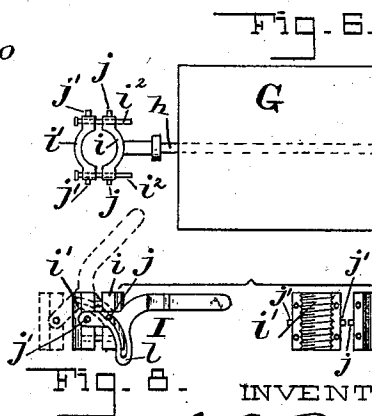
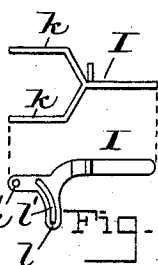
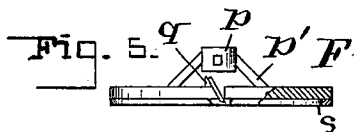
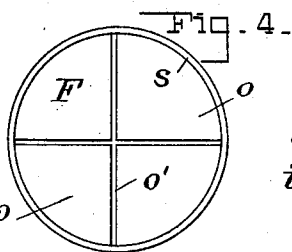
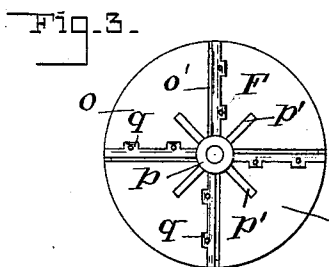
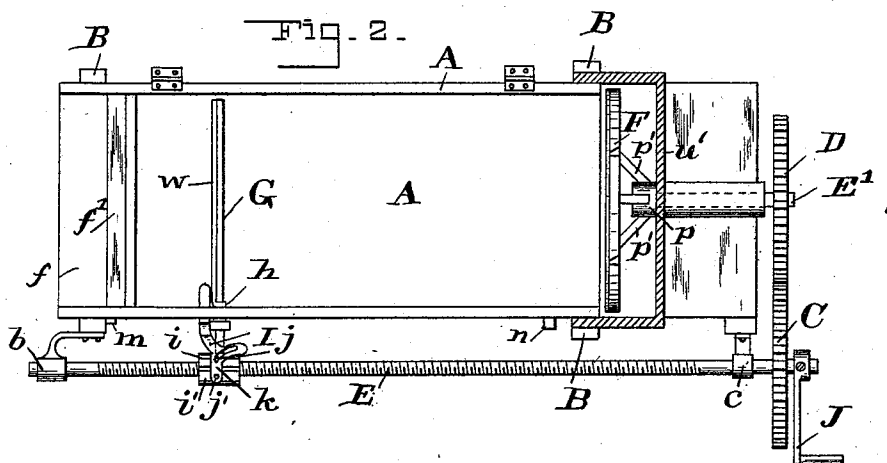
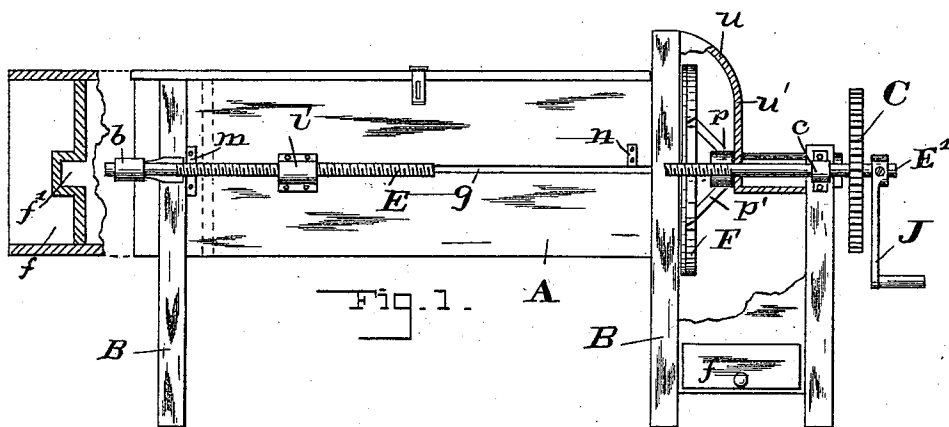


(No Model.)

C. E. REID.
ICE SHAVING MACHINE.

No. 530,652.

Patented Dec. 11, 1894.



WITNESSES:-

L. J. Van Horn.
Chas. B. Mann Jr.

INVENTOR:-

C. E. Reid
By Chas. B. Mann
ATTORNEY.

UNITED STATES PATENT OFFICE.

CLARENCE E. REID, OF BALTIMORE, MARYLAND.

ICE-SHAVING MACHINE.

SPECIFICATION forming part of Letters Patent No. 530,652, dated December 11, 1894.

Application filed January 27, 1894. Serial No. 498,189. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE E. REID, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Ice-Shaving Machines, of which the following is a specification.

My invention relates to an improvement in ice shaving machines of that type adapted for finely shaving ice for use at bars, soda fountains, &c., and it has for its object to provide certain improved constructions as hereinafter described and claimed.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation and partial section of my improved ice shaving machine. Fig. 2 is a top or plan view of the same. Fig. 3 is a rear view of the cutter head. Fig. 4 is a front view of the cutter-head with the knives removed. Fig. 5 is a plan view of the cutter-head shown in Fig. 4. Fig. 6 is a detail of the follower and the clip which connects it with the screw-threaded shaft. Fig. 7 is a side and top view of the yoke for operating the screw-threaded clip. Fig. 8 shows, respectively, the yoke in engagement with the clip and a detail view of the latter.

The letter, A, designates the ice box or receptacle mounted on suitable standards B; E, the screw-threaded drive-shaft journaled in bearings, b, c, on the exterior side of the box and having at one end a gear-wheel, C, gearing with another gear-wheel, D, fixed on a short shaft, E', to which the cutter-head, F, is connected. The receptacle, A, is open at that end which is adjacent the cutter-head and has a narrow transverse recess or compartment, f'. At the other end f, and at its side where the screw-shaft is journaled, it is provided with a longitudinal slot, g. A follower, G, conforms substantially to and fits within the interior of the box and has an arm or extension, h, passed through the longitudinal slot, g, of the box and suitably attached to one section, i, of a nut, on the exterior of the box. The two-section-nut, i, i', engages with the screw-threaded shaft, E, and these constitute the means whereby the follower, G, is moved toward the cutter-head.

The nut is constructed of two semi-circular halves one half, i', being interiorly screw-

threaded and the other half, i, having a smooth surface, and the two halves are connected by pins, i², passed through their side flanges, the construction being such that the two halves may be separated or moved away from each other for a distance limited by the length of the said pins without becoming disconnected. Each half, i, i', also is provided with two lugs denoted, j, on one half and, j', on the other half, and a yoke-lever, I, has two arms, k, each of which has a hole, k', at the end to pivot on the two lugs, j', of the half, i', and said yoke-lever is provided with an irregular lateral extension, l, having a curved slot, l', in which the lugs, j, of the other half, i', of the nut play when the parts are connected.

When the lever, I, is turned one way or the other the slot, l', will act on the two lugs, j, as a cam, and cause the two halves, i, i', of the nut to either separate and let go of the threads of the screw, E, or to move closer together and grip the threads of the screw,—according to which direction the lever is turned. The handle or end of lever, I, projects through the slot, g, of the box, A, and said handle is operated by stops, m, n, at each end of the said slot to automatically close and open the nut to engage and disengage from the screw-threaded shaft in a manner hereinafter described.

The cutter-head, F, is composed of four sections, o, separated by radial slots, o', held in proper relation by a hub, p, having radial spokes or arms, p', one of which extends to each section. These parts are cast integrally. The knives, four in number, are each connected with one of the sections by screws passed through them and also through screw-threaded holes in ears, q, on the rear side of the head. Said ears and the edge of the section at the slot through which the knives project, have a slight inclination so as to project the edges of the knives in a similar manner to that of the blade of a carpenter's plane, as shown in Fig. 5. This construction of cutter-head is productive of great advantages. By having four knives instead of two or three the ice shaving operation is greatly facilitated, and by having the slots, o', unobstructed from the center to the edge of the head there is rapid clearance of the shaved ice and consequent freedom of the knives from clogging.

A ring, *s*, is on one side of the cutter-head and projects from the face thereof and unites all the sections at the rim and serves to prevent the edge of the knife from being broken or chipped off by coming in contact with the sides of the box or with any other obstruction.

The cutter-head is covered by a hood, *u*, the vertical part, *u'*, of which serves as a bearing for one end of the short shaft, *E'*, to which the hub, *p*, is connected. A sliding receptacle or drawer, *v*, is beneath the cutter-head to receive the shaved ice.

The operation is as follows: The ice to be shaved is placed within a box, *A*, between the follower, *G*, and the cutter-head, *F*. The two-part nut is locked to the screw shaft, *E*, by turning the yoke-lever, *I*. The screw-shaft is turned through the medium of the crank, *J*, to move the follower forward, and the gear-wheel, *C*, connected with the screw-shaft engages the gear-wheel, *D*, on the short shaft, *E'*, to which the cutter-head is fixed, and revolves the latter. The shaved ice drops down into the slide drawer, *v*, from which it may be removed as desired. As soon as all the ice has been shaved and the handle, *I*, of the yoke-lever strikes against the stop, *n*, the said handle, by the continued advance of the two-part nut, will be pressed back and the halves of the nut forced apart and thus disengage from the screw-shaft. The follower and nut are then moved back by hand until the handle, *I*, reaches the stop, *m*, and forces the yoke-lever back to its original position, whereupon the two-part nut is closed and is again forced into engagement with the screw-shaft. During this operation the handle, *I*, and the back-bar, *w*, of the follower enter the narrow transverse recess, *f'*, and the follower, *G*, itself rests flat against the end, *f*, of the box. This arrangement of transverse recess, *f'*, in the box-end, *f*, insures that the follower will be supported and injury prevented to these parts when a block of ice is thrown into the ice receptacle. When addi-

tional ice is placed within the receptacle the operation of shaving just described may be repeated.

Having thus described my invention, what I claim is—

1. In an ice-shaving machine, the combination of a covered box or receptacle, *A*, having in its side a longitudinal slot, *g*; a cutter-head mounted at one end of the box; a screw-threaded shaft journaled in bearings on the exterior of the receptacle and parallel with the said longitudinal slot; a follower in the receptacle; a nut on the said screw-shaft formed of two halves one of which is connected by an arm, *h*, extended through the longitudinal slot, to the said follower; two stops, *m*, *n*, on the box, one at each end of the longitudinal slot; and a yoke-lever which operates to close and open the two halves of the nut and thereby engage the nut with or disengage it from the said screw-shaft and which is automatically operated by the said two stops.

2. In an ice-shaving machine, the combination of a covered box or receptacle, *A*, having at one end a recess or compartment, *f'*, and provided with a longitudinal slot, *g*, in its side; a screw-threaded shaft journaled on the exterior side of the box and parallel with the said longitudinal slot; a cutter-head mounted at that end of the box opposite the said compartment, *f'*; a follower within the box having an arm, *h*, extended through the longitudinal slot to the exterior, and said follower adapted to enter said compartment; and means coacting between the screw-shaft and arm, *h*, to move the follower back and forth within the receptacle.

In testimony whereof I affix my signature in the presence of two witnesses.

CLARENCE E. REID.

Witnesses:

THOS. C. BAILEY,
W. W. REID.