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TESTS AND AWARDS AT THE WORLD'S FAIR.

Considerable feeling has been caused among exhibitors, both domestic and foreign, over the uncertainty as to the manner in which tests and awards are to be made at the World's Columbian Exposition. The American Society of Mechanical Engineers made recommendations some time ago as to tests of engines, boilers, etc., but the committee on awards has made no announcement as to whether the recommendations will be acted upon in whole or in part. In regard to awards, a plan of action has been carefully studied out, but does not seem to be well received, especially by the foreign commissioners.

This system possesses many features which recommend it over the much used comparative merit plan. The principle upon which the proposed plan is based is the merit of the exhibit as compared with a certain standard set by the Exposition, and the question of making awards is to be primarily in the hands of experts who report to a department committee. In making the award consideration is given to whatever originality there may be in the exhibit, importance to the commercial world, and whatever other facts concern the exhibit. By making awards on this basis, exhibitors are not pitted against each other, and one exhibit will not be placed in second, third or fourth class, while another exhibit, probably no more deserving, is awarded first prize. Again, an award made on this proposed plan carries with it a guaranteed degree of excellence and quality, whether it stood alone in its class at the Exposition or whether there were many other exhibits in the same class, all of a more or less degree of excellence.

Representatives of Germany, Great Britain, France, Belgium, Italy and Russia, in entering their protest against this proposed method of making awards, expressed the belief that there was not sufficient time to examine all the exhibits on the lines of the proposed plan; they considered the system of graduated awards as preferable to the system proposed, asking that at least there be a distinction as to the degree of merit of the exhibit, and unless these and other concessions asked for in the matter of awards were made, the commissioners reserved the right of placing their respective exhibits *hors concours* and of withdrawing them from the consideration of the judges.

It is unfortunate that such a crisis as this should arise, yet it will probably result in good to both sides of the question and lead to the adoption of some satisfactory policy. The proposed plan carries with it some excellent ideas, especially the one that an exhibit must possess a stated degree of excellence to receive any award. Furthermore, on general principles it would seem wiser to make an award on the report of an individual expert, with the sanction of a department committee, than to imitate the old custom of making an award by comparing one exhibit against another, on the recommendation of several men who are chosen for the purpose.

In the matter of tests, it is of great importance to the mechanical and industrial world that there be a series of tests more comprehensive and exhaustive than any ever yet contemplated. There have been such refinements of late years in the matter of generating and applying energy that it is of much importance that whatever tests are made be so complete as to become a universal standard. The Exposition engineers appreciate the importance of this and have been engaged for months in preparing the preliminaries necessary to carry on the tests.

ELECTRICAL ENGINEERING AS A PROFESSION.

One of the most eminent and practical working electricians of the country, in a recent article, urges young men to keep out of electrical engineering unless they are willing to work hard and have an instinctive hankering for this line of work. If they think they fulfill these conditions, they should by all means secure a practical education in some good scientific school, and then bend all their energies in one particular direction. Electrical engineering has become specialized, like all other lines of engineering, and there is opportunity for so much work and investigation in any one special line that few men can master more than one. It is particularly noticeable in this connection that the World's Columbian Exposition has had its regular force of electricians and electrical engineers, yet in laying out the lighting and other large engineering schemes has employed specialists as consulting engineers, and by doing so has prevented several glaring failures, particularly in lighting effects. The demand for such specialists is limited, but the supply is never too great, and is not keeping up in quality with the increased demand.

But in urging upon young men to make themselves competent specialists, the writer in question did not refer alone to such lofty positions as are only within the intellectual scope of a chosen few, but more particularly to lesser yet in their way equally important lines of work. There are not many engineers in the country that thoroughly understand all the fine and necessary points required in planning and equipping an electric station of medium or large capacity. Nor is there anywhere near supply enough of men who are competent to take charge of a plant, put it into good running condition, keep it in such order that consumers of light or current can feel as sure of their supply as they are of the coming of each day, and at the same time have in mind the fact that while he is maintaining the highest efficiency in the plant, he is remembering that the stockholders are looking to him to operate the plant with a high degree of economy. In this particular line of work there are probably better openings for intelligent, well-trained young men than in any other line. Whatever the work may be—and it is equally true of all lines of engineering—the successful men are, as a rule, those who fully master one branch of their chosen profession.

Fiber from the Dwarf Palm in Algeria.

The French *Monde Economique* says that the dwarf palm, which furnishes considerable quantities of fiber, grows in great profusion in Algeria, and is one of the principal obstacles to the clearing of the land, so thickly does it grow and so difficult to pull up; its roots, in shape resembling carrots, penetrate into the ground to the depth of a yard or more, and when its stem is only cut, it sprouts out again almost immediately. As its name indicates, this palm is very small, and can only attain a certain height when protected, as in the Arab cemeteries, for example.

Various uses are made of this plant. Its roots serve as combustibles, a light kind of coal being made out of them, and the natives have employed the fibers that they extracted from the leaves and the stems, mixed with camel hair or wool, in the manufacture of stuffs for tents; with the leaf itself they make baskets, mats, hats, fans, bags, and other articles. Considerable attention is now being paid by the authorities to the encouragement of this industry in Algeria, as, in the first place, it affords to the Arabs an easy means of making a living, and, in the second, the land is thus rapidly cleared of this parasite. The idea of embarking in the industry of fiber production from the dwarf palm originated, a few years ago, with a landed proprietor living in Cheragas, about eight miles from Algiers. At the present time there are in Algeria numerous establishments which are devoted to this branch of industrial enterprise. The principal factories are those of Aversing, Elaffroun, Chiffa, Duperre and Douera, and the exports of late years have exhibited a decided increase. In 1880, the quantity of fiber exported from Algeria amounted to 9,000,000 kilogrammes, in 1885 to 15,000,000 kilogrammes, and in 1891 to 19,000,000 kilogrammes.

In preparing the fiber, the following is the system adopted. The leaves are plucked by the Arabs, and carried into the courtyard of the factory in a green state, at a price of twenty francs per ton. As they are at once used, and as they fear neither the rain nor the sun, it is only necessary to pile them on the floor in a heap. The first operation consists of sorting, which is effected by women and children. The weeds are removed from the stems which frequently adhere to them and the broken or dried-up leaves are cut away. Another operation consists in combing the leaves, or rather in carding them. This is effected as follows: A workman holds tightly in his right hand a handful of green leaves which he applies to a small carding machine. This machine consists of a drum on which some nails have been roughly fixed, and is constantly turning with great rapidity. To protect the hands of the workman it is incased in wood, with only an opening sufficiently large to admit the leaves. As it is necessary that these leaves should be damped during the work, a tap is placed above the drum, from which a constant stream of water falls upon the leaves. With this most primitive system, a workman is able to card from five to six hundred kilogrammes—1,000 to 1,300 pounds—of leaves a day.

When the leaves have been combed at both ends, they present the appearance of a handful of rough and short fiber. They are then dried, and, after certain preparations, are ready for use in stuffing chairs, couches, etc. To curl the fiber, a workman takes up a quantity of carded leaves and applies it to a bent hook, fixed upon the axle of a wheel, which is turned by a child. The first fibers accumulate round the hook, and wind themselves round it; the latter, which is constantly turning, draws in the others, and the workman recedes from the wheel while grinding the fibers with his hand. The latter soon constitute a sort of cord, one end of which is fixed to the hook, the other held firmly and horizontally by the workman. At this stage of the proceedings, the child who turns the wheel stops and detaches one extremity of the cord, which he returns to the workman, after having passed it round the hook. In this operation the cord is subject to the natural impulse of twisting and rolls up on itself, so that it is only necessary to fix the ends so that it cannot come unrolled. The fiber is kept in this condition for several weeks, and is then untwisted, and is then considered to be sufficiently curled. African fiber is employed in its natural state or dyed. In the latter case, the fibers are passed through various solutions of sulphate of iron and logwood, then curled, and again plunged into the solution.