

FRUIT AND VEGETABLE SLICER.

Our engraving represents an ingenious little device for slicing potatoes, fruit, etc., preparatory to cooking. The mechanism is quite simple, and its work, judging from the performance of the machine sent us for examination, is expeditiously and nicely done. The hand crank shown actuates a shaft in the fixed standard, A. On the end of this shaft is an arm connecting, by means of the rod shown, with a bottomless metal receptacle, B. The latter has suitable flanges and projections, which, working in side grooves, confine its motion, caused by turning the crank, to the extent of the piece, C, which, it will be noticed, is elevated above the platform. The cutting apparatus is simply a two edged blade, D, in a slot in the bed piece, C. It is set at an angle, thus giving a drawing cut to the article brought against it.

Two bent standards are connected with the receptacle, C, and through their point of junction above passes a rod which is surrounded by a spiral spring, and carries at its lower end a follower, E. When the fruit is placed in the receptacle, B, this follower is pushed down upon it by the expansive force of the spring. The crank is then rotated, and the fruit and its holding apparatus caused to travel to and fro along the bed, C. The spring continually presses the fruit down, so that the blade, at each movement of the receptacle, B, across it, cuts off a thin slice, which falls through the slot into a dish below.

For further information regarding sale of rights, etc., address the inventor, Mr. F. C. Vibert, Hockanum, Conn.

TENT ATTACHMENT FOR LIFE BOATS.

The inventor of the device herewith illustrated presents a simple and detachable arrangement for use in connection with life boats, which consists in suitable tent-like coverings, serving as protection to the occupants from exposure to the weather or sea.

To any ordinary boat are applied stanchions, A, which are either hinged so as to fold down upon the rail or may be set in holes made for the purpose, and thus readily detached for storage, etc. These supports are placed at intervals along the gunwale, as represented. Near the top of each are a number of notches, Fig. 2, which serve to hold at various heights the movable hook, B, C, Fig. 2, is a roll of tarpaulin or canvas, which, when not in use, is stowed as shown, and fastened in compact form by proper stops. One edge is riveted to the outer portion of the boat, and the other strengthened by suitable lining and provided with eyes into which fasten the hooks, B, which serve to hold the cloth up, making it a kind of weatherboard. The pin-shaped ends of the stanchions, A, fit into holes of the lateral pieces, D, which are slightly arched and attached to the top cover or awning, also made of suitable waterproof material. The bow and stern ends of the latter are held and stretched tightly by hook-shaped ends of standards arranged for the purpose. The side covering, it is stated, will serve to keep out spray and water, and suitable openings provided with elastic bands may be arranged in order to allow the use of oars when necessary.

Patented September 23, 1873, in the United States and also in England, through the Scientific American Patent Agency. For further particulars address the inventor, Mr. John R. Adams, Truckee, Nevada county, Cal.

PLANER-TOOTHED SAW AND ADJUSTABLE SWAGE.

Mr. James E. Emerson, of Emerson, Ford & Co., Beaver Falls, Pa., an inventor whose devices have frequently found place in our columns, has recently patented the two novel and, doubtless, useful inventions represented in the accompanying engravings. The first (Fig. 1) relates to movable teeth in saws, and its object is to obviate, in a great measure, the expense of such teeth by so constructing them and adapting them to a saw plate that they can be used until dull at their cutting edges, and then removed and a new set inserted in their places. Our illustration is a section of the saw plate, in which clamp pieces, A, and wedges, B, hold the teeth, C, firmly in position. The pieces, A, have shoulders at D, against which the inner ends of the shanks of the teeth firmly bear.

E is a finished tooth, shown separately. It is made from a bar of steel of suitable shape, from which blanks are cut of proper length to bear against the shoulder, D, and thus be prevented from being pushed inward during the operation. The circular side of the tooth fits into a correspondingly shaped groove in

the front side of the recess, and is thus securely held. There are no sharp angles either in the groove, saw plate, or the back of the tooth, which might cause the plate to spread or

section of the inner faces of the jaws, F and G, is a circular hole in which fits the round portion of a movable jaw, H, which is so constructed as to be upset or riveted in a countersink at the outer sides of said hole, so that, while it cannot be disengaged or loosened, the jaw, H, may freely turn in the socket thus formed. I is a temper screw passing down through jaw, F, and bearing on jaw, H, so as to adjust the latter to different angles with relation to the face of the lower jaw. J is a saw tooth inserted in position, showing, by the dotted lines, that the jaw, H, may be adapted to suit its particular shape or that of any other ordinary form of tooth.

In operation, the jaw, H, is adjusted as represented and firmly held in position. Blows are then struck with a hammer at the other end of the body, hard enough to upset the tooth and give it the desired form and sharpness at its cutting edge. This device is claimed to do in better manner than the work can be performed with a file, while one size of the invention is equally well adapted to every size and shape of saw tooth, from a 72 inch, through gang mill and muley saws, down to the finest toothed bench implement.

These improved tools are covered by various patents, the most recent of which are dated September 16, 1873. Further particulars may be obtained by addressing the inventor as above.

SAFETY RAILWAY SWITCHES.

We have lately examined, at the office of the Broadway Underground Railway, corner of Warren street and Broadway, this city, a large and splendid working model of Saxby & Farmer's railway lock switches, now so extensively used in England. The employment of this device is rendered obligatory upon all new railways in Great Britain, by act of Parliament, and it is voluntarily employed by most of the older companies. It is regarded in England as almost indispensable to the prevention of accidents.

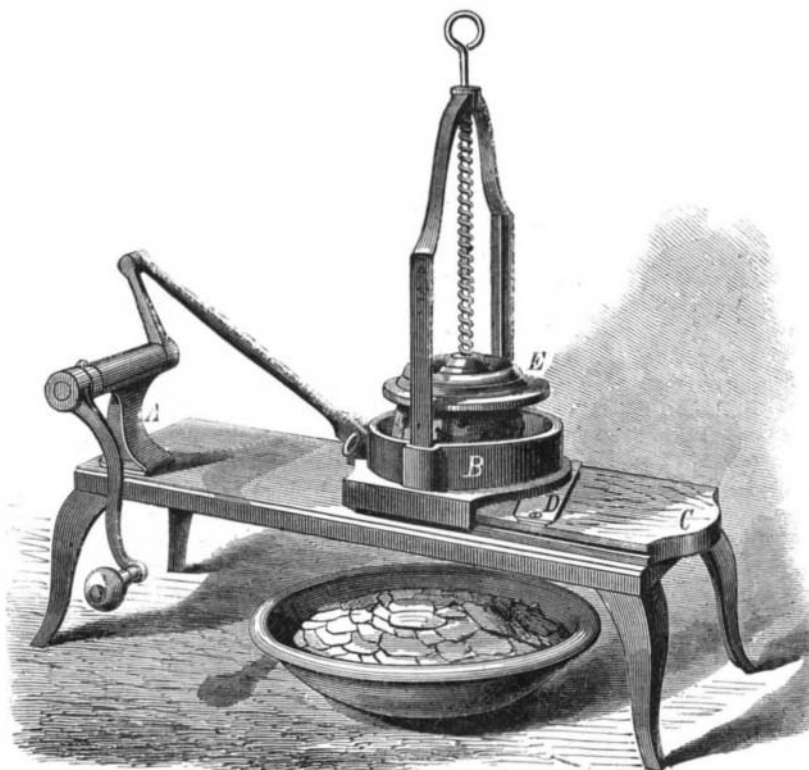
This model, we understand, is a duplicate of the beautiful apparatus now on exhibition at the Vienna Exposition and which the London *Times* correspondent speaks of as follows:

"Saxby and Farmer exhibit a beautiful model of their apparatus for directing the traffic at great railway junctions or termini. It has already come very generally into use, yet it cannot be too widely advertised; for, as it renders accident humanly speaking impossible, a grave responsibility rests with those companies who delay to adopt it. Its principles are that the signals are worked in inseparable connection with the points and switches. It is impossible to signal that the line is clear unless it actually is so, while the act of manipulating one set of signals locks all the rest and keeps them at "danger." Thus the signal man cannot mislead the engine driver; the worst he can do is to do nothing at all; the very worst that can happen is an unnecessary suspension of traffic. It may give some idea of the importance of this invention if we mention that the men in the signal box at Cannon street have to work 67 levers, which play on the points and switches of that intricate network of lines as the keys of a piano act on the chords. Thirty-six trains go out or come in in the course of the hour, and on an average there is a movement of signals or points once in each 33 seconds. Another invaluable subsidiary invention is Messrs. Saxby and Farmer's patent switch lock and bolt. Often the signalman has to change the points at a distance of some hundreds of yards from his box. He may work his levers and signal "all right" in innocent unconsciousness that anything is wrong; yet a stone may have interposed, the points may not have answered to his levers, and the train may be thrown off the rails. Messrs. Saxby and Farmer's bolt effectually prevents such accidents."

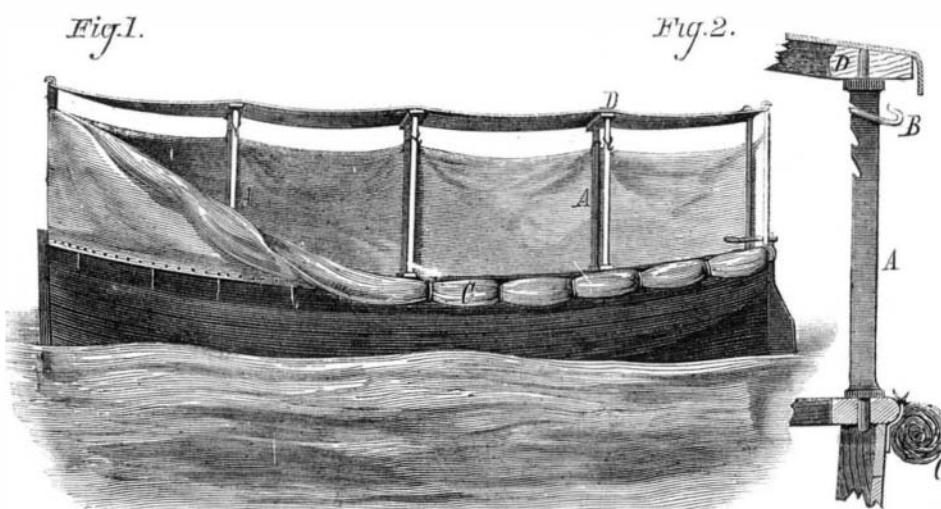
We are glad to know that this valuable improvement is to be employed upon the Broadway Underground Railway. Further information can be had of Mr. Joseph Dixon, agent for this country, as above, where the apparatus may be seen. It is well worth examination by railway people.

Travel between America and Europe.

A new route between New York and London is proposed. It consists of railroad from the former city to Shippegan, on the Gulf of St. Lawrence, steamer to St. George's Harbor, Newfoundland, railroad to St. John's, steamer to Valencia, Ireland, railroad to St. George's channel, and steamer again to England. It is estimated that the voyage may be made in seven days and three hours.

**VIBERT'S FRUIT AND VEGETABLE SLICER.**

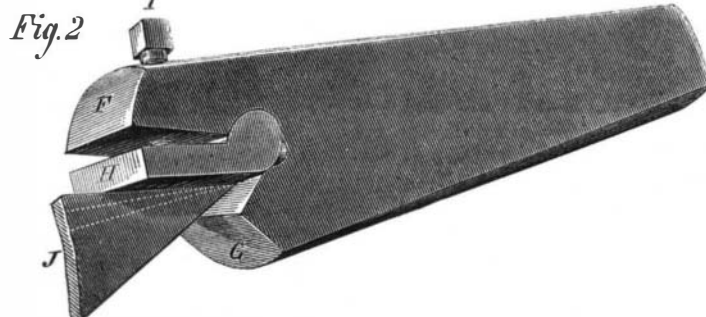
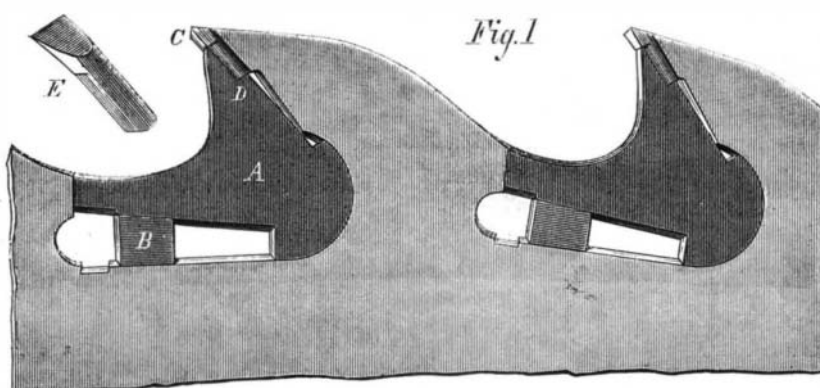
crack. The tang or shank is formed by a drop hammer and die, leaving the outer end, which is slightly hooked, and the edges to be the full width of the flat face of the bar. Cutting edges are thus formed which cut the width of the kerf and plane each of its sides. We are informed that the teeth thus made are durable and not liable to strain the saw plate, are intended never to be sharpened after insertion in place,

**ADAMS' TENT ATTACHMENT FOR LIFE BOATS.**

and are sold in the market by the hundred.

The second invention, represented in Fig. 2, is an adjustable jaw swage for spreading the teeth of saws. The body of the apparatus has two fixed and diverging jaws, F and G, the latter of which comes in contact with the under side of the saw tooth, and is made convex in form. Through the body, at the inter-

necessary suspension of traffic. It may give some idea of the importance of this invention if we mention that the men in the signal box at Cannon street have to work 67 levers, which play on the points and switches of that intricate network of lines as the keys of a piano act on the chords. Thirty-six trains go out or come in in the course of the hour, and

**EMERSON'S PLANER-TOOTHED SAW AND ADJUSTABLE SWAGE.**