No. 653,618. Patented July 10, 1900.

L. J. CODY.

STEAM LOG LOADER.

(Application filed Feb. 23, 1900.)

(No Model.) 2 Sheets—Sheet 1.

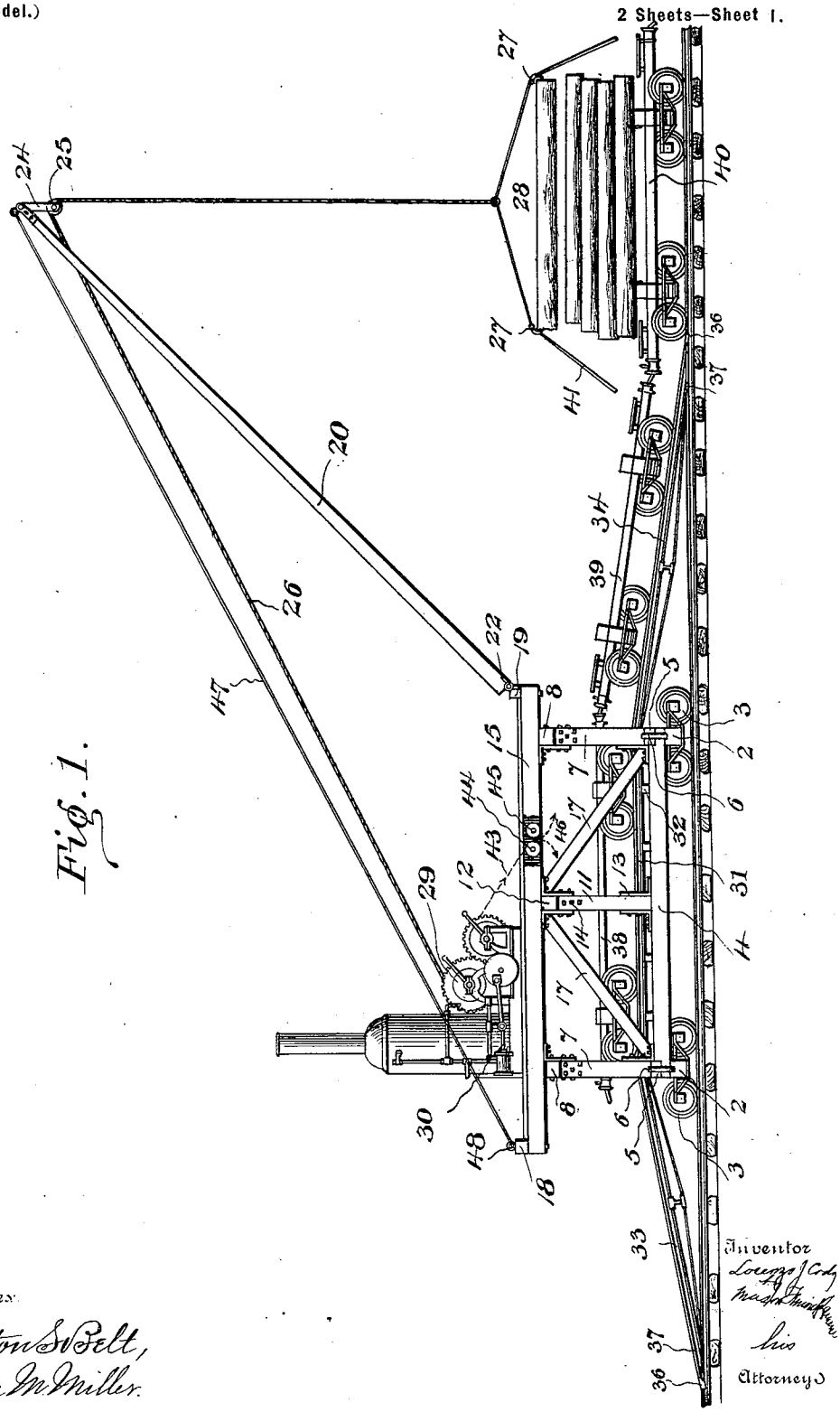

Fig. 1.

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Fig. 2.

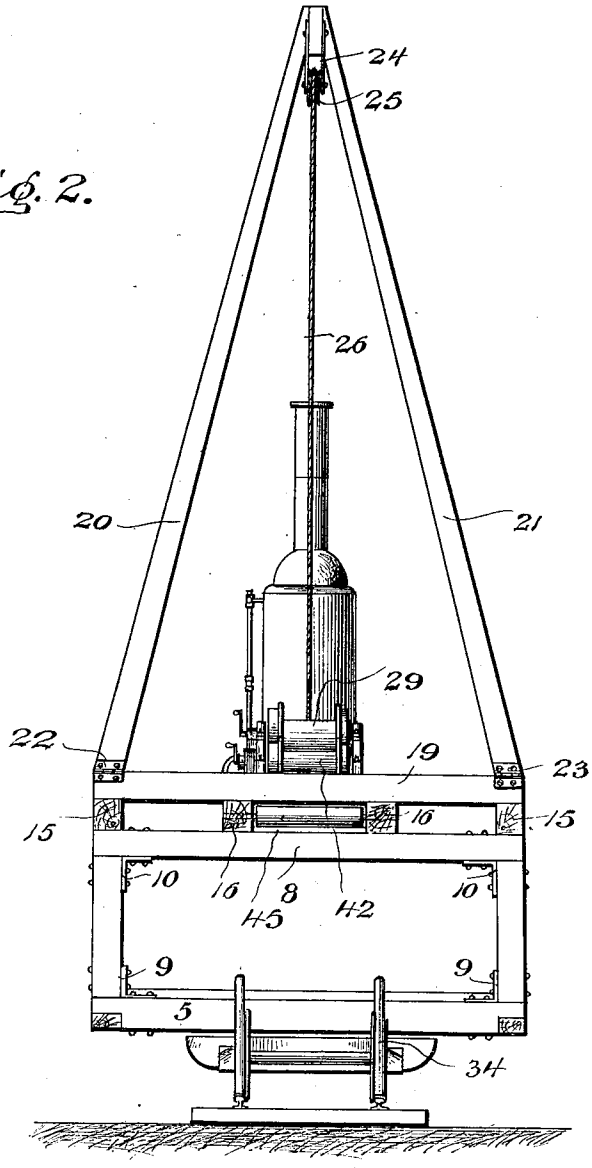


Fig. 3.

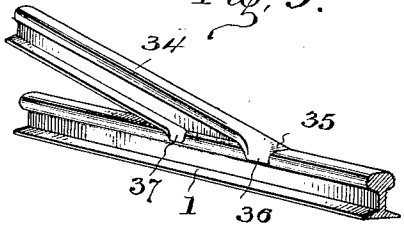
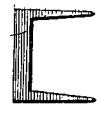


Fig. 4.



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UNITED STATES PATENT OFFICE.

LORENZO J. CODY, OF DULUTH, MINNESOTA.

STEAM LOG-LOADER.

SPECIFICATION forming part of Letters Patent No. 653,618, dated July 10, 1900.

Application filed February 23, 1900. Serial No. 6,247. (No model.)

To all whom it may concern:

Be it known that I, LORENZO J. CODY, a citizen of the United States, residing at Duluth, in the county of St. Louis and State of Minnesota, have invented certain new and useful Improvements in Steam Log-Loaders; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to means for loading railway-cars, and has for its object to provide an improved portable derrick or loading apparatus which may be placed in position for loading cars at any point on the main track of a railway, the construction being such that a train of cars on the same track may be loaded by such mechanism.

The special object of my invention is to generally improve the construction of such machinery.

With these objects in view my invention consists in a car-loading apparatus the construction, arrangement, and combination of the various parts of which will be fully described herein and the particular points of novelty specifically set forth in the claims.

In the drawings, Figure 1 is a view in side elevation of a car-loading apparatus constructed in accordance with my invention in position for practical operation. Fig. 2 is an end view thereof. Fig. 3 is a detail perspective view illustrating the outer end of a rail of one of the inclined ways in position on one of the rails of the main track. Fig. 4 is a detail view of one of the metal bonds detached.

Like numerals indicate the same parts in all the figures of the drawings.

Referring to the drawings by numerals, 1 indicates the main track of a railway, upon which is mounted my improved apparatus, said apparatus being mounted upon front and rear trucks comprising, essentially, bolsters 2, preferably of a length greater than the gage of the main track, and suitable wheels 3 of ordinary construction.

The framework of the apparatus comprises longitudinal sills 4 and end sills 5, the former supported upon the bolsters 2 and the latter upon the sills 4, the ends of the sills 4 and 5 being halved and securely fastened together by metal bonds 6. At each corner of the framework is mounted a corner-post 7, resting at its lower end upon the end sills 5 and supporting upon their upper ends cross-beams 8, said posts being connected to the end sills 5 by angle-brackets 9 and to the cross-beams 8 by similar angle-brackets 10. At about the mid-length of the longitudinal sills 4 are mounted posts 11, upon which is supported at their upper ends a cross-beam 12, the sills being connected to the posts 11 by angle-brackets 13 and the posts 11 to cross-beam 12 by angle-brackets (not shown) secured by bolts 14.

Upon the cross-beams 8 and 12 are mounted longitudinal beams 15 15 at the sides and 16 16 near the center of the frame. Suitable braces 17 extend diagonally, as shown in Fig. 1, from the lower ends of the corner-posts 7 to the upper ends of the middle posts 11 in the same vertical plane with the side sills 4, the posts just enumerated, and the longitudinal beams 15. The frame is considerably wider than the trucks and the longitudinal sills 15 and 16 somewhat longer than the main frame.

Upon the opposite and at the extreme ends of the longitudinal beams 15 and 16 are mounted cross-beams 18 and 19 at their extreme ends, a frame, consisting of beams or standards 20 21, being hinged at the outer ends of the cross-beam 19, as 22 23, said beams converging toward their upper ends, where they inclose a block 24, provided with a pulley 25, over which passes a cable 26, provided at its outer end with means 27 for engaging logs 28, while its inner end is wound upon a windlass 29, operated by a suitable engine 30, mounted upon the longitudinal beams 16, above referred to.

A track 31 of the same gage as the main track 1 and having its rails in the same vertical planes as the rails of the main track is laid upon sleepers 32, supported upon the longitudinal sills 4. At each end of each rail of the track 31 is pivotally secured a trussed rail, as at 33 34, which may be raised above or lowered upon the rails of the main track 1. The outer ends of the tread of the rails 33 34 are made with thin or knife edges 35 to lie snugly upon the tread of the rails 1, and are also provided with downward flanges 36, which rest against the outer edge of the

heads of the rails 1, thereby preventing lateral displacement inward of the inclined rails 33 34, lateral displacement of said rails outward being prevented by any suitable connections between the pairs of rails 33 and 34. (Not shown.)

The action of the side flanges 36 may be supplemented, if desired, by similar flanges 37 on the ends of the bases of the rails 33 and 34 at the points at which the said bases rest upon the treads of the rails 1, as clearly shown in Fig. 3.

In Fig. 1 I have shown three logging-cars 38, 39, and 40 of any ordinary well-known construction, the car 38 being illustrated as upon the rails 31 of the loading apparatus, the car 39 coupled thereto and resting upon the inclined rails 34, and the car 40 resting upon the rails 1 of the main track at the end of the inclined way formed by rails 34. The car 40 is illustrated as substantially loaded with logs 28, the upper one of which is slightly above the remainder and represented as being placed thereon. Ropes or cables 41, attached to the engaging means 27, serve to guide the logs, as 28, in placing them upon the cars. Driven by the engine 30 is a second drum or windlass 42, which carries a rope, cable, or chain, which, passing over the windlass in the direction of the arrow 43, will be led downwardly between rolls 44 45, journaled in suitable bearings carried by the longitudinal beam 16, said cable below the rolls passing either forward or rearward, as the case may be, and, as is indicated by the arrows 46, will be secured at its outer end to any desired one of the logging-cars in the train to be loaded.

In the practical operation of this machine the logging-cars may be pushed or pulled up one of the inclined ways formed by rails 33 and 34 or over the tracks 31 of the loading apparatus, the object of this being to permit the loading apparatus to be located at any point on the main track and a train of logging-cars on the same track to be consecutively loaded. This operation is accomplished by locating the car to be loaded, as 40, in proper position, other cars, as 38 and 39, either in front or rear of car 40, being passed over or permitted to remain upon the inclined ways or the track of the apparatus during the operation of loading. A handy way to load a whole train is to back the train over the inclined ways of the loading apparatus until the front car reaches the position occupied by the car 40. This front car can now be loaded and the train pulled up the length of one car, bringing the next car, as 39, to the position for loading. This may be repeated until the whole train is loaded. The beams or standards 20 may be suitably braced by guy-ropes 47, connecting their outer ends with eyes 48 on the upper cross-beams 18 of the frame.

By my improved construction the frame of the machine and the working parts are simplified, cheapened, and improved and the whole apparatus rendered more effective. The derrick rope or cable from the drum or windlass 42, owing to the fact of its passing between the rolls 44 and 45, may be used to pull logging-cars in either direction, according as the cable is led in one direction or the other below the rolls. It will of course be understood that the apparatus must be anchored or secured in position; but inasmuch as this can be done by any suitable well-known means such means have not been illustrated in the drawings.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A car-loading apparatus provided with a frame mounted upon trucks and comprising longitudinal and cross sills halved and lapped at their ends, metal bonds securing the lapped ends together, upright corner-beams mounted on the overlapped ends, upper end cross-beams on said uprights, longitudinal or side beams resting on said cross-beams and angle-brackets connecting the longitudinal sills and beams with the uprights and upper and lower end cross beams and sills, the upper beams being arranged to support an engine, substantially as and for the purpose set forth.

2. A car-loading apparatus provided with a frame mounted upon trucks and comprising longitudinal and cross sills halved and lapped at their ends, metal bonds securing the lapped ends together, upright corner-beams mounted on the overlapped ends, upper end cross-beams on said uprights, longitudinal or side beams resting on said cross-beams, intermediate uprights between the upper and lower longitudinal sills and beams, inclined braces between the upper ends of the intermediate uprights and the lower ends of the end uprights, and angle-brackets connecting the longitudinal sills and beams with the uprights and upper and lower end cross beams and sills, the upper beams being arranged to support an engine, substantially as and for the purpose set forth.

3. A car-loading apparatus provided with a framework comprising suitable truck-supporting sills and uprights, end and intermediate upper cross-beams on the uprights, side and intermediate upper longitudinal beams on said upper cross-beams, superposed end cross-beams on the upper longitudinal beams, upwardly-converging derrick-arms pivoted to one of the superposed end cross-beams, a pulley carried between the upper end of said arms, an engine and windlass on the frame, a cable from the windlass passing over the pulley, and guy-ropes connecting the outer upper ends of the derrick-arms with the opposite superposed end cross-beam, substantially as and for the purpose set forth.

4. A car-loading apparatus comprising lower truck-supported longitudinal beams, cross-ties thereon, longitudinal rails on said cross-ties, trussed rails pivoted at the ends of

said longitudinal rails, suitably-supported upper longitudinal beams, an engine and windlass mounted thereon; parallel cross-rollers journaled in the longitudinal beams, and a cable from the windlass passing downward between said rollers, substantially as and for the purpose set forth.

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

LORENZO J. CODY.

Witnesses:
JAMES T. WATSON,
PHINEAS AYER.