

**A NEW POTATO DIGGER.**

We illustrate herewith a novel potato digger recently patented by Mr. H. Strait, of No. 18 Sixth St., Troy, N. Y. Its new features will be readily seen by reference to the engraving. The plow, A, which runs under the potato hills, has a vertical standard that runs upward through a guide in the frame, and is connected by links with the lever, B, which is fulcrumed on the tongue. The free end of this lever passes through a slide that carries a spring latch, and is movable on a vertical standard, C, that is supported by the machine frame. Behind the plow, A, there is a toothed cylinder, D, that is journaled in two arms, E, pivoted to opposite sides of the frame. The cylinder, D, as well as its teeth, are of hard wood. The ends of the cylinder shaft carry pinions that are engaged by internally toothed flanges on the inner faces of the drive wheels. The upper ends of the arms, E, are pivoted to a fork having two mortises, either of which may be placed over the standard, G. By means of this fork the pinions of the tooth cylinder are thrown into and out of gear. Behind the toothed cylinder there is a series of curved tines, H, which alternate in position with the teeth of the cylinder, D.

As the machine is drawn forward the earth is loosened by the plow, and the potatoes are separated from it by the revolving toothed cylinder. The tines, H, prevent the vines from winding on the cylinder, and also prevent the potatoes from being thrown upward by the teeth. It is claimed by the inventor that the machine is very effective in its operation.

For further information address the inventor as above.

**THE MANUFACTURE OF LARD.**

American refined lard, as an article of export, will overreach the round sum of \$30,000,000 per annum, ranking the sixth in value out of \$600,000,000 of American exports. It is exceeded only by cotton, breadstuffs, petroleum, tobacco, and bacon.

The American lard of the brand of "W. J. Wilcox & Co.," made in New York city, has received the gold medal at the Paris Exhibition for its excellence, being the only gold medal awarded for lard. It was given for uniformity of color and body, sweetness, and superiority of preparation for exportation. The annexed engraving represents the lard exhibit of W. J. Wilcox & Co. at the Paris Exhibition.

At the Centennial Exhibition the company received the highest award and prize medals for the purity of their various productions.

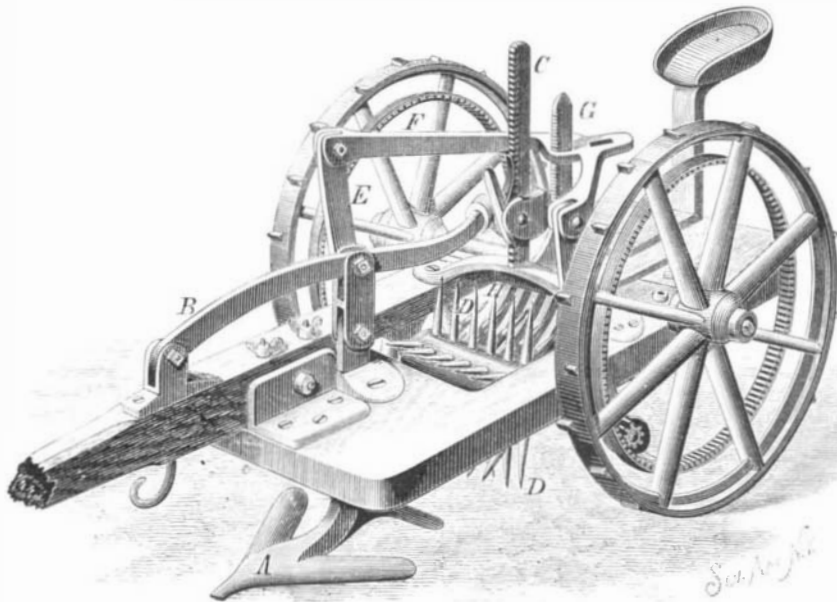
It is said that the Wilcox lard forms about one half of the entire shipment of that commodity from New York; and of the nearly one and a half million tierces annually exported from the United States, two thirds of the total amount go from the metropolis. This immense foreign demand gradually increases every year, and the domestic consumption constantly grows larger.

Though still doing business under the original firm name of W. J. Wilcox & Co., the concern has, for several years, been an incorporated company, with the following officers: Mr. William A. Cole, President; Mr. Samuel E. Hiscox, Vice-President; Mr. E. T. Bell, Treasurer. The entire stock is owned by these gentlemen, who are virtually in copartnership.

The refinery of this concern is very extensive, covering a large area of the block bounded by Greenwich, Washington, and Vestry streets. There are also extensive premises in West Twelfth street. Altogether there are about three hundred workmen employed. The works are completely provided with the most approved modern machinery, of which the company are the inventors and owners.

The crude material, which is constantly arriving, is most rigidly inspected, and any portion of it that fails to meet the required standard of taste, color, and consistency, is promptly condemned and removed. The approved stock is then emptied into enormous kettles, some of which have a capacity of 75,000 lbs. The kettles being filled, sufficient heat is applied until the mass is thoroughly cooked, after which

it is transferred to coolers. At this stage of the process certain methods peculiar to the Wilcox Company are applied, which render the lard white, sweet, pure, and uniform in texture and quality. The next process is to run it through the pipes into huge tanks placed in the sub-cellars. Thence it is drawn off in vessels varying from a 1 lb. tin can to a 320 lb. wooden tierce. All these packages, when filled, are carefully cleaned from all outside drip; they are then weighed

**STRAIT'S POTATO DIGGER.**

and branded—the smaller sizes being packed in cases. It is stated that there is not a country in the world to which the refined lard of Wilcox & Co. does not go; there is not a commercial city in continental Europe in which its price is not specifically quoted each day, to the exclusion of all other productions; and the manufacturers assert there is not an instance known of a shipment having been defective in quality, short in weight, or in any degree of perfection below the standard.

The offices of the concern are located at 41 Broad street, New York city, and are in telegraphic communication with the works. A wire connecting with the Western Union Telegraph Company's main office delivers domestic telegraph advices, and cable news from all parts of Europe.

**Superb Photographs.**

We are indebted to F. Gutekunst, the well known photographer in Philadelphia, for copies of excellent photographs

**Preservation of Butter.**

The Italian Minister of Agriculture, Industry, and Commerce has addressed a communication to the Chamber of Commerce of Milan relative to the renewed experiments in salting butter with borax which have been carried out at the Agricultural Station at Florence. From the account which appears in our contemporary, the *Giornale di Agricoltura*, borax would appear, says the *London Grocer*, to have a most marvelous effect in insuring its absolute preservation. Samples of fresh butter made at the Florence station, and purposely not carefully freed of their buttermilk, were found, on the addition of about 8 per cent. of borax, to maintain their natural fine flavor without the least change whatever for upwards of three months. To attain this satisfactory result it is necessary that the borax should be perfectly dry and in very fine powder, and care must be taken to insure its thorough mixture with the whole mass of the butter operated on. Among the further advantages of this plan, it is noted that borax imparts no flavor of any kind to the butter, while it is entirely harmless in its nature, and also reasonably cheap. Still later experiments have shown that a very much smaller proportion of borax suffices to produce the desired effect, and, also, that simple solutions of the salt act quite as well as the dried powder.

[We cannot recommend our agriculturists to enter largely into the substitution of borax for salt in butter for house use, but it may be well for some to try the experiment on a small scale.]

The consumers on the Continent are averse to salted butter, and likely they may prefer borax as a preservative, while our people will adhere to their salt.—ED.]

**To Render Wood Incombustible and Impermeable.**

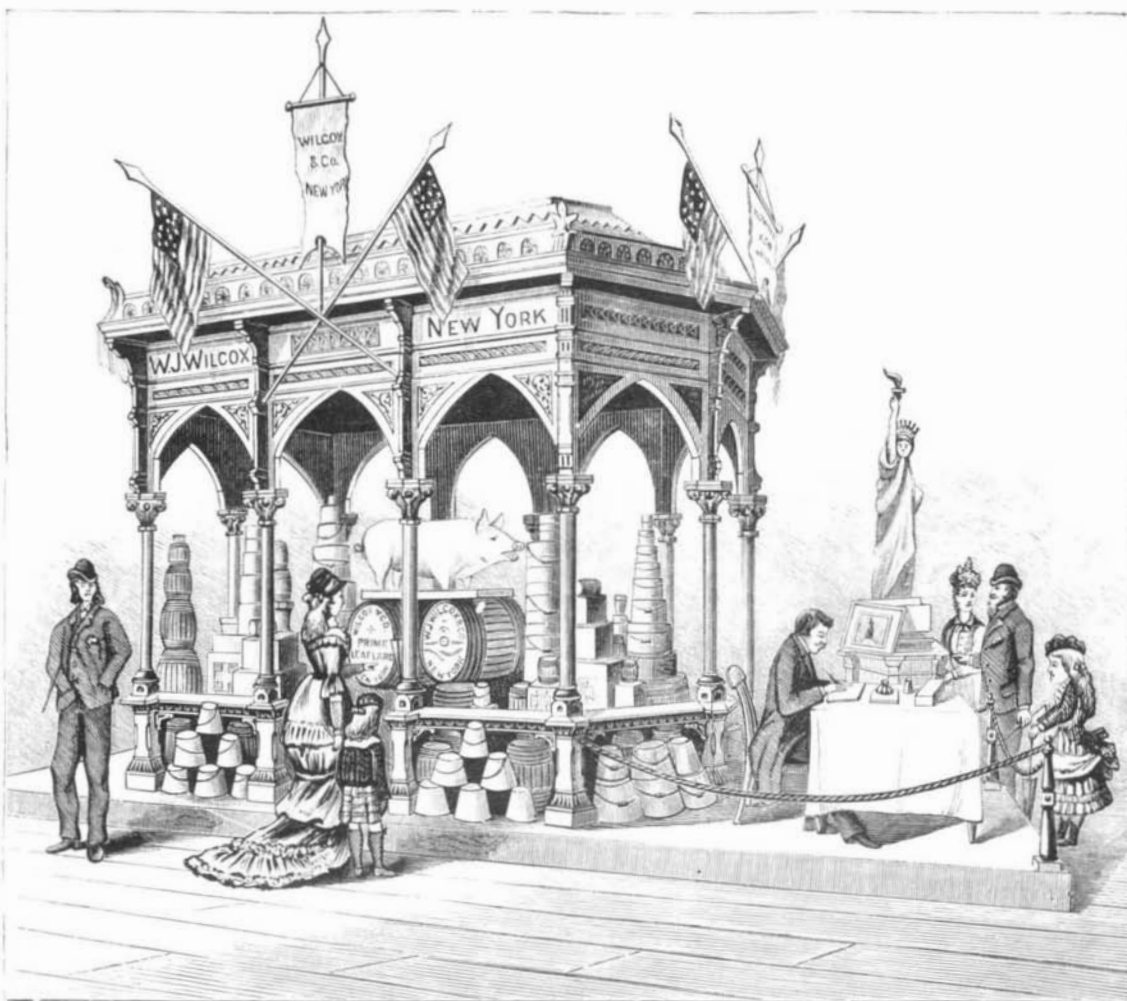
According to the *Timber Trade Journal*, M. M. P. Folbacci claims to give these properties to wood by means of the process described below. It thus becomes petrified, so to speak, without, however, undergoing any change of appearance. On being subjected to intense heat it becomes charred on the surface, but very slowly and without any flame, and it is only necessary to scratch the surface to find the substance of the wood intact. Hence in case of fire, the firemen would have no occasion to fear that the materials on which they tread would give way beneath them, if this operation has

been undergone by the wood composing staircases, floors, etc. The following chemical compound is said to produce the result: Sulphate of zinc, 55 pounds; American potash, 22 pounds; American alum, 44 pounds; oxide of manganese, 22 pounds; sulphuric acid of 60°, 22 pounds; water, 55 pounds. All of the solids are to be poured into an iron boiler containing the water at a temperature of 45° C., or 113° F. As soon as the substances are dissolved the sulphuric acid is to be poured in little by little, until all the substances are completely saturated. For the preparation of the wood it should be placed in a suitable apparatus, and arranged in various sizes (according to the purposes for which it is intended) on iron gratings, care being taken that there is a space of about half an inch between every two pieces of wood. The chemical compound is then pumped into the apparatus, and as soon as the vacant spaces are filled up it is boiled for three hours. The wood is then taken out and laid on a wooden grating in the open air, to be rendered solid, after which it is fit for uses of all kinds, as ship building, house building, railway carriages and trucks, fence posts, wood paving, in short, for any

kind of work where there is any liability to destruction by fire.

**Mining Notes.**

As mining investments continue to attract increasing attention in the East, New York is becoming the great mining exchange of the country, where the idle capital of the East, seeking investment, and the mineral riches of the West and South seeking development, meet to build up enterprises that

**W. J. WILCOX & COMPANY'S EXHIBIT AT THE PARIS EXHIBITION.**

of the late Bayard Taylor and Morton McMichael. The former was the American Minister to Berlin, and the latter, the proprietor and editor of the *North American Newspaper*.

THE shipment of American oysters to England is now carried on to the extent of from 1,200 to 1,500 barrels a day. On December 7 nearly 2,600 barrels were shipped for the Christmas trade.