

March 4, 1930.

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1,749,262

ICE DELIVERY DEVICE

Filed March 12, 1928

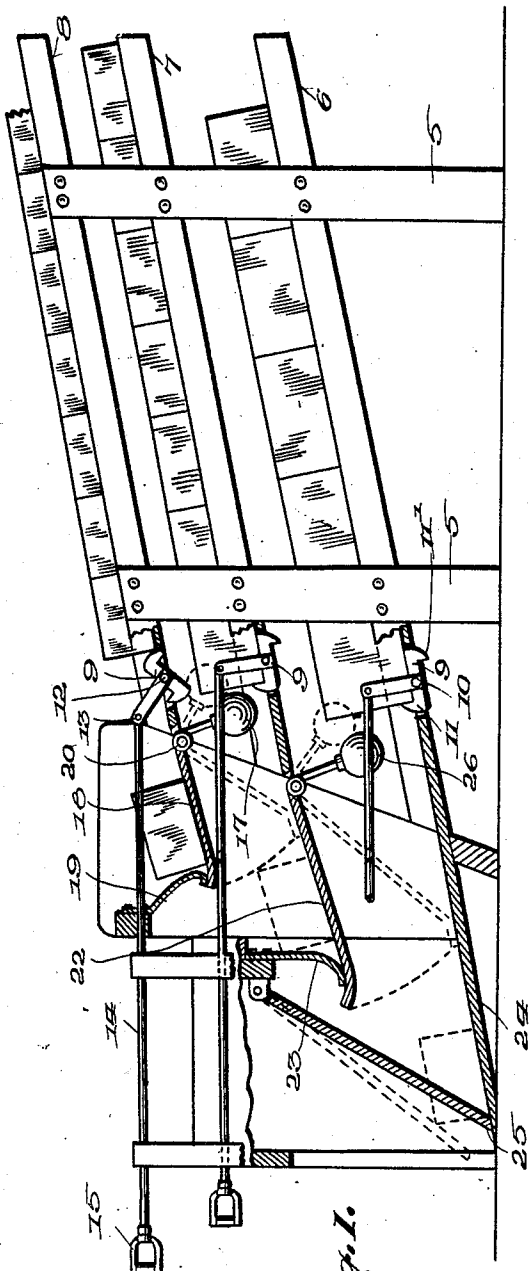


Fig. 1.

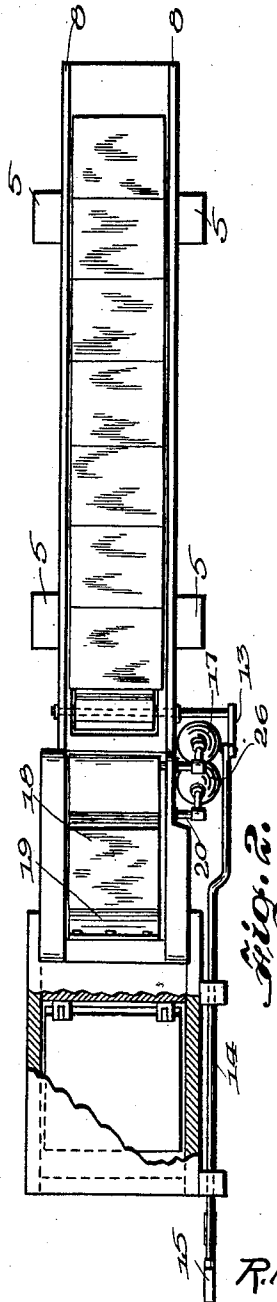


Fig. 2.

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ICE-DELIVERY DEVICE

Application filed March 12, 1928. Serial No. 260,866.

This invention has reference to improvements in superimposed inclined gravity ice delivery chutes, particularly those used in connection with ice storage and delivery.

5 The object of the invention is to provide a convenient means for delivering different sized pieces of ice to a loading point by means of a series of superimposed inclined gravity chutes. A further object of this invention is to provide means for permitting ice blocks to be rapidly delivered from the upper member of a superimposed inclined gravity ice chute to a suitable point at the bottom thereof. Another object of the invention is the provision of means for lowering the ice to the delivery point from the decks of the superimposed ice chutes without breakage or wastage.

20 The invention broadly consists in providing chutes inclined at a suitable angle to the horizontal and extending from the ice storage space to the loading platform, the lower end of each individual chute being provided with suitable stop devices for retaining the pieces of ice in each chute; and a hinged section permitting the ice to be lowered without breaking, said stop devices being manually operable to permit piece-by-piece selection of desired sizes of ice cakes.

30 With the foregoing and other objects in view, the invention consists of the novel construction hereinafter more specifically stated, and illustrated in the accompanying drawing where are shown improvements; but it is to be understood that changes, variations and modifications may be resorted to without departing from the scope of the appended claims.

40 In describing the invention in detail, reference is had to the accompanying drawing which forms a part of this specification and wherein like characters of reference indicate corresponding parts throughout the several views, in which—

45 Figure 1 is a side elevation of a multiple ice chute adapted to receive different sizes of ice; and

Figure 2 is a top plan view.

Referring to the drawing, Figure 1 shows a structure comprised of chutes 6, 7 and 8

rigidly secured in an inclined position to the upright members 5. Delivery chutes 6, 7 and 8 are provided with stops or dogs 9 for retaining the ice until it is desired to discharge the same from said chutes. Stops or dogs 9 are formed with a flat body portion 10 and the curved end portions 11 and 11' thereof are bent in opposite directions with reference to the main body portion 10, said dogs 9 being arranged to swing upon a shaft 12 so that as each piece of ice is discharged the stop turns and effectively holds the succeeding piece of ice in position to be later discharged when desired. Attached to the dog or stop 9 is a rod 13 which is hingedly connected at its top portion to a rod 14. At the end of rod 14 I provide a handle 15 for the convenience of the operator in releasing ice from the chute. Chute 8 is provided with a flap 18, said flap being suitably counter-balanced by weight 17 to hold flap 18 in raised position, counterweight 17 and flap 18 being attached for swinging movement on cross shaft 20.

In operation, when a block of ice is discharged from the chute 8 onto the flap 18, the ice slides against the retarding member 19 which causes the ice to come to a momentary stop. The weight of the block of ice then pushes the flap 18 downwardly into the position shown by the dotted lines in Figure 1, the ice then being discharged upon the flap 22 of the underlying chute 7, the flap 18 then being released back to its normal position by action of the counter-weight 17. The block of ice is thus momentarily stopped by the retarder 23 before the weight of the ice causes the flap 22 to assume the position indicated by the dotted lines in Figure 1, and is then discharged upon the member 24, thereafter passing through the door 25 to the loading platform, flap 22 then being raised to its normal position by counter-weight 26.

It will be seen that a block of ice discharged from chute 6 will not necessitate the lifting of the flap 22 as this flap covers the outlet end of chute 6 when ice is being discharged from a higher level and is held in raised position by counterweight 26 except when a block

of ice is actually being lowered from a higher level.

In like manner, a block of ice passing from the outlet end of chute 7 does not cause the flap 18 to be lifted, said flap being normally held in raised position due to action of counterweight 17. Ice from chute 7 slides onto flap 22 and against the retarding member 23, then is lowered by the weight of the ice forcing the flap downward into the position shown by dotted lines, the ice being discharged onto member 24 and thence through door 25 to loading point.

It will be readily seen that the principal object of this invention is to rapidly and safely lower the block of ice from the upper chutes to the loading platform without breaking the ice or causing it to be delivered at the loading end of the device at a speed other than commensurate with its bulk. Ice in passing downwardly over the flaps must lift the counterweights in order to force said flaps downwardly, thus sufficiently checking the speed of the ice to keep it from attaining a dangerous velocity, at the same time the counterweights maintaining the flaps in raised position away from the outlet ends of the chutes so that ice passing from the lower chutes does not cause the flap to function for the chute directly therebeneath.

I claim:

1. In an ice delivery device having a plurality of superimposed gravity chutes with a common delivery passage; a yieldingly mounted slide for delivering blocks of ice from the lower end of an upper chute to a chute below, said slide being normally raised from the path of ice blocks on the lower chute to allow free passage of ice along the chute below, and capable of being lowered by the weight of a block of ice on the upper chute, the slide when in lowered position offering no obstruction to blocks on the upper chute.

2. In an ice delivery device having a plurality of superimposed gravity chutes with a common delivery passage; a yieldingly mounted slide for delivering blocks of ice from the lower end of an upper chute to a chute below, said slide being normally raised from the path of ice blocks on the lower chute to allow free passage of ice along the chute below, and capable of being lowered by the weight of a block of ice on the upper chute, the slide when in lowered position offering no obstruction to blocks on the upper chute, and means for restoring the slide to normal position when the weight of the ice is removed.

3. In an ice delivery device having a plurality of superimposed gravity chutes with a common delivery passage; a yieldingly mounted slide for delivering blocks of ice from the lower end of an upper chute to a chute below, said slide being normally raised from the path of ice blocks on the lower chute to allow free passage of ice along the chute

below, and capable of being lowered by the weight of a block of ice on the upper chute, the slide when in lowered position offering no obstruction to blocks on the upper chute, and a counter weight for restoring the slide to normal position when the weight of the ice is removed.

4. In an ice delivery device having a plurality of superimposed gravity chutes with a common delivery passage, and manual means for controlling the delivery of ice from each of said chutes; a yieldingly mounted slide for delivering blocks of ice from the lower end of an upper chute to a chute below, said slide being normally raised from the path of ice along the chute below, and capable of being lowered by the weight of a block of ice on the upper chute, the slide when in lowered position offering no obstruction to blocks on the upper chute.

5. In an ice delivery device having a plurality of superimposed gravity chutes with a common delivery passage, and means for temporarily arresting the descent of ice along said chutes; a yieldingly mounted slide for delivering blocks of ice from the lower end of an upper chute to a chute below, said slide being normally raised from the path of ice blocks on the lower chute to allow free passage of ice along the chute below, and capable of being lowered by the weight of a block of ice on the upper chute, the slide when in lowered position offering no obstruction to blocks on the upper chute.

In testimony whereof I affix my signature.

ROBERT H. ROARK.