New Inventions.

The Trans-Atlantic Telegraph.

The steamship *James Adger* sailed from New York this week, for Newfoundland, to assist in laying down the first section of the submarine telegraph which is to connect this country with Europe. A large party of ladies and gentlemen were on board, among whom were Prof. Morse, inventor of the telegraph, Peter Cooper, and Cyrus W. Field, Esqrs., prominent projectors of this enterprise, and Lieut. Maury, and Professor Silliman. The duty assigned to this steamer is to take in tow the cableship *Bryant*, and lead her across that portion of the Gulf of St. Lawrence which exists between Port au Basque, in Newfoundland, and Cape North—above Halifax—a distance of 74 miles. The cable was made in England and has but recently arrived out in the *Bryant*. It will be run out from her stern while in tow of the steamer. The cable is composed of three wires, and is only 1 1-2 inches in diameter. Weight of the whole, 400 tuns.

When these wires are laid the island of Newfoundland will be connected, telegraphically, with the American continent, and in the course of two years or less, the great inter-oceanic wires will be laid, and all Europe brought into instantaneous communication with this country. A land telegraph from St. John's, on the eastern shore of Newfoundland, to connect with the submarine cable at Port Basque, is nearly complete, so that in a few weeks the former city will be connected with New York. It is expected that all the ocean steamers will call at St. John's on their homeward passages, to leave news and despatches for transmission to the States, so that ere long our daily papers will be in the regular receipt of intelligence from London which has been but six days in transit. The distance from St. John's to Cork, Ireland, between which two points the ocean cable is to be laid, is only 1680 miles. It is pleasing to us, as it must be to every American, to think that this great project, the telegraphic union of the Eastern and Western Hemispheres, is about to be accomplished by a private company composed chiefly of American citizens. They have undertaken, and thus far carried out the enterprise with an energy and sagacity creditable in the highest degree to them and to their country. If Professor Morse is spared to us but a short time longer, he will have lived to girdle the whole earth with his magic wires.

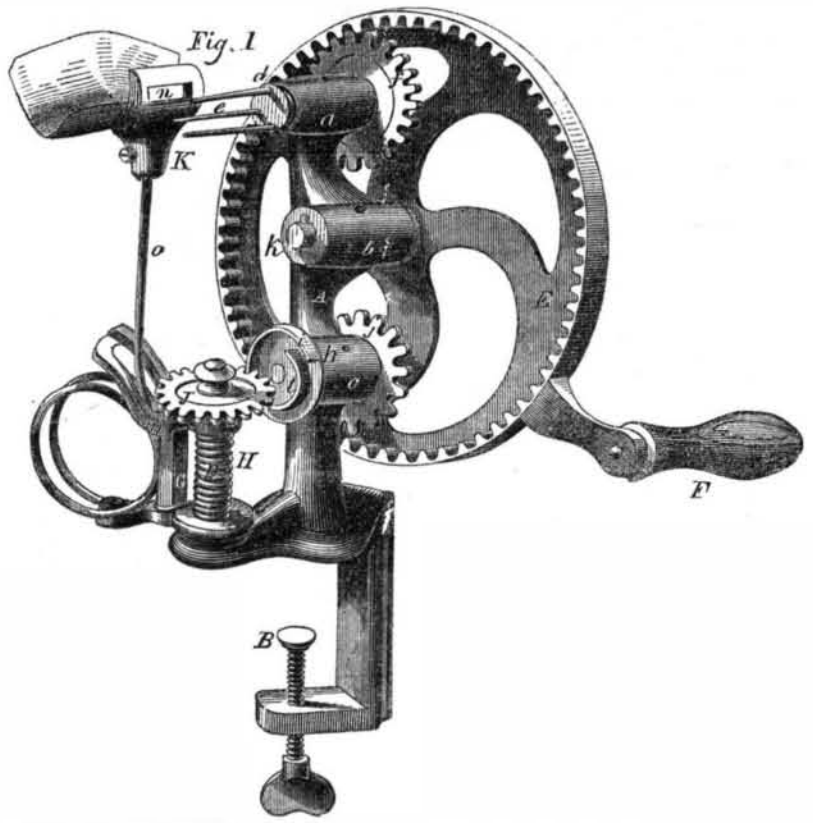
Apple Paring Machine.

The accompanying engravings represent a very compact and simple machine for paring apples, and other fruit, &c., invented by J. D. Browne, of Cincinnati, Ohio, who has taken measures to secure a patent.

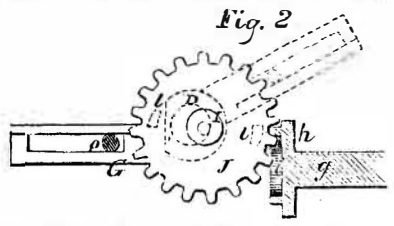
Fig. 1 is a perspective view of the machine, and fig. 2 is a horizontal section, showing the manner the paring knife is moved against the rotating fork which holds the apple. Similar letters indicate like parts.

The machine is so small and compact, that it may be carried in a gentleman's coat pocket. Nearly all its parts are of cast iron. B is a thumb screw, which fastens it to the edge of a table by pressing the table leaf between it and the sole plate which supports the standard, A. E is the large wheel for giving motion to all the parts. This wheel has cogs, *d*, around its inner periphery. There are three small hubs, *a b c*, cast on standard A, which serve as bearings for the axis *k* of the large wheel, E, and those of the small planet wheels, *f j*. There is a fork, *e*, on the axis of wheel, *f*, and there is a worm, *i*, on the outer end of the axis of wheel, *j*. When the wheel, E, is rotated, it revolves the wheel, *f*, which rotates the fork, *e*, and also the wheel, *j*, which operates the worm, *i*, that takes into the teeth of the wheel, J, which moves the knife round against the apple on fork *e*. A small vertical standard, H, cast on the sole plate has a coiled spring, D, around it, and it also sustains the paring knife frame, G, which has a collar encircling standard, H, under wheel J, and another at the foot of the standard. One end of the wire spring D, is secured in a hole in the standard, H, and the other end is claspedaround the foot of frame G. The paring knife has a head stock, K, secured on the upper end of a steel wire, O. The

BROWNE'S APPLE PARING-MACHINE.



spring, *o*, bears against it at the base of the fork. The wheel, E, is then turned by the handle, F, and the apple rotates. The wheel, *j*, al-

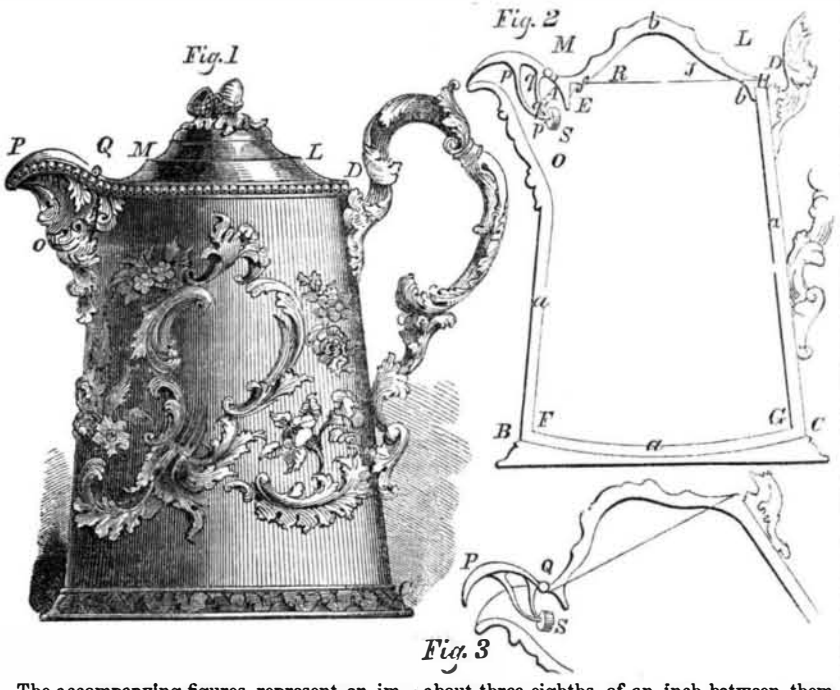


so rotates, and one of its catches, *l*, presses against the shoulder, G, carrying round the frame, and its knife bearing against the apple until it reaches the outer end, when the catch, *l*, is relieved, and the knife flies back to its original position, ready to operate on another apple.

This apple paring machine can be manufactured at a very trifling cost, being made of cast malleable iron, and it is very neat and portable.

More information may be obtained by letter addressed to J. L. Havens, & Co., assignees, Cincinnati.

IMPROVED ICE PITCHER.



The accompanying figures represent an improvement in Ice Pitchers, for which a patent was granted to Samuel Eakins, of Philadelphia, Pa., on the 26th of June last.

Figure 1 is a side elevation of the improved pitcher. Figure 2 is a vertical section of it; and figure 3 is a detached section of the spout.

The improvement consists in the arrangement of the spout and its lid, the latter being made self-acting.

The pitcher has an outer case, A B C D, and an inner case, E F G H, with a space, *a a*, of about three-eighths of an inch between them, all round; this is filled with melted resin, or resin and plaster mixed together. The lid is made in the same way, and the space, *b*, is filled with a non-conducting substance in the same manner.

The main lid, J R L M, of the pitcher, is not hinged, but has a flange, *f*, extending down, which slides into the top of the pitcher, as shown in fig. 2; this effectually excludes the air at this point. O is the spout; P Q, fig. 3 is a small lid, covering the spout, and hinged to the outer shell of the pitcher at Q. From the lower side of this spout lid, two bent arms *p p'* and *q q'*, made of wire, proceed and form a lever in connection with the spout lid. A small piece of metal, S, is soldered to the extremity of the wires. The position of these arms and the weight is such, that when the pitcher is tipped over, the weight and lid assume the position in fig. 3, thus allowing the water to flow out; and when the pitcher is restored to its vertical position, the lid returns to its seat—as shown in fig. 2, closing the opening of the spout. It is very convenient sometimes to pour out water from an ice pitcher with one hand; the old plan of operating the lid to do this was by a chain attached to the lid and handle. The method of operating the lid, represented in these figures, is a great improvement over the old plan. The pitcher may be made of any suitable material.

More information may be obtained by letter addressed to the patentee at Philadelphia.

Laughing Gas.

This singular substance, discovered by Dr. Priestley, in 1776, was brought into particular notice by Sir Humphry Davy, the latter being the first to notice its stimulating properties. When taken into the lungs, it induces the most agreeable state of reverie or intoxication, frequently accompanied with physical as well as mental excitement, which lasts for a few minutes, and then subsides without any unpleasant consequences. Persons who breathe it feel an indescribable pleasure and happiness, so much so as to induce laughter, and hence the name (laughing gas) given to this substance, but which chemists call nitrous oxyd. Enough laughing gas may be prepared for a single experiment by heating two ounces of nitrate of ammonia in a retort, having a large ox-bladder attached to collect the gas. The process is, first to insert into the neck of the bladder a wooden pipe, or stop-cock, made of elder, with the pith pushed out; next moisten the bladder, and squeeze it up, to remove the air; then fix it to the retort containing the nitrate of ammonia. Now heat the salt with a spirit-lamp; it first liquifies, then boils and decomposes, producing water (which remains in the retort) and the gas (which passes into the bladder); when the bladder is full, the experiment can be performed. Hold the bladder in the *left* hand, placing the thumb over the pipe to retain the gas; with the *right* hand close the nostrils; then empty the lungs by a long expiration; after which, insert into the mouth the pipe attached to the bladder, and breathe the gas in the same manner as if it was air; in one or two minutes, if the experiment be successful, an elysian sensation will follow, more exquisite than can be described.—[Septimus Piesse.

Avoid Rashness in Swimming.

In youth every person should learn to swim, as a part of his or her education, as in many emergencies it may be the means of saving life. But we must caution good swimmers against being too rash in exposing themselves to needless danger. Many excellent swimmers have been drowned by overweening confidence in their aquatic abilities, and not a season passes away without some instance of this kind taking place. An old sailor once told us, that in his experience he never saw a smart man who was fond of displaying feats of agility, and risking his life needlessly, but lost it foolishly. The case of Sam Patch is an instance of this kind. In cases of danger it is a sublime sight to see a man risk his life to save that of another, but it is worse than vanity to see a man risking his life when no good object is to be subserved by doing so.

The Power of Belting.

Charles E. Moore, of Elizabeth Port, N. J., informs us by letter that he has had an experience of forty-two years in a cotton factory, and that there is no rule to determine the horse power employed in driving machinery by the size of belt. He gives it as his opinion, that belts are generally run at too low speed. "A belt 22 inches wide, running with a velocity of 1500 per minute, to drive 4000 spindles (half twist) with preparations, might have its place supplied advantageously by a belt 12 inches wide running at double the speed." He advises the use of large pulleys with open belts, and the slack on the upper side.