

No. 665,699.

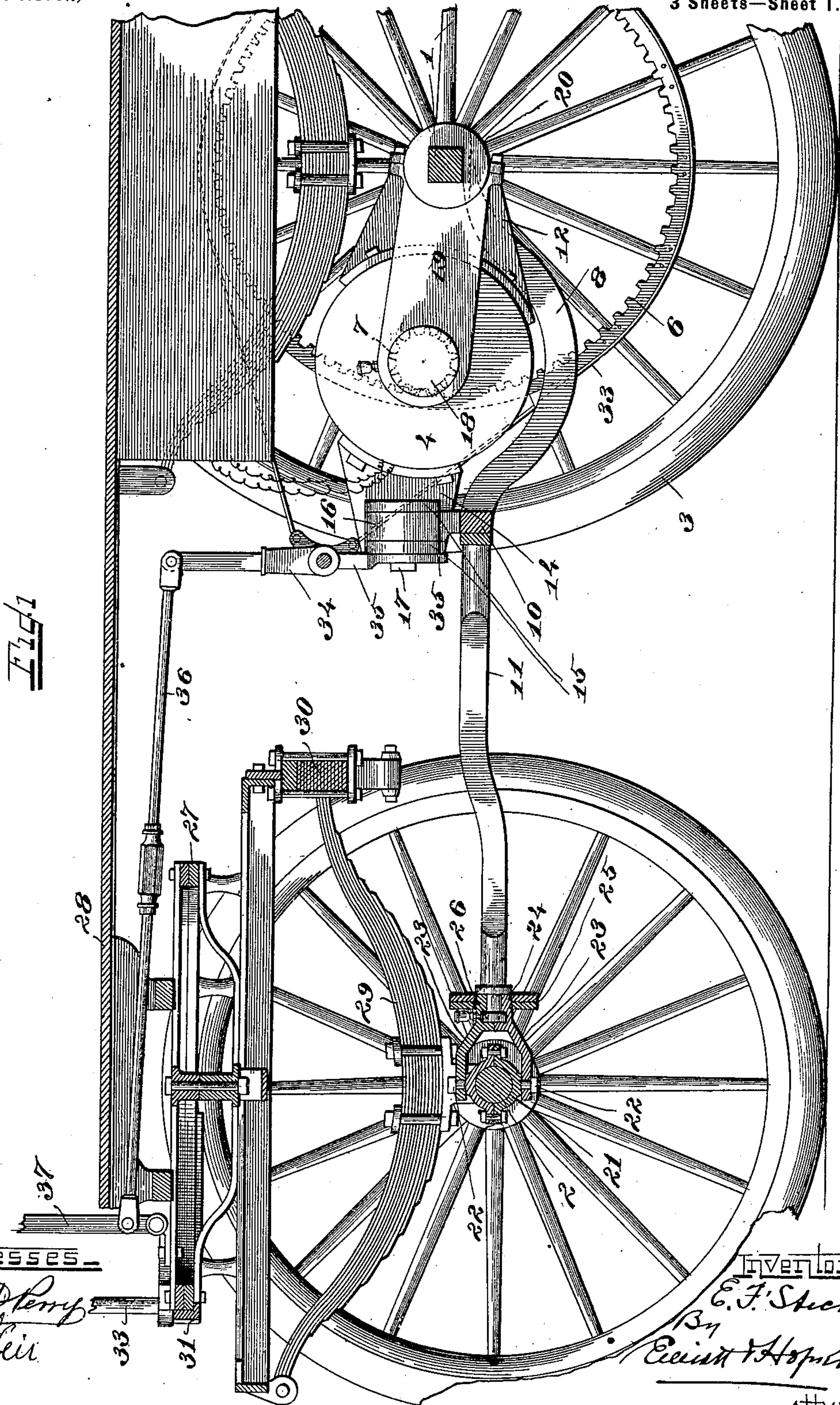
Patented Jan. 8, 1901.

E. F. STECK.
AUTOMOBILE FIRE APPARATUS.

(Application filed Feb. 2, 1900.)

(No Model.)

3 Sheets—Sheet 1.



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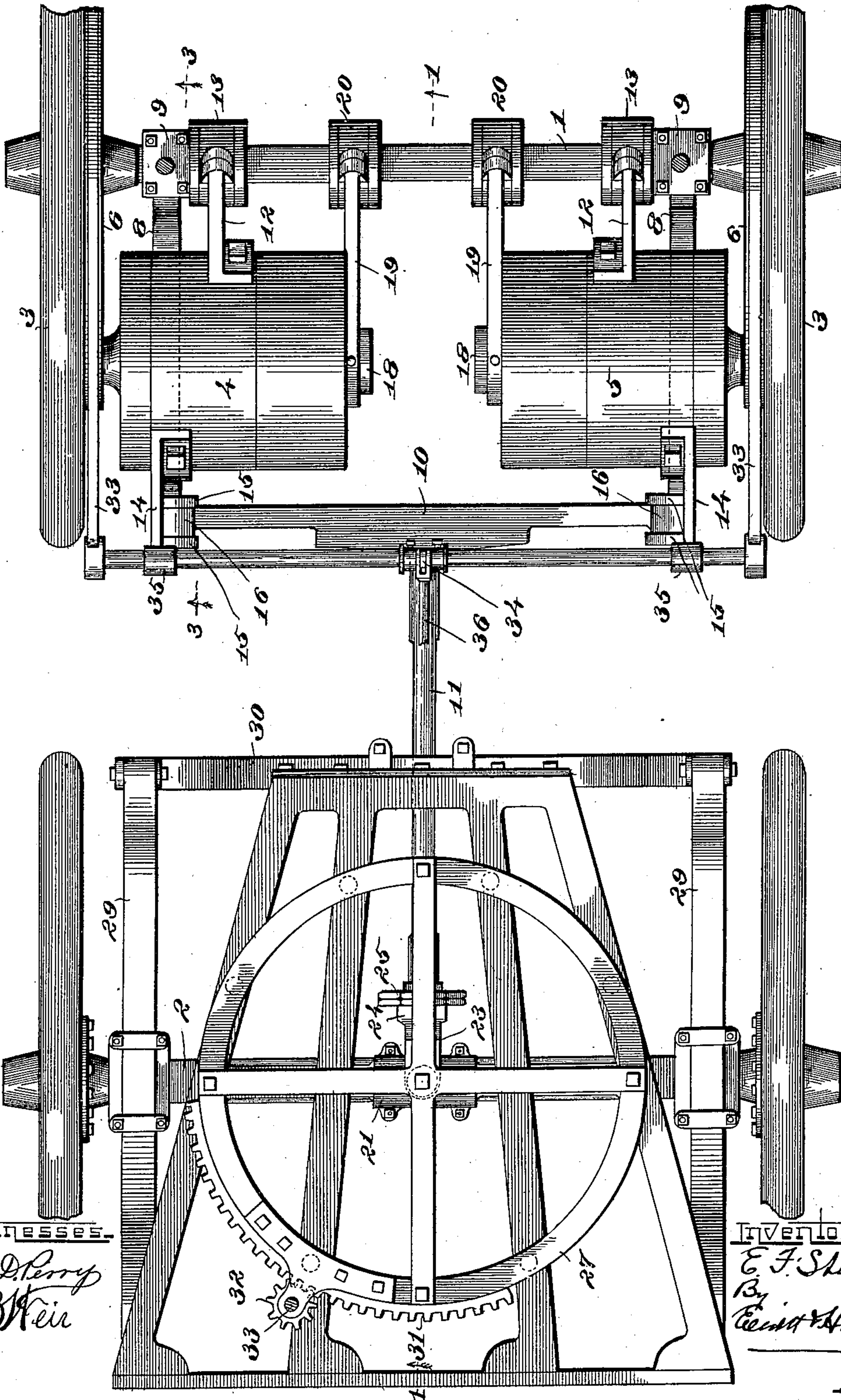
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3 Sheets—Sheet 2.



Witnesses.
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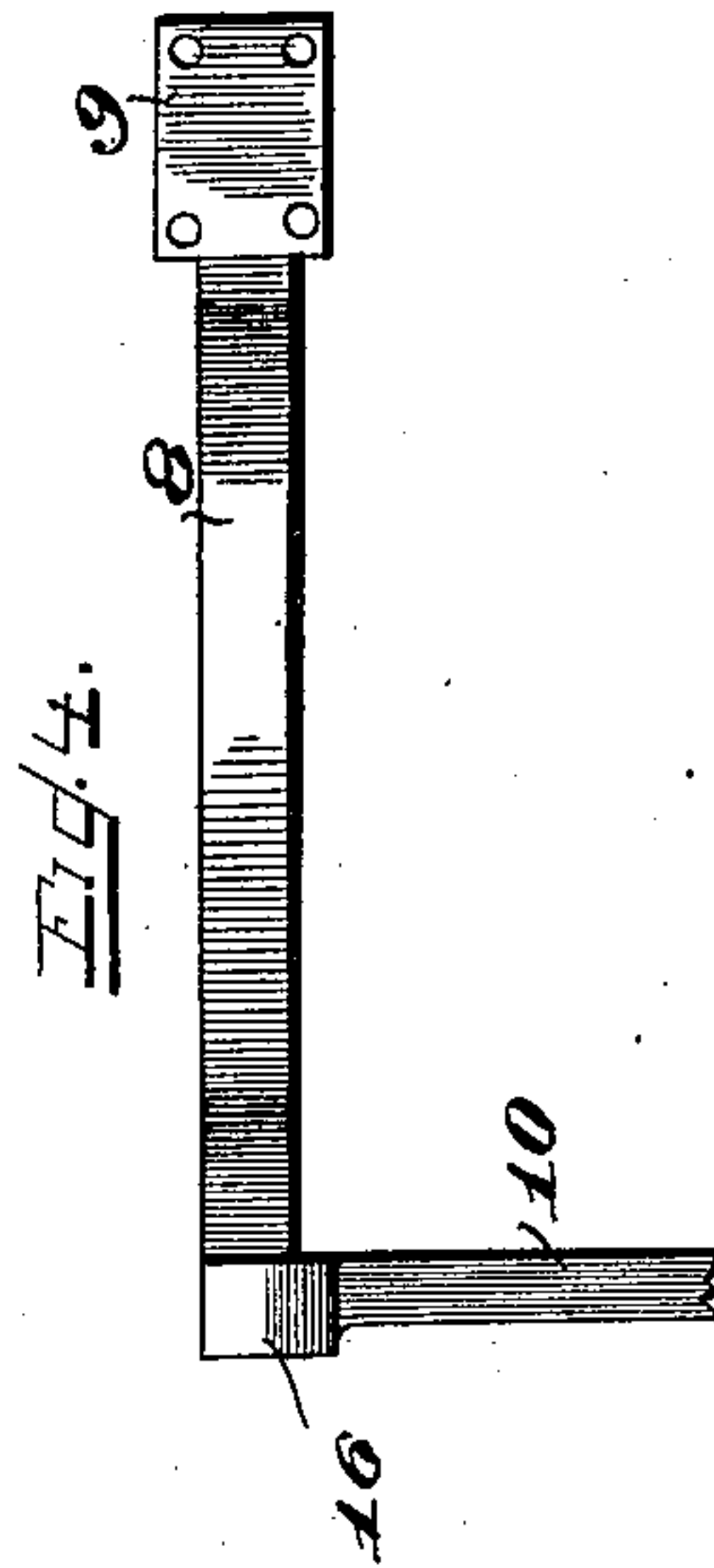
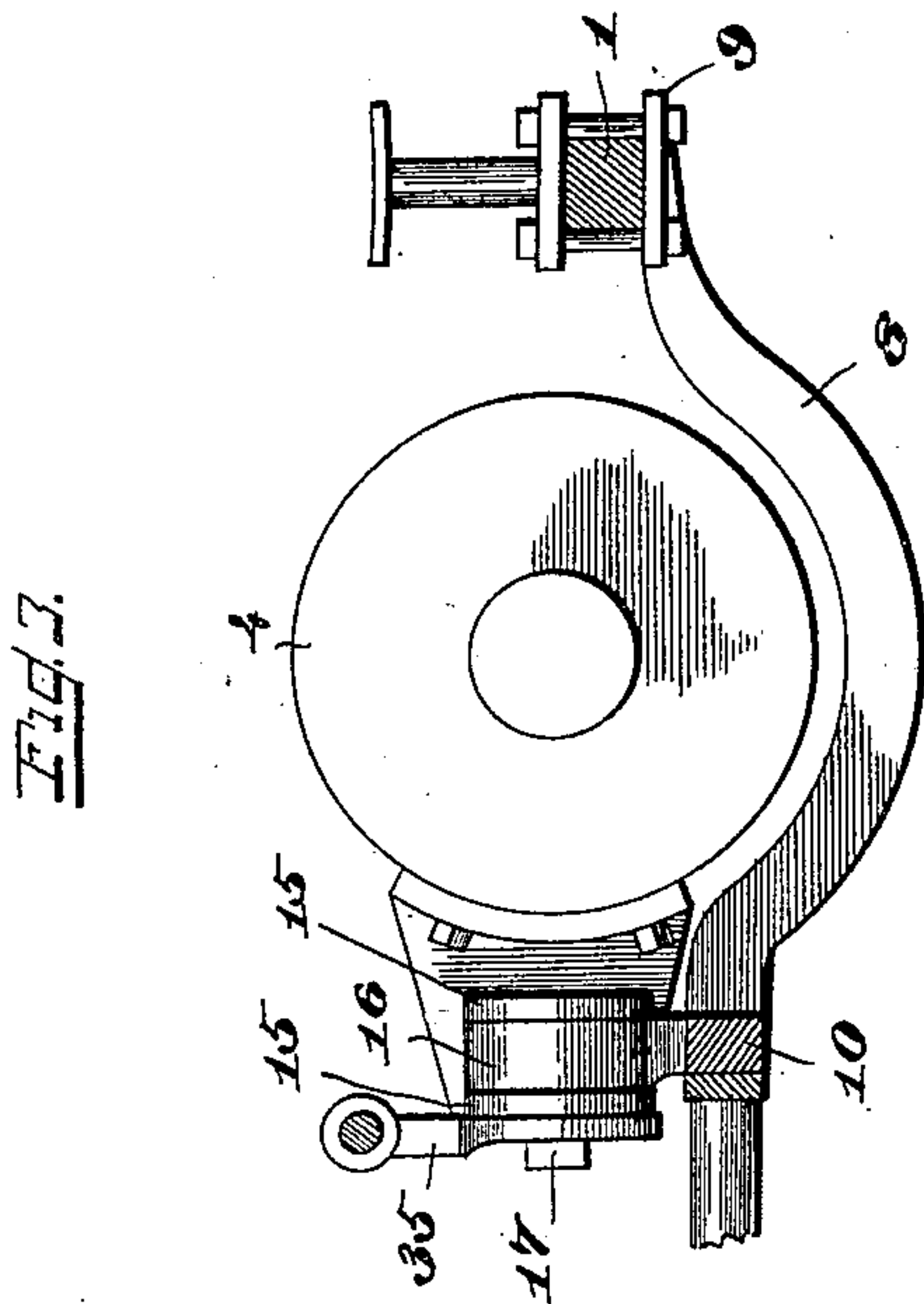
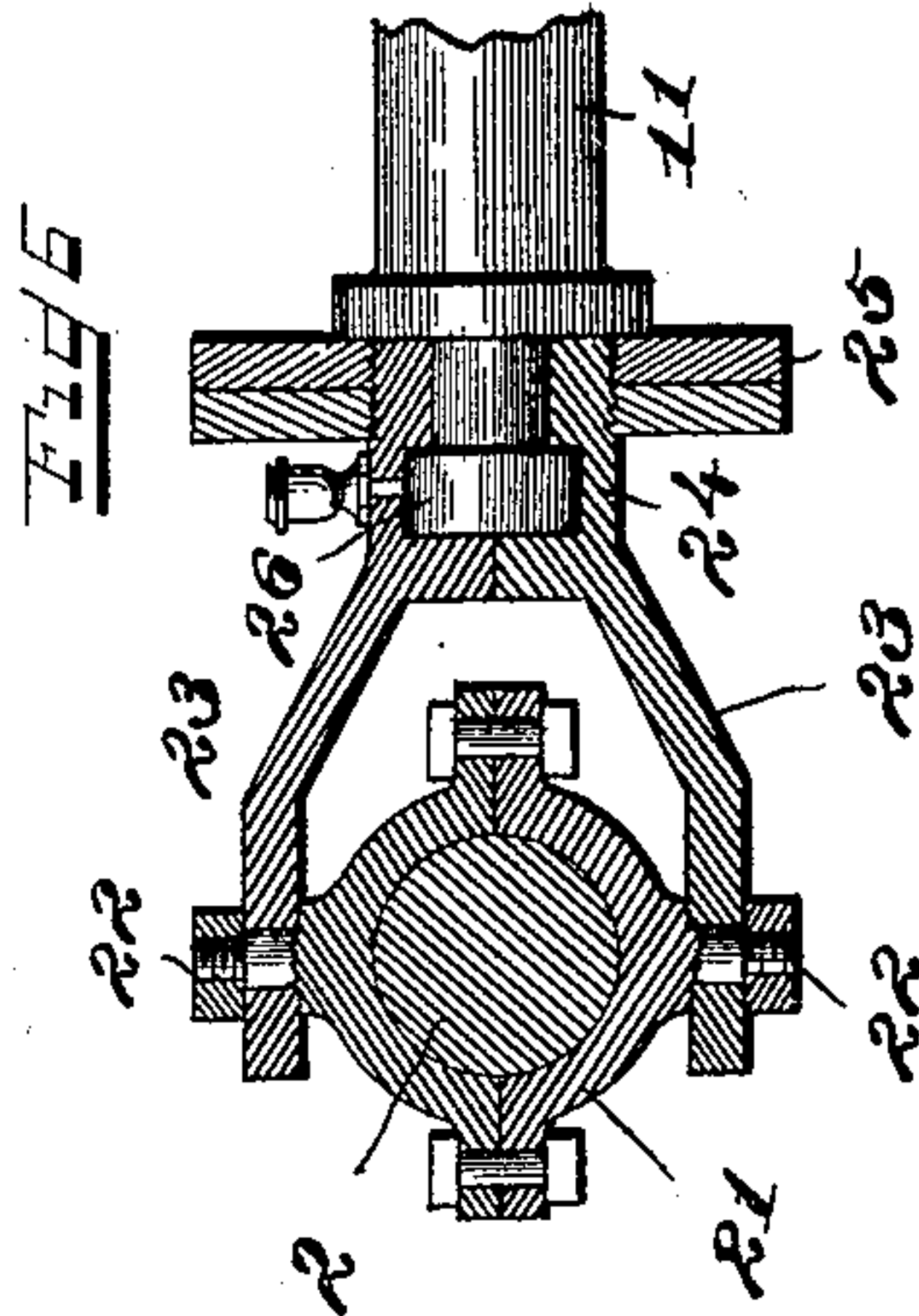
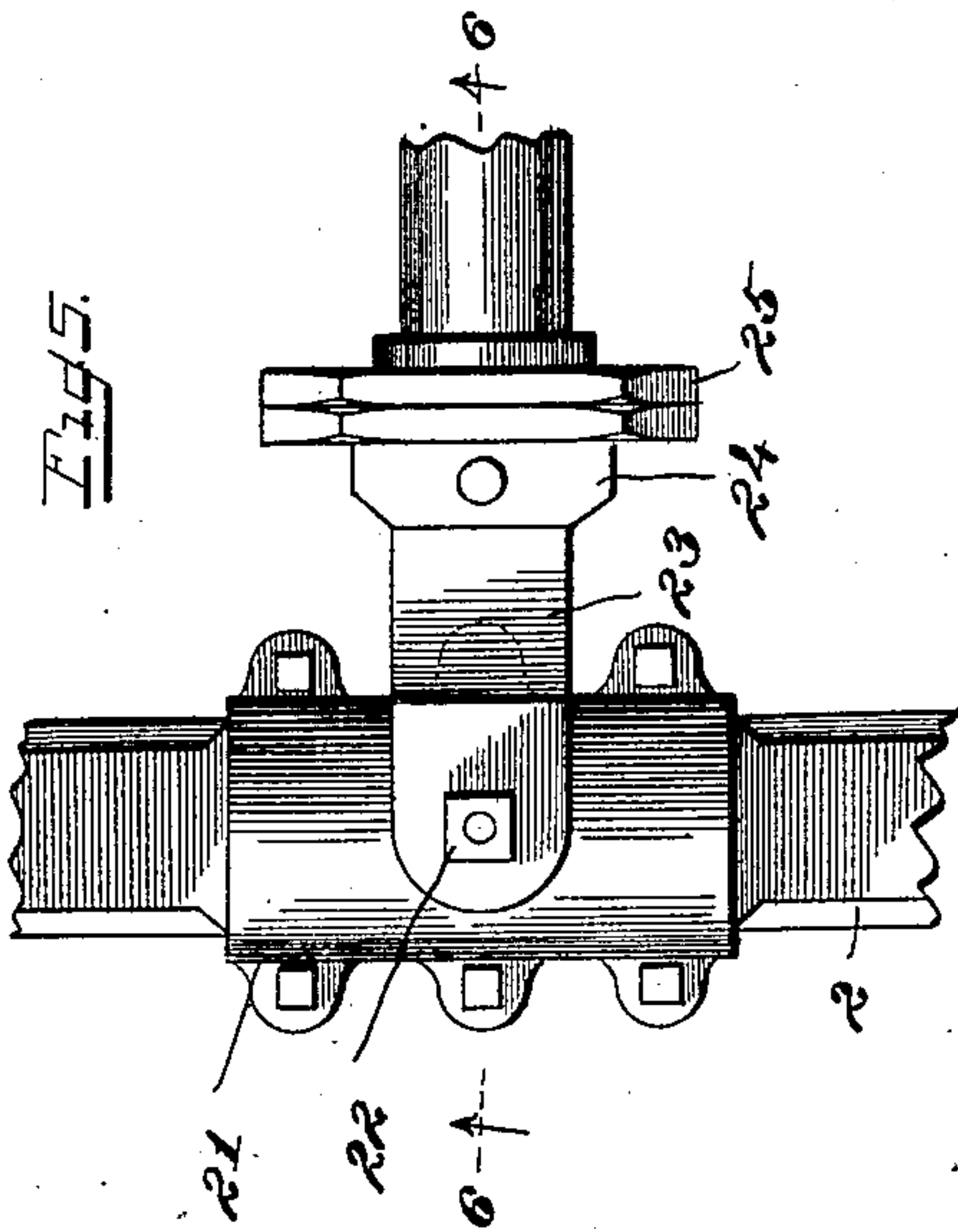
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3 Sheets—Sheet 3.



WITNESSES.
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UNITED STATES PATENT OFFICE.

ERNST F. STECK, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE FIRE EXTINGUISHER MANUFACTURING COMPANY, OF NEW YORK, N. Y.

AUTOMOBILE FIRE APPARATUS.

SPECIFICATION forming part of Letters Patent No. 665,699, dated January 8, 1901.

Application filed February 2, 1900. Serial No. 3,657. (No model.)

To all whom it may concern:

Be it known that I, ERNST F. STECK, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Automobile Fire Apparatus, of which the following is a full, clear, and exact specification.

My invention relates to motor-carriages or automobiles for transporting fire apparatus and the members of the fire department, and it has more especial reference to improvements in the running and steering gear and means for supporting the motors.

The primary object of my invention is to support the motors out of line with the rear or rigid axle, but partially on both axles, so as to effectually resist any downward movement of the motor or motors and at the same time provide a reach and steering mechanism that will be suitable for fire apparatus or other heavy vehicles required to proceed at high speed over a rough roadway.

With these ends in view my invention consists in certain features of novelty in the construction, combination, and arrangement of parts by which the said objects and certain other objects hereinafter appearing are attained, all as fully described, with reference to the accompanying drawings, and more particularly pointed out in the claims.

In the said drawings, Figure 1 is a vertical longitudinal section of my improvements applied to a hose-wagon or patrol, the section being taken on the line 1 1, Fig. 2. Fig. 2 is a plan section thereof or a plan of the running-gear with the body removed. Fig. 3 is a detail sectional view taken on the line 3 3, Fig. 2. Fig. 4 is a detail plan view of a part of the reach or running-gear hereinafter described. Fig. 5 is a detail plan view of the universal joint or coupling which connects the reach to the front axle; and Fig. 6 is a sectional view thereof, taken on the line 6 6, Fig. 5.

1 represents the rear or rigid axle, and 2 the forward or movable axle. In the example of my invention shown in the drawings these axles are arranged at the rear and forward ends of the running-gear, respectively; but it is nevertheless well known that they may be transposed, if desired, without departing from

the spirit of the invention. The rear rigid axle is preferably non-rotatable and has the driving-wheels 3 revolubly mounted thereon, and when two motors 4 5 are employed each of the driving-wheels 3 is provided with the usual internal gear 6 or other suitable means for the operative connection of the motor-pinions 7. Secured to or near each end of the rigid axle 1, which latter is preferably a square bar, is an arm 8, which is attached to the axle by means of a suitable clip 9 and curves downwardly under, so as not to touch the motors 4 5. The forward end of each of these arms is connected to one end of a cross-beam 10, and this cross-beam 10 is in turn connected at its mid-length to a reach 11, the latter being supported on the front axle, as will be presently explained.

Each of the motors 4 5, or more properly speaking each motor-shell, has secured to its rear side an arm or bracket 12, which is provided at one end with a divided collar 13, clamped around the square axle 1, and on the forward side of each motor-shell is secured a bracket 14, having a pair of perforated ears 15, between which is secured an upright arm or lug 16 by means of a pivot-bolt 17, and which arm or lug is formed on or secured to the cross-beam 10, and thus supports the forward side of the motor directly upon the beam 10, and consequently upon the reach, while the rear side of the motor is supported directly upon the rigid axle 1 and by means of the two supports is held aloof from the curved arm 8, which transmits the draft or propelling strain to the forward axle. In order that the motors may be held rigidly against lateral movement with reference to the axle 1, each is provided with a hub or boss 18, embraced by a bracket-arm 19, which is likewise clamped to the rigid axle 1 by means of a divided collar 20.

The forward end of the reach 11 is connected to the forward or movable axle 2 by means of a universal joint, so that the axle may turn to the right or to the left for steering the vehicle and may also be oscillated in a vertical plane for conforming to the irregularities in the road-bed. This universal joint preferably consists of a sleeve or collar 21, which is clamped to the forward axle at its mid-

length and provided at top and bottom with pivots 22, to which are pivoted the prongs 23 of a fork or yoke, the latter being made in two sections, as clearly shown in Fig. 6, and the stem 24 of such yoke being threaded for the reception of two nuts 25, which hold the sections of the fork or yoke together on a swivel-head 26, formed on or secured to the forward end of the reach 11. Thus it will be seen that the pivots 22 permit of oscillation of the axle on a vertical axis, while the swivel-head 26 permits the axle to oscillate in a vertical plane or on a horizontal axis.

27 represents the fifth-wheel upon which the body 28 is supported, and the fifth-wheel is in turn supported in the usual or any suitable manner upon a spring-bed, consisting of the springs 29, secured directly to each end of the forward axle 2, and the cross-spring 30. The steering mechanism consists of a rack or segment 31, secured to or formed on the lower half of the fifth-wheel, and a pinion 32, meshing therewith and having connection to the stem 33 of any suitable steering-wheel. (Not shown.) Thus it will be seen that by rotating the lower half of the fifth-wheel 27 the spring-bed 29 30 will likewise be rotated and the axle 2 turned to the right or left, while at the same time the axle will be free to rise and fall to conform to irregularities in the road-bed by virtue of the swivel-head 26.

33 represents a band-brake surrounding the internal gear 6 and having its ends connected to a lever 34, which is pivotally supported on a standard 35, itself having support on the lug or arm 16 and bolt 17, which latter clamps the standard 35, the arm 16, and ears 15 together. The upper end of the brake-lever 34 is connected by brake-rod 36 to the brake operating lever 37.

Having thus described my invention, what

I claim as new therein, and desire to secure by Letters Patent, is—

1. An automobile having in combination rigid and movable axles, a reach rigidly secured to said rigid axle and also connected to said movable axle, a motor, a bracket-arm secured to the rear side of said motor and supporting the same upon said rigid axle, a bracket-arm secured to the forward side of said motor and supporting the same upon said reach, and the bracket-arm 19 also connecting said motor with said rigid axle, substantially as set forth.

2. An automobile having in combination rigid and movable axles, the reach 11 having cross-beam 10 and arms 8 connecting the ends of said cross-beam with the rigid axle, a motor supported over one of said arms 8, a bracket-arm 12 securing the rear side of the motor to said rigid axle, the bracket-arm 14 secured to the forward side of said motor, the arm or lug 16 supported on cross-beam 10 and connected to bracket 14, the hub or boss 18 on the motor and the arm 19 embracing said hub or boss and being secured to said rigid axle, said reach being also connected with the movable axle, substantially as set forth.

3. An automobile having in combination an axle, the downwardly-curved arms 8 each secured thereto at one end, the cross-bar 10 connecting the other ends of said arms 8, motors located over said arms 8 and each secured at one side to said axle and at the other side to said cross-bar, a second axle, a reach connecting said cross-bar and second axle, and driving-wheels geared to said motors, substantially as set forth.

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Witnesses:

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