

Science and Art.

Ice Cream Freezer.



There is one advantage of our climate which we do not usually estimate sufficiently highly, and that is, if our summers are hot and tropical, and if people do meet one another in the street with all the agony and used-upness of 95° depicted in their countenances, our winters are cold enough to give us a good supply of ice all the year round, and ice cream is the solace of the summer evening.

The freezers invented by H. B. Masser, of Sunbury, Pa., and patented by him Dec. 15, 1848, and Jan. 19, 1858, are so well-known as to scarcely need any description, were it not that at this season of the year we wish to say something on freezing, and to give some recipes for making ices of different kinds. Our illustration is a perspective view, with part of the outer tub, A, removed to show the interior. The cylinder, C, is capable of revolving in one direction by the handle, F, that is attached to the agitator, E, which is provided with a series of blades, c, and a wooden scraper, e, that is kept pressed close against the inside of the cylinder by the springs, d. On the bottom of the cylinder is a little stop which catches against the bottom blade, c, so that it carries the cylinder with it when rotated in one direction, and on the top, C, and its lid, D, is another stop, b, that prevents the cylinder revolving (being held by the hinged latch, a, attached to the cover, B), so that the agitator, E, revolves inside the cylinder. The ice should be made very fine, as it packs more closely around C, every part of which should be in contact with the ice. Fine ice, too, is more thoroughly mixed with the salt, causing the ice to melt more rapidly, thus disengaging the latent heat, by which means intense cold is produced, and the inner surface of C is instantly coated with a thin layer of frozen cream, which, by being removed as rapidly as formed by e, and thrown into the center, constantly presents a clean surface for renewal until the whole mass is frozen in its finest state of crystallization. As a simple illustration of the necessity of a revolving cylinder and scraper, it may be mentioned that stirring and agitating cold brine or salt water with the hand, can scarcely be endured, the cold being so intense; while, if the hand is kept quiet, it can be held in the same with impunity. Again, the fine sheet of frozen cream should be removed from the sides of the cylinder as rapidly as it is formed, and this must be done by a yielding spring blade, without which it is impossible to construct a cylinder out of any sheet metal true enough for that purpose. A yielding spring blade, which will accommodate itself to the irregularities and inequalities of such a cylinder, is absolutely necessary to overcome this difficulty, and thus remove the frozen cream from the sides of the cylinder while no thicker than tissue paper.

These freezers are now made with iron bottoms and covers, stamped into shape by means of machinery made expressly for that purpose, and then tinned, by E. Ketcham & Co., No. 289 Pearl street, New York, sole agents for the United States.

RECIPES.—The following recipes are furnished us by Mr. Masser, (who has probably investigated this subject more scientifically and with more success than any other person in the country), and will be found valuable to all housekeepers who wish to make their own ices:—

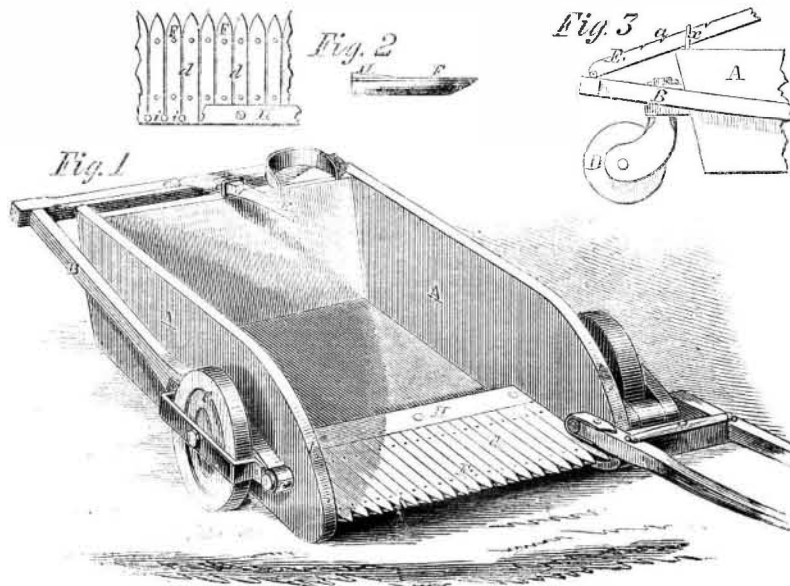
When pure cream cannot readily be obtained, ice cream is frequently made from milk, with the addition of other ingredients, to enrich it and give it consistency. For this purpose eggs, arrow-root, and similar substances are used. As a general rule, meagre or thin cream or milk requires more sugar. The following recipe, as a substitute for pure cream, has been successfully used:—Two quarts good rich milk, four fresh eggs, three-quarters of a pound of white sugar, six teaspoons of Bermuda arrow-root. Rub the arrow-root smooth in a little cold milk, beat the eggs and sugar together, bring the milk

to the boiling point, then stir in the arrow-root, remove it then from the fire and immediately add the eggs and sugar, stirring briskly to keep the eggs from cooking, then set aside to cool. If flavored with extracts, let it be done just before putting it in the freezer. If the vanilla bean is used, it should be boiled in a little milk or water. Vanilla can be made to go as far again as usual by boiling the bean a long time in a close vessel.

For orange or pine-apple cream, cut the fruit in thin slices and cover the same with plenty of fine or pulverized white sugar. After standing a few hours, the sirup can be drawn off and used for flavoring the cream as above described. The flavor of other fruits can be extracted and used in a similar way.

For orange or lemon water ices, grate on the head of loaf sugar the outer rind of two or three good oranges or lemons, and to each quart of water add the above, with the juice, and a pound of white sugar to sweeten the same. The white of one or two eggs should be added to every quart to give it consistency. To make Roman punch, it is only necessary to add to the lemon mixture a little rum or Jamaica spirit.

MILLS' CLOVER-PICKER.



The clover plant as everyone is aware bears its seed in a beautiful head, which rises with grace and natural elegance from among the three-leaved clusters that form the plant. It grows among the grass as we have represented in the accompanying illustration, in order to remind our readers of its form so that they may the better appreciate the machine for picking the clover-head for the preservation of the seed or other purposes. We may state that this is the first machine for the purpose which we remember to have seen, and its beautiful simplicity is much to be admired.



Fig. 1 is a perspective view of the whole machine, A being a box or cart provided at the front with a series of angular teeth, F, with spaces, d, between them and larger round spaces, z, at their backs through which the stalks pass after the heads have been cut off by the knife, H, that is placed over them. This is better seen in Fig. 2. A is supported by a castor wheel, D, at the back, Fig. 3, and by two wheels, C, in front, so arranged that the pickers can be raised or lowered to suit the varying height of the clover. The wheels,

C, are carried by a framing, B, that is secured to A by pivots, c, and at its back a lever, E, provided with notches, a, is pivoted to B, at e; these notches catch in a loop, x, on the back of A and so hold the front end or picking device at any desired height from the ground. This machine can be readily worked by anyone without requiring any adjustment, and it is so cheap that no farmer need be without one. One man with a single horse can, it is stated, gather from six to ten acres per day, and not injure the grass or herbage, and the driver has the raising and lowering at his command without stopping the machine. It was patented Feb. 1, 1859, and the inventor is W. T. Mills, of Galesburgh, Mich., who will be happy to furnish any desired information concerning it, that we have not given.

New British Patent Office.

The United States Patent Office is one of the most beautiful structures in the City of Washington and is a credit to our country. In this feature, as connected with the issuing of patents, we are in advance of all other governments, and have set them an example which Old England is about to follow. A sum of about \$150,000 of surplus patent funds is recommended to be appropriated for this purpose the present year, and that the building should contain a museum for models and all the other departments which we have in the Office at Washington. It is high time that such a building was erected in London, and we are surprised that Uncle John, with all his practical sagacity, should have grown so old before his pride permitted him to follow in the footsteps of his illustrious descendant, Jonathan.

ENLARGEMENT
OF THE
"SCIENTIFIC AMERICAN."

Volume I., Number 1—New Series.

The Publishers of the SCIENTIFIC AMERICAN respectfully announce to their readers and the public generally, that, on the first day of July next (1859), their journal will be enlarged and otherwise greatly improved; and at that time will be commenced "Volume I., No. 1, New Series," which will afford a more suitable opportunity for the commencement of new subscriptions than is likely to occur again for many years.

The form of the journal will be somewhat changed from what it now is, so as to render it better adapted for binding and preservation and instead of eight pages in each number as now, there will be sixteen, and in a completed yearly volume the number of pages will be doubled to 332, or 416 more than now. By this change, also, there will be a large increase in the quantity of the reading matter: and it is the confident expectation of the publishers that they will be able to make it the most useful and instructive journal now issued from the American press.

The SCIENTIFIC AMERICAN is no new enterprise. Its character and influence have been acknowledged and felt for nearly fourteen years past. It is the only journal of the kind in the United States which has met with success; and since its commencement, no less than fifteen similar journals have been started, and have expired after a brief and unhealthy career. The SCIENTIFIC AMERICAN is published at a price which places it within the reach of all; and as a work of reference for the Workshop, Manufactory, Farm, and Household, no other journal exceeds or even equals it in the value and utility of its information. Its practical recipes alone oft-times repay the subscription price ten-fold. The Inventor will find it, as heretofore, the mirror of the Patent Office, and the reliable record of every claim issued weekly by the Office, the list being officially reported for its columns. The Machinist, the Manufacturer, the Farmer, the Planter, the Engineer, the Architect, the Millwright, the Chemist—in fact, all who take the slightest interest in the development and progress of art, science and industry, will find its pages useful and instructive. With the enlargement of the SCIENTIFIC AMERICAN, we shall be enabled to widen the sphere of our operations, and it is our intention to devote space to a Price Current, and a column or two to the Metal and Lumber markets, and such other branches of trade as may be interesting, and these will be given as often as we may think it useful to our readers.

The value of the SCIENTIFIC AMERICAN as a work of reference is shown by the large number of volumes yearly bound by subscribers; and there is now a constant demand for all the back volumes which it is impossible for us to supply. Large sums have been offered for the complete work.

The increased outlay to carry out our design of enlargement will amount to eight thousand dollars a year on our present edition; and in view of this we appeal to our readers and friends to take hold and aid in extending our circulation. Think of getting, at our most liberal club rates, a yearly volume containing about 600 original engravings and 332 pages of useful reading matter, for less than three cents a week! Who can afford to be without it at even ten times this sum?

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