

SCIENTIFIC MUSEUM.

A Simple Barometer and Storm Pointer.

MESSRS. EDITORS.—Your notice in a late number of the "Scientific American," of the Typhoductor or Storm Pointer, exhibited by Colonel Lloyd, called to my remembrance a simple contrivance, which, though not by any means new, may be so to many of your readers, and as the experiment involved is a simple one, and easily made, it may be practically tested by all who have any doubt as to the truth of it.

"Put two drachms of pure nitre and half a drachm of chloride of ammonia, reduced to powder, into two ounces of pure alcohol, and place this mixture in a glass tube, of about ten inches long and proportionate diameter, the upper extremity of which must be covered with a piece of skin or bladder, pierced with small holes. If the weather is to be fine, the solid matters remain at the bottom of the tube, and the alcohol is as transparent as usual. It rains in a short time, some of the solid particles rise and fall in the alcohol, which becomes somewhat thick and troubled. When a storm, tempest, or even a squall is about to come on, all the solid matters rise from the bottom of the tube, and form a crust on the surface of the alcohol, which appears in a state of fermentation.—These appearances take place twenty-four hours before the tempest ensues; and the point of the horizon from which it is to blow, is indicated by the particles gathering most on the side of the tube opposite to that part whence the wind is to come."

When, where, or by whom this discovery was made I do not know; it is simply matter of history to me; but an old *Salt*, resident in Virginia, whose instrument was not the most neatly fitted, asserts, from many years' experience, that he has never known it to fail, either as a barometer or storm pointer. The rise and fall of the sediment by atmospheric change may be readily conceived, but what subtle influence can there be which causes it to collect twenty four hours previously, on the side opposite to that from which the impending storm? Are we to suppose that the particles are so nicely sensitive as to be affected by the slight difference which may exist in density of the atmosphere, on the one side of the tube over that on the other, in the transition or disturbance of equilibrium, which is being effected by the progress of the atmospheric change in the direction of, and as produced by the coming storm? Or may there be some electrical influence at work? The causes, however, I shall not pretend to determine; these may form a subject of enquiry for others better versed in the theory of storms than I am, but in presenting the experiment to your readers, I hope that it may not fail to interest a few. G.

January 31st, 1853.

Machine for Planing Sash-Stuff.

E. C. Bennett, of Binghamton, N. Y., has taken measures to secure a patent for the above. This machine is adapted for planing sash and door mouldings, and also for finishing slats for window blinds. It is furnished with two cutter stocks and other suitable gearing, in order that the two separate processes we have mentioned may be in operation at the same time. Or if desired, the sash strips can be rabbetted, and then, as delivered can be put in on the opposite side and finished. The more peculiar parts of the arrangement consist in the self acting mode of supplying the strips and slats to the bed, and in feeding them up to the cutters; also in the plan of giving the bed the necessary reciprocating motion by a tailed segment, which gears into a shifting rack, so that as the segment is impelled by a couple of pins (suitably placed), the change of motion is transferred to the rack, which thus shifts the driving band alternately on to two pulleys. There is another contrivance well worthy of note, and that is a plan for planing the bottom of the rabbet after it has been shaped, so that it is made quite smooth. This is done by setting the last of a series of cutters in an inclined position, so that it smooths the roughness caused by the preceding cutters.

The operation of the machine is as follows:

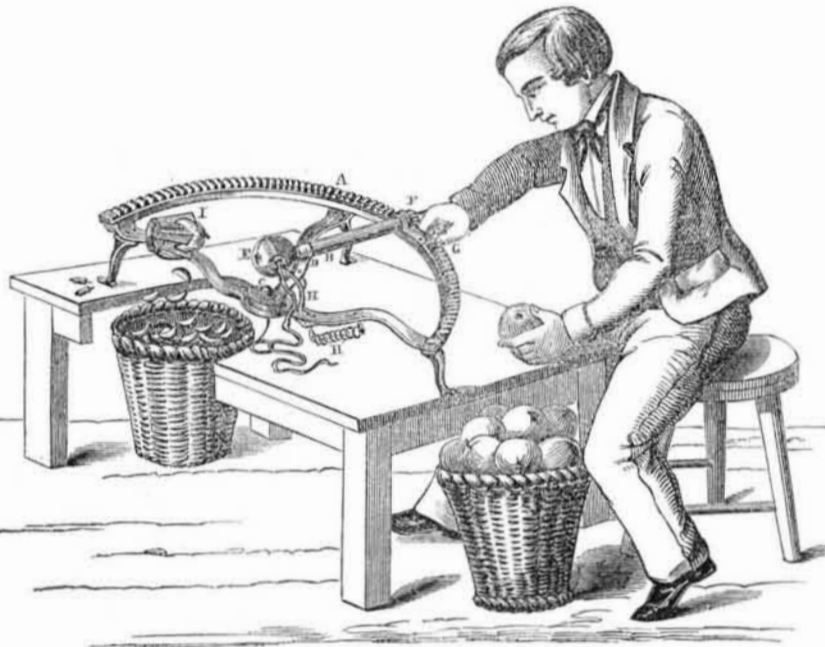
—receptacles or "wings" are filled with slats or sash strips, a weight suspended by a cord is so adjusted as to cause one strip to be fed on to the bed, which proceeds with it to the left end of the machine, a catch now strikes the stuff and drives it under the elliptical springs and against the cutters, the springs being intended to maintain the stuff in position. A similar weight in the other receptacle or "wing" forces another piece on the bed, which is caught and carried to the right end of the machine when the process we have described is repeated.

The Great Pyramid.

The Great Pyramid in Egypt is 800 feet in height, and its base occupies thirteen acres. Its weight is estimated at six millions of tons, and its erection would occupy 3,000 men twenty years. If it was broken up, the materials would rear a wall around the whole empire of France ten feet high and two and a half feet thick.

The journeymen masons in Elizabethtown have resolved to ask of their employers \$1,75 per day from the 15th of March to the 25th November.

IMPROVED APPLE PARING MACHINE.—Fig. 1.



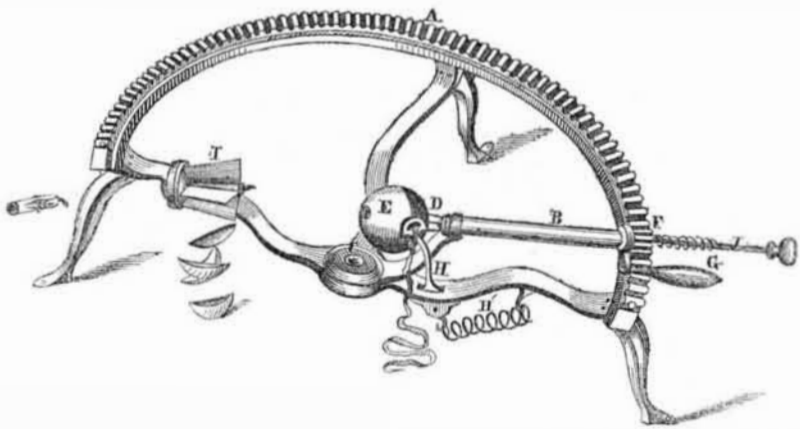
The annexed engravings represent a new and useful machine for paring, coring, and quartering apples, which is also applicable for purposes of a similar nature where the first operation is only required, and is owned by N. E. Smith & R. W. Fenwick, of New York City, to whom the entire patent has been transferred by W. H. Lazelle, the inventor. Patented Jan. 25, 1853.

Figure 1 is a perspective view of the machine, and exhibits the manner of performing the above-mentioned operations. Figure 2 is also a perspective view of the machine on a larger scale, showing the same more clearly. This machine consists of a semicircular stationary rack, A, having a hollow traversing lever, B, which turns on an axis, C, and is moved horizontally back and forth by means of the handle, G, and pinion, F, which latter gears into the teeth of the rack, A. The pinion, F, is fixed to the outer end of a hollow spindle, which turns freely inside the hollow lever, B, and has at its other end a flanged fork, D, on which the fruit, E, is placed to be

pared. Supposing the fruit to be as represented, on the end of the fork, and the handle, G, moved round from left to right to the position shown in figure 2, the apple will be nearly pared by the stationary swinging knife, H, which is kept up in contact with the apple by the spring, H'.

As the lever is moved in a horizontal direction, as described, the prongs of the fork and also the apple, will traverse a semicircle, and the knife, H, will act longitudinally from the blossom to the stem end of the apple. By the pinion, D, being made to traverse the rack the spindle attached to the pinion gives motion to the fork, and thus the latter is made to revolve with a rapid motion against the knife, H. Thus it will be seen that the apple and the fork have two motions—one in the path of a horizontal circle, and the other describing vertical circles. The swinging knife, H, being allowed to yield, and yet being firm and flexible, by means of the spring, H', renders it very efficient and accommodating for apples of different sizes and of unequal sur-

Figure 2.



face, and also obviates the great wear and tear from the excessive tension that is necessarily exerted in the old machines on the spring, which is drawn out, as the knife traverses over the semi-diameter of the fruit. The apple being pared, and the handle drawn to the extremity of the rack, the machine is in a position ready for coring and quartering, the apparatus for performing these operations consists of a coring rod, J, which passes through the fork, F, having a button at its outer end and a collar at its inner end, in which latter is fixed a single prong that serves for

holding the apple while being pared, and then retains it when it is knocked off the fork, D, after having been pared, in order to be cored and quartered. For the purpose of effecting the last-named objects, the coring rod, J, is forced by the hand against the cutter, I, which consists of a hollow tube furnished with four knives. The number of these latter may, however, be increased to any extent when it is desired, instead of quartering, to slice the apple for drying or other objects.

After the apple has been cored and quartered, the rod, J, is allowed to return to its

original position by means of a spring in the outer end, between the button and the pinion, F, the said spring being compressed as the rod is forced against the cutter, I, and resuming its former position when the hand is withdrawn—the apple and core falling into proper receivers.

This machine presents manifold advantages over anything of a similar nature, both with respect to cheapness, durability, and also saving of labor as well as time, it being capable of performing almost double the amount of work in a given time than can be done by any other. Among its advantages is the use of a traversing handle instead of a crank, by which it has a horizontal instead of a rotary motion, thus rendering the operation quicker and also easier to be effected. All the parts of this machine can be made as strong as desired, and not one of them is liable to get out of order. It is a machine that will endure without requiring to be repaired for a great number of years, and it pares apples with great rapidity and with astonishing precision. A silver medal was awarded to the inventor at the last Fair of the American Institute.

Applications for State rights, which will be granted at a moderate price, and for machines to be made to the sole proprietors, N. E. Smith and R. W. Fenwick, 14 Vandam st., N. Y.

Cure for Potato Rot.

The "Chicago Daily Times" announces that one of the citizens of Michigan has discovered the cause and cure of the potato rot; and that General Cass has certified to the fact. What that discovery is we are not informed. The "Times" does not appear to know that the same discovery has been and is now claimed by more than one citizen of New York. No certificate, however, will satisfy us; we want to know what the discovery is, and judge of it upon its own merits.

Porcelain Manufacture.

Some two hundred girls, all Americans, are employed in ornamenting and finishing porcelain ware in this city. All of them, except four, are employed in the process of burnishing the gold after it comes from the furnace, and the painting is all done by experienced male artists. The gilding of china ware is done in New York to a considerable extent. Importers find it cheaper to buy the white ware in France and England, and have it ornamented in this country. The duty on the increased value of the ware is thus saved.



Manufacturers and Inventors.

A new Volume of the SCIENTIFIC AMERICAN commences about the middle of September in each year. It is a journal of Scientific, Mechanical, and other improvements; the advocate of industry in all its various branches. It is published weekly in a form suitable for binding, and constitutes, at the end of each year, a splendid volume of over 400 pages, with a copious index, and from five to six hundred original engravings, together with a great amount of practical information concerning the progress of invention and discovery throughout the world.

The Scientific American is the most widely circulated and popular journal of the kind now published. Its Editors, Contributors, and Correspondents are among the ablest practical scientific men in the world.

The Patent Claims are published weekly and are invaluable to Inventors and Patentees.

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