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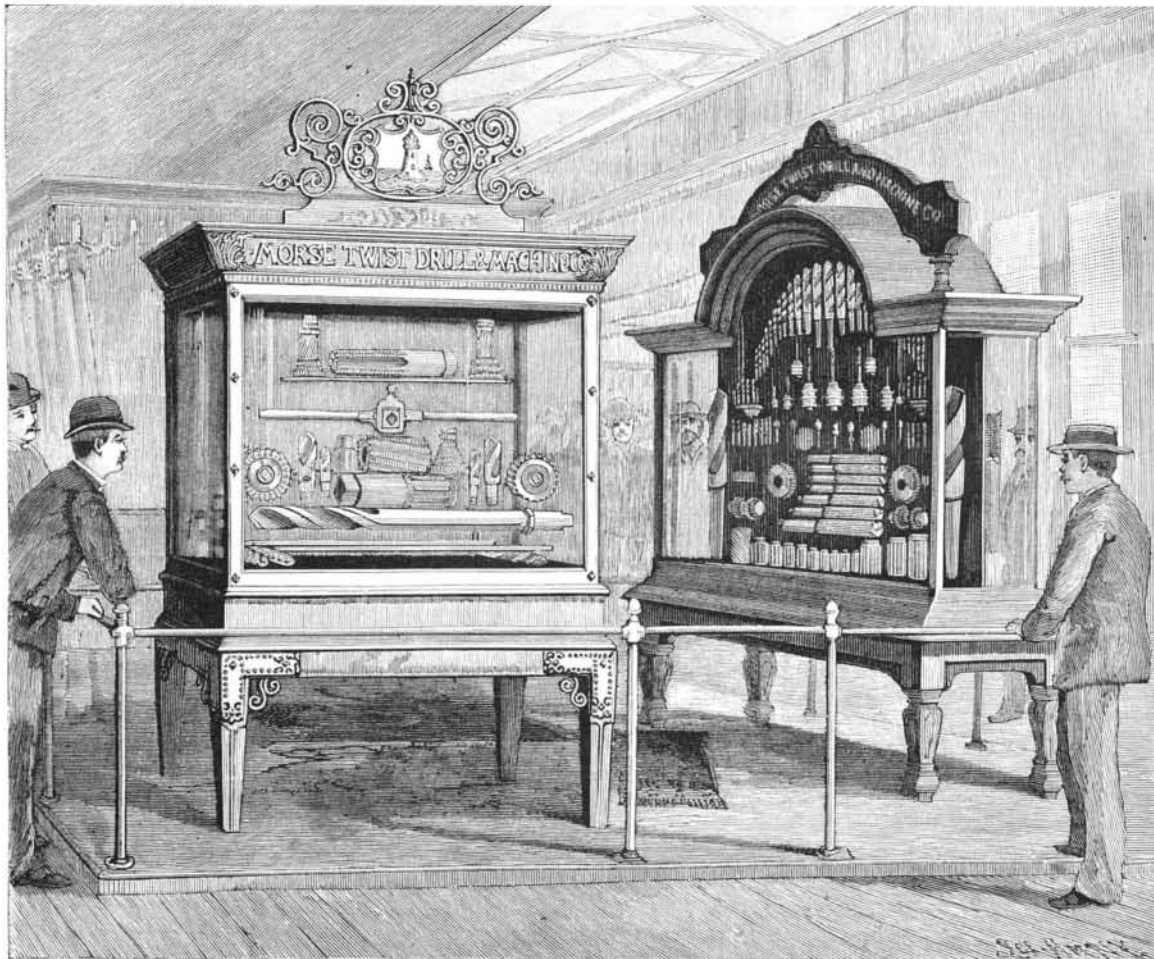
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## THE MORSE TWIST DRILL AT THE FAIR

The exhibit of the Morse Twist Drill and Machine Company, New Bedford, Massachusetts, in Machinery Hall, shows twist drills in every conceivable shape, size and variety. There are drills from 0.0135 of an inch in diameter, to use for such delicate purposes as watch work, and from this size they increase until a five inch diameter drill is reached. Such a large drill as this is used for railway brakes and like heavy work. One large drill three and a half inches in diameter is designed for drilling hydraulic cylinders, and because of the peculiar work which this drill is called upon to do, it has a copper tube incased along the twist out of the reach of wear, for the purpose of conveying oil to the drill point. The first case shown in the illustration is made of quartered oak, and ornamented with wrought iron work. In addition to the drills already described, some of which are shown in this



THE WORLD'S COLUMBIAN EXPOSITION—EXHIBIT OF THE MORSE TWIST DRILL AND MACHINE COMPANY.

case, there is a variety of drills and reamers for special work, and several special designs of shapes of end mills, also grooved chucking reamers, and a special set of drills for drilling deep holes. The second case is made of old San Domingo mahogany finely polished. In this case there is shown mostly the various sizes of drills and chucks, and also a full line of taps and dies. In both cases the exhibits rest on a background of rich black velvet, thus giving the exhibit a fine effect. At the right of the exhibit is a third case containing a full line of practical tools, many of them duplicates of those shown in the other two cases. These tools are open to inspection by visiting machinists and others, and are freely shown by the attendants in charge. The only machine shown by the company is the twist drill grinding machine near this third case. This exhibit is deserving of much praise, more because of what it represents.

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GOVERNMENT BUILDING.

PALACE OF LIBERAL ARTS AND MANUFACTURES.

PALACE OF ELECTRICITY.

ADMINISTRATION.



MARINE CASINO.

FISHERIES.

THE WOODED ISLAND.

PALACE OF MINING.

THE WORLD'S COLUMBIAN EXPOSITION—A GENERAL VIEW.—[See page 199.]

THE MORSE TWIST DRILL AT THE FAIR.

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sents in the history of American industries than because of the mere display it makes here. The company has been in existence over thirty years, and during that entire period there has been only one change in the board of directors, and that was because of the death of a member. Mr. Edward S. Taber, president of the company, has been one of its moving spirits for twenty-four years, and there are several foremen and other men holding responsible positions who have been connected with the company over twenty years. This industry is one of the few in the United States that has won such a reputation as to be as well known in distant parts of the world for its products as in its own country. The exhibit is arranged with much taste, with potted tropical plants scattered about. It is in charge of Mr. H. E. Cushman, special representative of this concern.

THE WORLD'S COLUMBIAN EXPOSITION—GENERAL VIEW.

The roof of the Woman's Palace is constantly crowded with visitors who wish to enjoy the superb view there presented to the eye. On a fine day the shining dome of the Administration building dominating all, the huge expanse of roof on the Palace of Manufactures, the waters of the lagoon and the rich green of the Wooded Island all taken together produce a remarkable effect. At the left of our view will be noticed the fine building known as the *Cafe de Marine* or Marine Casino. This building measures 100 × 300 feet and is built in the timbered French Gothic style. The rooms are so arranged that they may be thrown open so that the verandas and diningrooms are practically one. The great specialty of this restaurant is fish. Just beyond this casino is the round angling pavilion of the beautiful Fisheries building, designed by Henry Ives Cobb. This edifice is rectangular in shape, with two circular pavilions connected to the central portion by arcades. The building somewhat resembles the Trocadero at Paris. The details of the ornamentation are very interesting, fish decorations taking the place of conventional ornament. Next is the Government building, reached by crossing either of the bridges shown. Here all branches of the government works are represented by exhibits prepared with the utmost care by the different departments. The manufacture of money and ammunition is illustrated, as well as the curiosities of the Patent Office, a model post office, etc. It is only a step to the great Palace of Manufactures and Liberal Arts. As we have already described this building, we will pass to the Palace of Electricity, which is separated from the Manufactures building by the North canal.

The Palace of Electricity occupies a peculiarly prominent position. More people pass it daily than any other building in the grounds. The main facade has a large hemicycle, with polychromatic decoration, which forms a niche to exhibit the fine statue of Franklin. The dome of the Administration building rises above the Electricity building. This dome is covered with aluminum bronze leaf. The Mines building at the right is rather plain architecturally, but the contained exhibits are of great value and beauty.

In the foreground at the right we have a view of the delightful retreat known as the Wooded Island. A writer in the *Independent* describes it as follows:

"It is situated in the center of the main lagoon, and affords a most delightful semi-sylvan retreat these hot summer days. The island contains sixteen acres, beautifully laid out with walks shaded with trees, and dotted with myriads of beds of beautiful flowers. So large a proportion of the island is given over to the cultivation of flowers that the air is heavy with the fragrance of thousands of specimens of floriculture. Rare species of aquatic plants line the shores of the lagoon, adding to the beauty of the place. The original intention has been wondrously carried out—that of having a 'procession' of flowers in their season. At one time 10,000 rhododendrons were the chief attraction; at another 50,000 roses, including over 2,000 varieties, vied with cacti of bewildering kind and color and shape, some of the latter having trunks as large as saw-logs. Cannas and yuccas by the thousands were also to be seen.

"At the lower end of the island is the famous 'Hunter's Cabin,' which, in its way, is one of the unique exhibits upon the grounds. Just outside the door is the old wagon, or 'prairie schooner,' whose dingy canvastop and generally dilapidated appearance gives abundant evidence of having been familiar with the devious winding mountain roads from Texas, through New Mexico, Colorado and Arkansas to the Black Hills, only to finish out a well-rounded though varied existence in Yellowstone Park. 'The Boone and Crockett Club' invites the visitor inside, where he may feast his eyes upon a typical frontiersman's cabin, even the chinks between the huge logs being filled with mud. The conventional fireplace is here, over which hang snowshoes, hunting implements, deers' antlers, etc. Among the curios presented to view is a pistol, once the property of that pioneer of Kentucky,

Daniel Boone, and also a rifle that belonged to Davy Crockett, of 'Be sure your's right' fame. Both are queer-looking arms, and plainly were veritable 'weapons of destruction' in the hands of their redoubtable owners. Of course, the cabin would not be complete without the usual motley array of revolvers, knives, pipes, army blankets, playing cards, lariats, etc., scattered picturesquely, though with studied negligence, about the place. At the north end of the island are the three Japanese buildings representing the Hoo-den temple, built 840 years ago. These have, with proverbial Oriental generosity, been presented to the city of Chicago, and will be perpetually maintained in Jackson Park as a remembrance of the great Exposition. The architecture is characteristically Japanese, and the interior is artistically decorated by the Tokio Art Academy. The general public is excluded from the buildings, owing to their religious nature; but an occasional glimpse through the latticed sides gives the visitor an excellent idea of the interior of the temple."

Peach Fever.

"Peach fever," an occupational disease, not infrequently seen among the employees in the fruit packing and canning establishments of Maryland and Delaware, is the subject of a paper by Dr. C. L. Anderson, of Hagerstown, Md., in a recent number of the *Maryland Medical Journal*. Dr. Anderson divides the cases into two varieties: First, the psychotic variety, marked by mental exaltation, ideas of grandeur, seen in persons having a lively imaginative faculty; second, the true peach fever, caused by contact with the fruit in the course of its being picked and packed for market. This variety is defined as "a morbid condition of the respiratory and cutaneous surfaces, with some consequent systemic disturbances, due to irritation from the pubescence of the skin of the common peach—the *Amygdalus persica*." The Schneiderian membrane first becomes irritated and tumefied, and yields a large flow of serum and mucus. The frontal sinuses, the conjunctiva, and the larger bronchi may take on, by extension, the same kind of disturbance; cough and asthma may be excited in susceptible subjects. On the skin, the chief display of this amygdaline inflammation will be found about the wrists, forearms, neck, and forehead. It commonly begins and ends in a macular or papular eruption, but it may go on to a true dermatitis and to pustulation. The febrile rise may be as high as two degrees, which may be taken to indicate the amount of systemic discomfort induced by the respiratory and cutaneous irritation. Thin-skinned and neurotic young women suffer more and longer than the pachydermatous men and the older women. The more experienced workers seem to become proof against the irritant after some years in the business. There is no evidence to show that the disorder is contagious.

The Requisites of a Good Rubber Tire.

The envelope must be strong enough to stand a pressure of sixty pounds to the square inch, and at the same time of such lightness as to allow the air in conjunction with it to act as a perfect cushion. It should be impenetrable, or provision should be made for closing punctures—requirements difficult to meet. In the self-healing sorts now rapidly coming into favor it will be found that great care will have to be used in the vulcanization, or as age comes along to the tire an over-cure or an under-cure will rob the tire of its self-closure.

The tire must be perfectly flexible and elastic longitudinally to secure easy depression of the tread and to return the part after depression. It must not be so elastic, however, as to allow an obstruction in the road to drive the tread of the tire to the rim of the wheel; neither must it be so much that the depression will cause the rider to be constantly working against an "up hill," as is so conspicuous in the ordinary cushion tire; otherwise the factor of speed will not exist. There must be a maximum of air and a minimum of rubber and fabric. Then the fastenings should not be complex, and repairs should not be beyond the knowledge of the amateur—quite the reverse of what is now the case, as repairs are generally beyond the capacity of the ordinary repair shop.

To obtain such a tire there is much in the rubber and more in the fabric. The first is a known quantity—certain compounds will bring certain results; but the list of fabrics to use with it is very long and the great improvement will come with further invention and the investigation of a wide field of possibilities. The special material or materials will have to be found that are the best for the purpose, and then will come a special weave of them.

A discrimination will have to be made between the "racer" and the road tire; the maximum degree of softness and lightness of weight used in the former will not be allowable in the latter. The tire business is now in its infancy, and a want of competition is not conducive to rapid strides toward the ideal one. Later on the field will be a remunerative one to the inventor who can stand head and shoulders above those who have gone before him.—*India Rubber World*.

Damaging Removal of Models from the Patent Office.

A correspondent in Washington writes us as follows: It being necessary to provide in the Patent Office building more space for the working forces of the Land and Patent Offices, the present Secretary of the Interior, Hon. Hoke Smith, appointed a commission to investigate and report upon the matter. The idea of removing 227 cases of models to another building originated, however, with the Assistant Secretary of the Interior, Governor Sims. A contract was made with Messrs. White and Freeman, to effect the transfer to the Union building on G Street, a little over a half square from the Patent Office, at the rate of \$15 per case, or the gross sum of \$3,075. But 205 cases have been removed, since there is not space (on the third and fourth floors) in the Union building to receive them. A large portion of the models—estimated at 10,000—belonging in those 205 cases have not been removed, but still lie in heaps upon the floors of the Patent Office model halls. It is asserted with every show of probability that the contractors have lost considerably on the job. That they were incompetent for it, and their hired help still more so, has been the observation of all who have watched the course of procedure. The models were handled like blocks of wood, being thrown hither and thither, and piled one upon another in rough dry goods boxes or whatever other receptacles were available. Often they were dumped like corn or potatoes, regardless of consequences. Even now one may see them in heaps where further injury is inevitable, and in boxes many deep, where delicate parts or connections are sure of breakage in most instances. The wood and iron frame glass cases were treated no better. All have been injured, some badly. The doors of the iron frame cases that have been set up in the new place do not fit, and hardly one is or can be locked. The negroes and other "hands" who moved the cases and models were wholly unused to do so delicate work, and also unfitted for it, and the results might have been easily predicted.

Now, one part of the models and model cases remain in the Patent Office and the other part in a leased building, where the natural light is, in many places, utterly inadequate, and where no artificial light has, as yet, been provided.

In the North Model Hall the main floor and one side of the first gallery is clear. In the South Hall the floor only is clear. The entire East Hall is clear. Of the space thus available, the Patent Office will get very little, the lion's share being given to the Land Office, which is, and has long been, the pet of the Secretaries of the Interior. Few secretaries have come from sections of the country where they could have acquired much knowledge of or interest in patents or the patent system.

It is not probable that even those who pushed this scheme to the present condition now approve it. The transfer of clerks from the Land Office to the Union building could have been effected with small cost and little labor compared with what this plan has involved, and the Patent Office would have been left in some sort of attractive condition. The question of keeping the models together aside, nothing could be architecturally more repulsive than the building of cheap wooden cages, called rooms, between the white marble columns of the East Hall or the more ornate columns of the North Hall. They look more like cattle stalls or merchandise booths at a county fair than anything else.

The whole thing cannot be characterized as less than a disgrace to the Department of the Interior, which conceived and initiated and is still engaged in carrying it out.

The Treatment of Alopecia with Essence of Wintergreen.

Hallopeau (*Annales de Dermatologie et de Syphiligraphie*, vol. iv., 1893) has made some experiments as regards the value of the essence of wintergreen in the treatment of alopecia. In one case six patches were found on one side of the head, which had been treated with tincture of cinnamon and had not improved.

After one month three of these were treated with essence of wintergreen, while the remaining three were treated daily with frictions with the essence of cinnamon with four parts of ether.

As a result of this observation the patches treated with the wintergreen healed immediately, while those treated with the cinnamon showed no signs of improving.

In applying the wintergreen it may be mixed with an equal part of ether or one part of vaseline to five of the essence.

The ethereal solution is very active and is rather to be preferred.

When used it is to be thoroughly rubbed in the diseased part and applied once daily.

Its beneficial effects result from its producing an inflammation of the integument and transforming it into an unfavorable medium for the growth of parasites. The application is not painful.