

## Miscellaneous.

## Fair of the American Institute.

Last week we briefly noticed two inventions exhibited at the Fair; both of them are exhibiting on the left hand side of the bridge, on entering Castle Garden. As usual the Bridge is lined on both sides with Agricultural implements, pumps, &c.; there is one good chain pump exhibited, which has its cord made of gutta percha, and its lifting discs of india rubber. The show of articles on the bridge is good, but there is not much that is new. Andrew Meneely, of West Troy, exhibits a full chime of his unrivalled Bells; knowing something about such things, we confidently believe that Mr. Meneely has no superior in the manufacture of bells in the wide world. We have seen and heard some imported bells, which, before they arrived, were to astonish Yankeeedom, but upon trial they fell far below Meneely's standard.

## STEAM MACHINERY.

At the entrance of the Castle (Old Battery), on the left-hand side, there is to be seen in operation a beautiful invention, illustrated and described in No. 39, Vol. 4, Sci. Am.; it was never exhibited in our city before,—it is the "Self-acting Regulator," for adjusting and maintaining a uniform height of the water in steam boilers; this apparatus is attached to a beautiful small operative engine, and since the first day of its erection, has been always surrounded by an admiring crowd. It is the invention of Warren S. Bartle, of Newark, Wayne Co., N. Y., and was secured by patent last February. There is a small chamber attached to the boiler, to prevent the float from being affected by foam and priming, and this float works a lever, which guides the feed pump, to pump more or less, as is required, and when the float descends to a certain depth it rings a bell and gives warning of the want of water; in the latter case it is only when the reservoir of supply is exhausted, that the float can descend below the appropriate water line.

Opposite to this engine and apparatus is a portable and compact engine, made by Charles F. Mann, of the Fulton Iron Works, Troy, N. Y. This engine has its bed on the top of the boiler horizontally, and the whole is constructed so compactly, and occupies such a small space, as to make it exceedingly suitable for many situations; and we believe, although we are not aware of the price, that it can be furnished very cheap.

In the inside is a splendid large engine, manufactured by Mr. Burdon, Front street, Brooklyn, and he has one employed for propelling the machinery in the machine room, which is finished in superb style. Mr. Burdon's establishment has become famous for the manufacture of engines.

There are a few other engines, but there is nothing peculiarly novel about them, yet we cannot omit mentioning one thing novel in this field, viz., the absence of rotary engines at the Fair. We do not remember of a single previous Fair, in which there was not one or more of such engines. This reminds us of a communication we have on hand about a great rotary engine in Missouri, which we shall publish soon.

## A NEW THROSTLE FRAME.

The Lowell Machine Shop, Mass., displays the only cotton machinery at the Fair; this is a new Throstle Frame, of splendid workmanship, running at the east end of the machine room; it is termed "McCulley's Patent;" the spindles are not driven by bands, but disc wheels on a horizontal revolving shaft. Each disc acts on a leather washer, which is secured on the bottom of the spindle collars, and thus the spindles are driven with great steadiness and equal regularity of motion—a grand desideratum. We have been informed that there is a saving in the power required to drive the spindles in this manner, of 60 per cent. over the old way: we like the improvement. The price for each spindle is \$3.

## IRON LATHES.

The Lowell Machine Shop displays the finest lathe at the Fair; it is made for Payne & Co.,

Corning, N. Y.; we believe that its cost is at least \$100 less than it could be built for in New York, it being \$775 complete, with the screw cutting attachments—\$25 without this. This machine shop exhibits a number of machines, and some fine drawings of machinery, executed by Mr. P. R. Mehlgarten. We were particularly struck with a "Variable Crank Iron Planer," the first ever exhibited, we believe, at the Fair, and, if we mistake not, there is not another like it in this city; it is universal in its application for a machine shop; it can plane iron pulleys as well as if they were turned in a lathe, and it can be arranged to plane bolt heads, bevels, planes, &c.—it is a grand machine; it is totally different from the common planers. The planer is worked by a variable crank, which gives the cutter a reciprocating motion, and makes it act like a fine graving tool. We hope to see this kind of machine universally introduced into our machine shops, within a few years,—all the machinery exhibited by this old shop maintains its high character.

## McCORMICK'S GRAIN REAPER.

Conspicuous among agricultural implements stands the Grain Reaper of C. H. McCormick, formerly of Virginia, but now of Chicago, Illinois. This reaper was patented quite a number of years ago, and several improvements have been added since. It was patented this year, with its improvements complete, in England. The machine exhibited here is to be forwarded to London, for the Great Industrial Exhibition next year, and after that affair terminates, it is to be presented to Prince Albert.

The employment of these machines has become very common, especially among our Western farmers; no less than 1,800 machines have been sold this year (1850.) They are manufactured by Mr. McCormick, at Chicago, Ill.

## WOOD PLANING MACHINES.

There are no less than five of these machines exhibited, viz., Woodworth's, Allen's, Woodbury's, Norcross's, and a model of Robert Kittle's, of Dansville, N. Y. Allen's and Kittle's were illustrated in our last Volume.

We have not much to say about Planing Machines—all these have been exhibited at the Fair before, except Norcross's and Kittle's—Norcross's was patented on the 12th of last February; it employs rotary cutters. Mr. Norcross, (who lives in Lowell,) has got up pamphlets with great care, by some lawyer whose researches into the number of patents granted for planing machines, has been very laborious and extended.

## SHINGLE MACHINE.

Among the good and useful machines is Wood's Shingle Machine, patented on the 8th of last January; it cleaves out the shingle, the block being fed into the cutter gate by a motion arbitrary with the motion of the cutter. The feed table changes the angle of the block from side to side every stroke, to present the block to get the right taper cut on the shingle. The cutting knife is moved up and down in a vertical sliding gate, and the block is fed in on a horizontal self-feeding table. Those who may wish to know about the price of this machine, &c., we refer them to our advertising columns.

## COCHRAN'S PATENT MACHINE FOR SAWING SHIP TIMBER, &amp;c.

Perhaps the most ingenious machine at the Fair is a working model, exhibiting Mr. Cochran's invention; it is inside under the gallery, at the right-hand side, above the entrance to the machine room and close beside Bruce's rotary and Nevin's reciprocating biscuit cutting machine. This invention has made considerable noise in the world, as many of our readers well know, it having been exhibited a few years ago before the British Board of Admiralty, and Mr. Cochran, as a young American inventor, received great praise. It can cut the knees, ribs or futtocks, all the compass timber, planting, deck plank, &c., with mathematical precision, and with the natural grain of the wood. There are two reciprocating saws in a frame, and these saws are so arranged and combined with machinery as to be moved in their head boxes by set

screws, so as to cut out beading and any kind of curved timber whatever. They can be moved to cut on any line, and this with the utmost ease and precision—we having satisfied ourselves not merely by seeing but doing this. It is well known that scarcely two ribs of a ship are alike, consequently no machine can be made with arbitrary motion for cutting them out; that machine, therefore, must be essentially the best which is the most flexible in its changes for every different bevelled rib, yet working all with mathematical exactness. This is the case with this machine; the feed bed can be set to run different bevels of different lengths and different lengths of bevels, and opposite ones, on the same rib, and this gauged correctly to a certainty. No other machine that has ever been erected can do this. These machines were erected at Woolwich, England, in 1847, and were the first and the only ones that ever converted compass timber for a ship's frame into actual use. It has now been in active operation for several years, and we have seen old Admiral Cochrane's certificate highly endorsing more than we have said about the good qualities of this American invention. We say this much, because we believe the old Admiral to be one of the most ingenious men in the world—one well qualified to judge. As this machine has been the subject of no small amount of public comment, we will take the opportunity at some other period to notice it at greater length.

## AMERICAN CUTLERY.

Among the many things in the Rotunda, which attracted our attention, was a splendid case of cutlery, manufactured by the Waterville Co., at Waterbury, Conn. It is but a few years since almost all our cutlery was imported, but now we not only supply ourselves with what might be termed good enough articles for home consumption, but those articles rival, if not excel, any made abroad, and would vie with the productions of Sheffield, if sent to the Industrial Exhibition. Mr. F. G. Wheeler, No. 7 Gold st., New York, is Agent.

## ALBANY ARGILLO.

The Albany Argillo Works display some of the most beautiful specimens of this beautiful manufacture that we have ever seen; they rival the natural stone in every respect. For door knobs they are beautiful, and also for table slabs. No one visiting the Fair should neglect to examine this beautiful material.

## LIGHT CARRIAGES.

There are some light carriages of beautiful workmanship, a novel one being made by Joseph Hyde, of Troy; it is a tubular metal carriage; the axles, spokes of the wheels, shafts, &c., are metal tubes,—it therefore combines great strength with a very airy and neat appearance. The other carriages exhibited do credit to their makers. These carriages are at the right-hand side from the entrance, in the Rotunda.

## ABBOTT'S HOROMETER.

This is a small instrument among the philosophical class, and it is liable to be overlooked; indeed, we venture to say that it has not been observed with the least attention by one-thousandth part of the visitors. It is the invention of Mr. Amos Abbott, of Manchester, N. H., who invented it while on a voyage from the East Indies, where he lived for a number of years as a teacher. It is an instrument comprising a section of our globe, divided into degrees of latitude and longitude, and affords, by lines and the measurement of the degrees by a plummet, a way to find out the time of day, sunrise, and latitude, and is useful for measuring heights and distances.

## A NEW CHRONOMETER—CRANE'S ANNUAL CLOCK.

Mr. A. D. Crane exhibits a clock which requires to be wound up only once a year. It also gives by simple inspection the time of day, the days of the month during the whole year, the rising and the setting of the sun and moon for any latitude, the phases of the moon, and the time of the sun and moon entering the signs, high and low tide, &c. This clock is also so improved as to compensate for differences of the motive power, and is calculated to be isochronal, the absence of which property

in time keepers has formerly been a very serious difficulty.

The inventor has also made an improvement, in the common Yankee clock, by which many parts are done away with, and their quality as time-keepers improved, while the price of a good brass clock will be lessened to one dollar.

Mr. Crane lives at Newark, N. J. What a change has taken place in the past ten years, in respect to the price of clocks; about fifteen years ago, the price of a common wooden Yankee clock was \$10. Much neater clocks can now be bought for \$3 and soon, for \$1. Well, we hope it's all for the good of the trade.

## AMERICAN ZINC.

Some splendid samples of New Jersey Zinc Ore and manufactured Zinc, are exhibited. The white oxide of zinc, for painting, is a beautiful material, which, along with the manufacture of the metal, must make the Jersey mines very valuable both to the owners and our country. This oxide mixes with oil to make various colored paints. It is but a week since we saw an extract from a French paper, stating that this paint should be used for all kinds of painting.

## DAGUERREOTYPES.

Considerable space in the gallery is devoted to the exhibition of Daguerreotype pictures, as usual. We have generally paid attention to the quality of the specimens, and, without wishing to disparage our city artists, we feel compelled to give the preference to the Messrs. Roots', of Philadelphia, and Mr. Gavitt's, of Albany. We last year paid a high compliment to the skill of Messrs. Roots, and we are pleased to notice, by a card, that they have opened a splendid gallery in this city, at No. 363 Broadway, corner of Franklin. If any of our friends desire a perfect semblance of themselves, and a picture finished in the highest style of the art, we can assure them that they can obtain it at the above place.

The Catalogues of the American Institute almost amount to an imposition, in consequence of the careless and incorrect manner in which they were printed. It would seem to us that no attention at all was paid to comparing the proof-sheets with the entry book of the Institute, or so many mistakes would not have occurred; for instance No. 1871 calls for a set of Turner's Machines, by A. W. Whiting,—it should read a set of Tinman's Machines, by A. W. Whitney. S. H. Wales, of this city, enters a Sub-soil Plow, but it is put down as S. H. Waters. We might instance several others; complaints have been made to us in regard to these blunders, and we hope for the future, that the publishers will be more careful, as very often persons visiting the Fair, and noticing an article which they might wish to purchase, by taking the directions from the catalogue they would fail of getting the proper address.

Next week we will continue our remarks on the articles in the Fair.

## The Wheeling Bridge Case.

Chancellor Walworth closed his sittings at the Irving House, in this case, on Saturday last, after three weeks' continual examination of witnesses. Testimony is to be taken elsewhere, and it is said by scientific men here, that the information collected in the case will be of immense importance to the steam navigation of the country. The counsel for the parties at the Irving House were for the State of Pennsylvania, Hon. Robert J. Walker and George Harding, and for the Wheeling Bridge, B. W. Russell and William W. Habbell, Esqs.

The New York Academy of Medicine have petitioned the President to remove the present Inspector of Drugs, at this port, stating as a reason, his incompetency.

Above all things, we detest that spirit which preaches up liberty and practices tyranny:—we see that some shoemakers in Newark, N. J., have been abusing a fellow workman who would not join a Trades' Association.

The Boston folks have had a flare-up about Jenny Lind's last concert. They accuse Barnum of having sold more tickets than there were seats. He denies this statement, we guess he is right.