W. H. McCUNE.

FREIGHT HANDLING SYSTEM.

APPLICATION FILED JAN. 2, 1912.

1,040,229.

Patented Oct. 1, 1912.

3 SHEETS—SHEET 1.

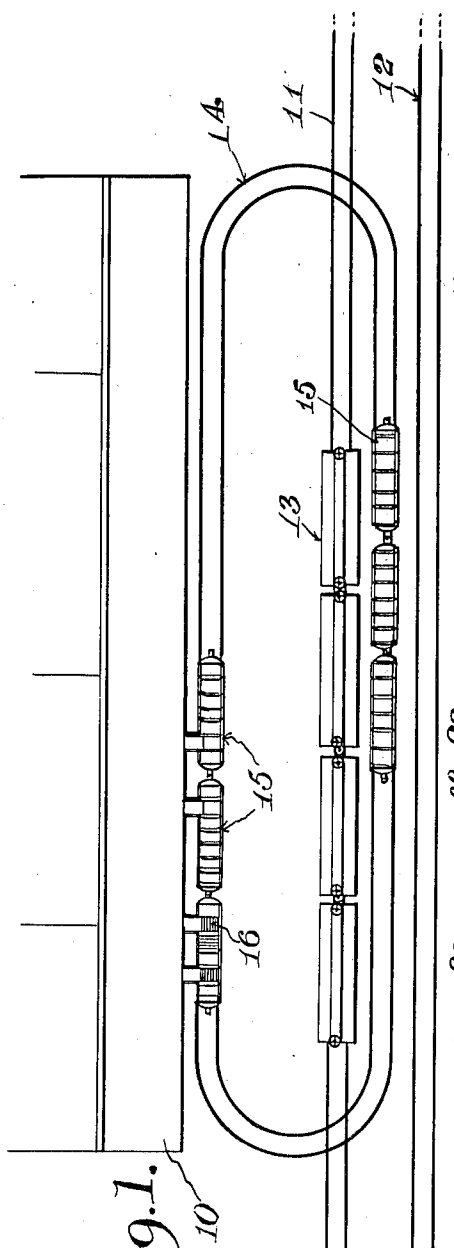

Fig. 1.

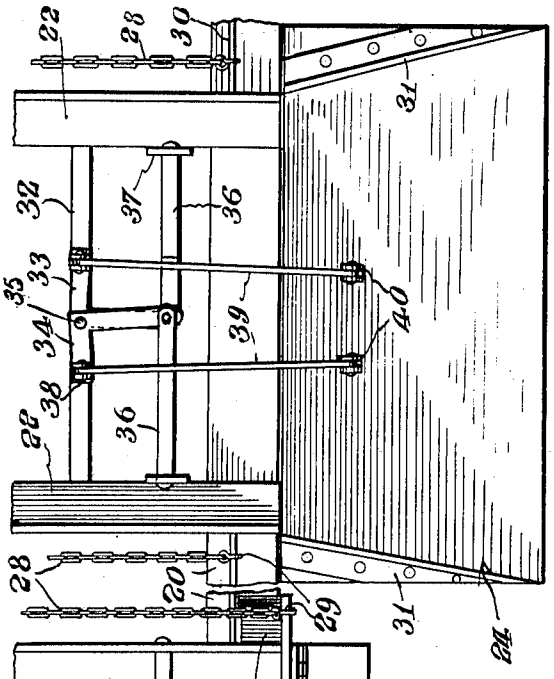

Fig. 7.

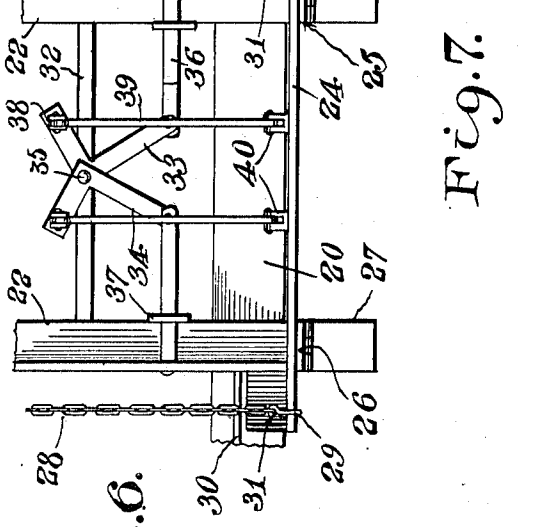

Fig. 6.

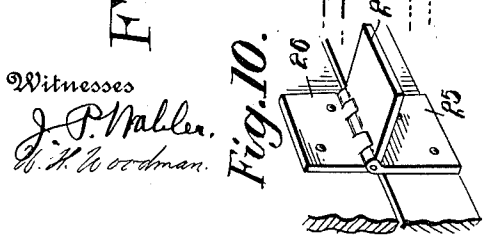

Fig. 10.

Witnesses

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3 SHEETS—SHEET 2.

Fig. 2.

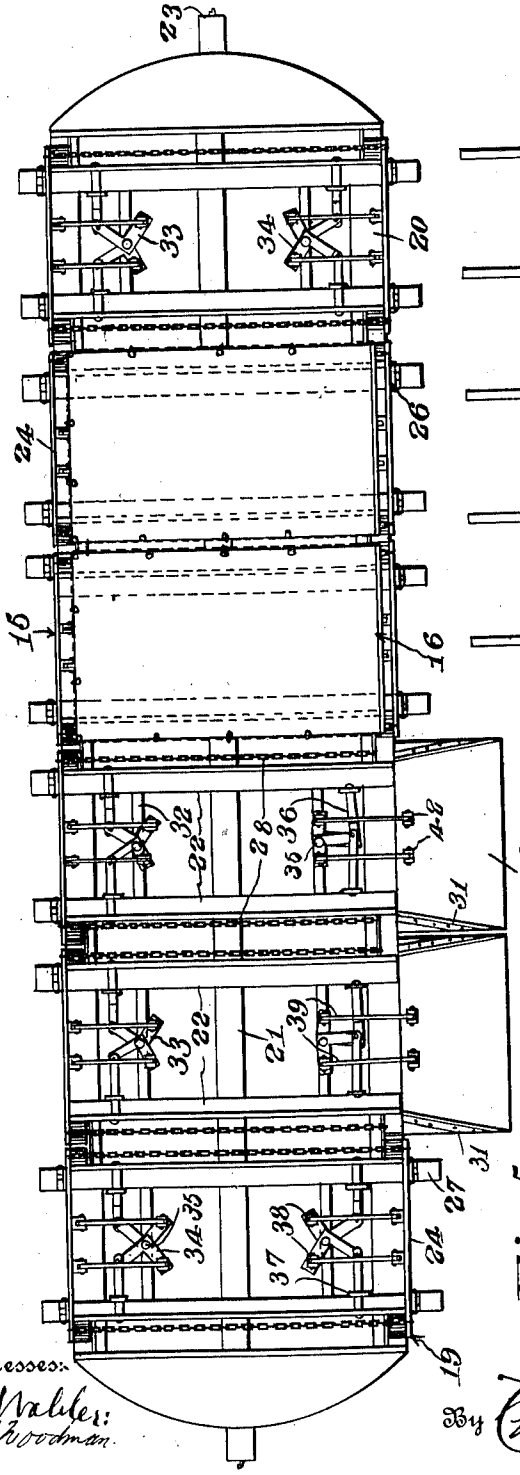


Fig. 4.

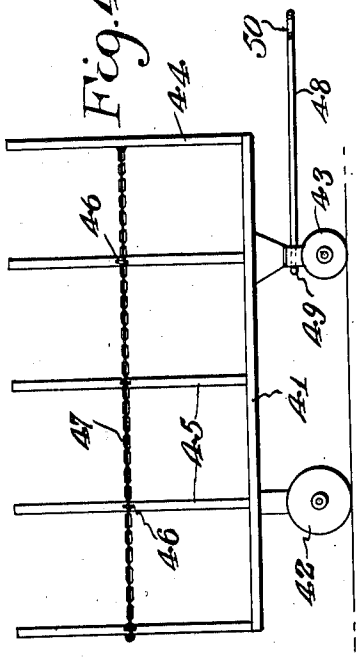
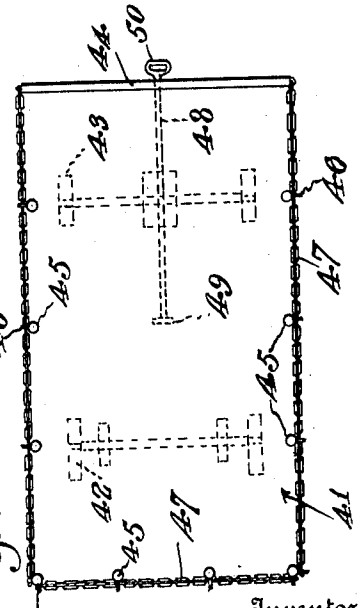


Fig. 5.



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3 SHEETS—SHEET 3.

Fig. 3.

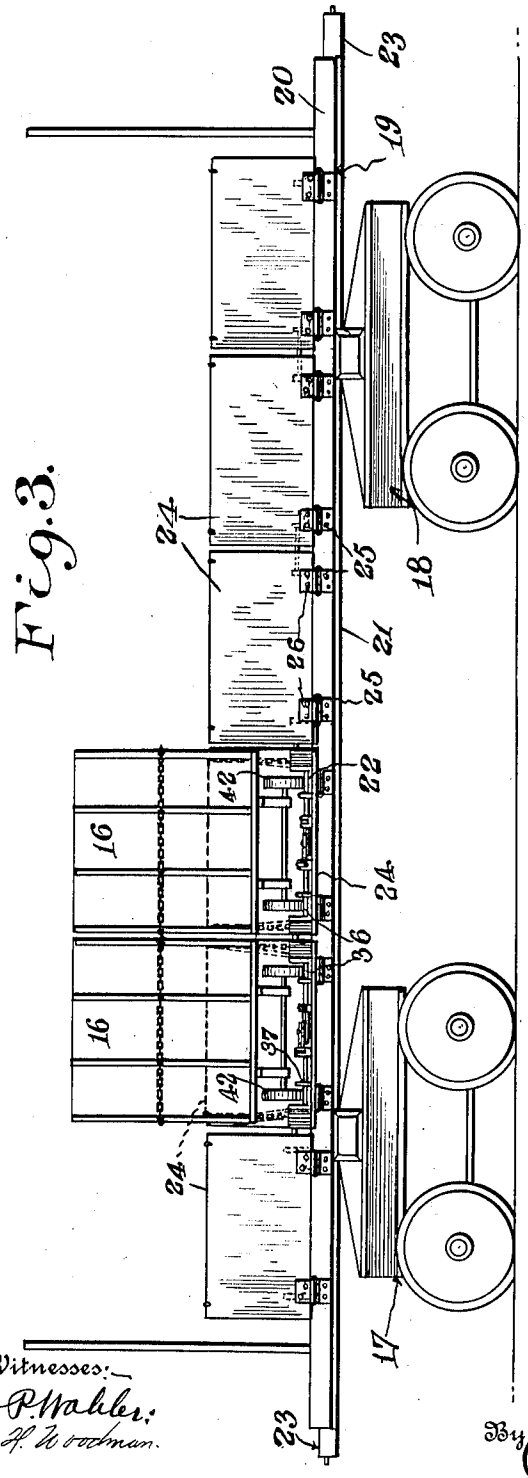


Fig. 8.

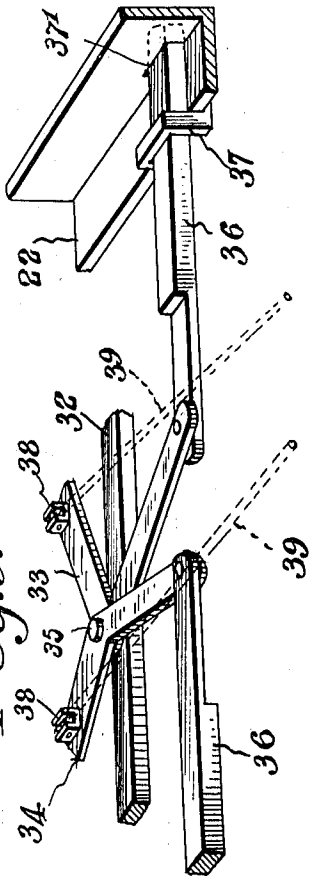
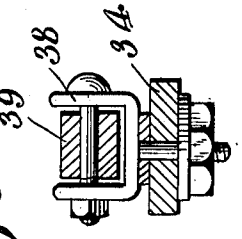


Fig. 9.



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UNITED STATES PATENT OFFICE.

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FREIGHT-HANDLING SYSTEM.

1,040,229. Specification of Letters Patent. Patented Oct. 1, 1912.

Application filed January 2, 1912. Serial No. 668,968.

To all whom it may concern:

Be it known that I, WILLIAM H. McCUNE, a citizen of the United States, residing at Monrovia, in the county of Los Angeles, State of California, have invented certain new and useful Improvements in Freight-Handling Systems; 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 new and useful improvements in freight handling systems and the like, and the object of my invention is to improve the efficiency of systems of the above described type.

A further object of my invention is to provide a plurality of transport cars adapted to operate on a track running between the platform of the freight house and the freight cars and provided with a plurality of transversely extending tracks upon which are mounted a plurality of trucks adapted to be rolled either from the transport cars to the freight platform or to the freight cars as desired. By this means a plurality of the trucks may be loaded and wheeled upon the transport car which is then moved past the freight cars, the filled trucks being discharged to their respective cars and unloaded, after which the unloaded carriers or trucks are taken up by the transport car upon its return trip and are finally deposited upon the freight platform.

A further object of my invention is to improve the construction of the transport cars and the trucks. And a still further object of my invention is to provide the transport cars with swinging aprons adapted to be lowered and to act as gang ways over which the trucks pass to the platform or the freight cars, said aprons being so arranged and adapted that their swinging into raised and lowered position will automatically actuate a lock for blocking and unblocking the wheels of the trucks contained upon their respective tracks.

With these and other objects in view, my invention will be more fully described, illustrated in the accompanying drawings which show a preferred embodiment of my device and then specifically pointed out in the claims which are attached to and form a part of this application.

In the accompanying drawings, Figure 1 is a top plan view of my improved system in operation. Fig. 2 is a top plan of one of the transport cars showing a number of trucks in position. Fig. 3 is a side elevation of the same. Fig. 4 is a side elevation of one of the trucks. Fig. 5 is a top plan of the same. Fig. 6 is a fragmentary plan of one of the aprons in raised position, together with chuck and operating mechanism thereof. Fig. 7 is a similar view showing the apron in lowered position and the chucks in inoperative position. Fig. 8 is a fragmentary perspective view of one of the lock actuating mechanisms. Fig. 9 is a vertical section through one of the pivot lugs connecting the bolt operating levers with the connecting rods as shown in Fig. 8. Fig. 10 is a detail view of the hinge which connects the apron to the side bar of the car.

Referring more specifically to the drawings, in which similar reference numerals designate corresponding parts throughout, 10 designates the platform of a freight station, 11 and 12 siding tracks of the freight yard upon which are a plurality of freight cars 13, and 14 the track for the transport cars which as shown, passes by the platform and also between the tracks 11 and 12. Operating upon this track 14 are a plurality of transport cars 15 each of which carries a plurality of trucks 16.

Referring more specifically to Figs. 2 and 3 of the drawings each of the transport cars consists of a pair of spaced trucks 17 and 18 upon which is mounted the body of the car which as a whole, is designated by the numeral 19 and which consists of side and end members 20, preferably formed of angle iron, and a longitudinally extending central brace member 21 which is preferably formed of channel iron. A plurality of tracks 22 each formed of angle iron, are secured upon this platform in spaced pairs extending transversely thereof, these tracks being adapted to receive the trucks 16. Each of these transport cars is provided at its ends with any preferred form of automatic coupler 23 and with any preferred form of brake. The cars may be drawn by any suitable form of traction engine or each of the cars may be provided with its own propelling mechanism such as an electric motor or the like.

A plurality of metallic aprons 24 are hingedly secured by their lower ends to the side members 20 of the transport car, one

opposite each end of each pair of truck tracks. Each of the hinges by means of which these aprons are connected to the side members 20 of the transfer cars consists of an L-shaped plate 25 bolted or otherwise secured to the member 20 with its laterally directed arm 27 uppermost in position to support the apron in lowered position and a second plate 26 secured to the apron and hinged to the angle portion of the plate 25 as shown in Fig. 6 of the drawings. These aprons are normally held in raised position by chains 28 one end of each of which is secured to the member 20 and the other ends of which are provided with hooks 29 which engage over the upper edges of the aprons when the latter are in raised position, these chains being supported by engaging their hooks with the rods 30 when the aprons are lowered. Each of the aprons is provided with a pair of outwardly diverging braces 31 which also serve, when the apron is in lowered position, for the guidance of the trucks as they are being rolled on to the transport cars.

Each pair of tracks 22 is provided at each end with an automatic lock actuated by the swinging of an apron and adapted, when the apron is in raised position to block the wheels of the truck and prevent its movement upon the tracks. As all of these locking members are identical a description of one is sufficient. Each of these locking members consists of a brace strip 32 extending transversely of the tracks and secured to the upper faces thereof and pivoted to the central portion of this strip is a pair of bell crank levers 33 and 34, said levers being mounted by a single pivot pin 35. Pivoted to the forward end of each of these levers is a bolt 36 which operates through a guide loop 37 carried by one of the tracks upon the transport car and which in extended position passes through a suitable aperture 37′ formed in the vertical flange of the track. Swivelly mounted in the end of the other arm of each of these levers is an upwardly directed lug 38 and pivotally connected to these lugs are connecting rods 39 the other ends of which are pivotally connected between ears 40 carried by the apron 24.

As will be best seen by referring to Figs. 6 and 7 of the drawings these bolts are held in extended position when the apron is raised and serve to effectually chuck the wheels of the truck. When however the apron is lowered the bell-crank levers are swung to move the bolts toward each other and out of engagement with the truck wheels.

Referring more specifically to Figs. 4 and 5 each of the trucks 16 will be seen to consist of a floor or platform 41 supported upon a pair of rear wheels 42 and a pair of forward wheels 43 the latter of which are swivelly mounted whereby the truck may be readily turned. Extending upwardly at the forward end of this platform is a solid front wall 44 preferably formed of metal. The remaining walls of the truck are formed by a plurality of vertically extending, spaced posts 45 which are detachably mounted in suitable sockets formed in the floor of the truck and which form a rack for holding the goods in position. Each of these posts is provided intermediate its length with a hook 46 and when the truck is loaded the rack is braced by means of a chain 47 which is passed around the same and engaged by the hooks. The front axle of the truck is provided with a bore through which is slidably mounted a rod 48 provided at its inner end with an enlarged head 49 and at its outer end with a handle 50 by means of which the truck may be drawn, the head 49 preventing the disengagement of the rod from the axle while at the same time permitting the rod to be slipped back beneath the truck when the handle is not in use.

As will be readily seen from the foregoing description I have provided an extremely simple system for handling freight and have also provided improved transport cars and trucks for use with my system. It will also be seen that I have provided the transport cars with a novel form of swinging apron and with a lock for the wheels of the truck, said lock being so constructed as to be automatically actuated by the swinging of the apron.

It will of course be understood that minor changes in the details of construction may be made if desired without in the slightest degree departing from the spirit of my invention.

What I claim is:—

1. In a freight handling system, the combination with a transport car, of a plurality of trucks carried by said car, said car including side and end members and a plurality of pairs of spaced tracks secured to the side members and extending transversely of the car and adapted to receive the trucks, a plurality of aprons swingingly mounted to the side members of the cars one adjacent each end of each of the pairs of tracks, said aprons being adapted to serve as gang ways when in lowered position, and means for securing said aprons in raised position.

2. In a freight handling system, the combination with a transport car, of a plurality of trucks carried by said car, said car including side and end members and a plurality of pairs of spaced tracks secured to the side members and extending transversely of the car and adapted to receive the trucks, a plurality of aprons swingingly mounted to the side members of the car one adjacent each end of each of the pairs of tracks, said

aprons being adapted to serve as gang ways when in lowered position, a pair of diverging braces secured to each member and serving as guides for the positioning of the trucks upon their rails.

3. In a freight handling system, the combination with a transport car, of a plurality of trucks carried by said car, said car including side and end members and a plurality of pairs of spaced tracks secured to the side members and extending transversely of the car and adapted to receive the trucks, a plurality of aprons swingingly mounted to the side members of the car one adjacent each end of each of the pairs of tracks, said aprons being adapted to serve as gang ways when in lowered position, a plurality of locks for locking the trucks against movement on the rails, and means coacting between said aprons and locks for actuating the locks.

4. In a freight handling system, the combination with a transport car, of a plurality of trucks carried by said car, said car including side and end members and a plurality of pairs of spaced trucks secured to the side members and extending transversely of the car and adapted to receive the trucks, a plurality of aprons swingingly mounted to the side members of the cars one adjacent each end of each of the pairs of tracks, said aprons being adapted to serve as gang ways when in lowered position, and locking means for securing the trucks in position upon the rails, said locking means being actuated by the swinging of the aprons, said locking means consisting of a brace bar secured to the lower face of the rails adjacent each end, a pair of bell crank levers pivoted to each of said brace bars, a bolt pivoted to one end of each of said levers and adapted for movement across a track, and links operatively connecting the free arms of said levers with the apron.

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

WILLIAM H. McCUNE.

Witnesses:
C. H. Sebcer,
Homer Fort.