

## New Inventions.

## Patent for Hardening Oil for Making Candles.

This patent was granted to Carl Wilhelm Schindler, of New York City, on the 5th Nov., 1850.

**SPECIFICATION.**—The nature of my invention consists in imparting to every kind of fat and oil, without separating the stearine from the oleine, such a degree of hardness that it can withstand a heat of at least 135° Fahr., without melting, even in water heated to that degree; I obtain this in the following manner:—

I take one hundred pounds of fat or oil, melt and heat it to 210°, Fahr., when it is heated to this temperature, I add at least (in hardening oil more, according to the quality of the oil,) 10 pounds of vegetable wax, (cera japonica,) and 1 pound of gum elemi, cut in small pieces, and keep it some 15 to 18 minutes over the fire at a heat of 210 to 220°, constantly stirring it until the whole is entirely dissolved and mingled together; let it cool down to about 178°, when it is fit to be poured, moulded, or cast in any form or pattern requisite, from which it is to be taken away, after 10 or 20 minutes, according to the warmth of the temperature; and after having entirely cooled, acquires the degree of hardness above mentioned.

As the advantages of my invention will be most obvious in the manufacture of candles, I will show some of them with reference to such manufacture:—First, any kind and any quality of oil—for instance, tallow, lard, whale oil, cocoa nut oil, palm oil, rape seed oil, speil butter, &c., can undergo the process of hardening invented by me, so that in any country, the cheapest of these substances may be used for that purpose.

Second, The degree of heat to which fatty or oily substance, prepared from my invention, can be exposed, as above stated, is such that the product of my invention will suffer no change when fabricated in, transported to, or used in southern climates, and even in the hottest summers.

Fat, so often thrown away in our southern States in summer time, spoiled butter, rancid oil, can be prepared, according to my invention, at any place in the South, and thereby substances can be made fit for use which otherwise would prove entirely useless.

Third, Candles made after the principle of my invention will burn brighter and better, and will not run; and, besides all these advantages, they will be comparatively cheap. One hundred pounds of common tallow candles, made after the most improved manner in our factories, will cost \$8; as 100 pounds of tallow, at 7½ cents per pound, costs \$7,50, and the manufacture costs 50 cents. The cost of 110 pounds of candles, made after my improved invention, is the following:—100 pounds of tallow, \$7,50; 10 pounds of cera japonica, \$1; 1 pound gum elemi, 10 cents; manufacturing, 50 cents—total \$9,10. The cost of one pound of these is, therefore, 8 3-10ths cents, while that of common tallow candles is 8 cents, and the former are worth at least four to five cents per pound more than the latter. In case a poorer quality of fat or oil is used, the cost of the production of candles is still lessened—five cents would be the highest price to be given for a pound of such substances; the highest cost of 110 pounds of candles, made out of these, would, therefore, be \$6,60, or six cents a pound, for which a good looking candle may be made, which burns well in any, even the hottest climate, and which is at least two cents per pound cheaper than the commonest of tallow candles.

## New Barrel-Making Machinery.

We shall publish engravings, next week, of Mr. Hutchinson's improved Barrel-Making Machinery, which has been justly allowed to be one of the best improvements made in 1850.

## Improved Gate.

Mr. A. Hotchkiss, of Schenectady, N. Y., has invented and taken measures to secure a very useful improvement on Gates: the gate opens both ways to the same advantage.

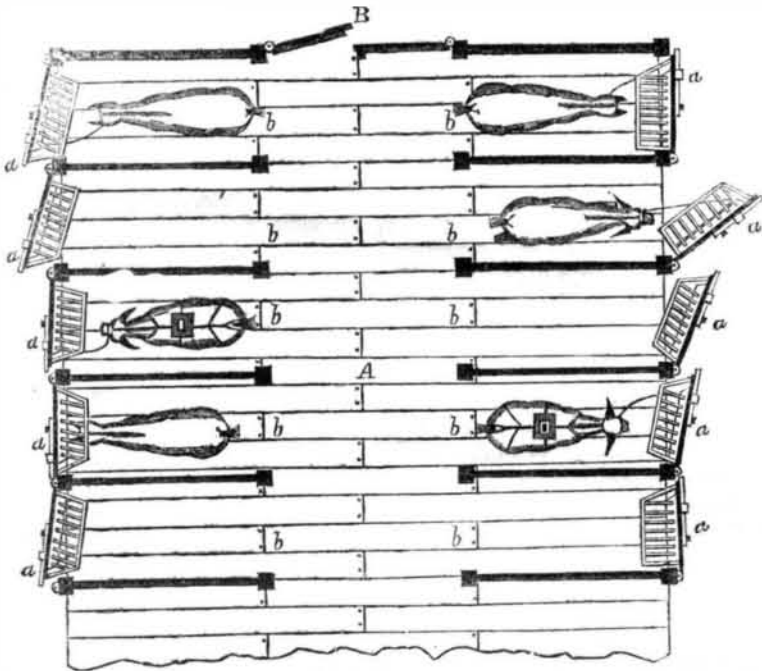
## Improved Cultivator.

Mr. Anderson Teal, of Genesee, Livingston Co., has invented and taken measures to secure a patent for an improved Cultivator, which will, no doubt, soon come into general use. It has wheels upon it, which are so arranged that the axle is attached to an eccentric, inside of the axle bearings, that, by a lever, the wheels, by simply turning over the

said lever, can be lifted off or placed on the ground, with the utmost ease. A boy can thus convert it from acting on the ground, to roll along on its wheels—a very useful improvement.

The frame is made of cast iron, the ribs of which are made hollow, and with outside projections, so as to combine strength, durability, and lightness together.

## IMPROVEMENT IN THE CONSTRUCTION OF STABLES.



The following is a plan view of an improvement in the construction of stables, and we leave the inventor to describe the same, as we cannot make any alteration without making it the worse for the interference.

DONALDSONVILLE, La., Nov. 30, 1850.

MESSRS. EDITORS—I herewith inclose you a sketch intended as an improvement in the construction of stables, built of wood.

Fires are of common occurrence in Louisiana, and more frequently, on plantations, originate in stables; these accidents are attributable, in many cases, to spontaneous combustion of the forage by fermentation; but whatever may be the causes, the effects are equally deplorable, for in almost every instance most of the animals are lost. Mr. Henry McCall, one of the planters of this parish, lost, by the burning of his stable, 63 mules out of 66, and Mr. Bringier, also of this parish, not 3 months ago, lost, by a similar accident, upwards of 80 mules and horses.

The frequency of these accidents has suggested to me the idea of the inclosed plan, which I transmit to you, knowing that if you judge it worthy of publication, you will not deprive the planters of any information that may benefit them. Many persons here have favorably considered this plan, and are adopting it.

The sketch represents a portion of the stable; A is a large passage through the middle of it, having a large door at both ends, as shown by B, for the common service; a a a are small doors in front of each stall, b, opening outwards, and bearing the rack and trough, to which is tied the halter of the animal. In case of fire, by opening the little doors, a, the animal being gently pulled by the halter, will follow the trough, to which the halter is fastened, without any difficulty, and be led out of the burning stable, no matter how wild he may be. Very respectfully,

LEON J. FREMAUX.

## IMPROVEMENT IN THE MANUFACTURE OF SUGAR.

Figure 1.

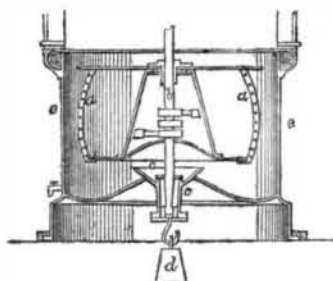


Figure 2.

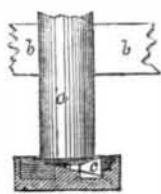
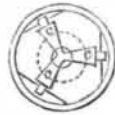


Figure 3.



Knowing how great and important the sugar interests of our country are, we like to present as much new information upon the subject as we possibly can. The accompanying engravings represent improvements described in the specification of the inventor, Mr. Thomas Dickason, of Ayrshire, Scotland, who enrolled his specification in the London Patent Office, in the month of last September, and which was published in the November number of our most excellent cotemporary, Newton's "London Journal and Repertory of Arts," &c. The first part of the invention relates to improvements in the centrifugal machines now used in refining sugar, and is designed to counteract the tendency of the drum to oscillate when in motion, an evil to which they are subject, and which prevents large machines from being used.

For this purpose, the lower end of the drum-

shaft is made to work in an adjustable socket, from which a heavy weight is suspended. Fig. 1, exhibits a vertical section of the apparatus. a is a drum; b is its shaft; c is the socket that receives the lower end of the shaft; and d is the weight suspended therefrom. e is the case, wherein the drum revolves, in the bottom of which a circular hole is formed, to receive the socket, c; and this socket is made with a bell-mouthed or hemispherical top or flange, which serves to support the socket in such manner that it can adjust according to the motion of the shaft; in order to prevent oscillation.

The second improvement consists in effectually preventing the oscillation of the drum-shaft of such centrifugal machines, by causing the lower part of such shaft to work in fixed bearings, and the bottom thereof to bear upon several conical friction-rollers, as shown at

figs. 2 and 3,—fig. 2 being a vertical section of the bearings, and fig. 3 a plan view of the set of friction-rollers. a is the shaft; b the bearing; and c c are the conical friction-rollers.

The object of the third part of this invention is to render the employment of the centrifugal machines more advantageous than heretofore, in separating crystals of sugar from molasses and other liquid impurities, by making the crystals, which are to be subjected to the action of the machine, of a larger size than usual. This is effected by running the syrup direct from the vacuum-pan into large shallow coolers, each capable of containing from two thousand to three thousand quarts;—the temperature being from 120° to 128° Fahr., and the density from 30° to 35° Beaume.

Another part of the invention relates to decolorizing sugar in moulds, by the employment of a cloth laid upon the large end of the sugar loaf, upon the top of which, again, there is laid a piece of sponge, about two inches thick. The sugar loaf is laid with its narrow end downwards, and the sponge is supplied, from time to time, with filtered water from a watering pot, for two days. The water oozes gradually through the sugar, and completely decolorizes the sugar. Before the water is applied, however, the sugar must have been, what is termed among refiners, "twice liquored." The solution for this purpose is composed of syrup and water, in the proportion of two quarts of syrup, of the density of 34° Beaume, and one quart of water, for every 20 lbs. of sugar to be operated on.

The centrifugal machine may be very usefully and successfully applied to the drying of salt. Salt may also be purified like sugar, by moistening the salt with water, placing it in the drum and setting it in motion.

## Head Rest for Railroad Car Seats.

Mr. Alonzo Isbell, of Norwalk, Conn., has invented and taken measures to secure a patent for a new improvement on car seats, which will be very useful and convenient to all who use it. The improvement consists in a moveable pad for the head to rest upon, which is made to be carried by any person, and can be attached to the back of any railroad car seat, &c., and raised or lowered to the proper height for the head, either to recline for ease or to take a comfortable nap when travelling, or otherwise. The rest is a pad, which slides in a sheath (folded up) and having a ratchet cut on its rod, is held by a spring at any desirable height. It can also be permanently attached, but its convenient qualities lie in being portable, whereby it clasps on to the back of any car seat, for the benefit of all whom it may concern.

## Barnum's Planing Machine.

On our advertising page there is offered for sale the Patent Planing Machine of Mr. Daniel Barnum, of Philadelphia. We request the especial attention of all those who are engaged in the business of planing lumber, to that advertisement. An engraving of this machine was published in No. 18, Vol. 4, Scientific American. It was patented after that, and has been the subject of litigation in Philadelphia; Judge Kane granted an injunction, and it was raised afterwards and brought to a jury trial, when it was left undecided—eleven of the jury being in favor of this machine, as being no infringement of Woodworth's, and one against. We have never seen it in operation, but disinterested persons who have seen it, have spoken to us of its good qualities, stating that "it produced the best work of any machine they ever saw in operation."

## Keep the Feet Dry.

At this season of the year much seed of consumption is no doubt sown, by individuals not using proper precaution in protecting their feet from the cold and damp ground, which is so universally saturated with water by autumnal rains. To those who regard their health and lives as paramount to any thing else, which all should do, we would say, read the advertisement of Mr. Townsley, in another column, headed "Water-proof Blacking." We have used the article made and sold by Mr. T., and we have found it to possess all the qualities recommended by him in his advertisement.