(No Model.)

J. S. FIELD.

SLUSH REMOVER FOR ICE ELEVATORS.

No. 337,318. Patented Mar. 2, 1886.

Fig. 1

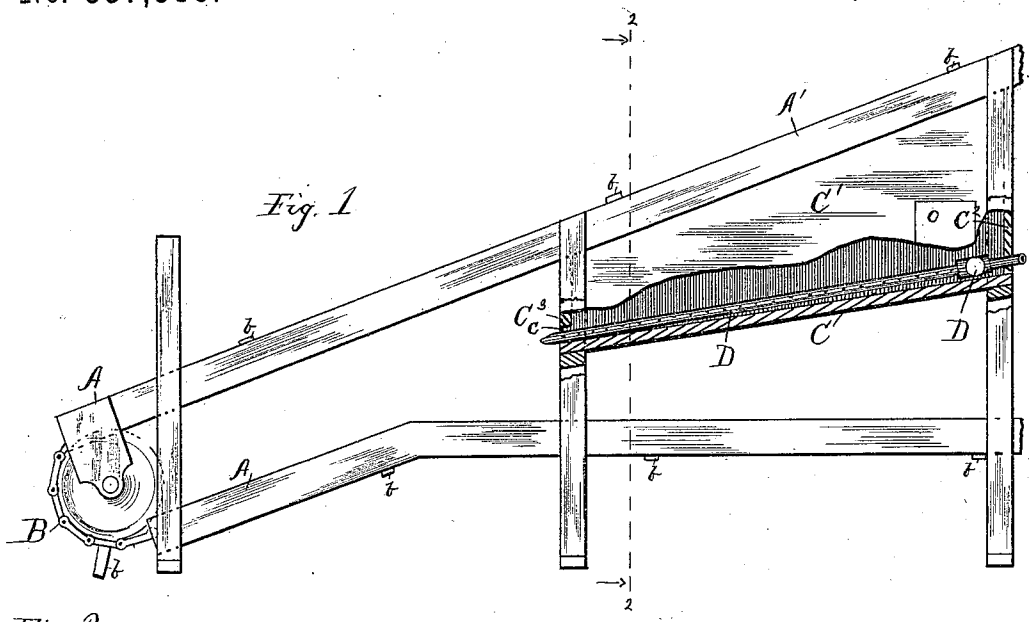


Fig. 2

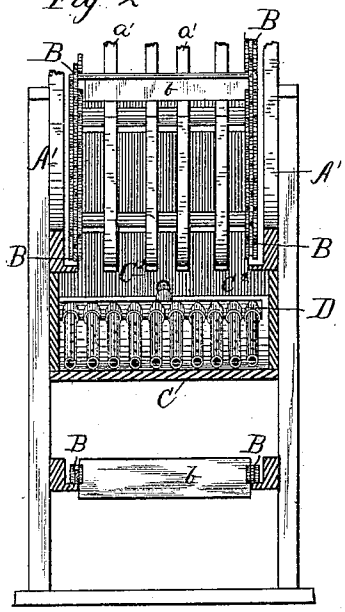


Fig. 3.

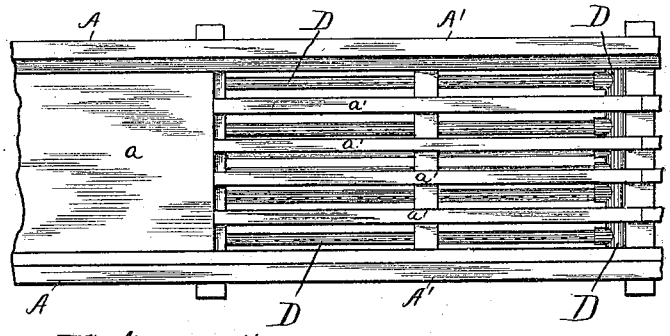
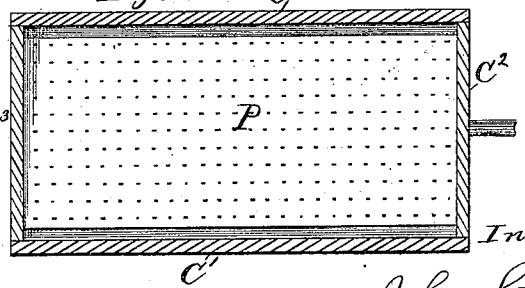


Fig. 4.



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UNITED STATES PATENT OFFICE.

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SLUSH-REMOVER FOR ICE-ELEVATORS.

SPECIFICATION forming part of Letters Patent No. 337,318, dated March 2, 1886.

Application filed November 23, 1885. Serial No. 183,707. (No model.)

To all whom it may concern:

Be it known that I, JOHN S. FIELD, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Slush-Removers for Ice-Elevators, of which the following is a specification.

In the use of the ordinary inclined slideways for elevating ice from the water to ice-houses a great deal of slush is necessarily carried with the ice for a short distance after it leaves the water. This slush and all drippings from the ice fall through the open bottom of the incline, and accumulate and freeze under the same.

To keep these accumulations from rising to such a height as to interfere with the work requires frequent attention and considerable labor, and if the weather is severe it entails an onerous charge upon the harvesting operation.

To prevent the annoyance thus caused by the slush, I have devised the present invention, which consists in the novel devices hereinafter described and claimed.

The accompanying drawings show at Figure 1 a side elevation, partly broken away, of a portion of an ice-elevator to which my invention has been applied. Fig. 2 is a vertical cross-section on the line 2 2 of Fig. 1. Fig. 3 is a plan of a portion of the elevator, the elevating-chains being omitted. Fig. 4 is a plan showing a modified form of steam-supplying device.

In said drawings, A A′ represent the lower portion of an ice-elevator or inclined slideway.

I show only the lower end, as the slush falls through the open floor of the elevator before the ice has proceeded far upon its way, and consequently the evil referred to is chiefly felt at the lower end.

Of the portion illustrated, A is the extreme or partially-submerged section of the elevator, and is provided with a solid or close floor, *a*, while the section A′ is the initial end of the open floor portion provided with a floor formed of slats *a′*.

B B are the elevating-chains, carrying propelling-bars *b*.

Through the slats forming the floor of section A′ the slush, &c., falls, and under this section the objectionable accumulations usually take place. The means I adopt to prevent these accumulations are placed directly under section A′; but they may be extended farther upward, if thought desirable. They consist of a close-bottomed trough or box, C, having a pitch sufficient to insure automatic drainage, and a series of perforated steam-pipes, D, located in the trough. By this trough the meltings are carried off, instead of being allowed to fall and freeze again at a lower level, and it also protects and conserves the heat given off by the pipes. I prefer to inclose it at the sides C' and ends C^2 C^3, at least partially, as illustrated, as thereby cold-air drafts are more perfectly prevented and the heat is more easily kept up to an effective point. When thus inclosed, the lower end, C^3, of the trough is open, as at *c*, to permit the water to flow off, and in order that this passage may remain free and not freeze, the ends of the pipes may be extended through the same, as shown. I also prefer that the perforations in the steam-supplying pipe or surface be sufficiently numerous to insure all the particles of ice or snow and ice coming within the influence of the steam, and it is desirable, where it can be so done, that some of them should open in directions other than vertically upward; and it will be understood that I do not limit myself to steam-pipes as the steam-supplying device, as other known devices might be substituted for them.

One form of a modification is shown at Fig. 4, in which P is a plate covering or nearly covering the bottom of the trough or box, the steam being admitted to the under side of said plate and discharged through the perforations therein indicated in said figure. I have found, however, that the steam-pipes serve the purpose excellently, and they are cheaper than any other form of steam-supplying device known to me.

o represents a door in the side of the trough or box, which is available when the interior is to be cleaned.

Some of the advantages of my invention may obviously be attained by radiant heat from imperforate steam-pipes, although I prefer to use the direct heat of steam-jets.

I claim—

The combination, with an ice-elevator, of a self-draining trough placed under the elevator, and a steam-supplying device located in the trough, substantially as specified.

JOHN S. FIELD.

Witnesses:
H. M. MUNDAY,
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