No. 874,105. PATENTED DEC. 17, 1907.

E. Y. MOORE.

TROLLEY HOIST.

APPLICATION FILED FEB. 1, 1907.

2 SHEETS—SHEET 1.

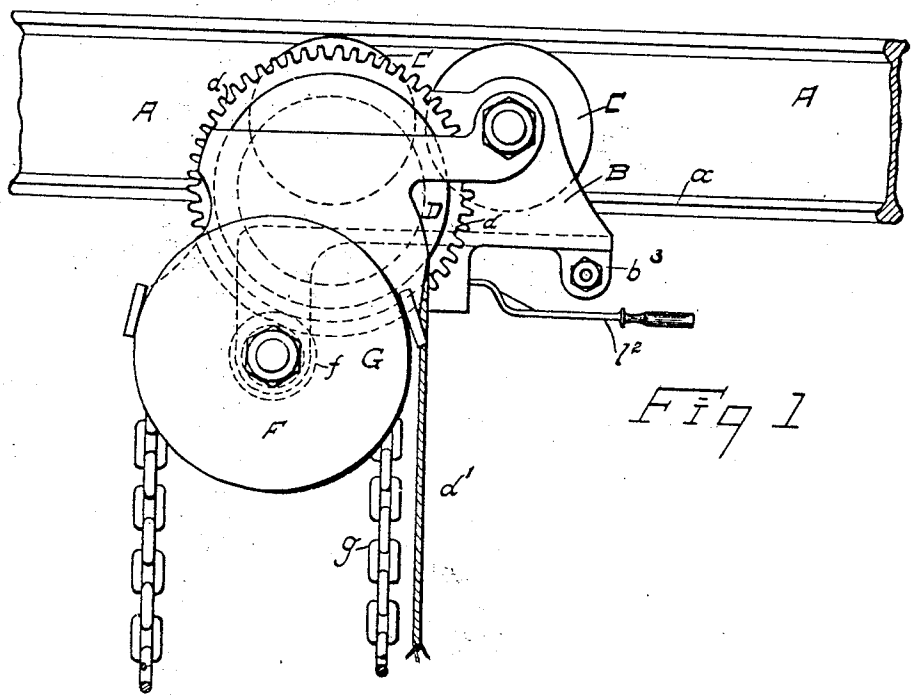

Fig 1

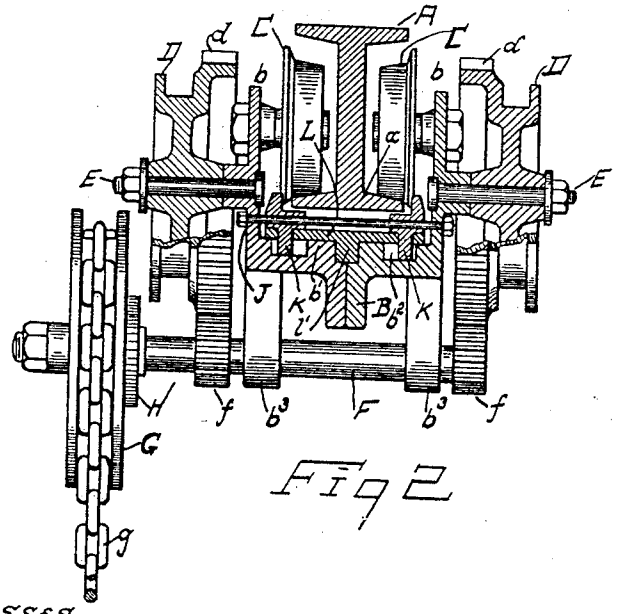

Fig 2

Witnesses
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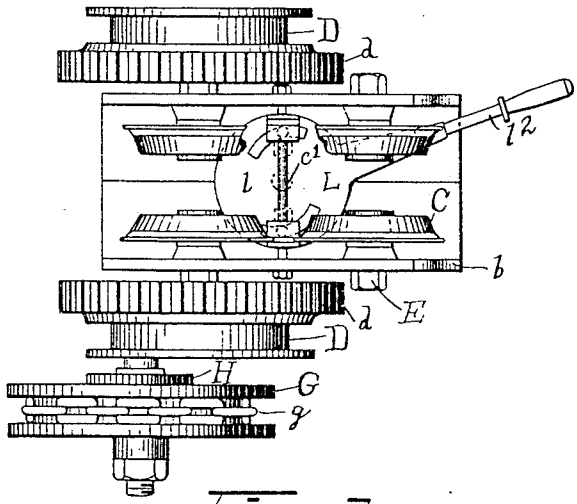

Fig. 3

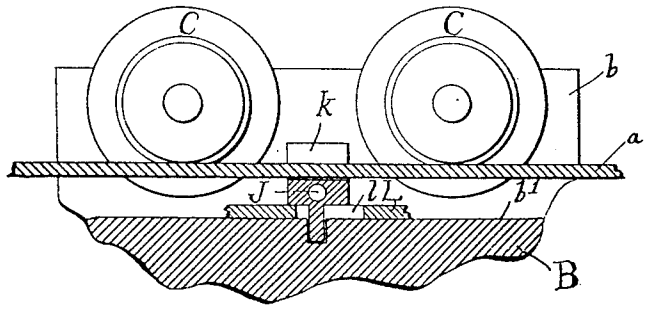

Fig. 4

WITNESSES:

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UNITED STATES PATENT OFFICE.

EDWARD Y. MOORE, OF CLEVELAND, OHIO.

TROLLEY-HOIST.

No. 874,105. Specification of Letters Patent. Patented Dec. 17, 1907.

Application filed February 1, 1907. Serial No. 355,255.

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 Trolley-Hoists, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

This invention relates to hoists adapted to travel along a suitable support. It provides simple and efficient mechanism for locking the hoist to the support at any desired point.

The invention is shown herein as especially adapted for hoists having supporting wheels adapted to travel on the lower flange of an I-beam, the locking device operating to engage such lower flange and clamp the hoist thereto.

The invention is hereinafter more fully described and its essential characteristics set out in the claims.

In the drawings, Figure 1 is a side elevation of a hoist having my clamping device; Fig. 2 is a vertical section thereof; Fig. 3 is a plan, and Fig. 4 is a fragmentary section in a plane parallel with Fig. 1 and sectioned through the flange of the I-beam.

Referring to the drawings by reference letters, A represents the I-beam, having the supporting flange *a*. B is the frame of the hoist, which is made in two parts bolted together and extends transversely at *b'* beneath the I-beam and upwardly at *b b* on opposite sides thereof. These sides *b* carry supporting wheels C which ride on the flange *a*.

The hoist frame carries suitable hoisting mechanism. As shown, there are a pair of lift wheels D mounted on studs E carried by the frame portions *b*. These lift wheels have formed on them gear teeth adapted to mesh respectively with pinions *f* on a driving shaft F which is supported in lugs b^3 depending from the hoist frame. The hand chain wheel G is suitably mounted on this shaft F and carries a hand chain *g*. A suitable ratchet wheel H is provided to prevent backward rotation, the pawl coöperating therewith being omitted for clearness of illustration.

Extending crosswise of the hoist frame above the portion *b'* thereof and beneath the flange *a* of the I-beam is a rod or bolt J which extends through the side members *b* and has nuts on its ends. Slidably mounted on this bolt are a pair of clamping shoes K which have their upper portions adapted to engage the side edges of the I-beam flange *a*. At their lower ends these shoes have depending pins or lugs *k* extending into lateral grooves b^2 on the under part *b'* of the hoist frame, these grooves being parallel with the rod J. The shoes are thus guided so that they may move toward or from the flange *a*.

L represents a plate or disk resting on the surface *b'* of the hoist frame beneath the I-beam, and below the shoes. The pins *k* extend through slots *l* in this plate. The plate has a central depending boss *l'* by which it is journaled in the frame members and has a projecting operating handle l^2. The slots *l* are curved eccentrically of the pivot of the plate, wherefore, if this plate is swung on its pivot, the shoes are caused to move in or out. These cam slots are so placed that movement of the lever in one direction moves both shoes inward thereby clamping the I-beam, while movement in the other direction moves them both outward to release the I-beam.

It will be seen that I have provided a very simple locking device which takes up no appreciable room, which may be easily set whenever desired, and which then remains in locking position until released. By having the shoes loosely slidable at right angles to the flange of the I-beam, I obtain a very efficient grip thereon, and one which does not require accurate adjustment to be effective.

I claim:

1. The combination with a hoist adapted to travel on a support, of a pair of clamping shoes carried by the hoist, and an oscillatable plate having eccentric slots through which members carried by said shoes extend.

2. The combination of a hoist frame, a rod carried thereby, a pair of clamping shoes slidable on said rod toward or from each other, and means for operating said shoes.

3. The combination of a hoist frame, a rod carried thereby, a pair of clamping shoes slidable on said rod toward or from each other, and a cam plate operatively connected with said shoes.

4. The combination with a hoist adapted to travel on an I-beam, of a guide carried by the hoist frame beneath the I-beam and transversely thereof, a pair of clamping shoes slidable on said guide toward or from the flange of the I-beam, and means for operating said shoes.

5. The combination with a hoist adapted to travel on an I-beam, of a rod carried by

the hoist frame beneath the I-beam and transversely thereof, a pair of clamping shoes slidable on said rod toward or from the flange of the I-beam, and an operating member having eccentric slots through which extensions from said shoes project.

6. The combination with a hoist frame having members adapted to extend onto opposite sides of a supporting beam and a connecting member beneath such beam, of a pair of clamping shoes reciprocatively guided by such connecting member, a horizontal plate oscillatably mounted on the upper side of such connecting member and having cam surfaces which said shoes engage.

7. The combination of a hoist frame comprising a pair of side members and also connecting portions whereby the frame may lie beneath a supporting beam and extend onto opposite sides thereof, grooves in such connecting portion of the frame, a rod extending across the frame above such grooves, shoes slidably mounted on such rod and engaging the grooves, and means for causing the shoes to approach each other or recede.

8. The combination of a hoist frame comprising a pair of side members and also connecting portions whereby the frame may lie beneath an I-beam and extend onto opposite sides thereof, grooves in such connecting portion of the frame, a rod extending across the frame above such grooves, shoes adapted to engage the edge of the flange of the I-beams and slidably mounted on such rod and occupying the grooves, and an oscillating plate pivotally supported by such intermediate portion of a frame between the body of the clamping shoes and such grooves, such clamping shoes extending through eccentric slots in the plate into such grooves.

9. The combination of an I-beam, a hoist having supporting wheels riding on the lower flange of the beam, the hoist frame extending beneath the beam, such frame being grooved transversely of such flange, slidably guided shoes occupying such grooves, an oscillatable operating plate carried by the hoist frame beneath the I-beam and having eccentric slots through which portions of the shoes extend in passing into such grooves, and a handle for operating said plate.

10. The combination of an I-beam, of a hoist frame extending onto opposite sides of the I-beam and beneath the I-beam, supporting wheels carried by the side portions of the frame and riding on the lower flange of the I-beam, lift wheels carried by such side portions on their outer sides, a rod extending across the hoist frame beneath the I-beam and above the intermediate portion of the frame, a horizontal plate pivoted to such intermediate portion and provided with a pair of eccentric slots, the intermediate portions of the frame being grooved below such slots transversely of the I-beam, and a pair of clamping shoes slidably mounted on said rod and having members extending through such slots into said grooves.

11. The combination, with a supporting I-beam, of a hoist having supporting wheels adapted to ride on the lower flange of the I-beam, a pair of clamping shoes carried by the hoist and adapted to engage the opposite edges of said lower flange, said shoes being guided to reciprocate toward or from such flange, and mechanism adapted to cause such reciprocation.

12. The combination of a hoist having supporting wheels adapted to travel along a single supporting member, a pair of clamping shoes adapted to lock such hoist against such single member and slidably guided to reciprocate toward or from the same, and mechanism adapted to cause such reciprocation.

13. The combination with a hoist adapted to travel along a support, a guide carried by the hoist frame beneath such support and transversely thereof, a pair of clamping shoes slidable on said guide, and means for moving said shoes toward or from said support.

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

EDWARD Y. MOORE.

Witnesses:

ALBERT H. BATES,

WINIFRED L. MCGARRELL.