

## MISCELLANEOUS.

## The Fair of the American Institute.

(Continued from page 34.)

After noticing some inventions in our last week's number, we referred to six different machines and apparatus on exhibition, which had been illustrated in the Scientific American. We also stated that "we might be able" to dig out more inventions which had been illustrated in our columns. This week we have been able to do so, and shall now add no less than 23 others to our previous list. Those of our friends at a distance, who have not had an opportunity of attending the Fair (if they have the back volumes), will, by our references, be able to learn all about the nature and operation of the said improved machines, &c., and we venture to say they are among the most important articles at the Fair:

1. Machine for Making Bricks.—This is a small working model under the gallery; see engraving in Vol. 2, page 129 of our paper; Culbertson & Scott, proprietors, No. 3 Battery Place, this city. This press will make 25,000 bricks per day. They are in operation in various cities in our country.

3. Portable Steam Engine and Boiler; C. F. Mann, Troy, N. Y.; engravings on page 60, Vol. 3.—This is a very excellent engine, there can be no second question about this. It is working near the bridge.

4. Self-Clearing Anchor; Isaacs & Darling, proprietors, No. 11 Wall street, this city; engravings in Vol. 3, page 22.—This anchor has received the unqualified praise of the underwriters of New York. To be seen on the bridge.

5. Weavers' Harness Machine; Vogel, inventor, R. D. Carver, Matteawan, N. Y., proprietor; engravings in Vol. 4, page 41.—Samples of the work done by this machine are on exhibition in the machine room.

6. Saw Mill Dogs; Adams & Sons, Amherst, Mass.; engravings in Vol. 4, page 57.—These dogs are a very excellent improvement. Exhibited in the machine room.

Hose Carriage Improvement; Joseph Pine, this city, patentee; engravings on page 236, Vol. 4.—Twenty of this running gear for carriages have been ordered by this city, and the beautiful Hose Cart at the Fair is placed on one,—patent secured through this office.

8. Cut-Off for Steam Engines; S. P. Winoe, of Albany, N. Y., patentee; engravings on page 268, Vol. 4.—This improvement received a Medal at the State Fair of 1850.

9. Straw and Cane Cutter; H. Bertholf, Sugar Loaf, N. Y., patentee; engravings in Vol. 5, page 52,—patent secured through this office. Exhibited on the bridge.

10. Prussian Rifle (Zund Nadel); John B. Klein, this city, agent; engravings on page 124, Vol. 5.—This gun has been introduced into the Prussian army. In a case near the Clerk's desk.

11. Tinsmith's Machine; S. Stow & Co., proprietors, Southington, Conn.; engravings in Vol. 5, page 204. To be seen under the gallery.

12. Clothes' Clasp; F. A. Rockwell, Ridgefield, Conn., patentee; engravings on page 220, Vol. 5.—This Clasp is used for confining files of newspapers, &c., and is one of the most useful of modern improvements.

13. Dick's Anti-Friction Press and Shears; engravings on pages 220 and 229, Vol. 5.—This press has received a council medal, one of the highest awarded at the Great Exhibition. It is the great press. It is in the machine room of the fair.

14. Arch Girder, John Bevan, Patentee, engravings on pages 324 and 329, Vol. 5.—the patent was secured through this office. A model of its application on a small bridge is to be seen near the entrance to the Castle Garden at the bridge. We have no hesitancy in pronouncing this a most useful improvement in bridges &c.,

15. Grain Cleaning Machine, Harriss & Sons, Brooklyn, N. Y., engravings on page 385, Vol. 5. For opinions respecting its value, we refer to the page spoken of. It stands in the machine room at the Fair.

16. Ships' Ventilator, Warren Robinson, patentee, engravings on page 36, Vol. 6,—patent secured through this office. This plan of ship ventilation has been applied on the steamships

Humbolt and Roanoke. To be seen near the gallery on the left hand side not far from the clerk's desk.

17. Spring Chairs, T. E. Warren & Co., Troy, N. Y., patentees and manufacturers, engravings on page 76, Vol. 6. This chair has been greatly admired at the Great Exhibition. To be seen on the stage at the fair.

17. Atmospheric Churn; Gill & Tillinghast, inventors, Chillicothe, Ohio. See engravings on page 97, Vol. 6.

18. Ships' Lights, Leonard Goodrich, this city, patentee,—patent secured through this office, engravings on page 113, Vol. 6. This is a valuable invention.

19. Raising and Lowering Carriage Tops, Dr. Allen, New Haven, Conn., engravings on page 92, Vol. 6. A carriage near the gallery on the right hand side, has this excellent invention applied to it.

20. Self Rocking Cradle, Daniel Walker, Newark, N. J., maker, engravings, Vol. 6, page 349. To be seen in various parts of the Fair rocking itself, and it will yet be universally employed to rock all the babies of the Republic; as we advance in scientific knowledge we must have scientific cradles to rock the young sovereigns.

21. Copying Press; A. A. Wilder, of Detroit, Mich., patentee,—patent secured through this office; engravings on page 65, Vol. 6.—This is the most simple copying press in use.

22. Indicator for Steam Engines; W. C. Grimes, of Philadelphia, inventor; engravings on page 410, Vol. 6.—This improved steam and water Indicator is applied to the engine which drives the machinery at the Fair.

23. Last, but not least in prominence, is the Fire Annihilator; engravings on the first page of our present volume.—Three of these Annihilators, very unassuming apparatus, are to be seen under the gallery.

The above improved machines are *fixed facts*, and we refer to the engravings of each, and where they are described in our columns, in order to present before readers at a distance, indisputable testimony to prove the assertion we have freely made, namely, "the Sci. Am. is the Repertory of American Inventions." There are many improvements exhibited at the Fair which we have noticed in our columns, and many for which patents were secured through our agency. Inventors who have good improvements to present before the public—improvements respecting which they are not afraid of public scrutiny, will, and do, present the same through our columns, for they know that all our continent looks to this as the first source of information on such subjects.

COOKING RANGES AND STOVES.—There are a great number of stoves under the gallery, as usual, and very various are they in their modifications. There is no class of men who contest the points of superiority like our stove manufacturers. Their rivalry is of the keenest kind, and their personal feelings of tentimes burst forth in no courtly phrases. We listened to an exciting debate between two stove manufacturers, whose names it boots us not to mention, in which the Commissioner of Patents came in for a scorching rebuke, in which all the bystanders joined with applause.—Among the many stoves, we were highly pleased by Bliss' Jenny Lind Cooking Range, which took the premium at the Rhode Island Fair. Its general contour is handsome, and the casting is good, and the top is constructed in such a way as to prevent its being burned out, thus obviating a very common evil. The form of the fire chamber is a cylinder lined with soap-stone, and known to be the best form of fire chamber in which to burn coal. The front of the range closes tight, with a register in the ash door, to give draught; when closed it makes the range perfectly airtight; also a new arrangement for dropping the grate from the outside, so that no dust can escape in the room. It is simple in arrangement; it having but one damper, which manages the whole. Also, the convenience for cleaning the flues, and a convenient place to put the coal-scuttle, and a very large oven of capacity enough to bake twelve pies. Also a bath boiler, which can be heated by a side or back flue or a water back. And a new and improved hot air fixture, which will heat a room from 12 to 15 feet square, with the same fire that is used in cooking.

The agents for sale are Messrs. Hull & Kenyon, No. 92 Bowery, this city. Next week we shall make another examination of stoves and notice some others.

AMERICAN CRYSTAL.—The Brooklyn Glass Works display as beautiful a crystal as can be displayed by any other nation. We believe that the display of crystal at our Fair cannot be surpassed. This is a credit to the Brooklyn Company, for it is not many years since its manufacture was commenced. We have natural resources for the manufacture of crystal, glass, china, and stone wares, far surpassing that of any other nation in the world, and at the Great London Exhibition, the finest sample of sand for glass-making ever seen in England was three barrels, "as white as snow," in the American Department, furnished by T. Gray & Co., Boston, Mass.

RAILROAD LAMPS.—There are two splendid railroad lamps at the entrance into the rotunda. They are well worthy the attention of all railroad companies, for they assuredly are the finest ever exhibited in our country. We understand the New York and Erie Railroad has adopted them on all their engines, and we do not know but many other roads have: if they have not, they should do so as soon as possible, or Russia will get ahead of them. They are manufactured by the inventor, Mr. Alcott, at Rochester, N. Y.

FLAX DRESSING MACHINE.—A machine that has attracted a great deal of attention is one for dressing flax, either rotted or unrotted, invented by S. A. Climes, of Springfield, Mass. We examined this machine attentively while in operation upon some very hard unrotted flax. It did its work well. It has a number of peculiarities in respect to its motion. One of its fine fluted rollers between which the flax is carried, and which by changing lips below, bites the flax with a *crossing action*, which effectually separates the textile from the woody fibres. A blower is used for cleaning away the seed below. A couple of machines, the second one acting upon softened flax and employing drawing rollers, would easily reduce the fibres to a fine wool. Much attention is now devoted to the improvement of flax machines, and so far as the spinning of it is concerned, we do not believe but such machinery, specifically adapted to the nature of the flax, may yet be invented so as to work it at least nearly as well as cotton.

ROTARY PUMP.—There are three rotary pumps at the Fair, viz., Gwynne's Centrifugal, Carey's Rotary, and Stiven's Epicycloid. Mr. Carey's pump we noticed last week, and it has been illustrated in our columns. It meets with a ready sale, and is a good pump. The centrifugal pump of Gwynne has been exceedingly unfortunate, it broke down entirely, and thus far, has demonstrated the contemptible ignorance of the plus centrifugal force theorists. Stiven's pump is a good one. It is the most simple and durable of all the rotary family. We have seen none so peculiarly constructed, nor upon the same principle. The piston is a cylinder or short drum, acting in the inside of the case, another drum. The convex surface acting on the concave, and the motion is so peculiar that it describes a cycloidal curve in rotation. This pump has been advertised in our columns, but we have never yet presented an engraving of it; we will endeavor to do so at some future period. Mr. Stiven manufactures his pumps in this city.

STEAM ENGINES.—It was our intention to say something about steam engines this week, but our brief space prevents us from doing so until next week, when the important improvements will be noticed.

HOPPIN'S BRONZE MASTIFF—ERRATUM.—Mr. Hamilton Hoppin, of the firm of Bogardus & Hoppin, this city, has sent us a note stating that the splendid casting of the St. Bernard Mastiff, noticed by us last week, was not modelled by him, but was designed and modelled by his brother, Mr. Thos. F. Hoppin, of Providence, R. I.—a plaster casting was sent to the firm mentioned above, and a duplicate taken in bronze. We are obliged to Mr. Hoppin for the correction. Our motto is "honor to whom honor is due."

On the evening of Friday, 17th, Dr. Jackson, of Boston, delivered the annual address of the

Institute, in the Broadway Tabernacle. It was an able address; we shall give a brief review of it next week.

## To Mariners on the Pacific Coast.

Professor Alexander D. Bache, the efficient superintendent of the U. S. Coast Survey, has just presented to the Secretary of the Treasury, a statement of the topography of the principal harbors on the Pacific Coast.

The following are descriptions of Trinidad, Humboldt, and San Diego Harbors:

Trinidad is a very convenient anchorage, during six months in the year, and will be found, by vessels that have suffered from the strong head (northerly) winds that prevail along this coast, a comfortable harbor of refuge.

Humboldt Bay is the third harbor on the coast; it is sixteen miles long, and from three-quarters to four or five miles wide. The entrance between the breakers is nearly straight but rather along the coast; it is about a mile long, and two hundred metres wide, between the eighteen feet curves on either side, with twenty-one feet, at low water, on the bar. It is perfectly accessible except in very heavy weather.

San Diego affords shelter in all weathers and has deep water, but has a very small outlet. The average tides are six feet. There is a natural break-water called Ballast Point.

SAILING DIRECTIONS FOR SAN DIEGO.—Vessels in sight of the coast, and approaching San Diego from the north, will observe an opening in the hills, and the appearance of an inland bay. This is the False Port, and must be avoided. Immediately north of the False Port commences a table land about four hundred and fifty feet high, and extending southwardly six or seven miles. The extremity of this table land is called Point Loma, and forms the entrance to the harbor of San Diego.

Those bound from the southward will first sight the group of high, rocky islets called Los Coronados. From thence to Point Loma the course is N.  $\frac{1}{2}$  E., and the distance 15 nautical miles. On a clear day Los Coronados will serve as a landmark and guide for vessels coming from any direction.

Steer right through the kelp, giving Point Loma a berth of one half a mile, and in a few moments you will open Ballast Point, a low beach of shingle stones forming a natural breakwater, then round up gradually, until you bring Ballast Point in range with the easternmost house on the Playa, and be very careful not to open more of the village, otherwise you will be too far to the east, and in danger of getting aground on Zunigo Shoal. The breakers show its position. During the summer keep as close to the hills, on the port side, as your draft of water will allow, as you will then be able to lay on the wind right up to Ballast Point. You can carry four fathoms within a ship's length of the point. Keep on the above range, and, when up with Ballast Point, steer direct for the Playa, and anchor as you please.

## Cheap Gas in London.

The Secretary of the Gas Consumers Company, at a meeting held at the Yorkshire Stingo tavern, Marylebone, London to take into consideration a proposal for the supply of cheap gas, stated that the new company would engage to supply gas of the best quality at a maximum price of 4s. per 1,000 feet, to limit the dividend to a maximum of 10 per cent., and all other profits beyond 10 per cent. to be applied to the reduction of the price. This price is about one fourth that of New York gas, and its greater cheapness can neither be owing to the price of coals nor price of labor. To be sure some allowance must be made for these, and if we say two dollars for the 1,000 cubic feet, we strike a mark which appears to us to be about the right thing. If economically managed, coal gas might, we think, be supplied to our citizens for about two dollars per thousand cubic feet. If furnished at this price, every private house would use it, and we can well conceive what benefits would accrue to every family. Spirit gas explosions, troublesome dirty oil, and candles would soon get their walking papers. The gas companies would not lose anything, we are very certain, by reducing their prices to such a standard as would bring it within the reach of our working people.