

NOVELTIES AT THE PARISIAN TOY EXPOSITION.

BY THE FRENCH CORRESPONDENT OF THE SCIENTIFIC AMERICAN.

Paris is a town of expositions. Not a year passes but several bazaars and fairs are held, which are sure to offer something novel to interest even the *blasé* loungers of the boulevards. Decidedly out of the ordinary, however, was this year's toy show, at which were displayed amusing as well as remarkably ingenious contrivances.

One toy-maker exhibited a contrivance that must surely appeal to the man who loves to lie in bed o' mornings—nothing more or less than an alarm-clock which not only did its duty of awakening the sleeper, but which also ignited a small alcohol lamp and therefore cooked the aforementioned sleeper's breakfast.

Various forms of games demanding some skill in marksmanship were exhibited. Among these may be

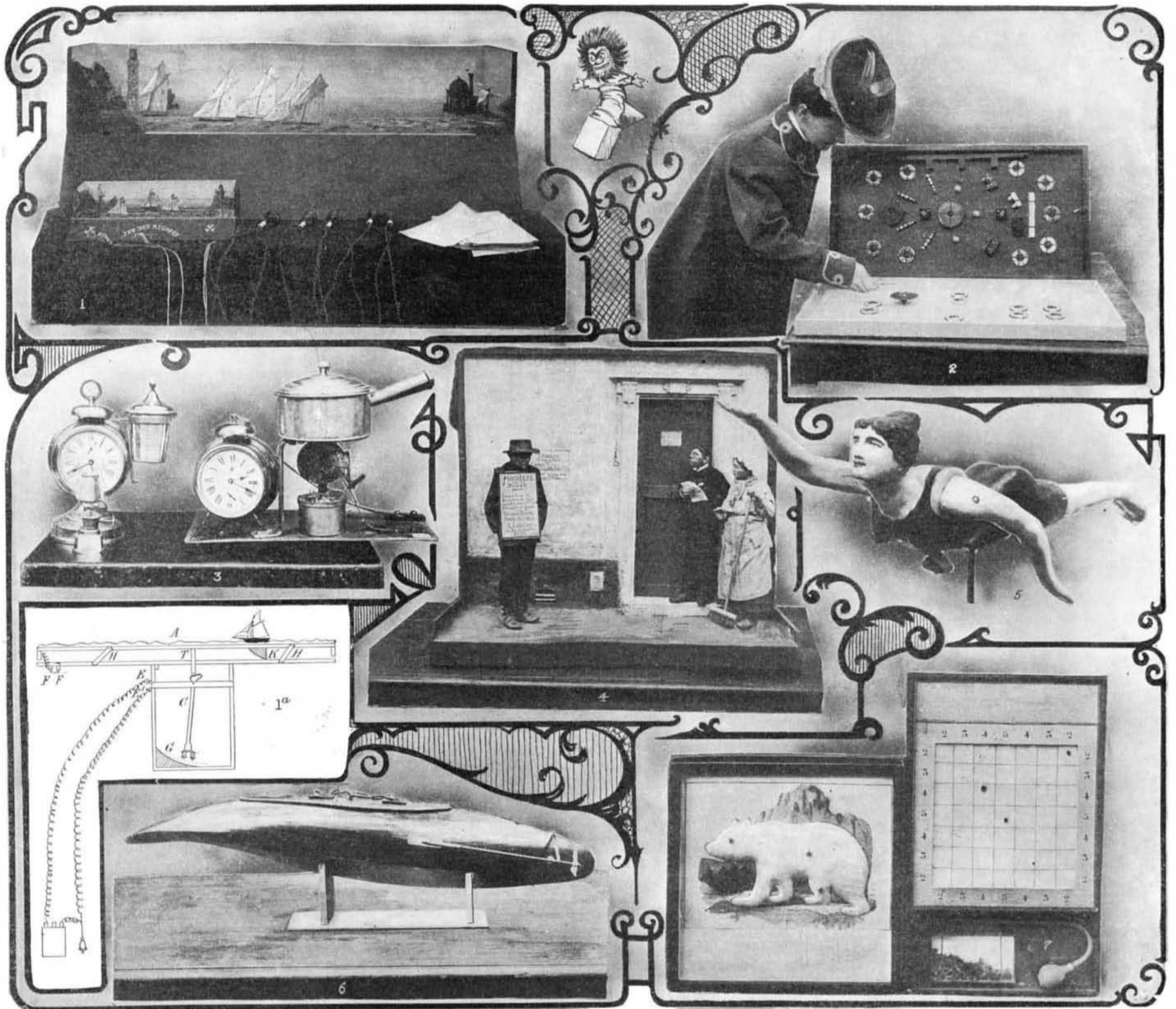
button, a current is sent through the electro-magnet, which is attracted by and drawn up to the summit of the armature *G*. The sea and the boat rock as the pendulum swings. Each boat has a centerboard, *K*. When the sea rises, the bow of the boat is lifted up, and the end of the centerboard scrapes the lower horizontal member of the table, *A*; but when the sea subsides, the boat plunges forward, the point of the centerboard preventing its return. When the winning boat has reached the end of its course, its keel touches the contacts *FF*, thereby releasing a flag and illuminating the lantern of a miniature lighthouse. Thereupon the general circuit is broken and the other boats remain in their places.

Not so very long ago a Miss Kellermann won a swimming race from the Pont National to the Viaduc d'Auteuil. She used what she called a "trudgeon" stroke,

A jumping launch likewise attracted considerable attention. The model was built on the lines of a porpoise and was driven by electricity. A trial trip on the Bois de Boulogne Lake showed that the little craft could travel at the rate of twelve miles an hour.

Interesting too was a mechanical toy, which in its way acted a pantomime, the purport of which was to show that inventors are not without their trials and tribulations.

Most interesting, also, was the electric top of M. H. Chasles. It was natural enough that a sheet steel top should follow the movements of a magnet; but the strange thing about this top was that it was attracted by the magnet only when the poles were held below the disk and repelled when the magnet was held over the disk. Just why this should be so no one has satisfactorily explained. It is possible, evidently, to utilize



1.—The Regatta Game. Each boat is controlled by a pneumatic tube and bulb. When the bulb is pressed the boat is impelled forward. The boat which reaches the lighthouse first is the winner. 2.—A game which consists in attracting and repelling a spinning steel top by means of a magnet. 3.—An alarm clock which lights a small alcohol lamp and cooks your breakfast while you dress. 4.—A mechanical puppet scene illustrating the trials and tribulations of the inventor. 5.—A cleverly designed toy which imitates the "trudgeon" stroke of the champion swimmer Miss Kellermann. 6.—A jumping boat, built on the lines of a porpoise. 7.—Pneumatic target. Darts are discharged at the cotton bear by means of a tube and bulb.

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mentioned the pneumatic target of M. Henri Chasles, which he calls *Tir Pax*. The projectile, which is merely a dart, is hurled against the target either by means of a blowgun or by pressing the bulb of a pneumatic tube. The toy is so far of interest in that the target (a bear) is made of a very shaggy material to which the dart readily adheres.

One of the most striking electrical toys at the show was the "regatta game" of M. Dauset. Five miniature boats, each controlled by a rubber tube and bulb, sailed on a painted ocean, which was really a table built on the principle of the parallel rule. Referring to the diagram (Fig. 1a), the parallel members of the table *A* are connected by the parallel members *H*, and represent the sea. The table is connected with a pendulum, *C*, carrying an electro-magnet, *D*, in front of which an armature, *G*, is mounted. By pressing a

peculiar to her native Australia. M. Schmeltz exhibited a swimming doll which reproduced this stroke mechanically. The arms are so mounted at right angles on a shaft passing through the shoulders, that the one is always on the down stroke while the other is making the up stroke. The shaft is turned either by a twisted rubber band or a spring. The doll inclines its body just as Miss Kellermann did during the famous race and swims rapidly. Evidently the forward movement is obtained on the principle of Archimedes' screw. When the two arms are so placed that one lies alongside the body and the other is extended forward, perfect equilibrium is established and the body assumes a horizontal position. But as soon as one of the arms enters the water the equilibrium is disturbed and the body is inclined to one side. This is what actually happens in the case of a human being.

the movements of translation for all games of skill.

Exhaustive comparative tests of saturated and superheated steam for marine purposes have recently been carried out on a steamer called the "James C. Wallace." This vessel is one of the largest "freighters" on the lakes, and has lately been put into service. She is equipped with two Babcock & Wilcox marine water-tubular boilers with superheaters, and the arrangement is such that the latter may be dispensed with and saturated steam used. The engine is of the quadruple-expansion, vertical direct-acting, jet-condensing type. A comparison, based on dry coal, shows a net saving in fuel, with superheated steam, amounting to 14.5 per cent. This result represents the combined increased efficiency of machinery plant. The highest amount of superheat was 91 deg.