Jan. 30, 1923. 1,443,696.

S. B. RAYZOR.

ICE SCORING MACHINE.

FILED NOV. 4, 1922. 2 SHEETS—SHEET 1.

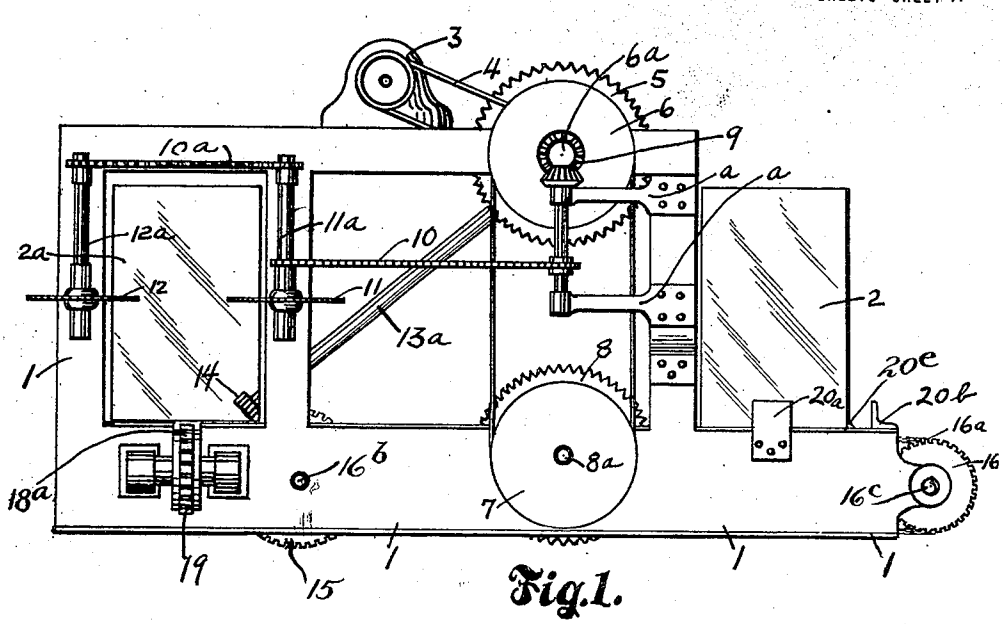


Fig. 1.

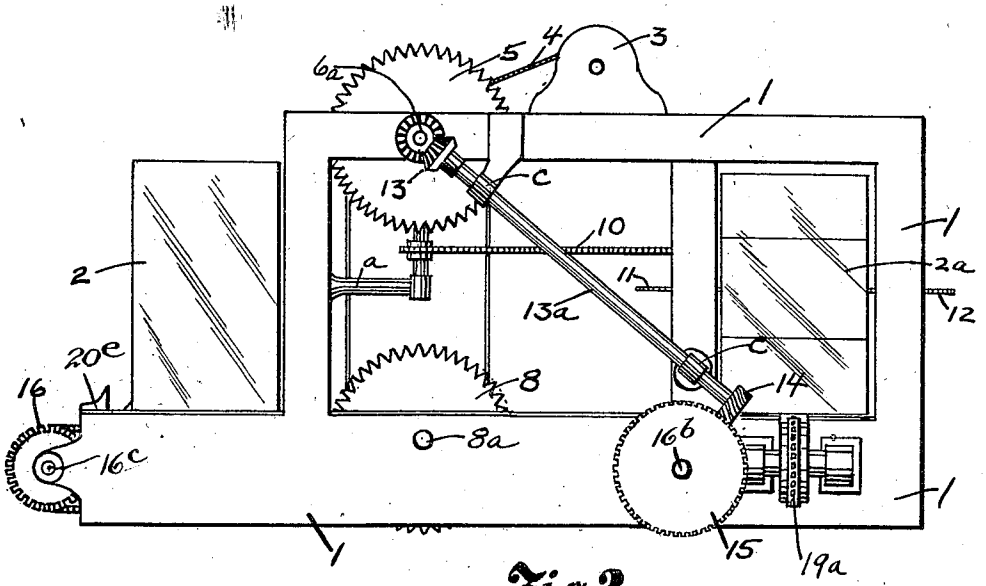


Fig. 2.

Samuel B. Rayzor INVENTOR.

BY John M. Spellman

ATTORNEYS.

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Fig. 3.

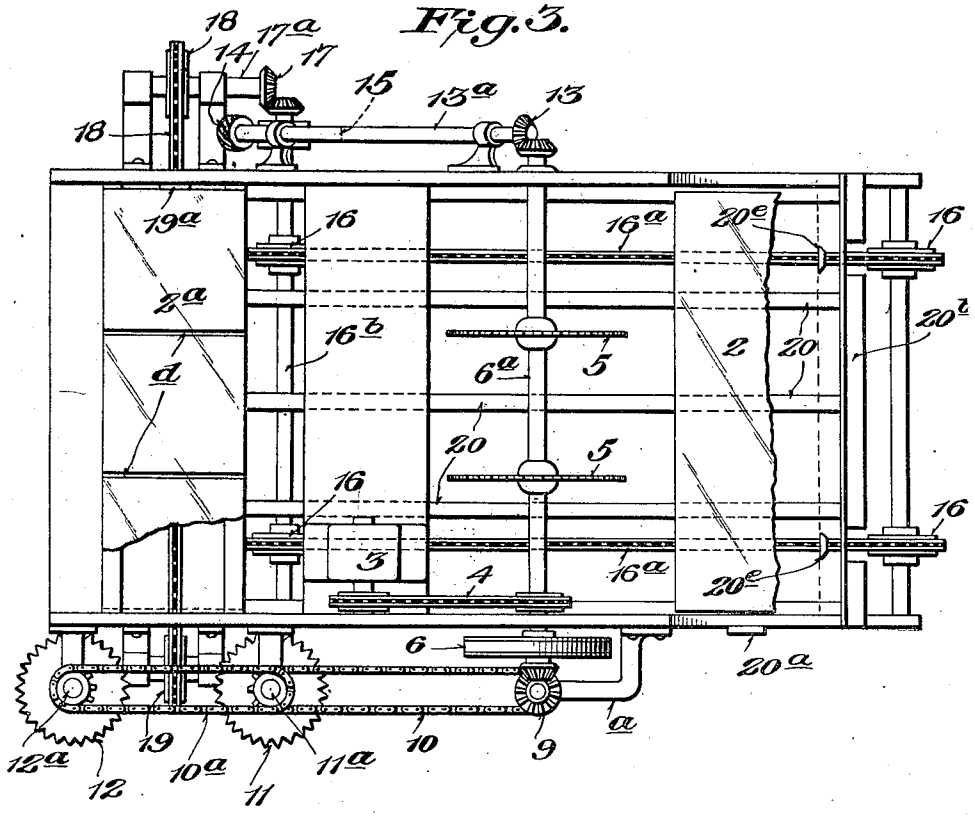
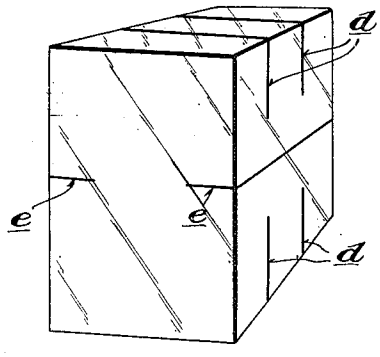


Fig. 4.



Inventor

Samuel B. Rayzor;

By John M. Gelhaus.

Attorney

Patented Jan. 30, 1923. 1,443,696

UNITED STATES PATENT OFFICE.

SAMUEL B. RAYZOR, OF DENTON, TEXAS.

ICE-SCORING MACHINE.

Application filed November 4, 1922. Serial No. 599,025.

To all whom it may concern:

Be it known that I, SAMUEL B. RAYZOR, citizen of the United States, residing at Denton, in the county of Denton and State of Texas, have invented certain new and useful Improvements in Ice-Scoring Machines, of which the following is a specification.

This invention relates to machine for scoring cakes of ice preparatory to breaking same up into smaller cakes, and the primary object thereof is to provide a machine of this type which effects positive scoring of the ice by first moving same in one direction and then in a direction at right angles to the first direction, the first movement effecting scoring of the top and bottom faces of the ice and the second movement effecting scoring of the opposite side faces of the cake, all of the scoring actions being effected by movement of the cake of ice in the same horizontal plane, thereby to eliminate all violent movements of the cake.

The invention further aims to provide a machine of this type which eliminates all movements of the ice other than in a common plane during all of the scoring actions thereon and which particularly avoids vertical or turning movements of the ice, thereby to prevent likelihood of wastage by chipping or breaking up of the ice.

Still further, the invention aims to provide a novel manner of scoring of the ice cakes so that the latter can be easily and quickly broken up into smaller cakes and with a minimum of wastage.

Still further, the invention aims to provide a machine of this type which effects easy, quick and positive scoring of the ice cakes so as to afford an increased capacity for the machine.

Further and other objects will be later set forth and manifested in the course of the following description.

In the drawings:

Figure 1, is a side elevation of one side of the machine;

Figure 2, is a like view of the opposite side of the machine;

Figure 3, is a top plan view, and

Figure 4, is a detail perspective view of a cake of ice scored in accordance with the present invention.

In proceeding in accordance with the present invention, a frame 1, has a motor 3 secured thereto which latter through sprockets and chain 4 drives a shaft 6^a carrying vertical saws 5, 5 and a pulley 6. Pulley 6 has a belt trained thereover, which drives a pulley 7 on a lower shaft 8^a, the latter being vertically alined with shaft 6^a and carrying vertical saws 8 alined with saws 5. The front side of the frame has a discharge opening on the opposite sides of which vertical shafts 11^a and 12^a are journaled, the shafts carrying horizontal saws 11 and 12, which score the ice along the lines *e*, *e*, as depicted in Figure 4 of the drawings. The shafts 11^a and 12^a are driven in unison by sprockets and a chain 10^a, while the shaft 11^a is driven by sprockets and a chain 10 from a shaft journaled in brackets *a*, *a*, and driven by bevel gear 9 on the shaft 6^a.

Conveyor means is employed to convey the ice cake 2 along horizontal guides 20, past the saws 5 and 8 including chains 16^a trained over sprockets 16 mounted on shafts 16^b and 16^c that are journaled in the frame, the chains having stops or abutments 20^e which engage the ice cake 2 to move the latter along the guides 20. Similar guides are provided at right angles to the guides 20 and in the same horizontal plane as the latter to receive the ice cake from guides 20, and to move the latter by means of the conveyor chain 18^a having a stop or abutment 19^a, past the saws 11 and 12. A sprocket 19 adjacent saws 11 and 12 has one end of chain 18^a trained thereover, while a similar sprocket 18 mounted on a shaft 17^a has the opposite end of the chain trained thereover. Shaft 17^a is driven by bevel gear 17 which is operated by a similar gear on shaft 16^b. A shaft 13^a is driven from shaft 6^a by bevel gearing and through a worm drive 14 and 15 drives the shaft 16^b and thereby the conveyor chains 16^a. Side and end guides 20^a and 20^b respectively may be provided on the frame.

In operation the cake of ice 2 is placed on the guides 20 and when chains 16 move the stops 20^b into engagement with the ice, the latter will be propelled along guides 20 and will be scored on the upper and lower sides thereof by the saws 5 and 8, forming the lines of scoring *d*, shown in Figure 4. The conveyor chains discharge the ice onto the right angular guides and upon engagement thereof by the stops 19^a of the conveyor chain 18^a the ice will be moved at right

angles, through the frame discharge and will in such movement be scored along the lines *e*, which latter scorings are of less depth than the scorings *d*. The ice is thus carried throughout in the same horizontal plane, avoiding all agitating, or violent movements thereof likely to cause breakage or chipping of the cake.

What is claimed is:—

1. In a machine for scoring cakes of ice, vertical rotary saws for vertically scoring the cakes on the top and bottom faces thereof, means for conveying the cakes in engagement with and past said saws, means for receiving the cakes from the first named conveying means and for conveying same at approximately right angles to the path of travel of the first named conveying means, and horizontal rotary saws for horizontally scoring the cakes on opposite side faces thereof, the vertical saws and the horizontal saws being of such diameter and so arranged as to cause the vertical scores to be spaced from the horizontal scores and the latter to be disposed between the inner sides of the vertical scores.

2. In a machine for scoring cakes of ice, vertically disposed means for vertically scoring the cakes on the top and bottom faces thereof, means for conveying the cakes in engagement with and past said scoring means, means for receiving the cakes from the first named conveying means and for conveying same at approximately right angles to the path of travel of the first named conveying means, and horizontally disposed means for horizontally scoring the cakes on opposite side faces thereof, the vertical scoring means and the horizontal scoring means being formed and arranged so as to cause the vertical scores to be spaced from the horizontal scores and the latter to be disposed between the inner sides of the vertical scores.

In testimony whereof I have signed my name to this specification.

SAMUEL B. RAYZOR.