

Feb. 14, 1933.

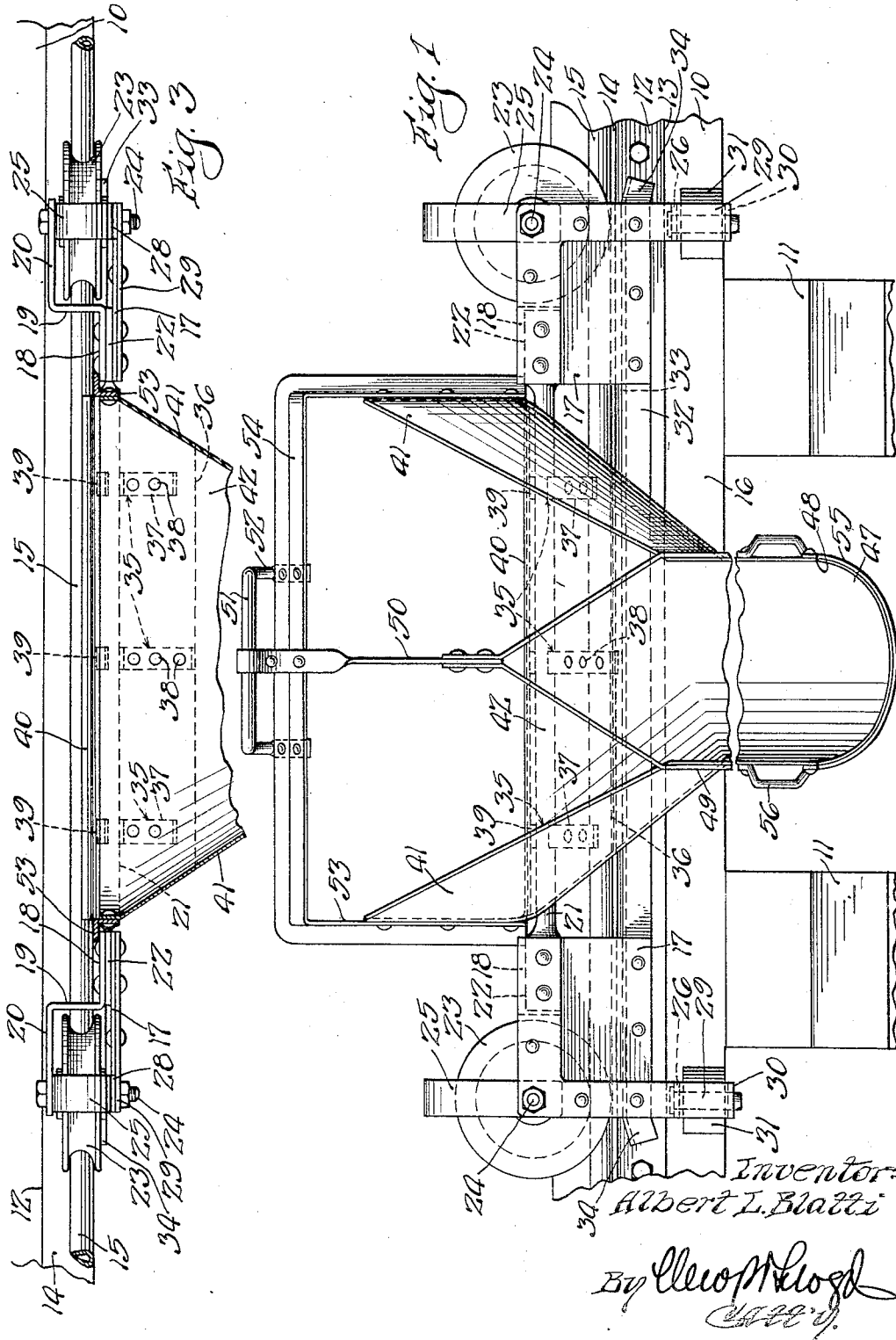
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CRUSHED ICE CHUTE

Filed Dec. 31, 1930

2 Sheets-Sheet 1



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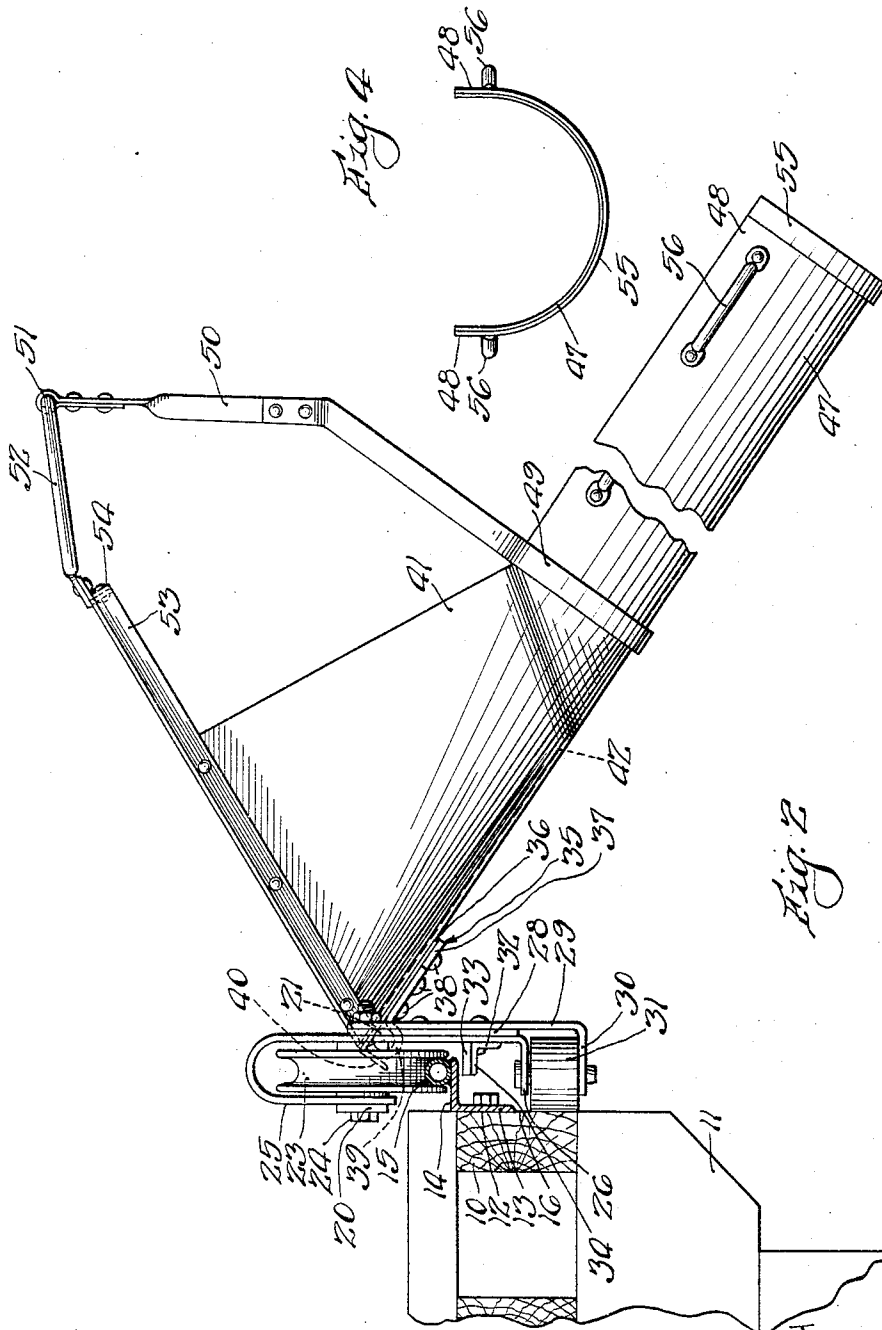
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UNITED STATES PATENT OFFICE

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CRUSHED ICE CHUTE

Application filed December 31, 1930. Serial No. 505,763.

The present invention relates particularly to ice loading machinery for broken ice, and has for its primary object an improvement in ice chutes used for the loading of refrigerator cars and the like and in which there is a hopper to receive the ice.

Within certain definite periods refrigerator cars, which are iced by block or broken ice, have to be recharged with fresh ice. Such renewals are generally made at the location of an ice factory abutting the right of way and for facilitating the loading of the cars conveyors are arranged for the bringing of the ice to convenient points from whence such ice is loaded into the refrigerator car. For many purposes, broken ice is required, and the present apparatus is particularly useful in loading such broken ice into a refrigerator car through a hopper at the top thereof. To further facilitate the loading of the ice, whether it be in block or broken form, platforms may be built along the right of way at a height approximating or generally slightly above the top of the box car to be loaded. Such platform may comprise any suitable form of upright and transverse member and may be of metal, wood, concrete, or other material.

The primary object of the present invention is to provide a mobile chute adapted to be moved along such a platform to receive broken ice and to direct such broken ice into a hopper in the top of a refrigerator car.

A further object of the invention is to provide a chute which may be moved along such a platform in a convenient and easy manner and which chute is not easily displaced therefrom, but which is inexpensive to manufacture and efficient in its result.

A further object of the invention is to provide a new and improved structure for a chute, of the character described, and one which lends itself when disposed on a platform to ready handling for directing a flow of broken ice into the hopper of a refrigerator car.

A still further object of the invention is the provision of a new and improved mobile chute.

These objects, and such other objects as

may hereinafter appear, are obtained by the novel construction, unique arrangement and improved combination of the various elements illustrated in the single embodiment of the invention shown in the accompanying drawings, in which:

Figure 1 is a front elevation of a chute made in accordance with the invention;

Figure 2 is a side elevation of the form of the invention in Figure 1;

Figure 3 is a fragmentary plan view thereof; and

Figure 4 is a detail showing an end section of the chute.

Like reference characters are used to designate similar parts in the drawings and in the description of the invention hereinafter given.

A rail 10 is supported along an edge of the platform 11 of the type hereinabove mentioned. Distributed along support member 10 are a plurality of brackets 12 having wings 13 and 14. Laid commonly upon the wings 14 is a rail 15 of any conventional type. The outer face 16 of the support member 10 cooperates with the rail 15 to provide a track for the carriage hereinafter to be described.

The chute comprises, at opposite sides thereof, flattened bars 17 and 18, the bar 18 having a section 19 and an off-set section 20 opposed to the bar 17. A round bar 21 having its ends 22 swaged is fabricated intermediate the pair of bars 17 and 18. Wheels 23 having a peripheral contour to conform to the rail 15 are disposed to run thereon. Extending through the wheels 23 are axles 24 which are engaged at opposite sides of the wheels by vertical sections of U-shaped pieces 25. The longer and outer legs of the pieces 25 extend below the track 15 where they are turned inwardly to form flanges 26, there being apertures in said flanges. Between the outer leg of each U-shaped piece 25 and a member 29 is a spacer plate 28. A horizontal section of the strap-like member 29 lies flatly against the bar 17 and another section 30 thereof is bent to project below an inturned section 26 in parallelism therewith and to contain a bearing in registry

with the bearing in said section 26, said bearings commonly carrying a roller 31. The rollers 31 at opposite sides of the chute are adapted to run along the surface 16.

5 Means for preventing the carriage from jumping the track 15 is provided in angle pieces 33 having wings 32 and 34, the wing 32 being secured to the inner side of the U-shaped member 25 so that the wing 34
10 will be positioned just far enough below the track 15 to clear the horizontal sections of the brackets 12.

Hinge straps 35 are distributed along an edge of an apron 36 at its under side. Flat
15 sections 37 of the hinge members may be engaged to the apron 36 by any standard fastening means 38. A curved section 39 of the hinges engages the rod 21 and a flange 40 of the apron is turned downwardly over the
20 ends of the sections 39 to add a finished appearance to the device and to strategically assist the sections 29 to retain their curved formation.

The sheet of material from which the
25 apron and chute are formed is of a general Y-shape there being upturned sections 41 to form aids for the apron. The flat bottom of the apron is designated by the numeral 42. A curved configuration is given to the chute
30 proper 47 with edges 48 thereof extending above a plane through its longitudinal axis.

About a common section of the chute and apron there may be placed a metal strap 49 and in a manner that its two upper ends are
35 brought together to commonly join a twisted strap 50. A U-shaped handle member 52 has a front side 51 adapted to be engaged by the upper end of the link 50, the back ends of the U-shaped member extending to engage a
40 brace member 54. Side sections 53 of the member 54 serve as braces for the sides 41 of the apron. At the front end of the chute 47 there may be attached a semicircular reenforcing band 55. Also there may be provided
45 handle members 56 at the sides of the chute. Other reenforcing members (not shown) may be arranged longitudinally of the chute 47.

The platform 11 and track 15 may extend
50 for the length of several cars that are to be supplied with ice. In all instances the platform will be above the car openings that are to be filled. When it is desired to move the apron and chute from one car opening to another, whether that opening be in the same
55 car or in a different one, the attendant, who will usually be upon the platform 10, may reach over and grasp the handle 52 to lift the chute upwardly about the rod 21 until it is
60 in a balanced position above the said rod. When the chute is in this position it may be conveniently held by the handles 56 to push it along the track. Also the handles 56 provide a convenient means for a person on a
65 car to manipulate the chute. After the car-

riage has been moved opposite to the opening that it is desired to supply with ice, the chute will be lowered to place its extended end in registry with such opening.

Special attention is directed to the manner
70 in which the track is carried in the side of the platform and so that no parts thereof project over the top of the platform. Consequently there are no parts to interfere with moving solid pieces of ice, or other objects
75 upon the platform.

It is because the pintle rod 21 is supported above the edge of the platform that it is possible to pivot the chute to the vertical position when it is to be moved along the
80 track. If the track 15 was below the edge of the platform 11 the brace 54 would come in contact therewith before a vertical balanced position could be reached. It will be noted that there is ample space between the
85 pivoted rod 21 and the track 15 to clear the flange 40 when the chute is pivoted to the vertical position. An upright position of the chute carriage upon the track with the rollers 31 against the rolling surface 16 is insured
90 because the pintle rod 21 is set outwardly from the track 15 so that the weight of the chute tends to pivot the carriage about said track to press the rollers against the rolling surface.
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I claim:

An ice loading device comprising a chute having an apron top extension to receive broken ice, means for supporting said apron comprising a longitudinal member upon
100 which the upper edge of said extension is pivoted, wheels at the ends of said longitudinal member and having axes of revolution in substantially the same horizontal plane as the upper edge of said apron extension, a
105 track for said wheels and over which said longitudinal member rides, a support for said track, and means depending below said horizontal member and the edge of said extension and engaging said support beneath
110 said track for preventing tilting of said longitudinal member in the direction of said apron and chute.

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