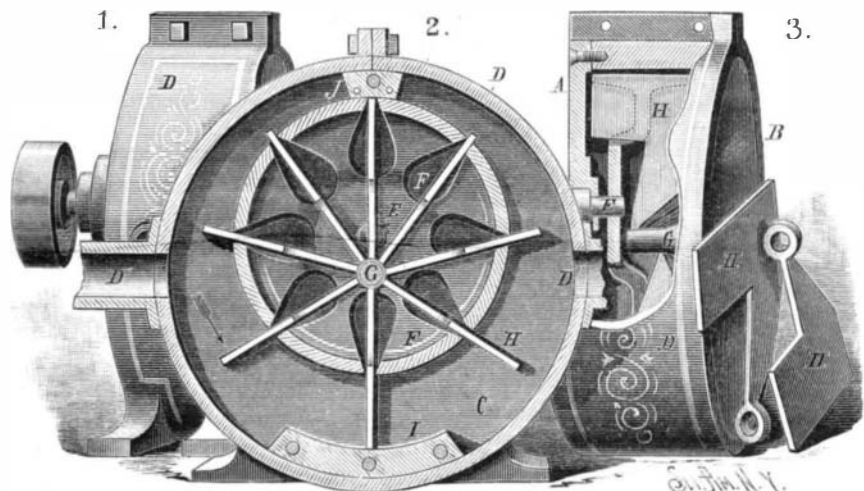


IMPROVED MOTOR.

The motor herewith illustrated can be driven by either water, steam, compressed air, or other fluid. The disks, A B, are encircled by the shell, D, which is provided with an inlet opening, D¹, and outlet opening, D². The shaft, E, is mounted in one of the disks, and is furnished, on its outside, with a pulley; the inner end carries the wheel, F, formed with recesses, F¹, shaped as shown in the sectional elevation, Fig. 2. The rim of this wheel bears against the inner faces of the disks. In the center of the disk, B, is a pin, G, placed eccentrically as compared with the shaft, E, and having a reduced portion forming a bearing for the inner ends of the sliding arms or pistons, H, which are placed with their outer ends in the recesses in the wheel, F.



BURRY'S IMPROVED MOTOR.

The outer ends of the arms are as wide as the rim of the wheel; and as the wheel and arms are eccentric with each other, the outer ends of the arms recede or advance in the recesses when the motor is in motion. The symmetrically shaped crosspieces, I and J, in conjunction with the wheel and sliding arms, divide the space between the disks in two equal parts, one of which is in direct connection with the inlet opening, and the other with the outlet.

The fluid by which the motor is driven enters through the opening, D¹, and presses against that part of the arms projecting beyond the rim of the wheel, causing the arms and wheel to rotate in the direction of the arrow. As soon as one of the arms leaves the rear end of the crosspiece, I, the next following arm will enter on the front end of the crosspiece; the fluid will flow out through the opening, D², and will be prevented from re-entering the first half of the space by the crosspieces. The shaft, E, is rotated, and the power thus obtained can be utilized in any desirable manner by proper connections with the pulley.

This invention has been patented by Mr. John Burry, of Fort Reno, Indian Territory.

THE JARMAN ICE MACHINE.

The accompanying engraving represents the "Jarman" ice and refrigerating apparatus, manufactured by the York Manufacturing Company, of York, Pa. These machines possess many features well deserving attention, and are suitable for any place where artificial ice or artificial low temperature is desired; and they are especially adapted for use in warm climates or on ocean steamers, owing to their simplicity and small consumption of water and fuel. The manufacturers claim that this machine has fewer movable parts than any other machine in the market, thereby rendering it less liable to get out of order. It is also claimed that it only requires from one-eighth to one-tenth the quantity of chemicals to reach the same results ob-

tained by other machines; and consequently, not having the same resistance to overcome, it can be run at a very low rate of speed, which naturally reduces the wear and tear, and causes a great saving in fuel; and by a special system of piping a result nearly double is obtained in comparison with the old system in use in some other ice machines. The builders of the "Jarman" ice machine will furnish all further particulars regarding their apparatus, and may be addressed on all subjects relating to the manufacture of artificial ice.

A Remarkable Stroke of Lightning.

The Granite Falls *Journal*, Minnesota, gives an account by N. O. Carle and Christian Olson, farmers of Granite Falls, of the remarkable results of a stroke of lightning which struck the prairie about a mile and a half from Olson's house. It occurred in June last, during a heavy storm.

They say it made a hole in the ground between five and six feet across, and nearly six feet deep, and from this hole there extend six trenches two feet deep, branching off in different directions, and extending for a distance of from six to eight rods. And what was very singular, not a particle of the sod and dirt thrown from the hole and trenches was to be seen, except now

and then a large piece of sod twenty or thirty rods away. Mr. Olson says that by actual measurement the ditches plowed out by the lightning from where it struck were all of an equal distance apart; four of them were of the same length, and the other two six feet shorter. The report is said to have been as terrible as if an explosion had occurred. A lady sitting at a window in a house a mile away sensibly felt the shock; two men were sitting outside another house a mile away from the scene, and so forcibly did they feel it that they immediately jumped to their feet and went into the house without speaking. Mr. C. A. Bennett, editor of the *Journal*, writes us that he vouches for the truthfulness of the above account.

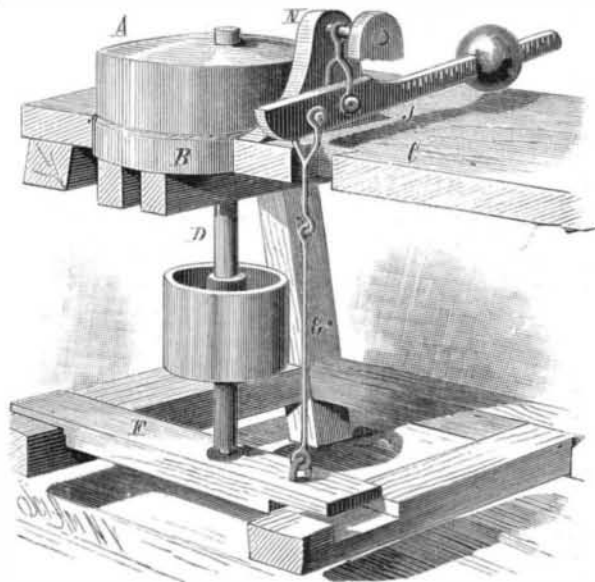
Japanese Patents.

The Japanese Assistant Secretary of State, Koerhiyo Takahaski, a dignitary whose duties are confined chiefly to the Department of Commerce and Agriculture, is now in America, and will visit Washington and the Eastern cities. His mission to this country is to study the American patent system, with a view to improving the administration of that department in his own country. Since the Japanese patent law went into effect, last July, an average of two applications a day have been filed. These have been mainly for patents for agricultural machinery.

IMPROVED GRINDING MILL.

Mr. B. J. Du Bose, of Lisbon (Goshen P. O.), Ga., has patented an improved grinding mill in which the top stone, or runner, is automatically adjusted by a novel arrangement of balances, so as to insure a uniform grinding without the constant attention of the miller.

In the class of mills to which his invention applies, the weight of the runner is upheld by the bridge tree and by the reaction of the grain being ground; but as the expansion and contraction of the runner spindle and other circumstances make the pressure borne by



DU BOSE'S IMPROVED GRINDING MILL.

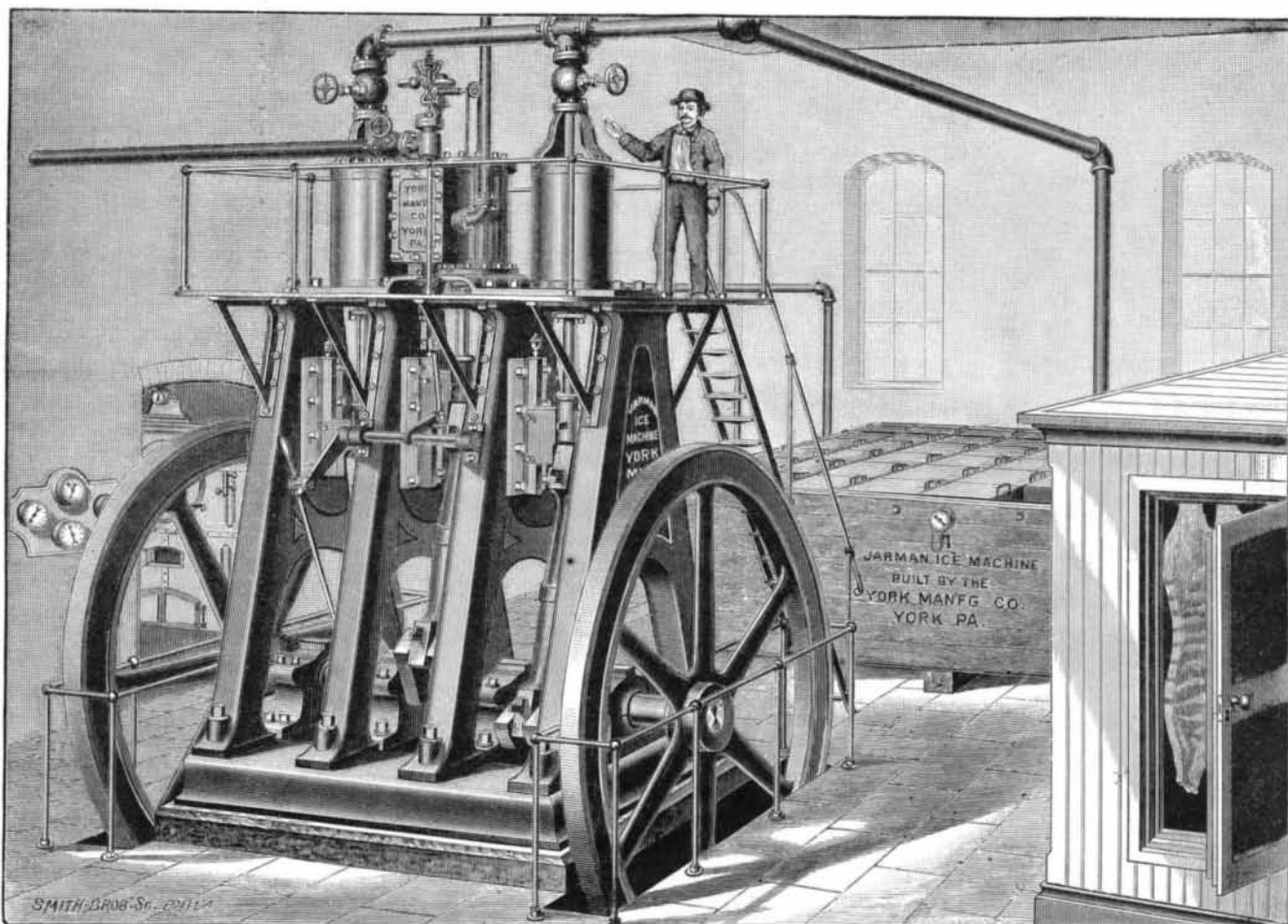
the grain far from constant, the operation of the mill requires careful attention to insure uniformity. In the improved form, the bridge tree, F, supporting the runner spindle, D, is fulcrumed at one end to the mill frame, and has its free end connected by means of the rod, G, and link to the short end of a scale beam or lever, J. A weight or counterpoise is placed on the long arm of the beam, and may be adjusted in different positions.

The distance between the pivotal point of the beam itself and that of the link supporting the bridge tree is such that the movement of the beam between its extreme positions will be comparatively slight. The length of the beam is so determined that the counterpoise, when near the outer end of the long arm, will about balance the weight of the bridge tree and runner stone.

By the arrangement of the beam directly over the free end of the bridge tree, its center of gravity being likewise its center of motion, a delicate balance is established; so that by adjusting the counterpoise nearer or further from the fulcrum of the beam, more or less of the weight of the runner becomes effective in grinding, and this may be determined independently of expansion and contraction of the runner spindle, or other accidental factors. The construction is simple and inexpensive, and allows a greater number of stones to be run with the same attendance.

Removing Silver Stains.

Dr. H. W. Vogel, in the *Photographischer Mittheilungen*, recommends, for removing silver stains from the hands, the same compound that has been used as a reducer, *i. e.*, a mixture of ferricyanide of potassium and hyposulphite of soda. A few crystals of the former substance are dissolved in a solution of hypo, or from 10 to 20 per cent of a 20 per cent solution of the ferricyanide may be added to the hypo solution, and applied to the stains. This substance is not poisonous, and does not destroy the color of articles of clothing.



THE JARMAN ICE AND REFRIGERATING MACHINE.