

Inventor of the Famous Jacquard Loom.

"After seven years—a long time to patiently develop an idea—Jacquard had produced a loom which would decrease the number of workmen at each machine by one person. . . . In gratitude for this discovery he went to the image of the Virgin, which stood on a high hill, and for nine days ascended daily the steps of the sacred place. Then he returned to his work, and seating himself before a Vaucanson loom, which contained the germ of his own, he consecrated himself anew to the perfecting of his invention. . . . It remained for Jacquard to make the Vaucanson loom of the utmost practical use to Lyons and to the world. After a time he was not only able to dispense with one workman at each loom, but he made machinery do the work of three men and two women at each frame. . . . When brought before Bonaparte and Carnot, the Minister of the Interior, the latter asked, 'Is it you, then, who pretend to do a thing which is impossible for man—to make a knot upon a tight thread?' Jacquard answered the brusque inquiry by setting up a machine, and letting the incredulous minister see for himself. The Emperor made Jacquard welcome to the Conservatoire des Arts et Metiers, where he could study books and machines to his heart's content, and gave him a pension. . . . Soon, however, the tide of praise turned. Whole families found themselves forced into the street, for lack of work, as the looms were doing what their hands had done. Bands of unemployed men were shouting, 'Behold the traitor!' . . . The authorities seemed unable to quell the storm, and by their orders the new loom was broken in pieces on the public square. 'The iron,' says Jacquard, 'was sold as old iron; the wood, for fuel.' . . . Soon Switzerland, Germany, Italy and America were using the Jacquard looms, largely increasing the manufacture and sale of silk, and therefore the number of laborers. The poor men of Lyons awoke to the sad fact that by breaking up Jacquard's machines they had put the work of silk weaving into other hands all over the world; and idleness was proving their ruin. . . . The inventor refused to take out a patent for himself, nor would he accept any offers made him by foreigners, because he thought all his services belonged to France. . . . The struggling, self-sacrificing man, who might have been immensely rich as well as famous, was an untold blessing to labor and to the world."—Extracts from the Life of Jacquard, by Sarah K. Bolton.

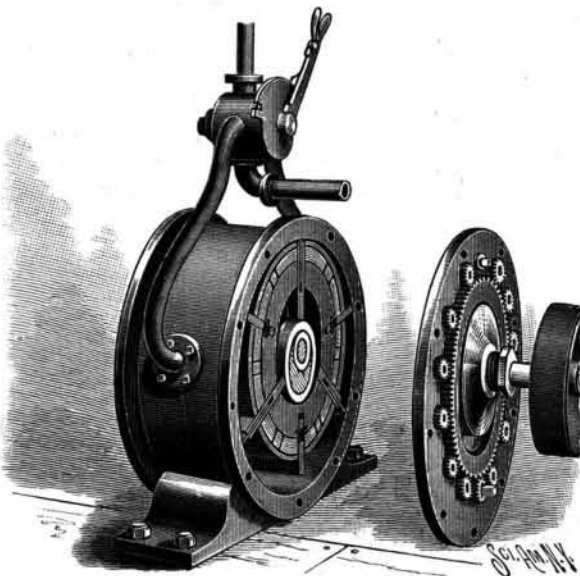
THE TOXOPHILITE SOCIETY.

The elegant and once fashionable art of shooting with the long bow has been properly called "archery," and everybody knows the meaning of that word. "Toxophilite," however, derived from the Greek, cannot signify anything but the love of the bow; perhaps many people would naturally think it might be the designation of some chemical compound. But if they were admitted to the beautiful grounds of a highly select

society, in the inner circle of Regent's Park, they would soon be enlightened, and would learn to admire a graceful kind of skill, not, indeed, so robust an exercise as lawn tennis, yet sufficiently amusing for leisure hours of a summer day.—Illustrated London News.

AN IMPROVED MOTOR OR PUMP.

A motor designed to be worked advantageously by either steam or water, and which may also be readily converted into a powerful pump, is shown in the accompanying illustration, and has been patented by



BROWN'S MOTOR OR PUMP.

Mr. C. E. Brown, of Stayton, Oregon. It has a single cylinder in which turns a shaft from which power is taken, or to which power is applied when used as a pump, the shaft turning in a stuffing box in one of the cylinder heads, and the inner end of the shaft being mounted in a socket stuffing box in the other head. The shaft is placed above the center of the cylinder, so that a chamber for steam or water is formed around the lower portion of the piston, the latter being provided with radial slots in which are sliding supports carrying wings forced outward by springs, and forming abutments against which the steam or water strikes. In recesses in the piston ends are rings, which, as the piston revolves, force the wings inward and outward, and there are also provided short spring-pressed wings, extending only partially across the steam or water chamber, to form an increased area for the steam and water to act against, and also to prevent back pressure. In the ends of the piston, and near its outer periphery, are packing rings made up of segmental sections, pressed outward by springs, a

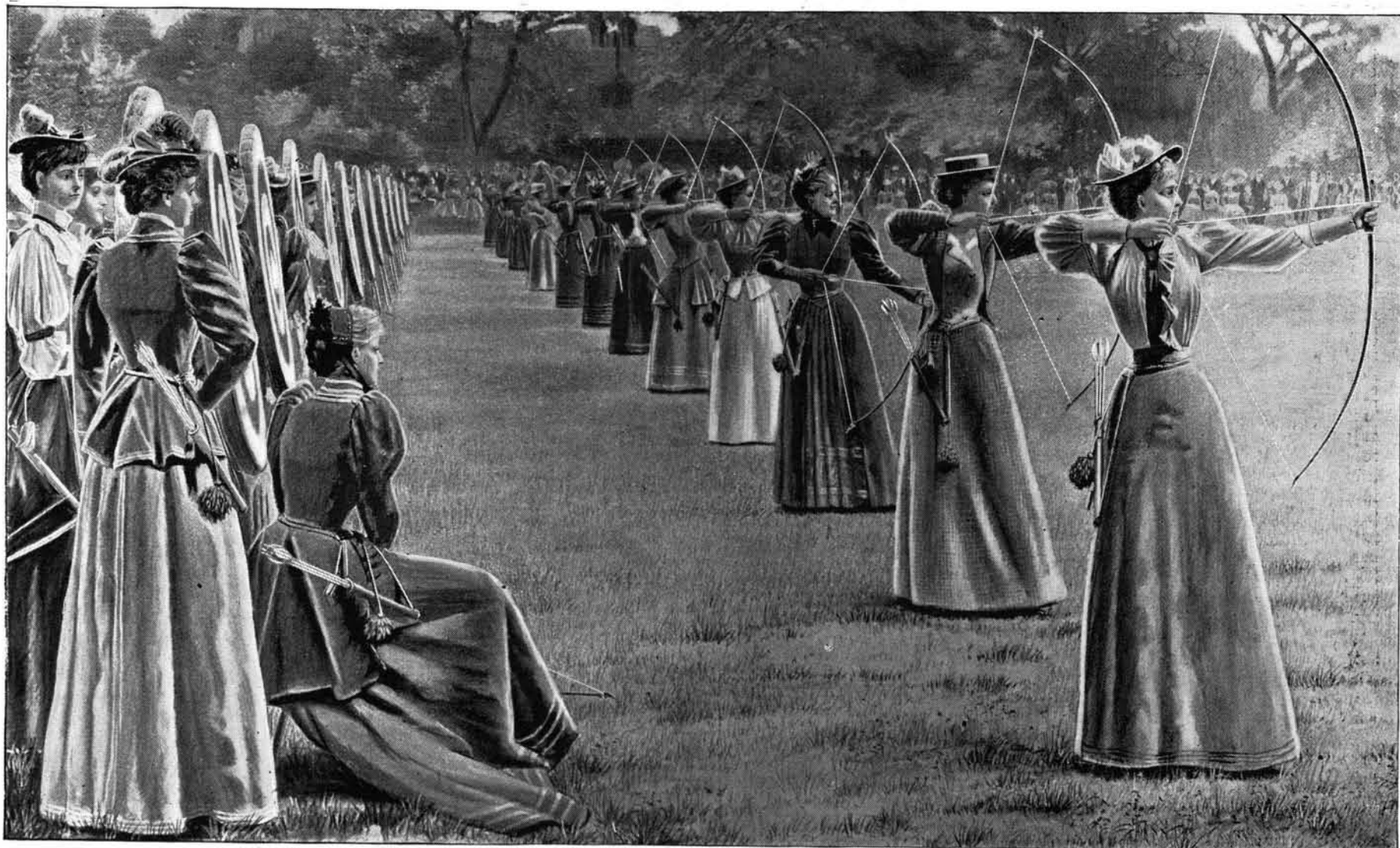
wedge-shaped spring-pressed block between each pair of sections spreading the sections end wise and keeping the rings tight.

The cylinder head nearest the pulley has means of adjustment to take up wear and leakage, having an inwardly projecting portion provided with a split calking ring expanded by a screw which projects through the head, thus making a tight joint. The ring is pushed inward by screws mounted circumferentially on the head, pinions on the outer ends of the screws meshing with a cogwheel engaged by a pinion on which is a stud to receive a crank, by turning which the several pinions are simultaneously revolved to force inwardly all portions of the inner head and calking ring. From a valve casing at the top a pipe leads to each side of the cylinder, either pipe being used as a supply or exhaust pipe, according to the direction in which the piston is to be rotated, and these pipes connect with grooves or ports in the inner sides of the cylinder. A self-governor is also provided for the device when used as a motor, consisting of check valves which open under pressure from within the cylinder, and when the engine is running at high speed the centrifugal force throws out the blades of the wings against the tension of springs, in one form of the improvement, to shut off the supply of steam from the space where the most effective pressure would be exerted.

Meat Eating and Temper.

Mrs. Ernest Hart, who accompanied her husband in his recent trip around the world, appears to come to the conclusion that meat eating is bad for the temper. In the Hospital she says that in no country is home rendered so unhappy and life made so miserable by the ill-temper of those who are obliged to live together as in England. If we compare domestic life and manners in England with those of other countries where meat does not form such an integral article of diet, a notable improvement will be remarked. In less meat-eating France, urbanity is the rule of the home; in fish and rice-eating Japan, harsh words are unknown, and an exquisite politeness to one another prevails even among the children who play together in the streets. In Japan I never heard rude, angry words spoken by any but Englishmen. I am strongly of opinion that the ill-temper of the English is caused in a great measure by a too abundant meat dietary, combined with a sedentary life. The half-oxidized products of albumen circulating in the blood produce both mental and moral disturbances. The healthful thing to do is to lead an active and unselfish life, on a moderate diet, sufficient to maintain strength and not increase weight.

SOUTH AMERICAN ants have been known to construct a tunnel three miles in length, a labor for them proportionate to that which would be required for men to tunnel under the Atlantic from New York to London.



MEETING OF THE TOXOPHILITE SOCIETY.