Dec. 22, 1925.

1,566,514

F. E. WEGENER

ICE DELIVERING DEVICE

Filed May 11, 1925

2 Sheets-Sheet 1

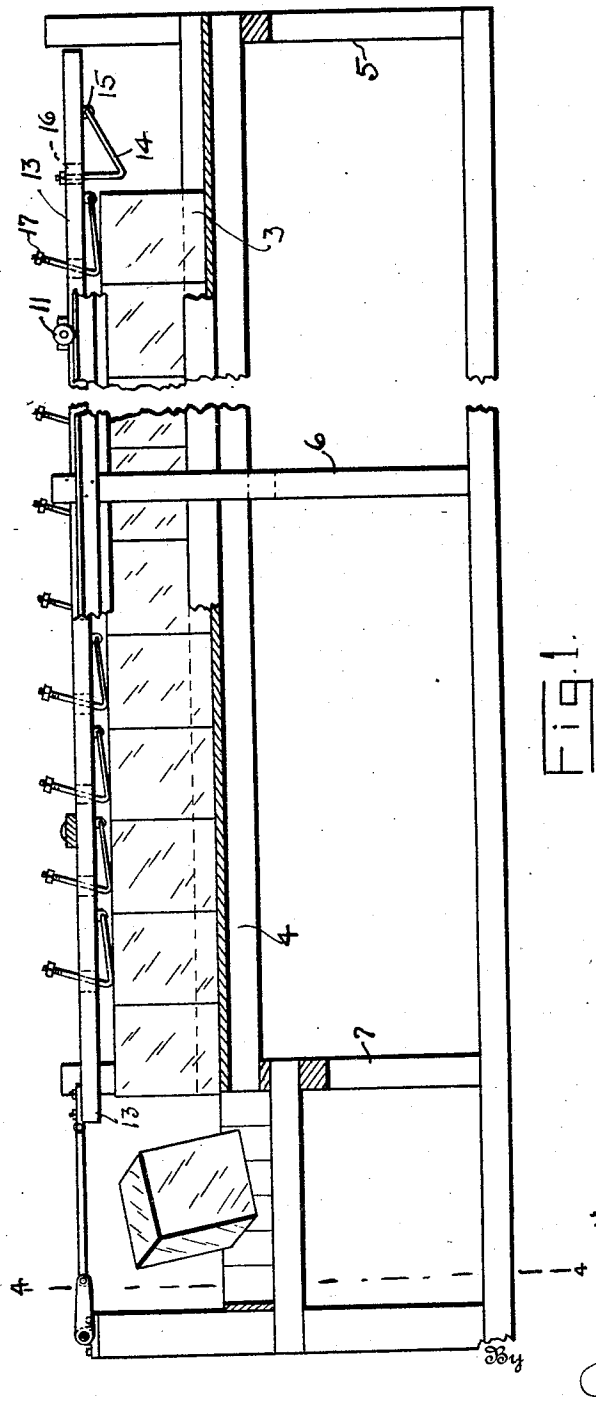


Fig. 1.

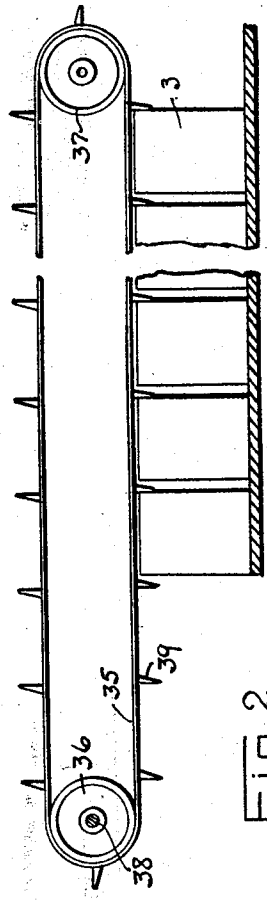


Fig. 2.

F. E. Wegener Inventor

Jesse R. Stone

Attorney

Dec. 22, 1925. 1,566,514

F. E. WEGENER

ICE DELIVERING DEVICE.

Filed May 11, 1925 2 Sheets-Sheet 2

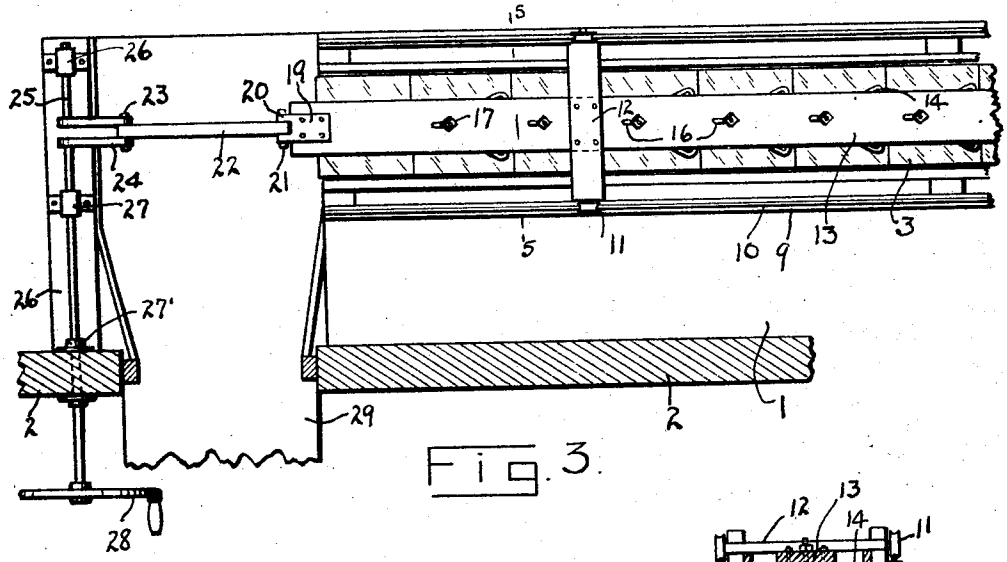


Fig. 3.

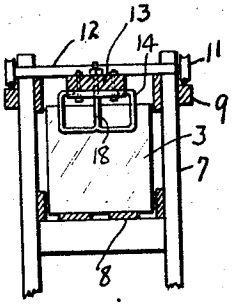


Fig. 5.

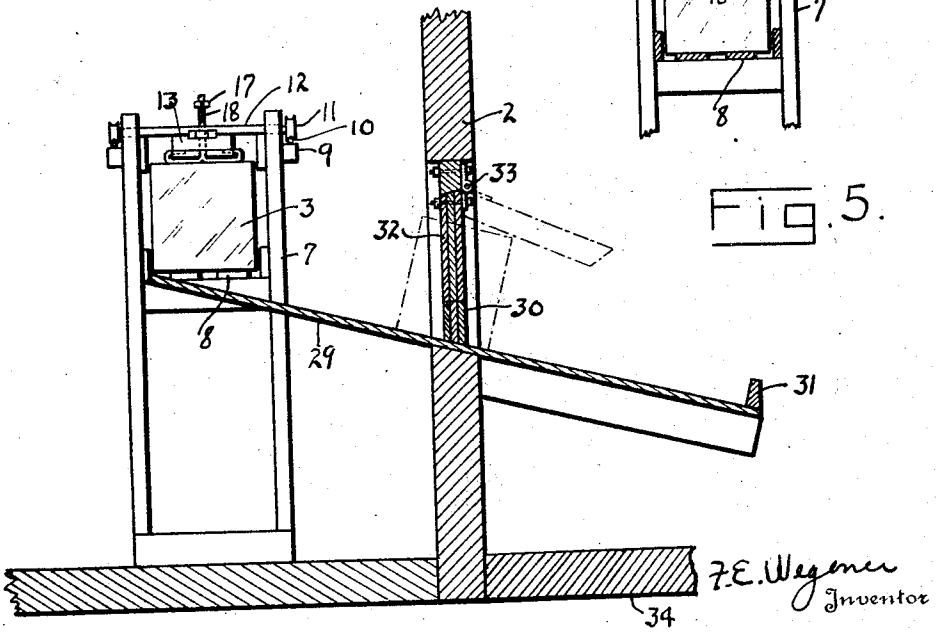


Fig 4.

F.E. Wegener
Inventor

By Jesse R. Stone
Attorney

Patented Dec. 22, 1925. 1,566,514

UNITED STATES PATENT OFFICE.

FERDINAND ERNST WEGENER, OF SHERMAN, TEXAS.

ICE-DELIVERING DEVICE.

Application filed May 11, 1925. Serial No. 29,362.

To all whom it may concern:

Be it known that I, FERDINAND ERNST WEGENER, a citizen of the United States, residing at Sherman, Grayson County, Texas, have invented a certain new and useful Improvement in Ice-Delivering Devices, of which the following is a specification.

My invention relates to machines for conveying and delivering ice from the storage room to the delivery platform when delivery to the consumer is desired.

It is an object of the invention to provide a delivery apparatus by means of which a block of ice of the desired size may be moved from the storage chamber to the delivery platform without the necessity of entering the storage chamber to obtain it, thus economizing in time and in material.

It is desired that separate racks or chutes be provided for the various sizes of ice blocks which are ordinarily desired by the trade, and to so arrange the racks that the blocks may be delivered singly, as called for by the consumer.

It is also an object that the device be arranged to deliver ice rapidly with a saving in time and labor over the usual method.

The construction of the device is best understood by reference to the accompanying drawings in which Fig. 1 is a side elevation partly in longitudinal section illustrating a preferred form of my invention. Fig. 2 is a broken side elevation of a modified form of conveyor to be used if desired. Fig. 3 is a broken top plan view of the apparatus shown in Fig. 1. Fig. 4 is a transverse section on the line 4—4 of Fig. 1. Fig. 5 is a broken section on the line 5—5 of Fig. 3. Like numerals of reference designate like parts in all the views.

The device is adapted for use at ice storage houses to assist in delivering blocks of the desired size from the closed storage chamber. The wall of the storage chamber 1 is designated at 2 in Fig. 3. Within the storage chamber is a rack or chute to receive blocks of ice 3. The said chute comprises a pair of longitudinal supports 4 mounted upon a plurality of spaced uprights 5, 6, 7. On the supports 4 is constructed a smooth trackway 8 of boards or sheet metal as desired, to furnish a slide for the ice.

At the upper ends of the uprights are longitudinal tracks 9, which carry rods 10 upon which run the grooved rollers 11 at the outer ends of cross members 12, upon which is secured a longitudinal bar 13 centrally above the ice chute.

The said bar 13 being thus supported upon the rollers 11, is slidable longitudinally of the frame and it is contemplated that the same may be reciprocated to cause the movement of the ice blocks into position for delivery. The bar therefore has means thereon to engage the ice and move the same toward the delivery end of the chute. These ice engaging devices comprise rods bent into a general V shape, as seen from the side, to form pawls 14 adapted to drop into ice-engaging position. One end of the pawl therefore is hinged at 15 to the lower side of the bar. The other arm of the pawl is extended upwardly through openings 16 in the bar, and provided with nuts 17 at the upper ends which are adapted to engage the sides of the openings 16 and limit the downward movement of the pawl. The openings 16 are of sufficient length longitudinally of the bar to allow the up and down movement described.

The pawls 14, as shown in Fig. 5, have two side arms extending downwardly and bent in toward the center to connect with the upwardly directed arm 18, which extends through the slots or openings 16, previously described. The portion of the pawl engaging the ice is therefore of sufficient width to move the ice forwardly in its rack, or chute, evenly, as the device is operated.

The forward end of the bar 13 is formed with a plate 19 thereon, said plate having two forward arms 20 which are recurved to provide a bearing to receive a cross pin 21. This pin furnishes a pivotal engagement for the inner end of a connecting rod 22 through which the bar may be reciprocated.

The connecting rod is pivoted at its opposite end upon a pin 23 secured on the outer end of a crank arm 24 fixed upon a rotatable shaft 25. The said shaft is journalled at 26 and 27 upon the upper face of a supporting beam 26 in the frame work of the device. This beam is connected at its one end with the forward wall 2 of the storage chamber. The shaft extends through said wall and has journals 27 therein. It projects a short distance beyond the wall of the chamber and is provided with a crank 28 by means of which it may be rotated.

Below the forward end of the rack, or chute 8, is a downwardly inclined slideway 29 shown best in Fig. 4. This slideway extends at right angles to the chute and passes

through an opening 30 in the wall 2 of the storage chamber. It projects any desired distance beyond the wall of the chamber and may have a stop bar 31 at its lower end to limit the movement of the ice.

The opening 30 in the wall of the storage chamber is provided with a door 32 which is hinged at 33 on its upper end and depends by gravity downwardly to close the opening, the weight of the door acting to hold it firmly in closed position, as shown in Fig. 4. The lower end of the door is beveled to fit against the upper face of the slideway 29 so that there will be no passage of air about the door to or from the storage chamber. This door is light enough so that an ordinary block of ice contacting with its inner face will force it outwardly into the dotted line position shown in Fig. 4 to allow the passage of the block of ice. When the block has passed, the door will automatically swing back to close the opening.

In operating this device it is contemplated that an attendant within the ice storage chamber will cut the ice into blocks of the required size and supply them to the rack, or chute 8. In doing this, the pawls 14 will be raised into their elevated position, as shown in Fig. 1. This will be accomplished automatically as the blocks of ice are inserted from the inner end of the rack. The pawl at the inner end of the rack will be in lowered position so as to engage against the last of the series of blocks. When the operator desires a block of ice of the required size, he will turn the crank 28 thus moving the bar 13 forwardly, and in doing so, the pawl 14 will engage the rearmost block of ice and move the series of blocks forward simultaneously, discharging the outer one from the rack on to the slideway 29. It will then be carried by gravity downwardly along the slideway and through the opening 30 to the outer end of the chute above the platform 34. The operator will then remove the block of ice and the apparatus will be ready for a repetition of this operation. It is contemplated that there will be a plurality of these racks, each rack having on it blocks of ice of a certain size, such as 25, 50, or 100 pound blocks from which the opeartor may remove a block or more, as is desired when the demand therefor arises.

While it is believed that the device just described will perform its function satisfactorily, it is contemplated that other means for moving the block of ice along the chute or rack, may be provided, coming within the scope of my invention, and in Fig. 2 a modified type of conveyor is shown. In the use of this apparatus, it is to be understood that the chute or rack, and the slideway at the forward end thereof, will be constructed, as has been described. The ice will be moved however, by means of a belt 35 mounted immediately above the rack and spaced slightly from the blocks of ice. This belt is an endless belt running over a forward pulley 36 and the rearward pulley 37. The forward pulley is mounted upon a shaft 38 which may extend through the wall of the chamber and be provided with a crank arm similar to the crank arm just described.

The belt is provided with a plurality of outwardly extending arms 39, which are adapted to engage with the blocks of ice to be moved. There may be one of these arms for each block of ice, or there may be a fewer number, one of which may contact with the rearmost block, thus moving the series forwardly in the same manner as was accomplished by the pawls 14. By the use of this carrier, the blocks can be removed from the rack by the operator in the same manner as has been previously described.

The advantages of this type of construction lie in its ease of operation and also in the saving of time to the operator. It is also clear that it will be possible to keep the ice in storage until it is to be delivered, and that it may be then removed from the storage chamber with no loss due to the entrance of warm air to the storage chamber. The block of ice may pass from the storage chamber to the platform so quickly that no appreciable entrance of warm air to the chamber will take place. There will therefore be a large economy of ice in the use of the apparatus described.

What I claim as new, and desire to protect by Letters Patent is:

1. In a device of the character described including a closed ice storage chamber and a delivery platform adjacent thereto, the combination of an ice chute in said storage chamber and extending through the wall of said chamber, a swinging door above said chute in said wall, a reciprocable bar above said chute, a series of ice engaging pawls on said bar and means to reciprocate said bar for the purpose described.

2. In a device of the character described including an ice storage chamber and a delivery platform adjacent thereto, the combination of an ice chute in said chamber extending through the wall of said chamber on to said platform, a bar above said chute, pivoted pawls on said bar adapted to engage ice on said chute and means outside said chamber to reciprocate said bar and move the ice on said chute.

3. In a device of the character described including a storage chamber for ice and a delivery platform adjacent thereto, the combination of a supporting rack adapted to receive blocks of ice, a slideway at the forward end of said rack, extending through an opening in the wall of said chamber, an automatically closing door for said opening, and

means controlled by the operator to discharge blocks of ice from said rack to said slideway and said platform.

4. In a device of the character decribed including a storage chamber for ice and a delivery platform adjacent thereto, the combination of a supporting rack in said chamber adapted to support blocks of ice, a slideway at the forward end of said rack extending through an opening in the wall of said chamber, means to close said opening, a reciprocable bar above said rack having means thereon to engage the ice on said rack and move said ice toward said slideway when desired, and means to reciprocate said bar.

5. In a device of the character described, a storage chamber, an ice supporting rack therein, a slideway adjacent the forward end of said rack extending through an opening in the wall of said chamber, an automatically-closing door for said opening, and means above said rack manually operated from without said chamber to move the ice from said rack to said slideway.

6. In a device of the character described, a storage chamber, an ice supporting rack therein, means operable from without said chamber to move the ice longitudinally of said rack, means to receive said ice and discharge it through an opening in the wall of said chamber, and means to close said opening.

7. In a device of the character described, a storage chamber, an ice chute therein adapted to support blocks of ice thereon, means above said chute to engage the rearmost block of ice, means outside said chamber to actuate said ice engaging means, and means to guide said ice from said chamber.

In testimony whereof I hereunto affix my signature this 2nd day of May A. D., 1925.

FERDINAND ERNST WEGENER.