

No. 722,066.

PATENTED MAR. 3, 1903.

S. T. WELLMAN & J. E. A. MOORE.

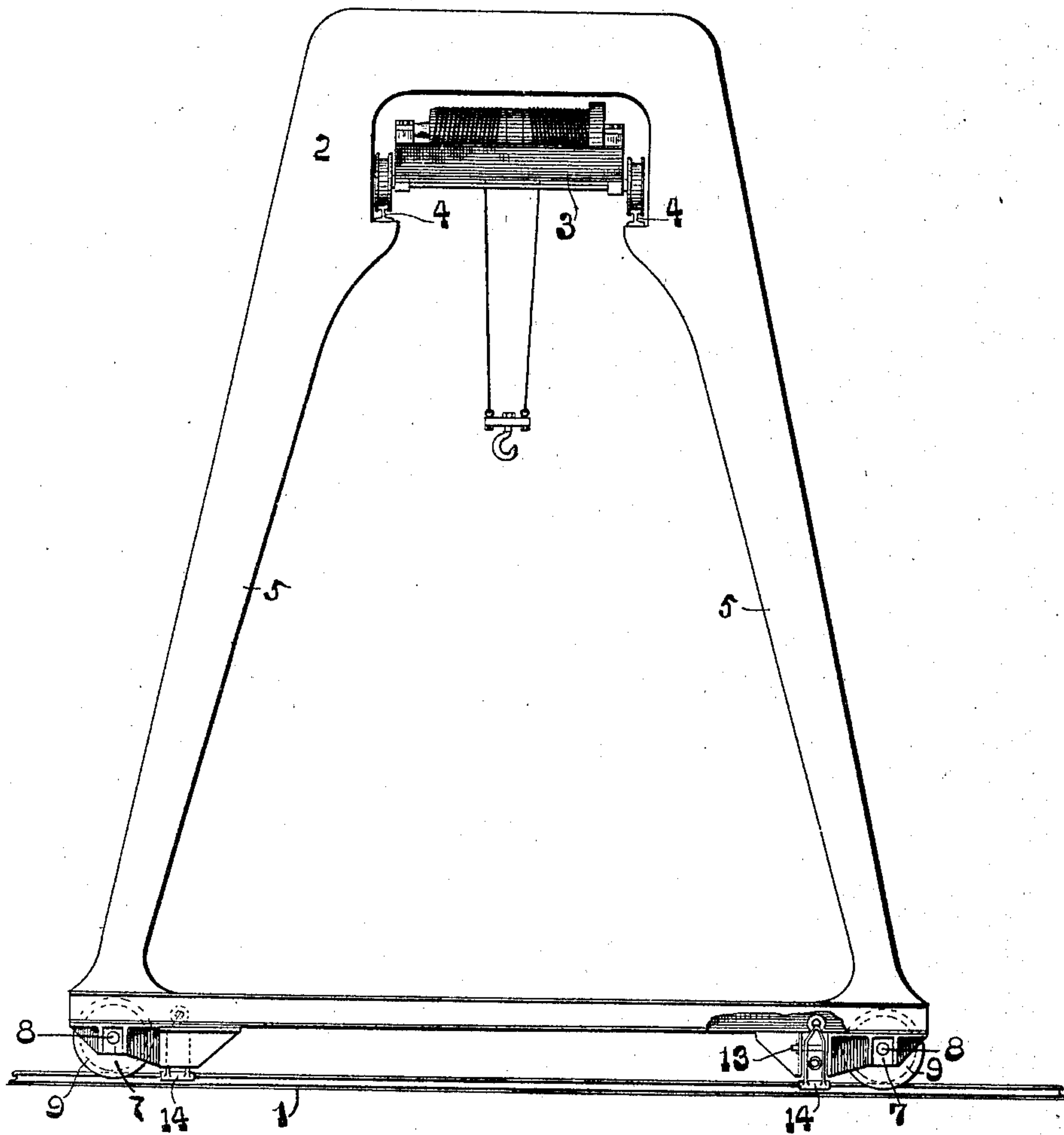
AUTOMATIC RAIL GRIPPING OR LOCKING DEVICE FOR ELECTRIC CRANES.

APPLICATION FILED MAR. 18, 1902.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. I.



WITNESSES:

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*L. N. Barber*

INVENTORS,

Samuel T. Wellman and James E. A. Moore,  
by *Wm. L. Pierce,*  
their Attorney.

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2 SHEETS—SHEET 2.

Fig. II.

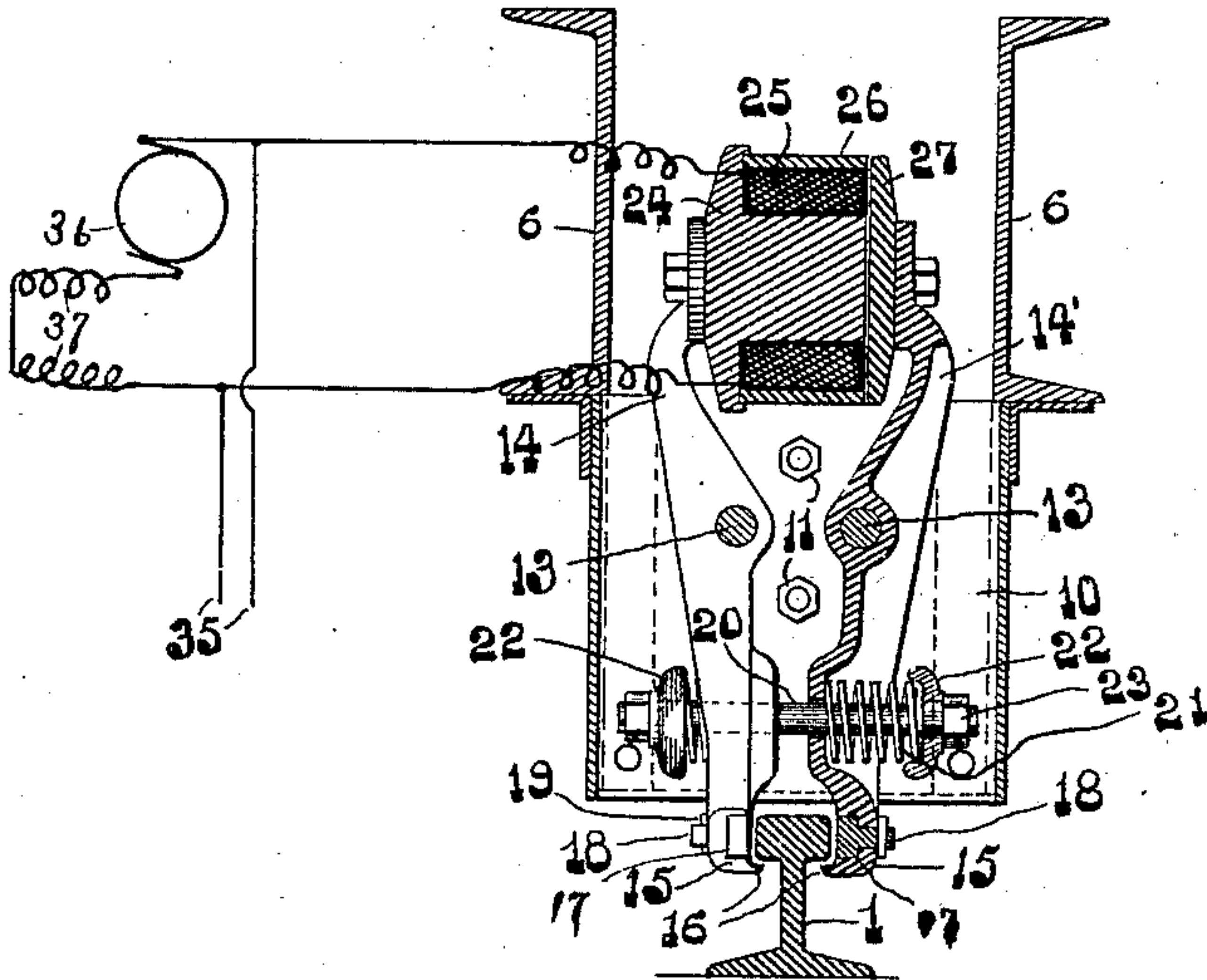
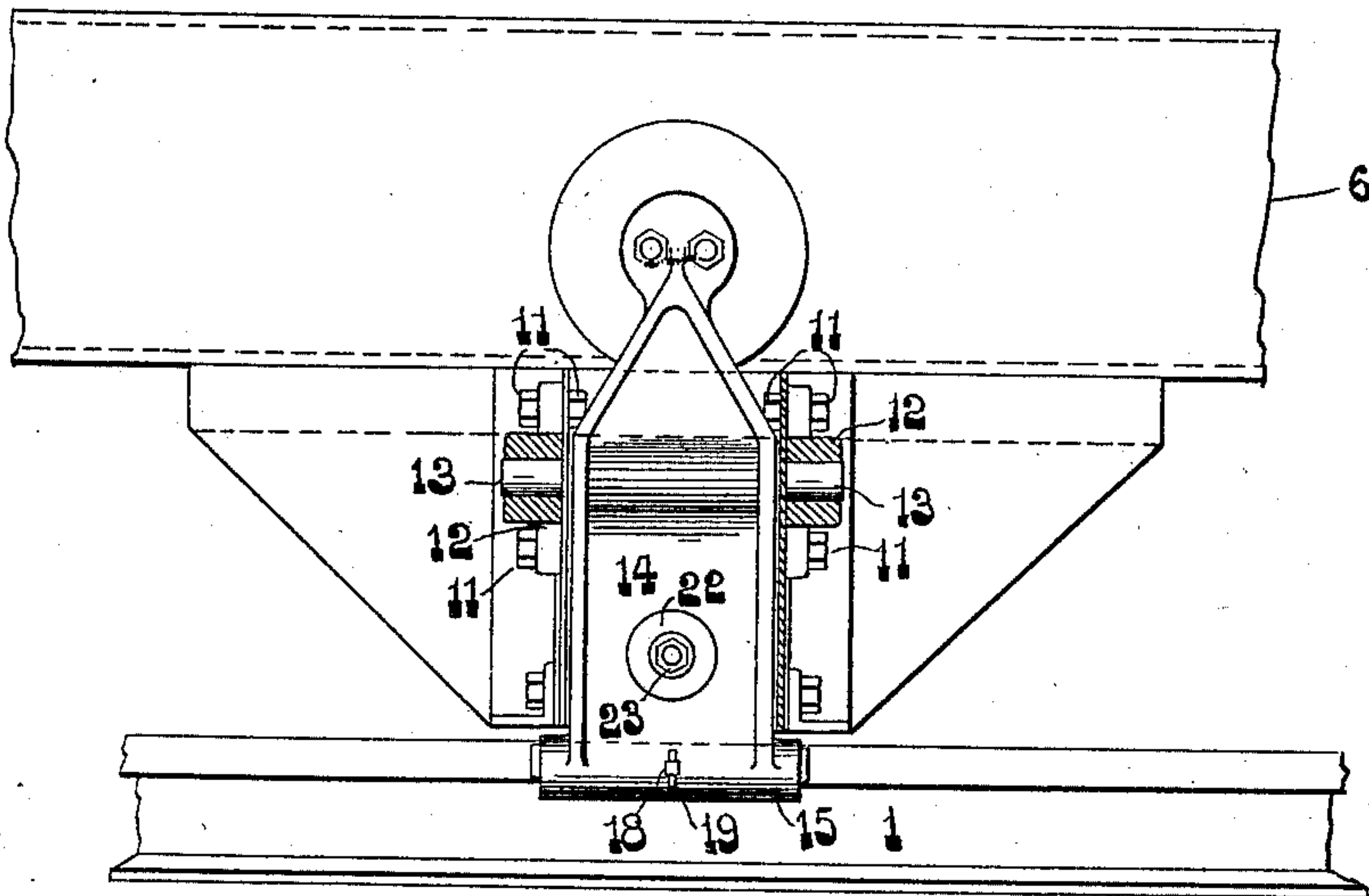


Fig. III.



WITNESSES:

*Geo. H. Harvey.*  
*G. N. Barber*

INVENTORS,

Samuel T. Wellman and James E. A. Moore,

by *Wm. L. Pierce,*  
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# UNITED STATES PATENT OFFICE.

SAMUEL T. WELLMAN AND JAMES E. A. MOORE, OF CLEVELAND, OHIO,  
ASSIGNORS TO THE WELLMAN-SEAVER ENGINEERING COMPANY, OF  
CLEVELAND, OHIO, A CORPORATION OF OHIO.

AUTOMATIC RAIL GRIPPING OR LOCKING DEVICE FOR ELECTRIC CRANES.

SPECIFICATION forming part of Letters Patent No. 722,066, dated March 3, 1903.

Application filed March 18, 1902. Serial No. 98,772. (No model.)

*To all whom it may concern:*

Be it known that we, SAMUEL T. WELLMAN and JAMES E. A. MOORE, citizens of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented or discovered new and useful Improvements in Automatic Rail Gripping or Locking Devices for Electric Cranes, of which the following is a specification.

Figure I is an elevation showing a crane equipped with our improvements. Fig. II is a vertical section through one form of our invention. Fig. III is a side view of the same with a portion in section.

It is the object of our invention to provide a brake or stop mechanism to be attached to a crane or other vehicle and adapted to clamp itself to the head of the rail or rails on which it travels to prevent the crane or vehicle from running away by the force of the wind or by gravity on an inclined track when the operator is not on duty.

Our invention is also designed to prevent the crane or vehicle from overturning or leaving the track.

It is an object of this invention to provide a brake that will be automatically operated the very instant the propelling-current is cut off.

1 represents one of the rails on which crane-body 2 travels.

3 is a trolley having travel on rails 4 4, secured on the crane-body. The legs 5 5 of the body consist of two parallel flanged beams 6 6, having secured underneath their end portions bearings 7 7 for the axles 8 8 of the wheels 9 9.

Our gripping devices are mounted in rectangular boxes 10 10, situated, preferably, next to the bearings 7 7 and under the beams 6 6. To opposite sides of the boxes 10 10 are secured by nuts 11 bearings 12 12, which support the shafts or rods 13 13. On these rods are pivoted the rail-gripping levers 14 14', which stand vertically in each box 10 and project through the bottom of the latter in the form of jaws 15 15, lying on opposite sides of the head of the rail 1. The portions of the jaws below the head of the rail turn inwardly to form sharp beaks 16 16, adapted to bite into and securely grip the under side of the head to prevent farther travel of the crane

or the possibility of the same overturning. Preferably the jaws are provided with removable wearing-facings 17 17, which are held in place by means of outwardly-extending lugs 18 18, projecting through holes in the jaws. A locking-pin 19 is passed through a hole in each lug to hold the facing in place, the pin engaging the outer face of the jaw. Inside the box 10 a bolt 20 extends through aligned openings below the pivotal support of the levers 14 14'. A spring 21 bears against the outer side of each lever and the inner cupped face of a washer 22, adjustably held on the bolt by a nut 23. The tendency of the springs is to maintain the jaws closed on the head of the rail 1, and they would unless prevented by the means now to be described. Bolted to the upper end of lever 14 is the core 24 of an electromagnet having the windings 25 and the casing 26. To the upper end of lever 14' is bolted the armature 27. It will be seen that when the magnet is energized the jaws will release their hold on the rail.

We have shown in Fig. II the manner in which the electromagnet and the propelling-motor may be electrically connected. The motor is shown with a series-wound field and derives its current from the feed-wires 35 35. 36 represents the armature, and 37 the field-windings. The electromagnet is bridged across the wires leading to the field-windings and armature.

The operation is as follows: When the current is closed to drive the propelling-motor, a part of the current actuates the electromagnet, causing the gripping-jaws to release their bite on the rail or rails. When the current is cut off from the motor, the jaws are free to respond to the action of springs 21.

Having described our invention, we claim—

1. A vehicle, an electric motor therefor, a pair of rail-gripping jaws carried thereby, a magnet secured to one jaw and an armature to the other, circuit connections between the motor and the magnet whereby, when the motor-circuit is closed, the brake is inoperative, and means for automatically applying the brake when the circuit is opened.

2. A vehicle, an electric motor therefor, a

pair of rail-gripping jaws carried thereby, a magnet secured to one jaw and an armature to the other, circuit connections between the motor and the magnet whereby when the motor-circuit is closed the brake is inoperative, a spring for automatically applying the brake when the circuit is opened.

3. A vehicle, an electric motor therefor, a pair of rail-gripping jaws carried thereby, a magnet secured to one jaw and an armature to the other, circuit connections between the motor and the magnet whereby when the motor-circuit is closed the brake is inoperative, a bolt passing through the jaws, and a spring on the bolt to close the jaws when the circuit is opened.

4. A vehicle, an electric motor therefor, a pair of rail-gripping jaws carried thereby and provided with beaks, a magnet secured to one jaw and an armature to the other, circuit connections between the motor and the magnet whereby when the motor-circuit is closed the brake is inoperative, and means for automatically applying the brake when the circuit is opened.

Signed at Cleveland this 11th day of March, 1902.

SAMUEL T. WELLMAN.  
JAMES E. A. MOORE.

Witnesses:

C. W. COMSTOCK,  
HERBERT P. GLIDDEN.