

MECHANICAL REPAIRS

A MECHANICAL ICE HOUSE.
In Which One Solid Cake Fills the Building—Freezing by Natural Cold.

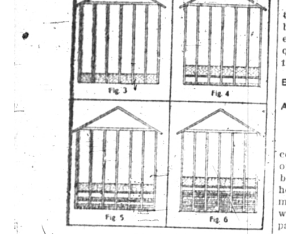
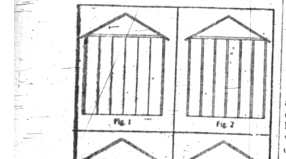
The most remarkable ice house built of a single solid cake of ice is the Fall side of the building. The only tools employed were some pieces of string and a hammer, hose, weather and a water supply with at least moderate pressure are also essential, but all out-door cutting, hauling, and storing are avoided, and no sawdust is used, the ice comes out clear and clean.

Some three years ago a mechanical ice house was patented in which the water was frozen inside the ice house by a very rapid process, which will be described later. In this process the labor of cutting and hauling is obviated without the use of powerful or expensive machinery. Popular Mechanics suggests that this process has never been carried further than the experimental stage, probably owing to the fact that the winter following this invention was the warmest in 40 years, Lake Michigan being frozen from shore to shore at that time. The experiment, so far as conducted,

used in connection with a two-horsepower engine, under a pressure of 30 pounds, and the set of hoses has been in only a year. The photograph is of a part near the center of one of the latter.

The only explanation of the peculiar rupture which seems applicable, says Scientific American, is that it must have occurred from the inward pressure of the air when the ice had cooled sufficiently to form a vacuum. The appearance would indicate that the scale had served to help withstand the steam pressure, while against that from the outside it offered little or no resistance.

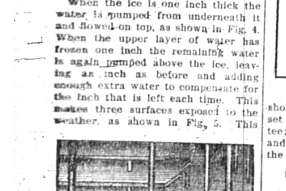
The circumstances support this theory as to the cause, in that the boiler was last fired on a very cold evening, cooled off rather more quickly than usual, and was found the next morning, to leak freely.



seems to have been successful, a large block being filled with practically one solid cake of ice.

The process of freezing ice in this way is as follows:—A large ice house is built with two of the opposite walls raised, allowing them to be opened by folding up during cold weather, and closed during milder weather, thus preventing the ice from melting. To begin operations a number of strings are suspended from the partitions at distances of two or three feet apart. The strings hang down and touch the floor, as shown in Fig. 1, and the first cold night they are sprayed with water, which forms ice flakes reaching from the floor to the top, as shown in Fig. 2. A quantity of water is then flowed into the ice house, as shown in Fig. 3, and allowed to freeze.

When the ice is one inch thick the water is pumped from underneath and allowed to go, as shown in Fig. 4. When the upper layer of water has become one inch thick the water is again pumped above the ice, leaving it as such as before and adding enough extra water to compensate for the inch that is left each time. This process is repeated until the ice reaches three surfaces exposed to the weather, as shown in Fig. 5. This



HOW TO LEVEL OILSTONE.
Method by Which the Prime Condition of Stone Can Be Restored.

For use in properly truing up oilstones a block of cast iron one and one-half inches thick, nine inches wide and 12 inches long, with a projecting ledge one-half inch wide and one-half inch high on one side, this to keep the block from slipping when on the bench. Place the block of true on both sides and the three edges, says the Patentmaker, and emery powder. To true up an oilstone or slip, place a small quantity of the coarse emery powder in the middle of the block; pour on a little water and rub the oilstone back and forth until the surface is level; then repeat the operation, using the finer powder with water. To true the round side of a stone, and preserve its original radius, turn the stone while rubbing. This method of sanding and leveling all the glass, so objectionable in oilstones, and leave a nice surface similar to that obtained by grinding.

Electric Execution for Mosquitoes.
A series of single-phase electric railway system between Atlanta and Marietta, Ga.—the first alternating current line in the southern States—was recently put into service. The line, which is standard gauge, is about 15 miles long, and is supplied with power from the hydraulic station of the Atlanta Water and Electric Power company, 13 miles from Atlanta, transmission along the feeders being at 25,000 volts, with three-phase current. The line is divided into two sections, the line is served by two substations, these stations being a little more than three miles apart.

Tantalum Penny.
A new penny has recently come upon the market in England, and is of an interesting character. It is made of a metal alloy, and is about the size of a half penny. It is made of a metal alloy, and is about the size of a half penny. It is made of a metal alloy, and is about the size of a half penny.

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HAVE COMMON PLACE TO DIE
Instinct Leads Birds to One Spot When Bands of Life Are Low.

It seems from the accounts given by Darwin and Mr. W. H. Hudson, that all the guanaco of the southern part of Patagonia must resort, when the hour of death approaches, to a certain spot which has become a perfect mausoleum of their bones.

Mr. Hudson notes that it is only the guanaco of the southern extreme of the South American continent that has this habit, a habit restricted to descendants of forefathers who lived in an extremely rigorous climate. Mr. Hudson conjectures that among these forefathers the instinct grew up when the air was cold and cold was very dire, or resorting to this sheltered place in the river bed, where they might find warmth from their closely collected numbers, and possibly food. By a continual survival of those which behaved to this place of refuge, the race has become so fixed upon resorting thither when they felt the idea of life running low, that this instinct is likely to transmit its secrets to the approach of the hour of death.

Now it is no longer just a passing spell of extreme cold that leads them thither. The death call has become permanent, and they must lay their bones in the common mausoleum. It is not "in order to die" that the guanaco seeks this place; it would be nearer the truth if we were to say it was "in order to live."

But the most true account of all is that it is in mere obedience to the instinct which leads the guanaco resorts to this refuge.

Yet another instance of this mysterious guidance is afforded by the habit of the condors in the colder countries to assemble together for hibernation in caves. These snakes, on emerging from the caves, cover the ground with their wanderings, and their young are generally born far away, and yet these young succeed in finding their way to the caves with the greatest certainty.

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