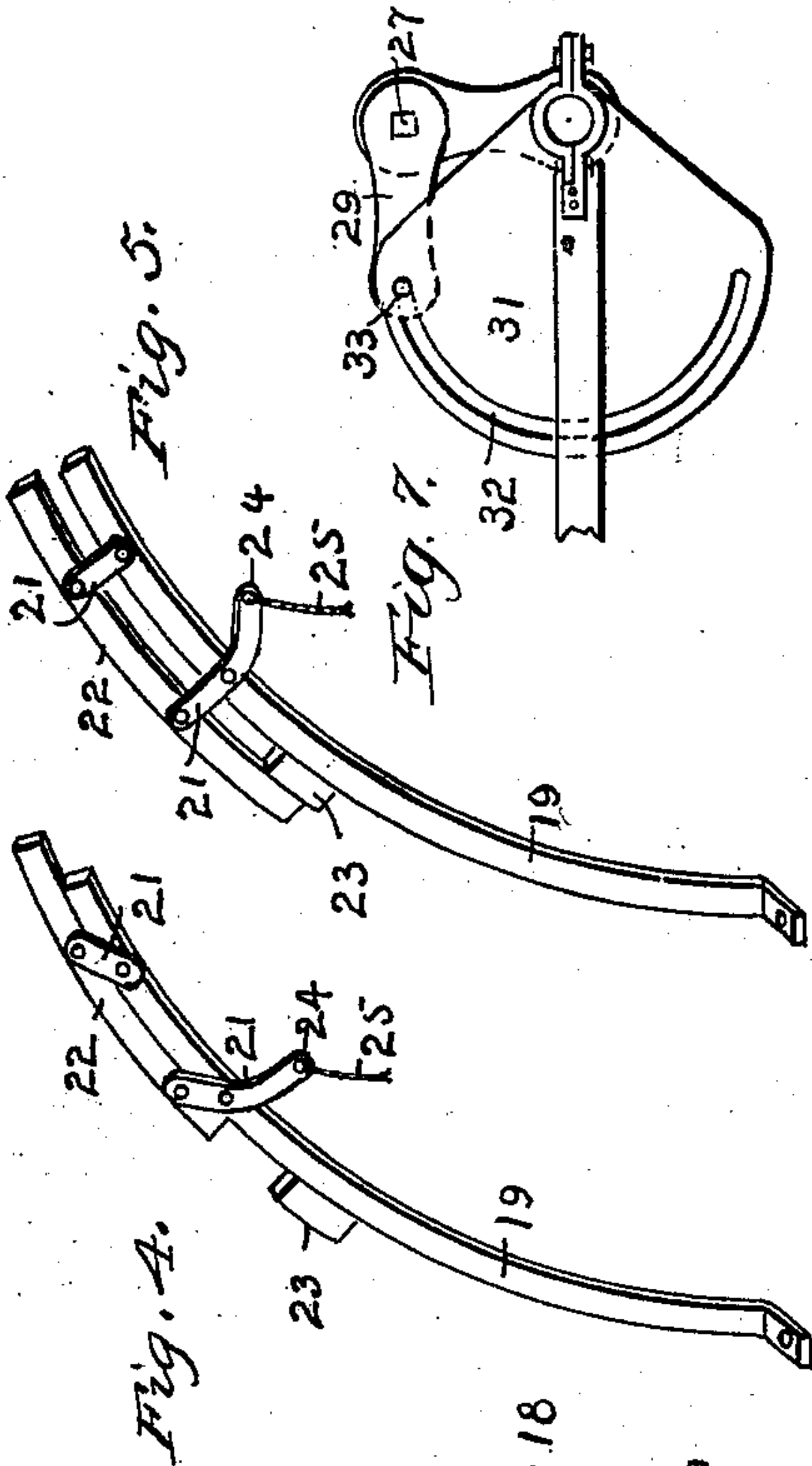
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3 SHEETS—SHEET 3.



Witnesses  
Horris A. Clark.  
Richard H. Tucker

By

Thomas W. Moore  
J. A. Whitney  
Attorney



# UNITED STATES PATENT OFFICE.

THOMAS W. MOORE, OF PIERCETON, INDIANA, ASSIGNOR TO EFFIE MOORE,  
OF PIERCETON, INDIANA.

## AUTOMATIC LOADING ATTACHMENT FOR WAGONS.

SPECIFICATION forming part of Letters Patent No. 747,748, dated December 22, 1903.

Application filed March 27, 1903. Serial No. 149,801. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS W. MOORE, a citizen of the United States, residing at Piercet-  
ton, in the county of Kosciusko and State of  
5 Indiana, have invented certain new and use-  
ful Improvements in Automatic Loading At-  
tachments for Wagons; and I do declare the  
following to be a full, clear, and exact descrip-  
tion of the invention, such as will enable  
10 others skilled in the art to which it appertains  
to make and use the same, reference being had  
to the accompanying drawings, and to the  
figures of reference marked thereon, which  
form a part of this specification.

15 This invention relates to harvesting-ma-  
chines; and its object is to enable shocks of  
corn or other produce to be easily and quickly  
loaded on a wagon in the field by utilizing  
the team to perform the work.

20 The invention consists in an attachment to  
the wagon, comprising two driving-wheels, a  
pivoted or hinged load-carrier, means for con-  
necting the carrier with the wheels, means  
for automatically disconnecting it therefrom,  
25 a spring to counterpoise the pivoted carrier,  
means for adjusting the attachment length-  
wise of the wagon-bed, and other details  
which will be hereinafter set forth, and par-  
ticularly pointed out in the claims.

30 In using my invention I take an ordinary  
farm-wagon having an ordinary hay-rack  
thereon. In the center of the hay-rack is  
fastened the front end of the draw-bar of the  
loading attachment. I begin to put the load  
35 on at the front end of the rack, and as the  
loading continues the attachment is shifted  
backward step by step. The wagon and its  
attachment are driven alongside of the shock  
of corn, which is then pushed over upon the  
40 platform of the carrier. The carrier is then  
connected with the driving-wheels, and when  
the team is started the carrier is lifted over the  
wheels until it reaches the proper position to  
deliver the shock upon the hay-rack. At this  
45 moment the carrier is stopped and is auto-  
matically disengaged from the wheels. The  
shock having fallen off the carrier, the latter  
is drawn back by a rope and falls gently into  
position for reloading, being cushioned by a  
50 suitable spring.

In the accompanying drawings, Figure 1 is  
a side elevation of a wagon and my improved  
loading attachment, the nearer driving-  
wheel being removed. Fig. 2 is a top plan  
view. Fig. 3 is a rear elevation, partly in  
55 section. Figs. 4 and 5 show the automatic  
releasing devices. Fig. 6 is a perspective  
view of a portion of the main axle and coun-  
terpoise-spring. Fig. 7 is a modified form of  
connection between said spring and the car- 60  
rier. Fig. 8 is an end elevation of the latch  
for adjusting the position of the attachment.  
Fig. 9 is a side elevation thereof, and Fig.  
10 is a bottom plan view thereof.

For transporting the load I use an ordi- 65  
nary farm-wagon, comprising front and rear  
wheels 1 2 and a suitable bed, preferably a  
hay-rack 3. The loading attachment strad-  
dles the rear end of the wagon and comprises  
two large driving-wheels 4, which are rota- 70  
tably journaled on a transverse axle 5 and  
rest on the ground at points outside of the  
rear wagon-wheels 2. The axle stands above  
the wagon-bed and is firmly held in clamps 6  
at the rear ends of hounds 7, whose forward 75  
ends are united to a block 8, thus forming a  
draw-bar for the attachment. Means are pro-  
vided for adjustably securing the draw-bar  
to the wagon-bed, so that the entire loading  
attachment can be adjusted lengthwise of 80  
said bed. The preferred way of accomplish-  
ing this is shown in the drawings, and con-  
sists of a bar 9, secured longitudinally on  
said bed and having a series of transverse  
85 holes 10 to receive a sliding bolt 11 in the  
block 8. The blocks have a groove to fit  
over the bar, and the bolt can be pulled out  
by means of an elbow-lever 12 and a cord 13,  
running to some convenient point. When  
thus disengaged from the bar, the loading 90  
attachment can be moved back and forth  
along the wagon-bed to any desired position  
and again secured by pushing the bolt through  
one of the holes 10.

Hinged near the ends of the axle 5 are two 95  
parallel arms 14, preferably of angle-iron.  
Each arm extends rearwardly beyond the  
periphery of the driving-wheels 4 and is then  
bent downward until near the ground, when  
it is again bent backward substantially par- 100



allel with the ground. The upright members and the lower horizontal members of these arms are suitably connected to form a load-carrier, preferably by transverse lengths of planking 15. Hinged near the rear ends of the upper members of said arms are the lower ends of a bifurcated bail 16, in whose upper end is pivoted a transverse yoke or evenner 17, whose ends extend out past the rims of the driving-wheels. Inasmuch as said wheel-rims are provided with radially-projecting studs 18, it is evident that if the yoke is made to engage with said studs the rotation of the wheels will lift the carrier and turn it over upon the wagon-bed in front of the driving-wheels. The means by which the engagement and disengagement of the yoke is accomplished is as follows:

Projecting upwardly and forwardly from each side of the load-carrier is an inclined gage-bar 19, which is held in position by a brace 20. At the upper end of said gage-bar is a pair of parallel links 21, to the outer ends of which is pivoted a tripper 22, which lies just under the end of the yoke 17. When the links are inclined forward, as in Fig. 4, the tripper is below the rim of the driving-wheel and the yoke can engage with the studs thereon. When the links are tilted backward, the tripper moves backward longitudinally and also radially of the wheel and raises the yoke off the wheel, being retained in this position by a stop-block 23 on the gage-bar 19, as shown in Fig. 5.

In order to operate the tripper, one of the links has an extension or tail 24, to which is attached a cord 25, the cords being conveniently connected to a common handle 26 in easy reach of the operator.

The weight of the load-carrier is partially or wholly counterpoised by a torsion-spring, preferably a steel rod 27, immovably held at its middle by a stationary support 28 and having on each end a crank-arm 29, connected with the frame of the load-carrier. The rod is located vertically above the axle 5, and the cranks tend to stand upright, but being connected with the carrier they are drawn down to front or rear by the movement of the carrier. The connecting device may be a short chain 30, as in Fig. 1, or it may be a casting 31, secured to the carrier and having an eccentric slot or groove 32 engaging with a pin 33 on the crank and so curved as to let the crank rise to its central position and then carry it down therefrom as the carrier turns over. The carrier is thus effectively cushioned in all its movements.

Secured to the main axle, so as to trail on the bed of the wagon, are two guards 34, which rise from the wagon-bed in front of the driving-wheels and curve rearwardly at their upper ends.

The operation of my invention is as follows: The loading attachment is connected with the forward end of the bar 9, so as to begin loading at the front of the wagon. The wagon

and attachment are driven alongside of the object to be loaded, such as a shock of corn, so that said shock stands at one side of the platform 35 of the carrier, on which the shock is then tipped over. The operator then pulls the handle 26, swinging the links 21 forward and dropping the yoke 17 on the rims of the driving-wheels. The team is then started, and almost immediately the studs 18 on the wheels engage the ends of the yoke and lift it, thereby turning the carrier and its load up and over until the front ends of the gage-bars 19 strike on the wagon-bed and stop the carrier in the dotted-line position shown in Fig. 1. The shock of corn is at the same time dumped upon the wagon-bed in front of the guards 34. The trippers 22 strike the wagon-bed before the bar 19, and being thus forced back into the position shown in Fig. 5 they lift the yoke away from the wheels and leave the latter free to rotate so long as the team continues moving. The carrier is returned to its loading position by the operator, who simply pulls it over by means of the rope 36. The counterpoise-spring checks the movement of the carrier, so that it comes to rest without any jar. When the front of the wagon-bed is full, the attachment is adjusted farther back along the bar 9, and so on until the wagon is full, without requiring any handling or stowing of the shocks on the wagon-bed.

It will be understood, of course, that by the term "wagon-bed" I mean either a flat platform or frame suitable for receiving corn-shocks and the like or a box-body, as may be most convenient and suitable.

The object of pivoting the yoke is to permit it to automatically adjust itself to the studs on the wheel-rims. As the wheels are independently rotatable, it will often happen that the studs on one will not be exactly in line with those on the others. In this case one end of the yoke will be engaged before the other; but its pivoted connection allows it to assume an oblique position, so that both ends will be acted on and the load will be lifted by both wheels irrespective of the angular displacement of the studs from an axial plane.

Having thus described my invention, what I claim is—

1. A loading attachment comprising an axle, two driving-wheels independently rotatable thereon and provided with studs, a hinged load-carrier, a yoke pivotally connected therewith and arranged to engage with said studs, and means for automatically disengaging said yoke from the studs.

2. A loading attachment comprising an axle, two driving-wheels independently rotatable thereon and provided with studs, a hinged load-carrier, a bail hinged thereto, and a yoke pivoted to said bail.

3. A loading attachment comprising two independently-rotatable driving-wheels, a hinged load-carrier, a yoke on said carrier to



engage with said wheels, and longitudinally-movable trippers to carry said yoke into and out of engagement with said wheels.

4. A loading attachment comprising two independently-rotatable driving-wheels, a hinged load-carrier, a yoke on said carrier to engage with said wheels, and trippers movable longitudinally and also radially of said wheels to engage and disengage the yoke from said wheels.

5. A loading attachment comprising two independently-rotatable driving-wheels, a hinged load-carrier, a yoke on said carrier to engage with said wheels, a gage-bar on said carrier, and a tripper movably connected with said bar and adapted to be automatically moved backward to trip the yoke when the gage-bar operates to stop the movement of the carrier.

6. A loading attachment comprising two independently-rotatable driving-wheels, a hinged load-carrier, a yoke on said carrier to engage with said wheels, a gage-bar projecting forward from said carrier, links pivoted to said bar, and a tripper pivoted to said links and projecting beyond the end of said bar when the yoke is in engagement with the wheels.

7. In a loading attachment, the combination with two independently-rotatable wheels provided with studs, of a hinged load-carrier, a yoke pivotally supported on said carrier, gage-bars on said carrier, links pivoted to said gage-bars, stop-blocks on said bars, trippers pivoted to said links, and means for actuating said trippers to permit the yoke to engage with said studs.

8. In a loading attachment, the combination with a hinged load-carrier, of a counterpoise-spring operating to cushion said carrier at each end of its movement.

9. In a loading attachment, the combina-

tion with a hinged load-carrier, of a torsion-spring having a crank-arm standing normally in a central position, and connections between said carrier and arm whereby said arm is drawn down when the carrier moves either way from said central position.

10. In a loading attachment, the combination with a hinged load-carrier, of a torsion-spring parallel with the axis of movement of said carrier and provided with a crank-arm having a pin, and a sector on said carrier having an eccentric groove engaging with said pin.

11. The combination with a wagon, of a loading attachment comprising a pair of driving-wheels straddling said wagon.

12. The combination with a wagon, of a loading attachment comprising a pair of driving-wheels, a draw-bar for the same, and means for adjustably connecting said draw-bar with the wagon lengthwise of the same.

13. The combination with a wagon, of a loading attachment comprising a pair of driving-wheels, a draw-bar for the same, a bar secured lengthwise of the wagon, and means for adjustably connecting said draw-bar with said bar.

14. The combination with a wagon, of a loading attachment comprising a pair of driving-wheels, a draw-bar for the same provided with a grooved block, a perforated bar secured lengthwise of the wagon and on which said block can slide, and a bolt in said block for connecting it with said bar by entering said perforations.

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

THOMAS W. MOORE.

Witnesses:

W. C. BAYMAN,

JOHN M. HUMPHREYS.