

another. The elevated road has accomplished an immense amount of work during the month of April, and will have no difficulty in running its trains into the Exposition grounds in time for the opening ceremonies.

Exhibitors seem to have the staff mania, although in a somewhat milder form than the Exposition management. Nearly all of the larger and more pretentious booths and pavilions throughout the various buildings use staff to a greater or less extent for the purpose of ornamentation. In fact, there are very few booths outside of the smaller ones which are constructed without using it. In the Manufactures and Liberal Arts building is an especially elaborate display of staff ornamentation. In the midst of all this mass of staff it is a relief to look at the German section, which has quite a display of structural and fancy iron ornamentation. In the Mining building staff is not used quite so extensively, yet there are several pavilions which combine building stone or terra cotta and use staff ornamentation.

A national bank, established under the auspices of the Chemical National Bank of Chicago, has opened for business in one of the wings of the Administration building, and will do a banking business during



THE AGRICULTURAL BUILDING.

The Agricultural building, next to the Administration building, is probably more conspicuous than any other building at the World's Columbian Exposition in the amount of statuary and other ornamentation. The architecture of the building is of the Classic Renaissance style. It fronts on the Basin and is directly opposite the south end of the Manufactures and Liberal Arts building. At the west of it is the South Canal, which separates it from the Palace of Mechanic Arts, while in the rear, or east of it, is what is called the

dome of the central pavilion. This is the figure of Diana that was formerly on the tower of the Madison Square Garden in New York City. Immediately over the main entrance is a winged figure illustrative of the "Victory of Ceres." This is a female figure with outstretched hands, holding a laurel wreath. On each side of this figure is the Ceres group. This group comprises two female figures holding between them a large shield on which is the word "Ceres," and underneath this is a garland of fruit. Cupids stand on either side of each of the figures, holding in their hands cornucopias which are running over with abundance.

On each corner pavilion are two reproductions of what is called the Four Seasons, making altogether eight of these groups. This group consists of four female figures representing the four seasons of the year, spring, summer, autumn, and winter. They are set back to back with their arms outstretched for sheaves of wheat extended above their heads.

Besides these groups of figures, which are decidedly Grecian in design, there are two other groups which are eminently rural and illustrative of agricultural pursuits. One of these is a horse group, the other cattle. There are four of the horse groups, two on the front of the building, one on the east end of the



THE WORLD'S COLUMBIAN EXPOSITION—CATTLE GROUP, AGRICULTURAL BUILDING.

the six months that the Fair is in operation. This bank is established both for the convenience of visitors and exhibitors, and special arrangements have been made so that there shall be as little red tape as possible in cashing checks or making drafts. The bank has been fitted up in a manner in keeping with its surrounding conditions, and will be well worth a visit of banking men.

Soda water fountains are among the most conspicuous structures in several of the larger buildings, and, judging by their size and capacity, the Exposition management expects a very thirsty crowd of visitors.

The railway terminal station at which passengers will arrive in the Exposition grounds by all the railroads, except the Illinois Central, was practically completed by the middle of April. It is a very fine appearing structure, and is especially convenient in its interior arrangements. The railway tracks entering it have been down for some months, and have been considerably used for the storage of freight cars, but have now been mostly cleared away to be ready to receive passenger trains. The switching plant which is to control the vast network of tracks is not quite completed, and there is some doubt as to whether it will be fully finished on the opening day, but it will be near enough completion to fully answer all the requirements.

South Pond. This building, like all the other Exposition buildings, is covered with staff. It is 800 feet long from east to west, and 500 feet wide from north to south. The cornice line, like all the other buildings surrounding the Basin, is 65 feet above grade. The main entrance is on the north face of the building, and on either side of it are mammoth Corinthian pillars, 50 feet high and 5 feet in diameter. Pavilions are reared at each corner and from the center of the building, the center one being 144 feet square. Curtains connect the corner pavilions, forming a continuous arcade around the top of the building. Each corner pavilion is surmounted by a dome 96 feet high, and on each of these domes is a group of maidens of heroic size, called the Horoscope Group. These figures are represented as holding aloft a globe about which is a zone with signs of the zodiac. The figures are made of staff, while the globes are of sheet copper. Each group represents a distinct race, one the Caucasian, another the Mongolian, another the Ethiopian, and the fourth the American Indian.

The main entrance leads through an opening sixty-four feet wide into a vestibule, and from this vestibule into the rotunda, which is one hundred feet in diameter. This rotunda is surmounted by a mammoth glass dome one hundred and thirty feet high.

Perhaps the most conspicuous figure on the building is that of Diana the huntress mounted on the

building facing the pier at which steamboats will land passengers, and one on the west front. The group comprises a figure of a Grecian plowman standing on a slightly raised elevation holding the handle of an ancient stone plow; two spirited horses are attached to the plow, yet held in check by a firm hand.

In the cattle group, which is likewise strongly Grecian, is a woman standing on a slightly raised pedestal holding a garland of flowers which encircles the necks of the cows. Standing on the right side of the group is the figure of a goat, and on the left is that of a calf. The number and positions of these groups are relatively the same as those of the horses. We give an engraving of this group.

On the exterior walls of the building, in strong relief, are fifty-four single figures of the Angel of Abundance holding a cornucopia which is overflowing with the fruits of the harvest. These figures are clothed in loose flowing robes and are classical like the others. Between the springs of the arches of the north, east, and west sides of the building are twenty-two more single figures in relief representing a female classically clothed, holding in her hands the signs of the zodiac. On the east front there are two spandrels, also two on the west and one on the north side. Four of these are the same. The two on the west side are immediately under the Horoscope Group and represent a pastoral

scene of a shepherd with a crook in his hand, sitting on the right with two ewes and a lamb. The other spandrel represents the triumph of Ceres, and is on the north front. Ceres, the central figure, is represented as standing erect, holding a sheaf of wheat in her left hand and a shepherd's crook in her right. Further down on the pediment are other reliefs. On the left is a reproduction of Flora, Bacchus, and other mythological deities seated in a chariot drawn by two tigers. Over against this relief on the right hand is a figure of Mercury and pastoral deities in a car drawn by two dragons. The statuary is all the work of William Philip Martini of New York, with the exception of Diana, which is the work of Mr. Augustus St. Gaudens.

In addition to these decorations and ornamentations in staff, there are six mural paintings on the exterior walls, four on the west face and two on the east. These paintings consist of female figures gracefully draped, with flowers and fruit in their hands typifying the fruitfulness of nature. These paintings were executed by Mr. George W. Maynard. In the main entranceway are four mural paintings similar to the others in style and effect. One of these, representing "Fertility," carries a sheaf of wheat and a basket of fruit. The other figure, "Abundance," carries a shock of grain in one hand, while in the other there is an overturned horn of plenty, from which fruit and flowers are flowing out in abundance. Two other figures painted on the side walls of the entranceway represent mythological beings. One is a male figure driving a chariot drawn by dragons, the other a female figure in a chariot drawn by lionesses. The ornamental painting in connection with these figures was done by Charles Schladermaundt.

Thirty-seven States in this country and thirty-five foreign nations and states have exhibits in this building. The interior arrangement is such as to provide over fourteen acres of desirable space for purposes of exhibiting.

AN IMPROVED UNICYCLE.

A wheel which can be easily steered and propelled, and which is designed to enable a rider to attain a high rate of speed, is shown in the accompanying engraving, and forms the subject of a patent issued to Mr. James Imlah, of Barre, Vt. This wheel has an inner wheel supporting a suitable framework and having a double rim, the two parts of which engage ball bearings of inner annular flanges connected by spokes with the tire of the outer wheel, so that as the latter travels on the ground the inner wheel rolls off on the flanges, and the rider in his seat holds the framework in normal position, the inner wheel not revolving. Between the two ball bearings in the rim is an internal

gear in mesh with a gear wheel on a shaft in the framework, a sprocket wheel on this shaft being connected with a similar wheel on the treadle shaft, by the operation of which the large gear wheel is rotated to give motion to the exterior wheel. By means of a brake lever pivoted on the steering lever, a brake may be applied to the shaft of the large gear wheel to stop the machine. The steering lever is arranged in front of the rider's seat, and by means of the mechanism connected therewith friction rollers may be brought into engagement with opposite edges of the double



IMLAH'S UNICYCLE.

rim, the roller coming in contact with one edge of the rim, turning the wheel in the opposite direction, and when engaging the other edge moving the wheel in the reverse direction. One can easily get into the machine by turning the framework half way around, allowing the saddle to come back into place after stepping in.

THE PEARL BUTTON INDUSTRY.

The pearl oyster shells from which pearl buttons are made come principally from the coast of Australia and the South Pacific islands. The oysters are gathered in the spring, beginning in the month of March and ending in May. Fully 200,000 persons are employed in gathering the oyster during the season. When the boats arrive at the grounds, the divers are stripped naked and well oiled; their noses and ears are stuffed

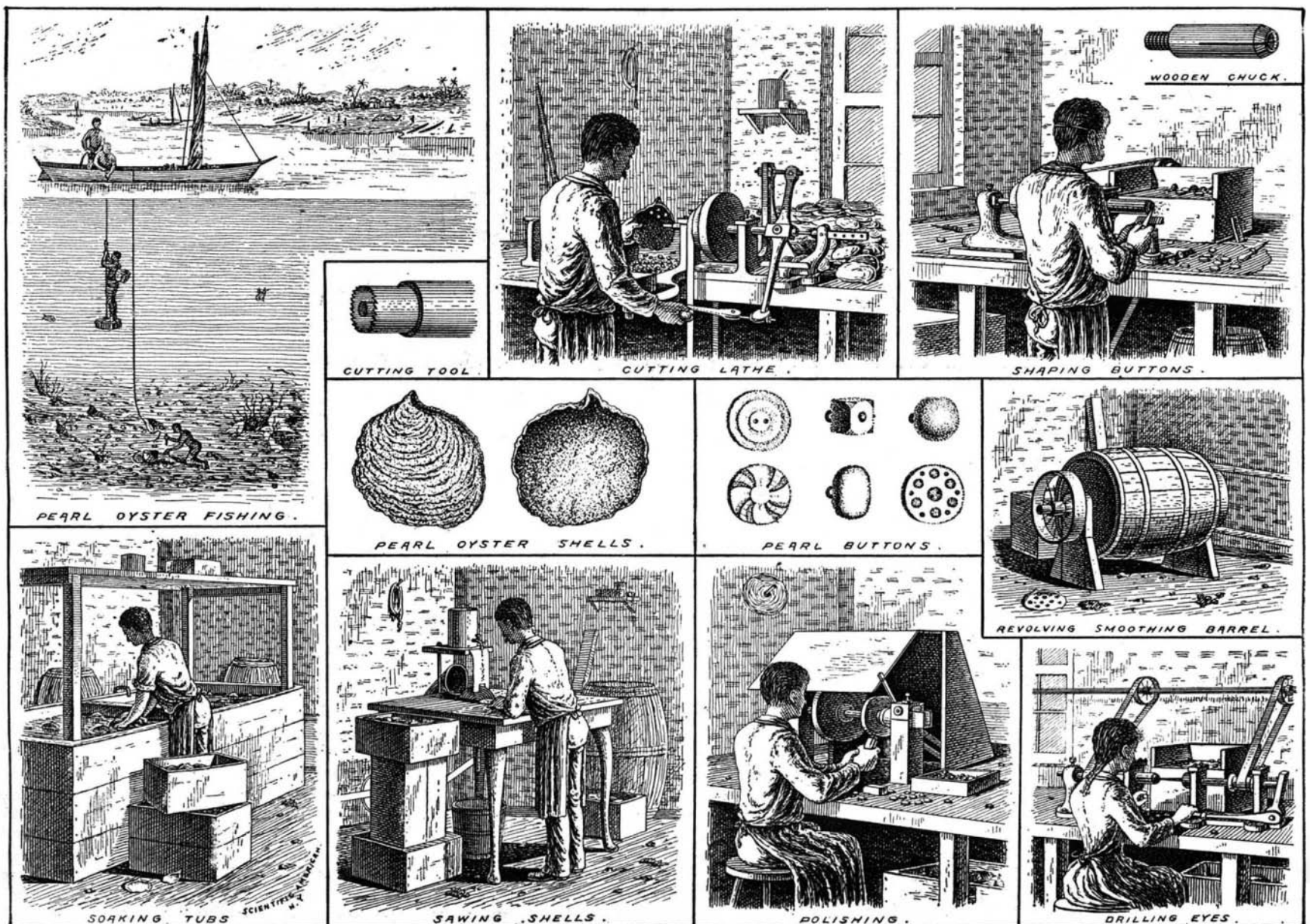
with cotton and a sponge dipped in oil fastened to one of their arms. Armed with knives, they and their baskets are then lowered to the bottom of the sea by means of large 40 or 50 lb. stones attached to ropes. The divers remain under water from 50 to 80 seconds. As soon as a basket is filled it is drawn up and the diver comes up to the surface. After resting a few moments he again descends, filling the basket again, and so on until he becomes exhausted, when another man takes his place.

The fishing is done in about 8 to 10 fathoms of water. The shells are imported into this country. There are two varieties, the white and the black or smoked pearl. They run from 2 x 3 inches to 6 x 8 inches in diameter, the largest of the shells being about a half inch in thickness near the joint. The shells are very brittle when they arrive in this country, and have to be soaked in water before they can be worked. This soaking brings them back more to their natural state. After soaking in tubs they are taken to the cutting lathe.

The operator, taking the shell in one hand, by means of a lever forces a hollow saw-edged tool against the shell, which cuts its way through, the circular piece dropping out of the hollow tool when drawn back by the lever. This operation is continued until the entire shell is perforated. The teeth of this sawing tool are 1-32 part of an inch in length.

These circular pieces are then taken to another lathe to be trimmed and formed. The circular piece of pearl is placed in the end of a slotted dogwood chuck which is hollowed out the same shape as the button. The attendant, by the use of sharp-pointed tools made of saw files, trims and forms the button as it revolves. Fancy designs on the faces of the buttons are made with ball and circular saw-shaped tools, which are placed in lathes, the operator holding the button in his hands and pressing it against the tool as it revolves. The drilling of the eyes is also done on a lathe, the button being placed in a chuck similar to that on the forming machine. The attendant by means of a lever forces the drill against the button, which cuts out the eyes.

For smoothing off ridges the buttons are put into a revolving barrel with a mixture of powdered pumice stone and water. The polishing wheels are 6 and 14 inches in diameter and made of 54 separate pieces of unbleached muslin clamped together at the center on the shaft of the machine. The revolving of the shaft causes the circular pieces to stick together, forming a perfect wheel. The attendant puts a button in the end of a small wooden chuck, rubs a little rouge made of a mixture of tripoli, flour and tallow, and presses it up against the muslin wheels, which give it a beauti-



THE PEARL BUTTON INDUSTRY.