

(1855), was only \$4,374; last year it had increased to \$24,660. The aggregate value of articles that passed through the canal in 1860 was \$12,158,856 94.

Salt Trade of the United States for the year 1860.

The quantity of salt manufactured in the United States during the year 1860, varies considerably from the quantity made the previous year (14,000,000 bus.), amounting to about three-quarters of a million bushels deficiency. The State of New York produced, in the Onondaga Valley, 1,300,825 bushels of salt less in the year 1860 than was produced in the same district during the year 1859, and the production of 1859 was 138,947 bushels less than the production of salt in 1858; while, during the same time, the States of Michigan, California and Texas have considerably increased their production of salt during the same periods.

Estimated quantity of Salt manufactured in the United States in the year 1860.

Massachusetts.....	325,000 bus.
New York.....	5,593,447 "
Pennsylvania.....	950,000 "
Virginia.....	3,650,000 "
Kentucky.....	290,000 "
Ohio.....	2,050,000 "
Illinois.....	60,000 "
Michigan.....	40,000 "
Texas.....	50,000 "
Florida.....	70,000 "
California.....	250,000 "
Utah.....	60,000 "

13,888,447 "

* The whole amount of salt inspected on the Onondaga Salt Springs Reservation, in the State of New York, during the year 1860, was 5,593,447 bushels, being equal to 1,118,650 barrels of 280 lbs. each. Of this quantity, 1,462,565 bushels have been the product of the Solar Salt Vats, and 4,130,882 bushels, usually termed fine salt, has been made in kettles by boiling.

An experiment has been made the past summer for producing a superior quality of fine salt for table use, and also for dairy purposes, particularly butter-making, adopted partly from the English method, which has proved very successful, and promises beneficial results. This salt is brought to a finer crystallization and a more thorough separation from the impurities of the brine in the kettles than by the common mode, and is afterwards dried by artificial heat, and passed through rollers and sieves to bring it to a state of complete pulverization. It is subsequently "medicated," by a patented application, recently discovered, which finishes the process. Salt produced by this method has a clear, dazzling white appearance, is always pulverulent, and retains scarce a trace of impurity. This description of salt, which has received the denomination of "Factory-filled," is admirably adapted to the curing of butter, and will doubtless prove, upon trial, to be equal to the best brands of English salt, of which a very large proportion is sold in this country.

The legislature of the State of Michigan, in 1859, by law declared that there should be paid a bounty of ten cents per bushel on salt manufactured from water obtained by boring in the State; consequently, eight wells have been sunk upon the Saginaw and five at Grand Rapids; and a quality of water has been found which, for strength and purity, is unsurpassed in the United States, and from which very rapid progress is now making in the manufacture of salt.

Total Exports of Salt from the United States during the year 1860.—Bushels, 475,445.—Value, \$129,717.

Composition of Friction Matches.

The exact ingredients, and their proportions, in the phosphorus composition, differ in different countries, but they all consist essentially of emulsions or mixtures of phosphorus in a solution of glue or gum arabic. In England the composition contains a considerable quantity of chlorate of potash, which imparts a snapping quality and noisy projecting flames, and but little phosphorus, on account of the moisture of the climate; other substances are also added to give hardness and power of resisting moisture. The following is about the composition of the best quality:—

Water.....	4 parts by weight.
Glue.....	2 " "
Phosphorus.....	1½ to 2 " "
Chlorate of potash.....	4 to 5 " "
Powdered glass.....	3 to 4 " "

In Germany the proportion of phosphorus used is much larger, and gum is used instead of glue, together with nitrate or peroxyd of lead, and no chlorate of potash. In consequence of the presence of so much phosphorus and the absence of chlorate of potash, the German matches light quietly, with a mild, lambent flame, and are injured quickly in a damp place by the oxydation of the phosphorus and the production of phosphoric acid, which attracts moisture. One of their mixtures, given by Bottger, is composed as follows:

Phosphorus.....	4 parts by weight.
Nitrate of potash.....	10 " "
Fine glue.....	6 " "
Red ochre.....	5 " "
Smalt.....	2 " "

TO INVENTORS AND PATENTEES IN CANADA.

Inventors and Patentees are requested to transmit to the Secretary of the Board short descriptive accounts of their respective inventions, with illustrative wood cuts, for insertion in this Journal. It is essential that the description should be concise and exact. Attention is invited to the continually increasing value which a descriptive public record of all Canadian inventions can scarcely fail to secure: but it must also be borne in mind, that the Editor will exercise his judgment in curtailing descriptions, if too long or not strictly appropriate; and such notices only will be inserted as are likely to be of value to the public

TO CORRESPONDENTS.

Correspondents sending communications for insertion are particularly requested to write on one side only of half sheets or slips of paper. All communications relating to industry and Manufactures will receive careful attention and reply, and it is confidently hoped that this department will become one of the most valuable in the Journal.

TO MANUFACTURES & MECHANICS IN CANADA.

Statistics, hints, facts, and even theories are respectfully solicited. Manufacturers and Mechanics can afford useful coöperation by transmitting descriptive accounts of Local Industry, and suggestions as to the introduction of new branches, or the improvement and extension of old, in the localities where they reside.

TO PUBLISHERS AND AUTHORS.

Short reviews and notices of books suitable to Mechanics' institutes will always have a place in the Journal, and the attention of publishers and authors is called to the excellent advertising medium it presents for works suitable to Public Libraries. A copy of a work it is desired should be noticed can be sent to the Secretary of the Board.