BRICK COMPRESSING MACHINE.

The constantly increasing demand for materials for fireproof construction has recently directed much attention to the manufacture of pressed brick, and there seems to be little doubt that a well made, well burnt brick is the most without the intervention of a special waiter. The Russians guided.

thoroughly indestructible substance known. We extract from our contemporary Iron an illustration of a brick pressing machine recently invented by Mr. Henry Large, of London, Eng. The machine is to be driven by a steam engine or other prime motor in the usual way, by means of a belt and fast and loose pulleys on the shaft of the fiy wheel. The belt is shifted by the fork and key handled sliding lever, as plainly shown, brought to the side of the machine where the attendant stands, so as to be readily accessible. On the shaft of the fiy wheel there is also a small spur wheel, which drives the large one above, fixed on the second motion shaft. On the farther side of the large spur wheel there is a reciprocating cam, which actuates a horizontal bar by means of a stud pin. This horizontal bar is a bent lever, having on the end opposite the stud pin peculiar mechanism for working the compressing piston, the head of which is seen below the end cover. The large spur wheel carries on its front a friction cam roller on a stud axle, which actuates one of the arms of a double bent axial lever, the other arm being furnished at its lower extremity with a long friction roller for pressing forward the molds across the table under the compressing piston. On the right hand side is seen a second piston, for emptying the molds, by pressing the bricks down through a suitable aperture in the table, one at each stroke, on to a platen table,

raised by a weighted lever. The counter balance is not suf- tables. ficient for the weight of a brick, so that the brick presses the piston down; and when it is removed by the attendant, the weighted lever again elevates the platen table to receive another brick. As the bent arm on the left hand side pushes the newly filled mold forward under the compressing piston, it at the same time pushes forward the mold with the newly | rior to that done by the hoe in the first working of cotton.

the mold occupying that stage under the emptying piston) and the empty mold a stage forward; while a fourth piston, working horizontally, and actuated by a cam on the side of the large spur wheel, pushes the empty mold forward to be refilled.

In this way the machine works continuously, turning out from 5,000 to 6,000 concrete bricks daily, which are ready in three or four days for the builder, and fit for use; while the fire bricks and common clay bricks made thereby are turned out in a drier state than by. the ordinary processes, and hence are sooner ready for the kiln, and at less expense.

These machines can be made for compressing two or more bricks at one and the same time by means of a corresponding number of compressing and emptying pistons.

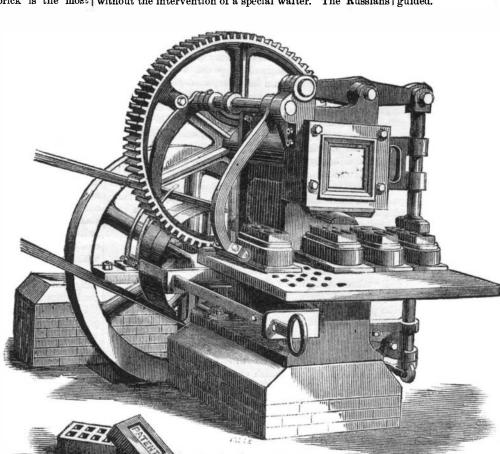
The machine does not require skilled labor to work it. It can be driven by a common farm engine, water wheel, or horse power, so that laborers experienced in such are qualified to control the whole. When burnt ballast and sand are at command, bricks can be made on the spot where the buildings are to be erected, and used, on an average, three or

tanks, liquid manure tanks, and all buildings under water, of cotton are thus left in a diamond shape, about twelve concrete bricks are much superior to common ones. They can be made of any color, for ornamental work, more successfully than can common bricks, and they can be made of any shape, and perfect in form, for plain, arched, groined, and cornice work. Such machines, therefore, are admirably adapted for use on landed estates for building purposes, as well as for general builders and contractors.

Dining Table of the Emperor of Russia.

One of our correspondents now travelling in Russia sends us a description of the novel dining table of the Emperor, now in use in one of the Peterhoff palaces, near St. Petersburgh. The table is circular and is placed on a weighted platform. At the touch of a signal like the rub of Aladdin's lamp, down goes the table through the floor, and a new table, loaded with fresh dishes and supplies, rises in its place. But this is not all; each plate stands on a weighted disk, the table cloth being cut with circular openings, one for each plate. If a guest desires a change of plate, he touches a signal at his side, when, presto, his plate disappears and another rises. These mechanical dining tables render the presence of servants quite superfluous. In this country, at the Oneida community, they employ dining tables having the

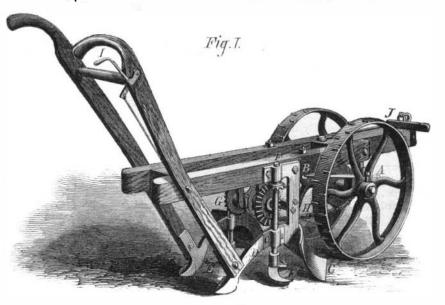
and coffee, castors, pitchers and other necessary articles of creased to fifteen inches. After chopping, the machine may sitter brings before him whatever article may be desired its parts, simple, strong and durable, of light draft and easily



BRICK COMPRESSING MACHINE

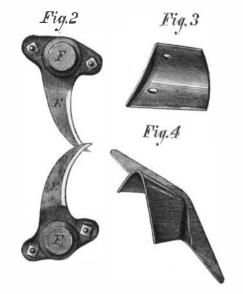
THE DIAMOND COTTON CHOPPER AND CULTIVATOR.

The invention herewith illustrated, and the distinguishing title of which forms the heading of the present article, is a labor-saving implement, claimed to produce work supepressed brick a stage towards the emptying piston (displacing | With one man and a horse, we are informed, it chops out



COTTON CHOPPER AND CULTIVATOR.

four days after they are made; at the same time, the older | cotton at regular intervals, scrapes and bars it on both sides, | they are the stronger, and they can be made at all seasons and effectually weeds it, at the same time throwing the soil of the year, as they require no drying or burning. For water loosely around the young plant for its protection. The hills



central part made to revolve. Here the goblets, spoons, tea inches apart, a distance which may, by suitable means, be intable furniture are placed; revolving the center piece, the be used as a cultivator. It is stated to be adjustable, in all

> Fig. 1 is a perspective view. A is a U shaped bar hinged to the under side of the frame at B. and has on its lower side bearings in which the axle of the wheels turns. A screw bolt connects the forward end of the bar, A, with the front prolongation of the frame, and serves to adjust it at various elevations, in order to regulate the depth of the cultivator plows. The latter are represented at C, and are bolted to a projecting plate of a standard made in the same piece with the curved and concaved chopper bar, D. The plows in Fig. 1 are used at the first working of the cotton crop, and Fig. 3 shows the instrument substituted therefor in the second working. Fig. 4 is a double sweep plow, used in the last operation of "laying by" the crop. It is run on each side and then through the middle of all the spaces between the rows, so as to pulverize all the soil, and to more or less hill up the plants. The last mentioned plows are attached to the standard by bolts, similarly to those first described.

At E are horizontal chopping knives attached at intervals around a cutter stock, which is adjustable by means of a sleeve on the vertical shaft, F. By the bevel gear, G, the latter engages with a horizontal shaft. This arrangement is duplicated on the opposite side of the apparatus. On the shaft is a loose pulley, having a notched side fiange

which forms the head of another piston seen below, which is are evidently in advance of the Yankees in respect to dining and a fast disk. The latter has a spring-pressed lever pawl on its side, and a notch on its periphery. By means of a pulley on the axle a drive chain, H, is operated. As the cultivator moves forward, the notch of the pulley catches against the down pressed end of the pawl, which is actuated by a lever connecting with the handle, I. The fast disk is thus carried around, and with it the horizontal shaft, so that the choppers are rotated. By pulling the handle, I, the front end of the pawl is lifted out of and above the notch of the pul-

ley, so that the latter revolves loosely on the shaft, thus causing the choppers to be inoperative. The horizontal knives, E, being moved forward at the same time they are rotated, pass through the ground, cutting up the plants and weeding off the grass about a quarter of an inch below the level, leaving hills of plants at regular intervals. The knives may be adjusted so as to cut the spaces shorter or longer by leaving out as many blades as necessary for the purpose. For example, if it be desired to leave a large quantity of cotton on each hill all the blades but one on each sleeve should be removed, as in Fig. 2. To lessen the amount, another knife on each cutter stock is added, so that, by suitable adjustment, the space cut and quantity left for any distance not over 13 inches may be provided for. Above the latter figures, say for 15 or 18 inches, a larger pulley on the shafts and three blades may be required. Where no thinning may be needed, the end of the lever connected with the handle, I, extends over the disk so as to lock the choppers in proper position and leave the plants standing.

The clevis rod, J, is adjustable, so that the horse may walk on one side of the plants without injuring them, while the machine runs immediately over

The device was patented through the Scientific American Patent Agency, July 8, 1873, to J. B. Underwood, but for a year past it has been the subject of careful trials, with, we are informed, complete success. A number of testimonials from farmers in the south bear witness to its efficiency and economy as a labor-saving machine, The patent is owned by the Diamond Cotton Chopper Company, to the Secretary of which, Mr. John W. Hinsdale, No. 2 Hay street, Fayetteville, N. C., letters for further information may be addressed.

the row.

To Our Subscribers,

Any of our readers who do not bind their volumes, and have copies of Nos. 4 and 6 of the current volume (July 26 and August 9), will much oblige us by forwarding such numbers to this office.

---MINING PICKS.—A number of patents have been secured to present the miner with a pick with shifting points, says the Mining Journal, all of more or less merit, but none have come into any extended use; but if such a tool could be manufactured to meet the requirements of the miner for working hard ground, no doubt it would be a saving of time, material, and muscle, as the miner could take equivalent to a dozen picks in his pocket, each point not weighing over six ounces, which, being made of the best cast steel, would do good service.