

(No Model.)

J. M. BOUDRIE & T. McMANUS.
STEAM SHOVEL.

No. 511,110.

Patented Dec. 19, 1893.

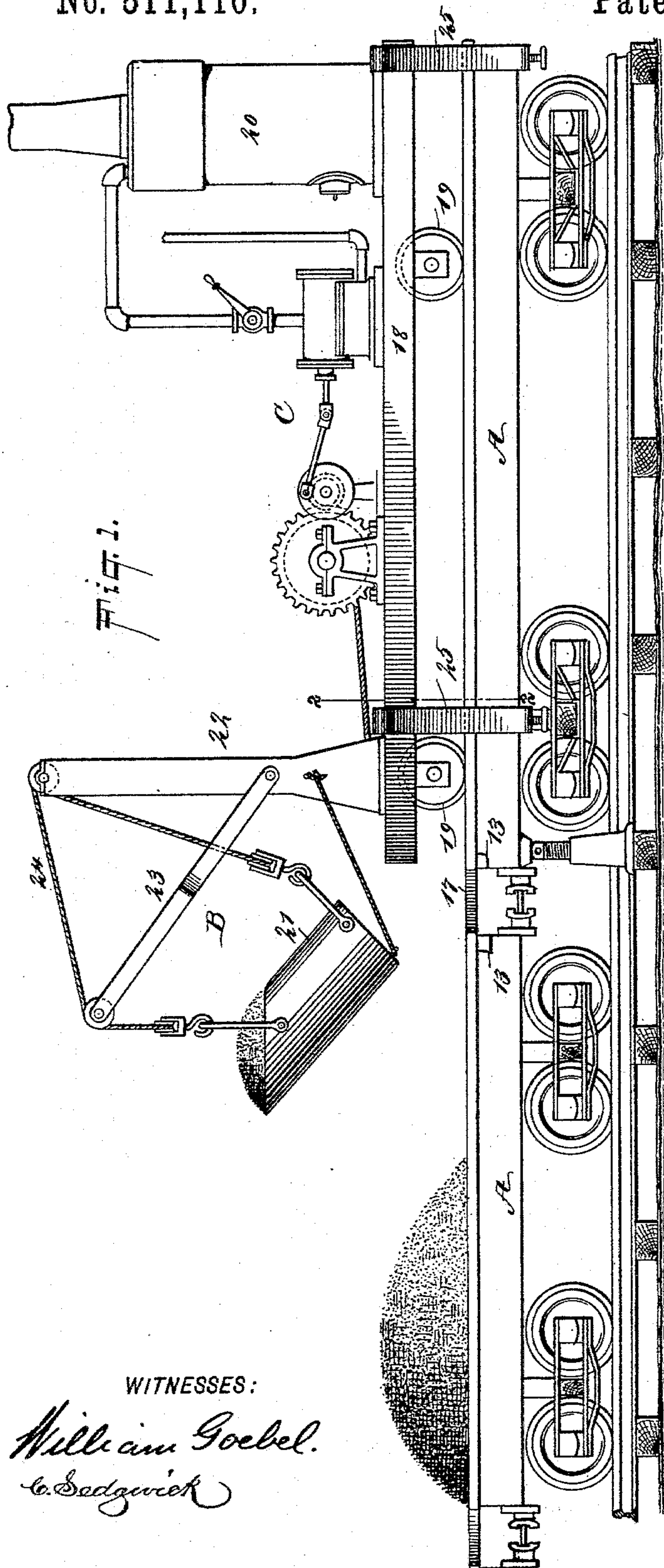


Fig. 1.

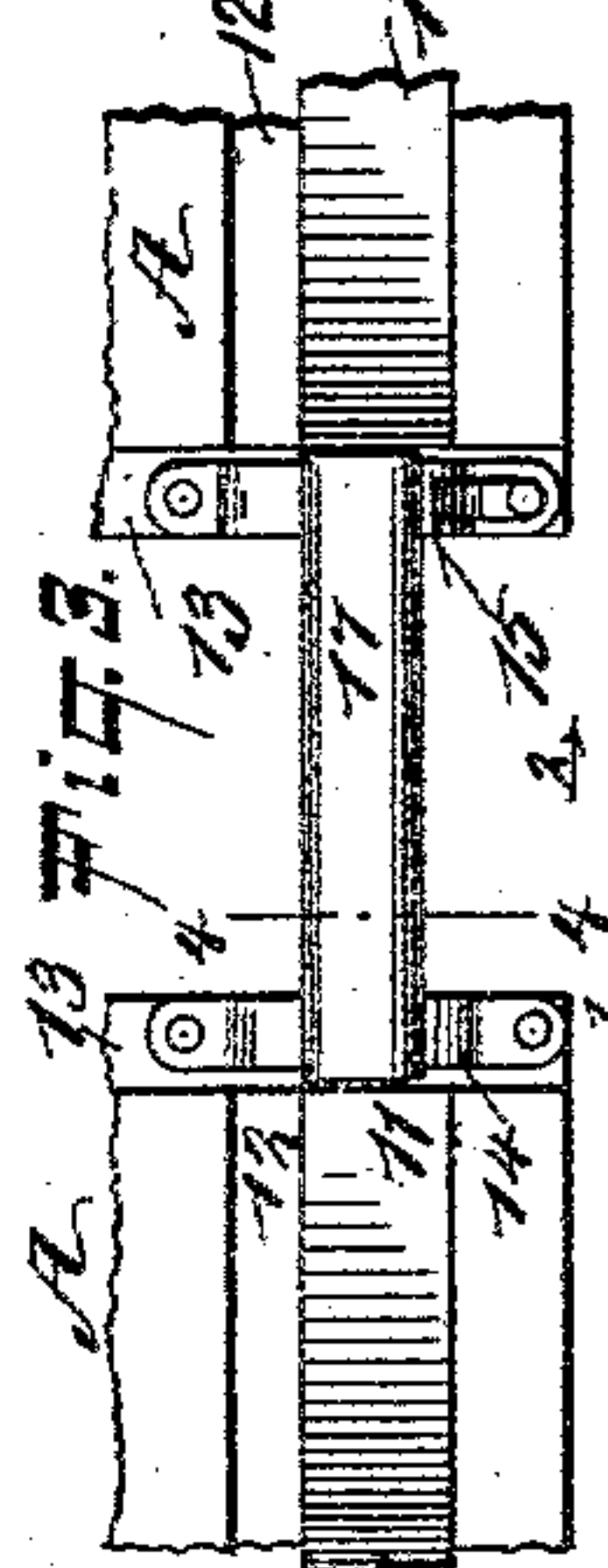


Fig. 3.

Fig. 5.

Fig. 4.

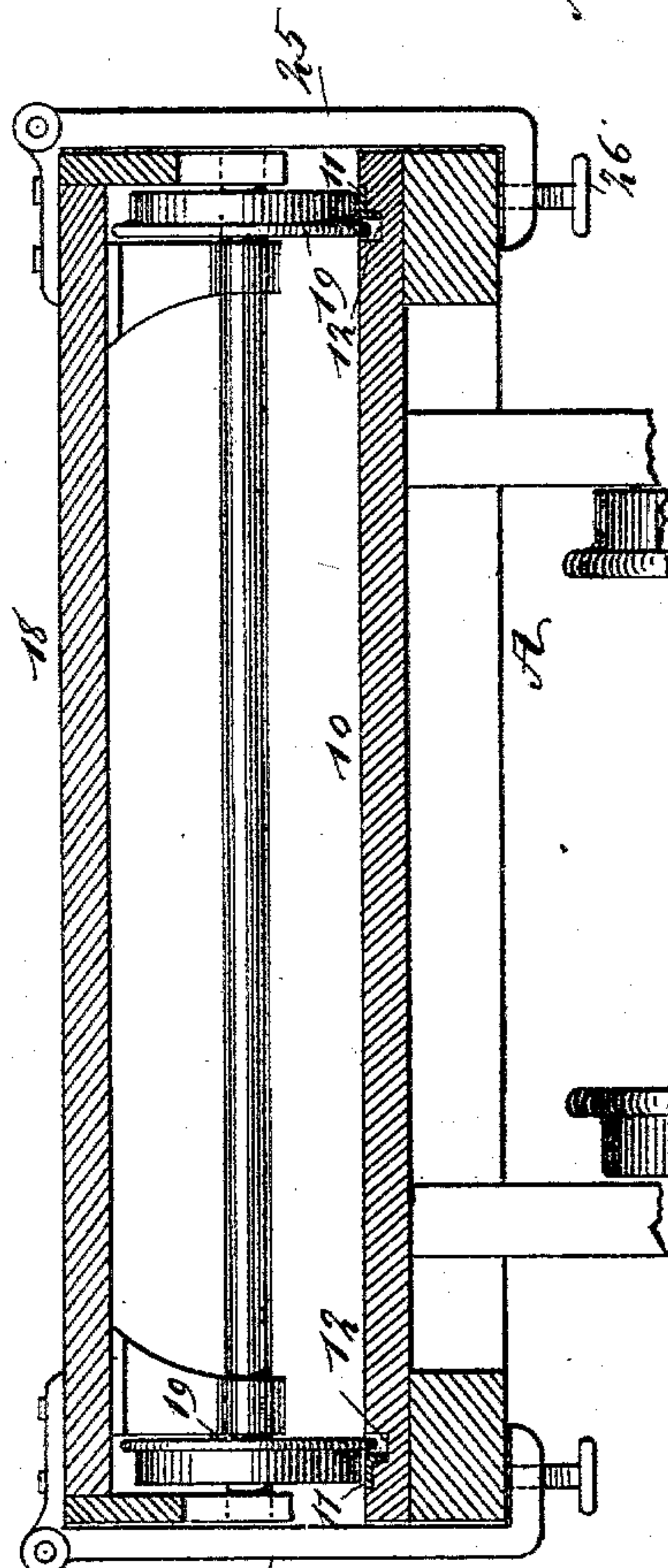


Fig. 2.

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JAKE M. BOUDRIE AND THOMAS McMANUS, OF RULO, NEBRASKA.

STEAM-SHOVEL.

SPECIFICATION forming part of Letters Patent No. 511,110, dated December 19, 1893.

Application filed August 23, 1893. Serial No. 483,841. (No model.)

To all whom it may concern:

Be it known that we, JAKE M. BOUDRIE and THOMAS McMANUS, of Rulo, in the county of Richardson and State of Nebraska, have invented a new and Improved Steam-Shovel, of which the following is a full, clear, and exact description.

Our invention relates to an improvement in steam shovels, and it has for its object especially to provide a platform for the shovel, the said platform consisting of flat cars, and to provide a means whereby the shovel may be made to travel from end to end of a train of flat cars, and thus dispense with the heretofore necessary side track in the loading or unloading of flat cars, and to provide a means whereby the work of loading a train may be commenced at one end, and as each car receives its proper load the shovel may be carried to the next car, and so on until the desired number of cars has been loaded.

A further feature of the invention is to so place the shovel upon the flat car that when the shovel is in operation it may be rigidly held upon the car.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth and pointed out in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of a portion of a train of flat cars and the steam shovel attached thereto. Fig. 2 is a vertical transverse section, taken practically on the line 2—2 of Fig. 1, illustrating the manner in which a shovel may be attached to a car. Fig. 3 is a plan view of the track connection between two opposing cars. Fig. 4 is a section taken practically on the line 4—4 of Fig. 3, looking in the direction of the arrow 1; and Fig. 5 is a section taken practically on the line 4—4 of Fig. 3, looking toward the arrow 2.

In carrying out the invention flat cars A of ordinary construction are employed as the support for a steam shovel B. Each platform car is provided upon the upper face of its bed with tracks 11, the tracks being two in number, and extending practically from end

to end of the car, one being located near each side, as shown in Fig. 2. Many forms of tracks may be employed, but the preferred form is that shown in Fig. 2, which consists in producing longitudinally in the bed of the car a groove or channel 12, and locating at one side of the said groove or channel an angle iron or L-shaped track, one member of which iron or track constitutes one wall of the grooves or channels 12. In the sill of each car at each end a transverse recess 13, is produced, which recess is made in the upper face of the sill, and is shown best in Figs. 3, 4 and 5. In a recess at one end of the car a chair 14, is located, while a chair of slightly different shape is located in the recess at the opposite end of the car, the two forms of chair being shown respectively in Figs. 4 and 5. The chair 14, consists of a base plate 14^a, which is secured in any approved manner to the base wall of the recess 14 in which it is located, and arms 14^b, which are projected upward from the base plate, one at each side of the center, and the said arms are curved or inclined in direction of each other, being spaced a predetermined distance apart at their upper ends, preferably over the central portion of the base, thus forming between them somewhat of a triangular space. The opposing chair 15 comprises a base plate 15^a, attached in its recess in like manner as the chair 14, and an arm 15^b, which is projected upward and inward in direction of the center of the base plate from one side of the center of said plate, as illustrated in Fig. 5, and a second and opposing arm 15^c of practically like formation as the fixed arm 15^b; but the arm 15^c is pivoted upon the base and held in practically the same position as the arm 15^b, facing the said arm, by means of a spring 16, and in this manner a substantially triangular space is likewise formed between the two arms.

When the cars A are coupled together to form a train, the chair 14 at the end of one car will face and be in horizontal alignment with a chair 15 located at the opposite end of an opposing car. The tracks 11 upon the bed of the car are rendered continuous from one end of the train to the other through the medium of a series of coupling rails 17. The coupling rails are preferably of ordinary T-form, and

one end of a coupling rail is passed into the space between the arms 14^b of a chair 14, the inner portion of the base of the arms engaging with the flanges of the rail, while the upper ends of the arms virtually contact with the under surface of the head of the rail. The pivoted arm 15^c of the opposing chair 15, is pushed outward against the tension of its spring 16, and the opposite end of the coupling rail is then introduced between the two arms of this chair, and the pivoted arm 15^c, is released and permitted to return to its normal position. The recesses 13 in the sills of the car are of such depth that when the coupling rails are in their chairs the tread of the coupling rails will be flush with the tread of the rails 11 on the bed of the car, as shown in Fig. 3.

A carriage 18, provided with flanged wheels 19 upon which it is mounted, is located upon the car. The wheels 19, are usually smaller than ordinary car wheels, and the tread of the wheels will travel upon the tread of the rails 11, while the flanges of the wheels will enter the grooves or channels 12, as shown in Fig. 2. In this manner the carriage 18 will have guided and smooth movement on the rails 11, and through the medium of the coupling rails 17, may be made to pass from one end of the train to the other. The carriage 18, is adapted to carry a steam motor 20, or a motor of any other description; and if in practice it is found desirable a driving connection may be effected between the motor and the supporting wheels of the carriage. The motor is also adapted to operate a shovel 21 of any approved description, capable of use in the loading or in the unloading of a car, especially the former; and to that end a mast 22, is located at one end of the carriage, provided with a hoisting arm 23, the shovel being provided with the usual hoisting cable or chain 24, partially supported by the hoisting arm and partially by the mast, but any form of hoisting device may be employed that in practice may be found desirable. It will be understood that the shovel may be disconnected from the hoisting cables and the mast and hoisting arm be utilized for derrick purposes when required. In this manner it is evident that commencing at one end of the train the cars may be loaded one after the other, the carriage being removed from one car to the other, and also that the work of loading the cars may be effected upon a single track, thus dispensing with the siding heretofore required for the accommodation of the loading apparatus.

In order that the carriage may be firmly held to the car upon which it is located, brackets 25 of a clamp form are hinged to the upper portion of the carriage at its side edges, and the said clamp brackets are lowered, as shown in Fig. 2, when the carriage is to be fastened in position, and made to engage with the under surface of the car at its sides; and the lower end of each clamping bracket, is

provided with a set screw 26, or its equivalent, through the medium of which the clamps or brackets are held in clamping position. When the clamps or brackets are not needed they may be thrown upward and over the upper face of the carriage.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. A flat car provided with channels in its upper face, and tracks or rails constituting one of the walls of the said channels, and chairs located at the ends of the car, one chair opposite each rail or track upon the car, the chairs at one end of the car being provided with a movable arm, as and for the purpose set forth.

2. A flat car for the purpose described, provided with a groove or channel in its upper face near each side, extending longitudinally thereof, and an angled track or rail located adjacent to each groove or channel, one member of each rail or track being located upon the upper face of the car bed, the other member forming a wall of the groove or channel, and chairs located at opposite ends of the car below the upper face of the bed, the chairs at one end being provided with rigid arms, and the chairs at the opposite end with a rigid and a movable locking arm, the chairs being adapted to receive coupling rails, as and for the purpose set forth.

3. The combination, with a flat car provided with channels in the upper face of its bed, one near each side edge, and tracks or rails adjacent to the channels, and chairs located at opposite ends of the car at the end of each track or rail, of a carriage the wheels of which are adapted to travel upon the rails or tracks of the car, said carriage being adapted to carry a loading apparatus, and clamps secured to the carriage and adapted for engagement with the car, as and for the purpose set forth.

4. The combination, with a series of flat cars provided with rails upon their upper faces, and chairs at their ends opposite the ends of the rails or tracks, one set of chairs being provided with a movable member, and coupling rails located in opposing chairs of opposing cars, the tread of the coupling rails being substantially flush with the tread of the rails upon the upper face of the car, of a carriage the wheels of which are adapted to travel upon the rails of the car and the coupling rails, the said carriage being adapted to carry a loading or derrick device, and clamps permanently connected with the carriage and adapted for removable engagement with the car, as and for the purpose specified.

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