

No. 673,622.

Patented May-7, 1901.

E. Y. MOORE.
TRAVELING CRANE.

(Application filed Apr. 19, 1900.)

2 Sheets—Sheet 1.

(No Model.)

Fig. 1,

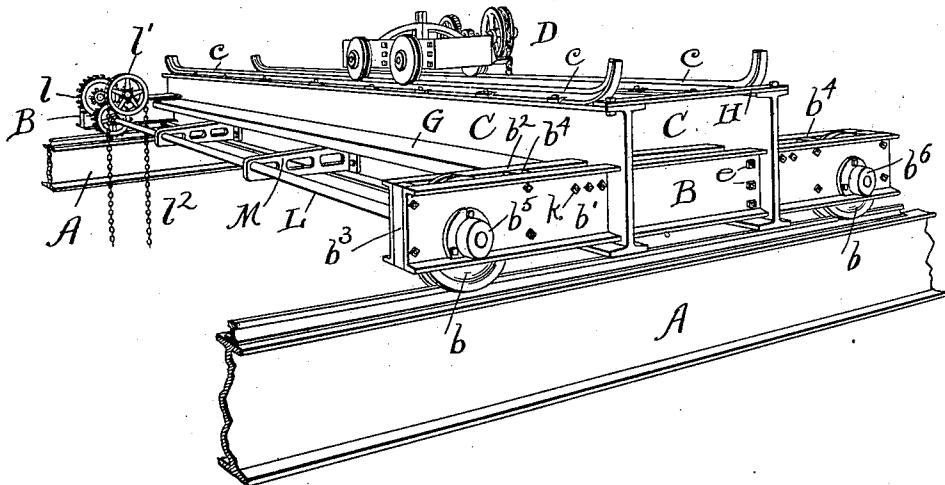
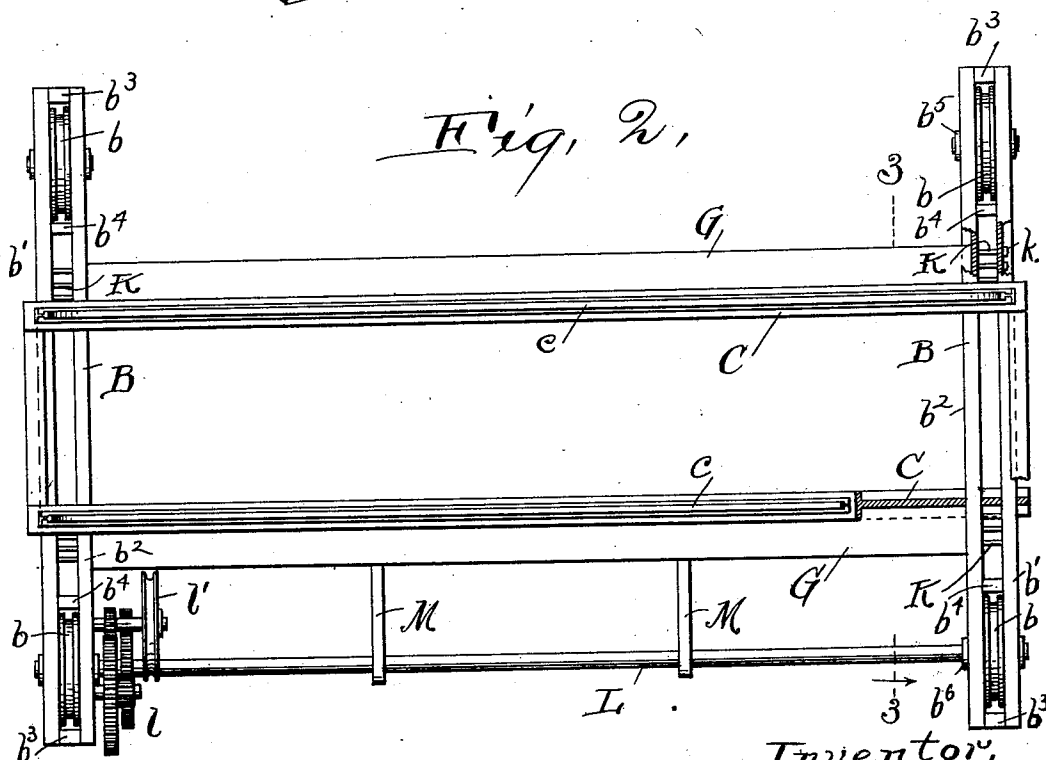


Fig. 2,



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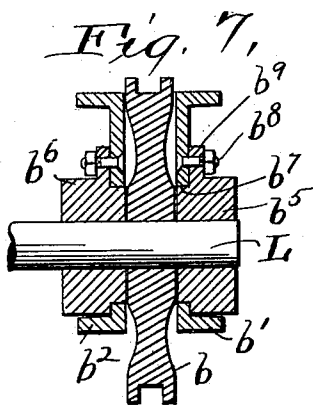
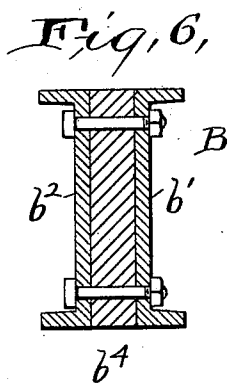
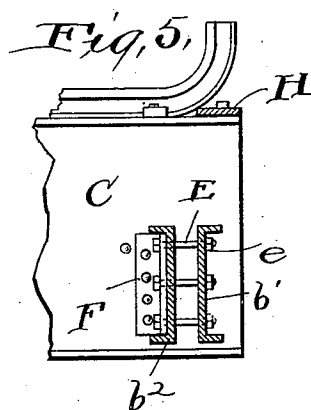
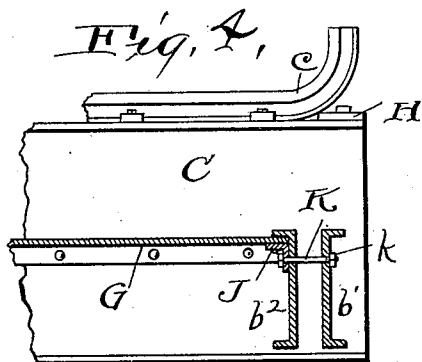
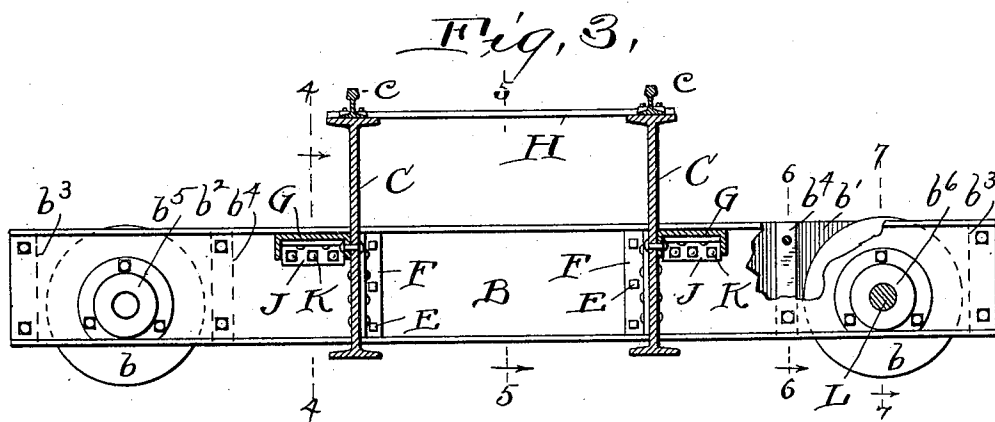
Inventor,
Edward Y. Moore,
By his Attorneys,
Thurston & Bates

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UNITED STATES PATENT OFFICE.

EDWARD Y. MOORE, OF CLEVELAND, OHIO, ASSIGNOR TO THE CHISHOLM & MOORE MANUFACTURING COMPANY, OF SAME PLACE.

TRAVELING CRANE.

SPECIFICATION forming part of Letters Patent No. 673,622, dated May 7, 1901.

Application filed April 19, 1900. Serial No. 13,414. (No model.)

To all whom it may concern:

Be it known that I, EDWARD Y. MOORE, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Traveling Cranes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

My invention relates to overhead traveling cranes of bridge form movable along supporting-tracks.

The object of the invention is to produce a crane of this type which shall be strong, compact, and durable and at the same time be cheap and simple in construction, so as to expedite the assembling of its parts, being composed largely of ordinary rolled forms of metal.

In its general construction the crane consists of a bridge supported by a truck at each end, which trucks run on suitably-supported parallel rails. Upon the bridge is a track transverse of the supporting-rails and upon which the usual carriage operates.

My invention resides in the construction and arrangement of the end trucks and the means of securing them to the bridge and of bracing the crane, all of which will be more fully described in the following specification and definitely set forth in the claims.

Referring to the drawings, which fully illustrate my invention, Figure 1 is a perspective view showing the crane complete. Fig. 2 is a plan of the same with the carriage removed and with parts of the truck and bridge shown in section. Fig. 3 is a sectional elevation taken on the line 3 3 of Fig. 2 looking toward the right of that figure, part of the truck being broken away to show its interior. Figs. 4, 5, 6, and 7 are vertical sections on the correspondingly-numbered lines of Fig. 3 looking in each case toward the right.

Referring to the parts by letters, A A represent the track-support for the crane; B B, the trucks; C, the bridge, and D the carriage operating upon the bridge.

The trucks B B, which carry the wheels *b*, as hereinafter described, are formed of a pair of channel-beams *b'* *b''*, set with their webs vertical, the channels facing outward

and bolted together through suitable distance-blocks *b''* *b'''*.

The bridge C is composed of a pair of girders or I-beams set on edge and carrying on their upper surface rails *c*, on which the carriage D travels. Near each end of the bridge there are made through the vertical webs of the girders openings of the same shape and position as the section of the channels forming the truck, and through these openings the channel members *b'* *b''* extend. The trucks and bridge are secured together by angle members or clips F, which are riveted to the inner side of the bridge and bolted to the trucks by the bolts E, extending through the channel members of the truck and taking nuts *e* outside the outer member.

The construction described makes a very simple and at the same time rigid connection between the bridge and trucks. A tie-rod H may be provided across the I-beams of the bridge, near its ends, to additionally brace it.

To give additional stiffness to the crane, I secure on each side of the bridge, parallel therewith, an inverted channel member G. The webs of these channels are horizontal. The inner side flange is riveted directly to the I-beams of the bridge, and the ends lie beneath the upper flange of the inner channel of the truck and are secured to the trucks by angle-clips J, riveted to the channel G and bolted to the trucks by bolts K, taking nuts *k* on the outer sides of the truck.

The wheels *b* of the truck occupy the space between the two channel members thereof and between the distance-blocks *b''* *b'''*. The axles of these wheels are journaled in bosses *b''* *b'''*, preferably made of cast-iron, carried on the outer sides of the truck-beams and having on their inner faces projections *b''*, taking through openings in the channel members. Bolts *b''*, extending through marginal flanges *b''*, carried by the bosses, secure them to the channel members.

On the driving side of the crane the axles of the wheels constitute a shaft L, extending across the frame and intermediately supported by brackets M, extending from the side of the bridge. This shaft is rotated by suitable means to move the crane, that shown being a system of gearing *l*, leading to a driv-

ing-wheel *U*, over which takes an operating-chain *P*.

It will be observed that rivet connections are used in securing the angle-pieces to the bridge-beams and the bracing-channels and in securing these latter channels to the bridge-beams. This work may be done with a riveting-machine. The connections of the bridge and its channel-braces to the trucks, however, are provided by bolts, whereby the parts may be very conveniently assembled. In assembling the crane the channel members *b' b'* are passed through the I-beams of the bridge, the distance-blocks put in place, and the various bolts applied. The wheels are then inserted and their journal-bosses bolted in place.

The advantages of this crane lie in its great strength and rigidity and the cheapness with which it may be constructed, being composed of usual rolled forms, as I-beams and channel members, in the ease with which it may be separated and assembled, (thus providing for cheap transportation,) and in the saving of vertical head-room, which is efficiently secured by having the trucks pierce the bridge.

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

1. In a traveling crane, the combination of a bridge with trucks supporting said bridge and passing continuously through the sides thereof, the material of said sides extending beneath the trucks, substantially as described.

2. In a traveling crane, a bridge having openings in its walls near the ends thereof, combined with trucks supporting said bridge and passing continuously through such openings, said trucks being confined by the material of the bridge substantially embracing them, substantially as described.

3. In a traveling crane, the combination of a bridge having openings in its walls near the ends thereof said openings being entirely surrounded by the bridge, and trucks supporting said bridge and passing continuously through said openings, substantially as described.

4. In a traveling crane, a bridge consisting of a pair of parallel beams having alined openings near their ends, combined with a pair of trucks each consisting of a pair of parallel beams passing through said openings, the material of the bridge-beams extending between the truck-beams, substantially as described.

5. In a traveling crane, a bridge consisting of a pair of parallel I-beams having alined openings through the webs thereof a short distance from the ends and above the lower flanges, combined with a pair of trucks having beams passing continuously through the alined openings, substantially as described.

6. In a traveling crane, a bridge consisting of a pair of parallel I-beams having alined openings through the webs thereof a short distance from the ends and above the lower flanges, combined with a pair of trucks each

consisting of two beams side by side passing continuously through the alined openings of the bridge and carrying supporting-wheels between them, substantially as described.

7. In a traveling crane, a bridge consisting of a pair of beams, trucks including a pair of channel-beams facing outward and passing through openings in said bridge near its ends, and wheels carried by the trucks between the beams thereof, substantially as described.

8. In a traveling crane, a bridge having a pair of parallel I-beams each beam near each end having through it above its lower flange a pair of channel-shaped openings with the straight sides back to back the openings in the two beams alining, combined with a pair of trucks each including two channel-beams facing outward and passing continuously through the alined openings in said bridge, substantially as described.

9. In a traveling crane, a bridge consisting of a pair of I-beams, trucks including a pair of channel-beams facing outward and passed through openings near the ends of said bridge and wheels carried by the trucks between the channel-beams, combined with angle-clips fastened to said bridge and trucks in the angles of their intersection, substantially as described.

10. In a traveling crane, a bridge having two parallel beams, trucks having two parallel beams, distance-pieces separating the said truck-beams, said bridge-beams having openings to fit the section of said truck-beams, the truck-beams passing said openings, and angle-clips riveted to said bridge-beams and bolted to said truck-beams, substantially as described.

11. In a traveling crane, a bridge having a pair of parallel I-beams combined with a pair of trucks each including a pair of channel-beams facing outward, distance-blocks between the channel-beams, and bolts holding said channel-beams and distance-blocks together, said channel-beams extending through openings in the I-beams, means for securing together the I-beams and channel-beams, and wheels mounted between the channel-beams of the truck, substantially as described.

12. In a traveling crane, a bridge formed of two I-beams having stiffening-channels riveted by one flange to their webs, and having openings in said webs, combined with trucks passing continuously through said openings and secured to the I-beams and stiffening-channels, substantially as described.

13. In a traveling crane, a bridge having two I-beams, horizontal bracing-channels riveted at one edge to the webs of said I-beams, there being openings in said webs near each end, trucks formed of two parallel beams passed therethrough, angle-clips joining said channels to said truck-beams, and angle-clips joining said I-beams with said truck-beams, substantially as described.

14. In a traveling crane, in combination, a bridge including a pair of parallel I-beams, a

pair of end trucks each having a pair of beams, distance-blocks between the truck-beams, and bolts securing the truck-beams together, a pair of stiffening-channels each secured at an edge to the outer sides of one of said I-beams of the bridge and secured at their ends to the inner beam of the truck, substantially as described.

15. In a traveling crane, in combination, a bridge including a pair of parallel I-beams, a pair of end trucks each consisting of a pair of channel-beams facing outward, distance-blocks between the channel-beams, and bolts securing the channel-beams together, a pair of stiffening-channels secured at an edge to the outer sides of the I-beams of the bridge, bolts securing the ends of the stiffening-channels to the trucks, and angle-clips secured to the webs of the I-beams and bolted to the truck-beams, substantially as described.

16. In a traveling crane, a truck formed of two parallel beams, distance-pieces lying

therebetween, wheels mounted between said beams, journal-bosses for the wheels fastened to said beams and having shoulders projecting into recesses therein, substantially as described.

17. In a traveling crane, an end truck formed of two parallel channel-beams facing outward, distance-pieces between the webs of the channel-beams, bolts holding said beams together, wheels carried between said beams, journal-bearings therefor on the outer sides of the beams having shoulders projecting into corresponding recesses in said beams, and having flanges with fastening-bolts passing therethrough, substantially as described.

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

EDWARD Y. MOORE.

Witnesses:

ALBERT H. BATES,
H. M. WISE.