

July 18, 1950

E. C. HANSEN
ICE SHAVING MACHINE

2,515,923

Filed Nov. 2, 1946

2 Sheets-Sheet 1

Fig. 2.

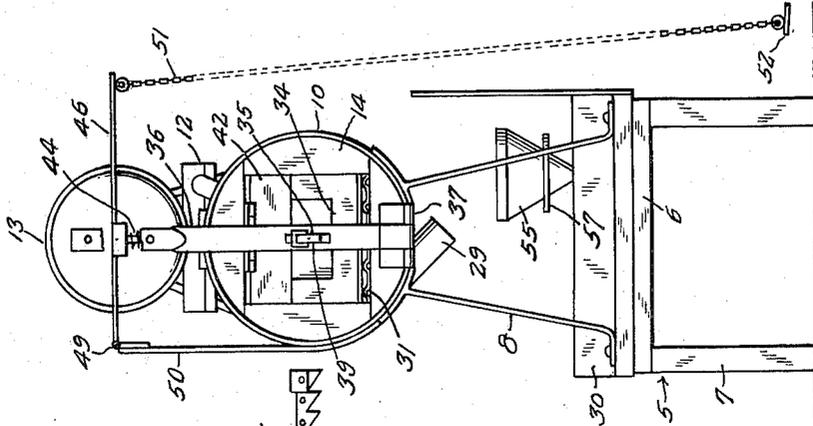
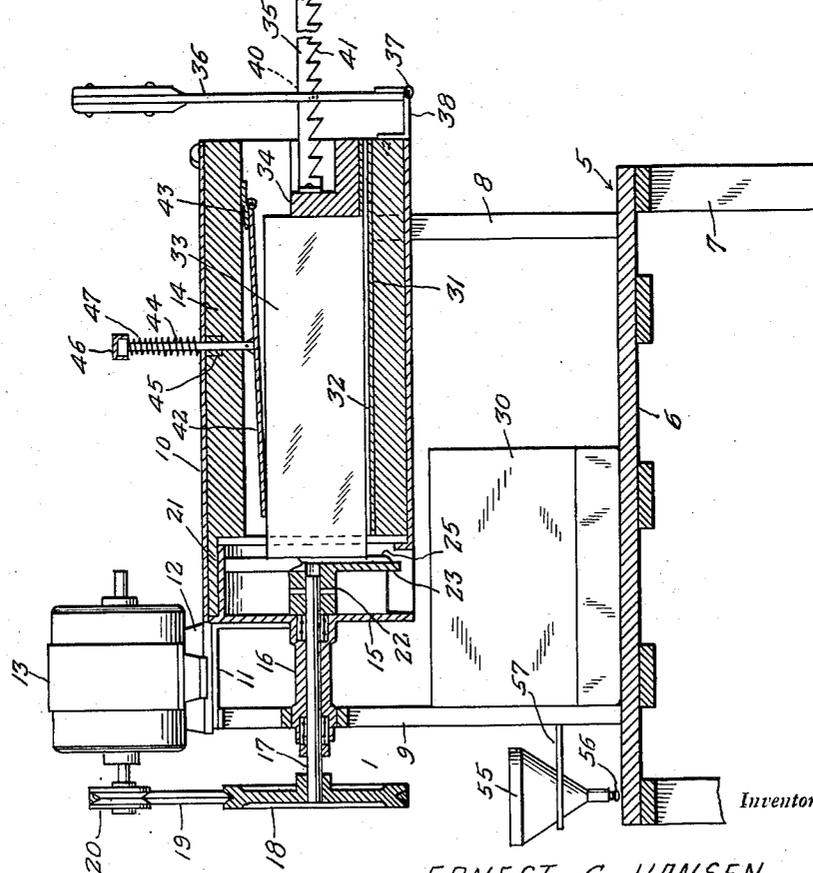


Fig. 1.



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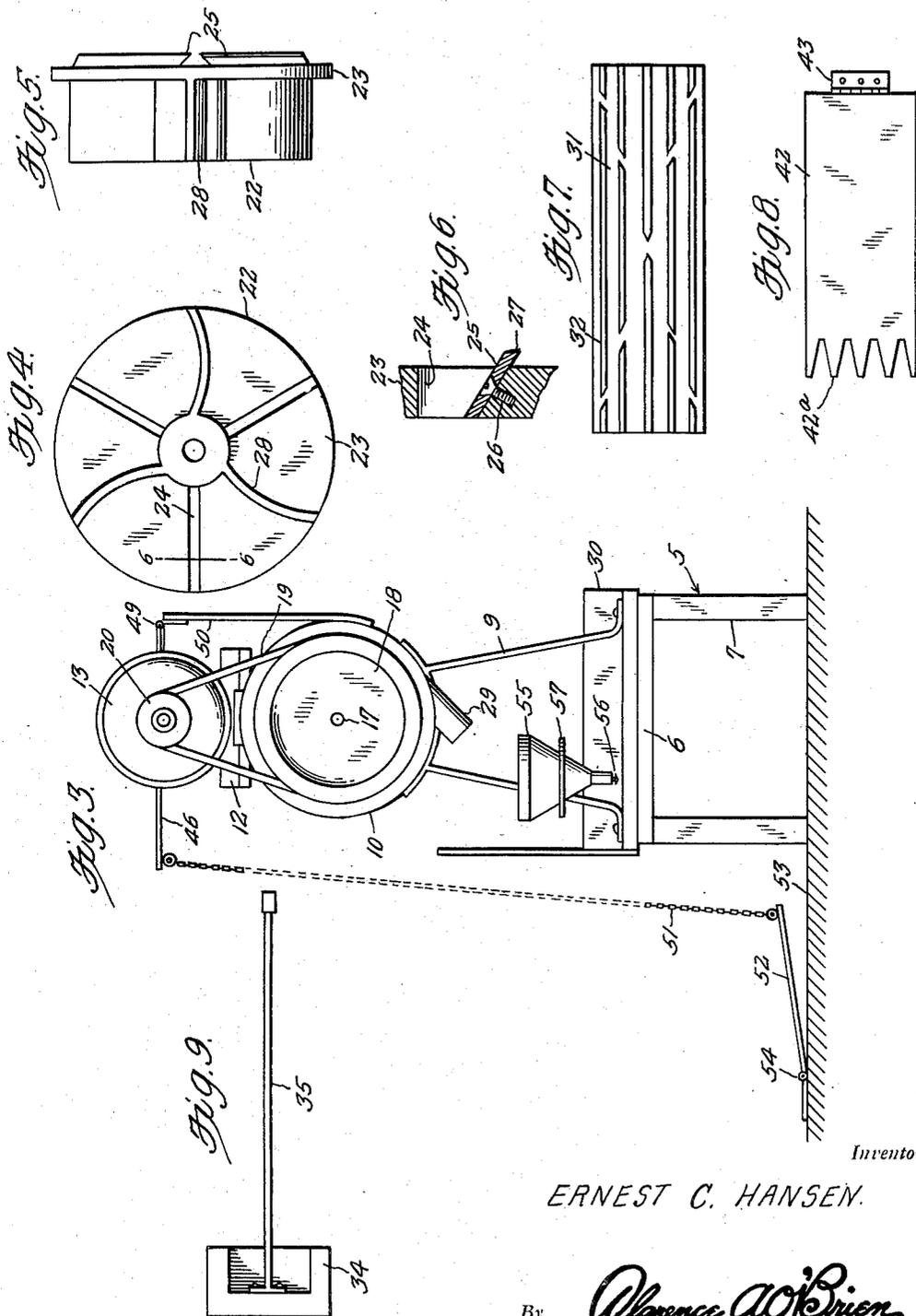
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UNITED STATES PATENT OFFICE

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ICE SHAVING MACHINE

Ernest C. Hansen, New Orleans, La.

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3 Claims. (Cl. 241—92)

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The present invention relates to new and useful improvements in ice shaving machines and more particularly to a power operated machine of this character including a rotary cutter for shaving a block of ice into substantially fine particles.

An important object of the invention is to provide a machine of this character including a manually operated follower for feeding the block of ice in a step by step movement toward the cutter.

An additional object of the invention is to provide a manually operated pressure plate for holding the block of ice against movement while being shaved and by means of which pressure is maintained on the block of ice while being fed toward the cutter.

A still further object is to provide a machine of this character of simple and practical construction, which is efficient and reliable in operation, relatively inexpensive to manufacture and otherwise well adapted for the purposes for which the same is intended.

Other objects and advantages reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a longitudinal sectional view of the ice chamber;

Figure 2 is a front elevational view of the machine;

Figure 3 is a rear elevational view thereof;

Figure 4 is an enlarged front elevational view of the rotary cutter;

Figure 5 is a side elevational view thereof;

Figure 6 is a fragmentary sectional view taken on the line 6—6 of Figure 4;

Figure 7 is a top plan view of the wear plate for the ice chamber;

Figure 8 is a top plan view of the pressure plate for the block of ice; and

Figure 9 is a top plan view of the follower.

Referring now to the drawings in detail, wherein for the purpose of illustration I have disclosed a preferred embodiment of the invention, the numeral 5 designates a stand generally which includes a platform 6 supported on legs 7.

Front and rear standards 8 and 9 rise from the platform, the front standards having a cylindrical casing 10 supported in horizontal position thereon and with its rear end rigidly connected to the rear standards 9 by bracket structure 11 on which is supported a base 12 for an electric motor 13.

The casing 10 is open at its front end and con-

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stitutes an ice chamber having a wooden lining 14 therein, the rear of the chamber being closed by an end plate 15 with which a bearing 16 is internally formed and supported on the rear standards 9.

A shaft 17 is journaled in the bearings 16 with its rear end provided with a pulley 18. The pulley 18 is driven by a belt 19 from a pulley 20 connected to the motor 13.

The front or inner end of the end plate 15 is formed with an annular chamber 21 in which a cutter head 22 is operatively mounted and secured to the front end of the shaft 17.

The cutter head 22 includes a disk 23 at its front end having a plurality of radial slots 24 formed therein and to one edge of which blades 25 are secured by screws or the like 26 with the beveled edge 27 of the blades projecting forwardly from the disk 23. Also projecting from the rear surface of the disk 23 are a plurality of arcuate vanes 28 one of the vanes being positioned between a pair of the blades 25 as shown in Figure 4 of the drawings.

A discharge spout 29 extends downwardly from the bottom of the chamber 21 and through which shaved ice is discharged under the influence of the vanes 28 which function as impellers, the shaved ice being discharged into a receptacle 30 supported on the platform 6.

A wear plate 31 is secured in the bottom of the ice chamber 10, the upper surface of the wear plate being formed with longitudinally extending spaced parallel ribs 32 and on which a block of ice 33 is supported for sliding movement on the wear plate inwardly of the ice chamber for the movement of the inner end of the block of ice into engagement with the cutter 22.

A follower 34 is secured at the inner end of a toothed bar 35 and engages the rear end of the block of ice to move the block inwardly of the ice chamber.

A lever 36 is pivoted at its lower end by means of a conventional hinge structure 37 to a bracket 38 secured to the lower portion of the lining 14 of the ice chamber, the lever having an opening 39 in which the toothed bar 35 is slidably received and a roller 40 is journaled in the opening for engaging the teeth 41 of the bar 35 to move the bar and the follower 34 inwardly in a step by step movement.

A pressure plate 42 is pivotally mounted at one end by means of a conventional hinge structure 43 in the top of the ice chamber 10 to the lining 14 and has its front end formed with teeth 42a

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to bite into the upper surface of the block of ice 33.

A rod 44 is pivoted at its lower end to the plate 42 and is slidably mounted through the top of the ice chamber 10 in a guide 45. To the top of the rod 44 is secured a transversely extending lever 46 with a coil spring 47 mounted on the rod between the lever and the top of the ice chamber to exert its influence on the pressure plate 42 to raise the latter. One end of the lever 46 is pivoted as at 49 to the upper end of a support 50 rising from one side of the ice chamber and to the other end of the lever is secured a chain 51 which extends downwardly to a foot pedal 52 which is pivotally connected to a floor 53 as shown at 54. Downward pressure by the foot of a person exerted on the foot pedal 52 will pull the lever 46 downwardly to exert pressure on the pressure plate 42 and to hold the block of ice 33 firmly against the cutter 22 and at the same time the block of ice is fed inwardly against the cutter by the follower 34 and lever 36.

The cutter 22 is rapidly rotated by the motor 13 whereby to shave the block of ice into fine particles which are discharged through the spout 29 into the receptacle 30.

The receptacle 30 is removably supported on the platform 6, and if desired a funnel-shaped mold 55 may be held under the spout 29 after the receptacle 30 has been removed to fill the mold with the powdered or shaved ice. The narrow end of the mold 55 is provided with an ejecting plunger 56 of conventional construction for ejecting the shaved ice packed in the funnel. The funnel is supported in a holder 57 secured to one of the standards 9, when not in use.

In view of the foregoing description taken in conjunction with the accompanying drawings it is believed that a clear understanding of the device will be quite apparent to those skilled in this art. A more detailed description is accordingly deemed unnecessary.

It is to be understood, however, that even though there is herein shown and described a preferred embodiment of the invention the same is susceptible to certain changes fully comprehended by the spirit of the invention as herein described and the scope of the appended claims.

I claim:

1. An ice shaving machine comprising a casing, an ice chamber in said casing, a rotary cutter journaled at one end of the chamber, a discharge spout leading from said end, a follower member in said chamber for advancing a block of ice longitudinally therein, an operating bar extending from said member, means for engaging the bar and moving the follower member toward the cutter, a plate hingedly mounted in the ice chamber for holding the block of ice against lateral movement, means for urging the plate from contact with the ice block, and means for moving and holding said plate in contact with

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the ice, said last means including a rod extending from said plate, an operating bar seated on said rod, a foot pedal, and flexible connecting means between said bar and the pedal for advancing said bar downwardly upon actuation of the pedal.

2. An ice shaving machine comprising a casing, an ice chamber in said casing, a cutter unit disposed at one end of the ice chamber, a discharge spout leading from said end, a follower member in said chamber, means for moving said follower member in the chamber for urging a block of ice into engagement of the cutter unit, a presser plate hingedly secured at one end within the ice chamber and adapted to bear upon the block of ice, a rod extending from said plate, resilient means disposed on said rod, an operating bar secured on the rod, a foot pedal and flexible connecting means between said bar and the pedal for advancing said bar downwardly upon actuation of the pedal.

3. An ice shaving machine comprising a casing, an ice chamber in said casing, a rotary cutter unit journaled at one end of the chamber, operating means for said cutter unit, a discharge spout leading from said end, a follower member in said chamber for advancing a block of ice longitudinally therein, operating means for said follower member, a presser plate hingedly mounted in the casing, said plate being formed with a jagged free end adapted to bear on a block of ice in the chamber, an upstanding supporting member on said casing, an operating bar swingably secured at one end to said supporting member, an upstanding rod secured to said presser plate, resilient means on said rod for normally urging the presser plate out of contact with the ice block, said operating bar being engageable with the rod for urging the presser plate into contact with the ice block, a foot pedal, and flexible connecting means between said foot pedal and the operating bar for urging the same downwardly upon actuation of the foot pedal.

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