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Coffee and Milk.

Dr. D. A. Caron, of Paris, has recently been engaged in investigating the effect of breakfasting on this favorite beverage, and from the results, he thinks that he is justified in asserting that most of the nervous and allied disorders which affect the dwellers in large cities are traceable to this source. He further informs us that when the coffee is mixed with milk, its nutritious properties are neutralized because of its fermentation being retarded. Coffee and milk in a bottle were twenty-seven days before they began to decompose, whilst milk and sugar were only three days. It is evident that the astringent properties of the coffee hinder the digestion of the milk; and, at the same time, the caffeine (or active principle of coffee) is set free, and acts on the membrane of the stomach in the same manner as vegetable alkalies, producing most disastrous consequences to the digestive apparatus. He tried many experiments on himself and friends, and found that in a few hours the pulse was lowered from 80 to 68, from that it went down to 56, when he took some food, and it immediately rose to 72. He concludes by informing us that many cases of irritation, nervousness and hysteria have been entirely cured by a gentle course of tonics, and giving up the use of coffee.

Improved Brick Machine.

This machine is intended to make bricks from dry clay by pressure, and the various mechanical contrivances of which it is constructed are designed to feed exactly the proper amount of clay into the mold, and to give it a slow, steady pressure from the top and bottom simultaneously. Various thicknesses of bricks can be made in one machine, and a large one, operated by two horses attached to a twelve foot lever, will make sixty bricks per minute.

Fig. 1 represents a view of the machine, and Fig. 2 a top view of the same with the upper cover or frame removed. The same letters of reference indicate similar parts in each. A is the bed plate, B the standards, and C the top of the machine. D is the gearing which gives motion to the whole. E is a large wheel, in the rim of which are a number of rectangular perforations, e, exactly the size of the brick to be manufactured. J is the central shaft of the machine. Having now given an outline of the principal parts, we will proceed to describe, first, the feeding device, and then the press or brick-making apparatus.

The feeding device consists in the hopper, F, and spout, G, into which the dry clay is placed; from this it falls into rectangular boxes, H, (Fig. 2) having no top or bottom. These have small bars attached to their backs, having on them studs that work in a groove in

the cam wheel or eccentric, I (shown by dotted lines in Fig. 2); this eccentric is fastened to and suspended from the upper frame work, and the boxes moving round it are pushed out over the mold, e, when the two

plungers are farthest apart, and so delivers the clay into the mold, and are brought back when the plungers begin to be compressed on the mold. The brick-making device is very simple and perfect. There are a series of

with the guider, P, and that pushes it in to the platform, Q, from which an assistant takes the bricks to the kiln to be baked. The process is continuous, and a most perfect brick is turned out. Any power can be used, and any number of bricks made in the machine.

It is the invention of Joseph W. Jayne, and was patented by him on the 5th of May, 1857. For further information, address the inventor at Philadelphia, Pa., or Wm. B. Betts, St. Louis, Mo.

Californian Ingenuity.

The Mechanics' Fair which we announced as the first to be held in the Golden State, was a decided success industrially and pecuniarily. The show of articles was in every way creditable, and the receipts amounted to \$19,275 against expenses of about \$11,000. The following is given as a list of California inventions, many of which were the result of much experiment and ingenuity:—

Breech-loading gun; beam engine, driven by weight; bridge models; brick-making do.; coffee-pot; can, non-evaporating; cooperage machinery; elastic hose; fly-killers; fire and steam regulators; gas and gas works; graduating bit; gear-cutting machine; lard lamp; locks; lamp reflectors; mineral oil, from schist; meat chopper; neutralizing valve slide for steam engines; ox shoes, improved; planing machine; quartz crusher, togglejoint; quartz machine; rifles, double-barrel; self-coupling for cars; soap, from soap-root; self-opening and shutting gate; sluice-forks; stoves and piping; safe-locks and alarm safe; sash balance; specie boxes; steam alarm; telegraph, spiritual; vaccinator; wind-mills; washing-fluid; water elevators; yacht rig, improved.

The Breech-Loading Rifles.

The Secretary of War has decided that the report of the Board for the trial of breech-loading rifles at West Point is not conclusive in favor of any one of them as a standard government gun; nevertheless he proposed to give General Burnside a contract for 1,000 of his rifles at the liberal price of \$40 each. This would cover one half of the "Breech-loading Rifle Fund," the remainder to be distributed among the other competitors in the order of merit reported by the Official Board.

General Burnside declines the contract, and the wholsom, between \$70,000 and \$80,000, will now be equitably divided in contracts among those of the competing inventors whose rifles seem best adapted to government service.

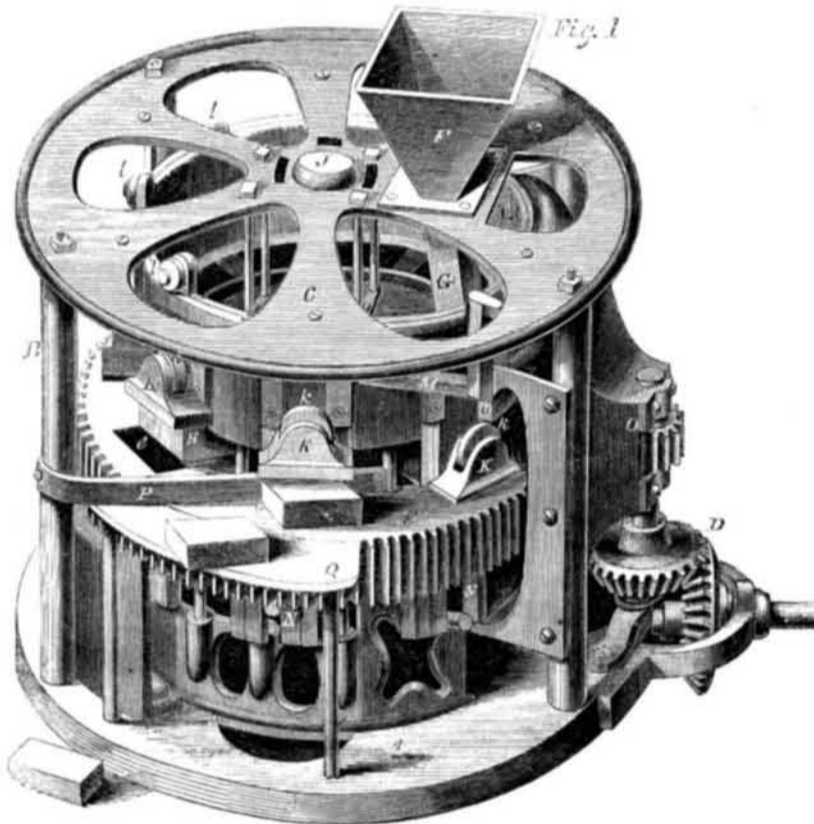
Our readers will find the report referred to in No. 7 of our present volume.

The Minie Rifle Ball.

The weight of the Minie ball is about one and a half ounces, and the weight of powder for the charge about one-tenth as much. The cartridge is so constructed that, encased in paper, and greased by dipping it in tallow, it slips easily into the barrel till it arrives at the charge. In this respect, the Minie has greatly the advantage in saving of time and labor of forcing down the ball with the ramrod. These balls have a range of ten hundred to twelve hundred yards, with an elevated "back sight" perfectly within the command of the marksman, and just as easily used as any short range or point blank shot.

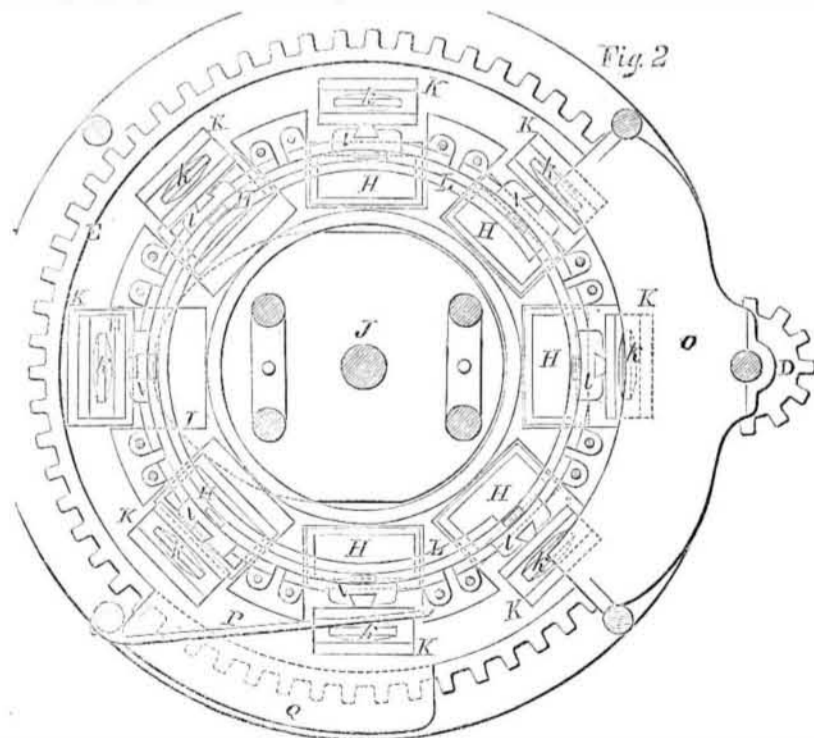
ARTIFICIAL WHALEBONE.—Edwin Young, of Philadelphia, has sent us some excellent specimens of prepared ratan, which seem to possess all the useful properties of the whalebone.

JAYNE'S BRICK MACHINE.



plungers, K, on the top, each provided with a friction roller, k, and are attached to the back to an inner metallic circle, L, by means of a little wheel, l, travel over an inclined track, M. There are also a corresponding number of bottom plungers, N, one for each mold, which

work in slots in the reverse direction to the top plungers, and so arranged that they separate and meet in union. The yolk, O, is a heavy casting, as strong as possible, and having its edges turned in as seen at o, Fig. 1, and these incline towards each other forming



a circular inclined plane on which the bottom plungers, N, and under which, the top plungers, K, have to travel.

The operation is as follows:—The gearing, D, is turned, and the clay filled into the hopper, F, from which it falls into the boxes, H, and from them into the holes or molds, e; they

with their plungers, N and K, pass under the inclined edge of o, and so a gradual but powerful pressure is given them; the pressure is sufficiently slow to allow the air to perfectly escape, and powerful enough to make a perfect brick. The plungers then rise, thus forcing the brick into the rim of E, where it meets