S. J. WEBB.

POWER CRANE.

APPLICATION FILED OCT. 26, 1907.

925,968. Patented June 22, 1909.

2 SHEETS—SHEET 1.

Fig. 1.

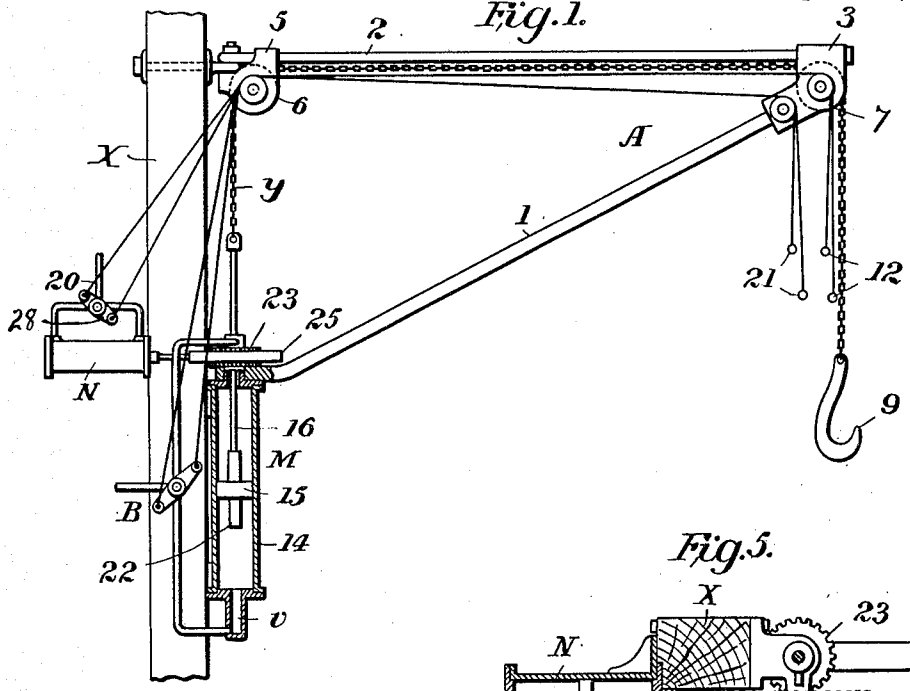
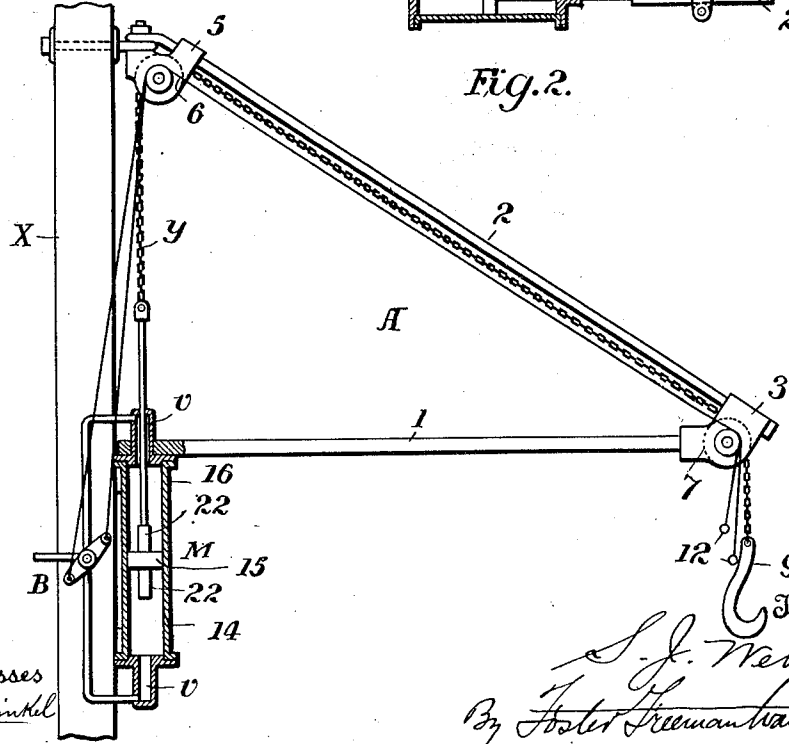


Fig. 3.

Fig. 2.



Witnesses

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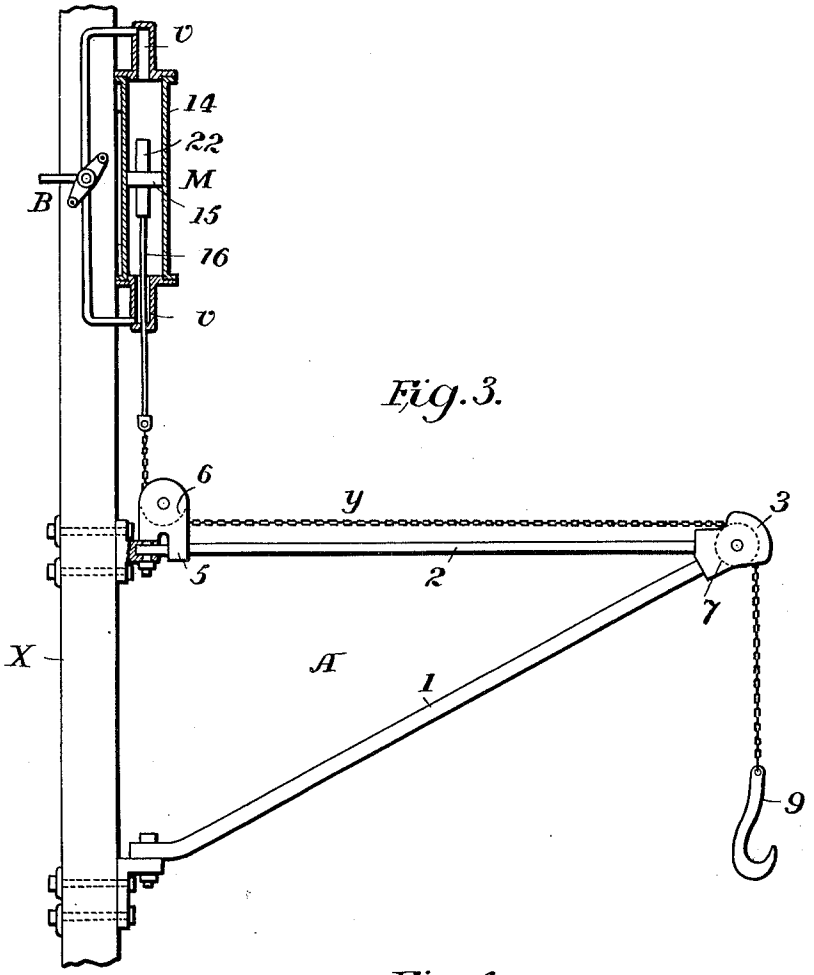


Fig. 3.

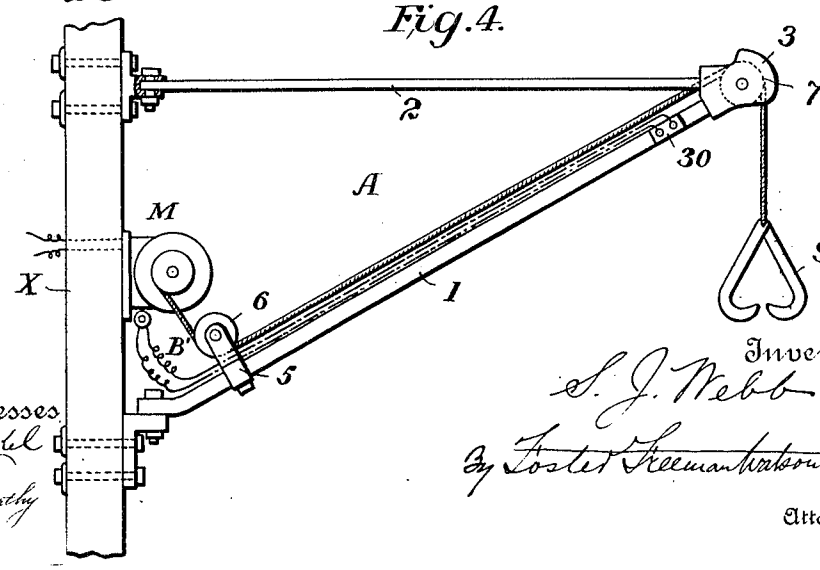


Fig. 4.

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POWER-CRANE.

No. 925,968. Specification of Letters Patent. Patented June 22, 1909.

Application filed October 26, 1907. Serial No. 399,328.

To all whom it may concern:

Be it known that I, SAMUEL J. WEBB, a citizen of the United States, and resident of Minden, Webster parish, State of Louisiana, have invented certain new and useful Improvements in Power-Cranes, of which the following is a specification.

My invention relates to cranes and more especially to swinging cranes of that class which are used in loading and unloading car trucks and especially for raising and lowering cotton bales, although the improvements may be employed in connection with other classes of cranes, and consists in the arrangement of a jib, generally having two converging members in relation to a motor occupying a fixed position, and of certain details of construction as fully set forth hereinafter and illustrated in the accompanying drawing, in which:

Figure 1 is a sectional elevation showing a crane embodying my improvements; Figs. 2 and 3 the same showing a somewhat different arrangement of the parts; and Fig. 4 the same illustrating the application of an electrical motor. Fig. 5 is a detail plan.

The crane is provided with a suitable jib A which is hinged to a standard or support X, which may be fixed or portable, and consists of a post or beam, or the wall of the structure. As shown the jib has two members 1 and 2, the member 1 being a thrust member and the member 2 a tension member preferably consisting of one or more rods. The members are jointed or hinged to the standard at different, separated points, in vertical line with each other, but are connected at their outer ends preferably by a union block 3 which is slotted to receive a guide pulley 7. One of the members, either the tension member 2 (Figs. 1, 2 and 3) or the thrust member 1 (Fig. 4) is suitably supported as by a slotted bracket 5 and inner guide pulley 6.

To the standard X is fixed a motor M of any suitable character to operate a hoisting cable *y* which passes from the motor over both pulleys and is provided with a suitable engaging device at the end, as a hook or grapple 9. The motor is provided with a suitable control device as a valve device B or switch B′, and flexible connections may extend from this device to hand-holds 12 at the outer end of the jib, or to circuit-makers 30, so that an operator at that point can control the operation of the hoisting engine.

As shown in Figs. 1, 2 and 3, the motor has a cylinder 14, piston 15 and piston-rod 16 to which one end of a cable is attached, and a suitable motor fluid may be admitted to or exhausted from either end of the cylinder by operating the control valve B, and the pulley 6 is so arranged that the vertical section of the hoisting cable will be in line with the piston-rod and with the pivots of the jib, or the latter in line with the point where the cable passes from the motor so that the swinging of the jib does not lift or lower the weight.

To prevent injury in case of breaking of the chain or slipping of the rod in hoisting, or too rapid descent of the load, I provide a buffer at each end of the cylinder by forming a pocket *v* in each cylinder head adapted to receive a projection 22 on the piston which will enter the same and confine the motor-fluid therein to an extent determined by a small opening in each projection, or by making the latter slightly smaller in diameter than the pocket.

If desired a motor N may be used to swing the jib, and the control device 28 of this motor may be connected by flexible connections 20 passing over suitable guide pulleys with hand-holds 21 at the outer end of the jib permitting the operator to control the motor N from this point. As shown the motor has a cylinder, piston, piston-rod and a rack 25 connected with the rod, and engaging a toothed wheel 23 connected with the jib. An electric motor may be used for this purpose with electric control devices. The motor may be below the jib as in Figs. 1 and 2, or above it as in Fig. 3, or between the members thereof as in Fig. 4.

Without limiting myself to the precise construction and arrangement of parts shown, I claim:

1. In a power crane an upright or standard, a jib having two members each pivoted at one end adjacent to the standard and connected at the outer ends, and a motor also supported by the standard, with its axis in line with the pivots of the jib guide pulleys on the jib and a cable passing from the motor over said pulleys.

2. In a power crane an upright or standard, a jib having two diverging members connected together at one end and pivoted at the other to the standard, a motor also supported by the standard consisting of a cylinder, piston, piston-rod, the latter in

line with the pivots of the jib and means for admitting pressure fluid to and exhausting it from each end of the cylinder.

3. A power crane having an upright or standard, a swinging jib, guide pulleys thereon, a motor fixed to the standard, with its axis in line with the pivots of the jib a cable passing from the motor over said guide pulleys, and means for controlling the motor from the outer end of the jib.

4. The combination in a power crane of a standard, a jib consisting of two diverging members each hinged at one end to the standard, a union block connecting them together at the opposite end and supporting a pulley, a bracket connected to the inner end of one of the members and a pulley carried thereby, a motor, with its axis in line with the hinges of the jib and a hoisting cable extending therefrom over said pulleys.

5. The combination in a power crane of a standard, a motor supported thereby, a hoisting cable connected to be operated by the motor, a jib pivoted to the standard, its pivots in line with the axis of the motor pulleys upon the jib, and a cable extending over said pulleys.

6. The combination in a power crane of a standard, a jib hinged thereto, a motor supported by the standard with its axis in line with the hinges of the jib and having a cylinder, piston, piston-rod and control device, a cable connected to the piston-rod, and guide pulleys for the cable supported by the jib, the inner pulley in position to support the inner portion of the cable in line with the piston.

7. The combination with the standard, a jib pivoted to the standard and provided with guide pulleys, a motor connected to the standard and a cable extending from the motor over said pulleys, the vertical portion of the cable in line with the pivots of the jib.

8. The combination with the standard, swinging jib and guide pulleys thereon, of a motor supported by the standard and provided with a cylinder, piston and piston-rod, the heads of the cylinder having pockets and the piston provided with projections for the purpose specified.

9. The combination with the standard, jib hinged therto, guide pulleys on the jib, a motor secured to the standard, a cable connected to be operated by the motor and extending over the pulleys, and a motor for swinging the jib.

10. The combination with the standard, jib hinged therto, guide pulleys on the jib, a motor secured to the standard, a cable connected to be operated by the motor and extending over the pulleys, a motor for swinging the jib provided with a control device, and means extending to the outer end of the jib for operating said control device.

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

SAMUEL J. WEBB.

Witnesses:

CHARLES E. FOSTER,

J. A. WATSON.