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American Cotton Gins in India.

In July, 1851, the Eagle Cotton Gin Manufacturing Company, of Louisiana, sent to Calcutta one of their gin stands for making fine cotton, and intending it to enter into competition for the prize of 5000 rupees, offered in 1849 by the government of India, through the Agricultural and Horticultural Society of India. The Society awarded the American gin stand a prize of \$1250 and a handsome gold medal.

New Marine Governor.

Our engraving illustrates a new invention, which has for its object the regulation of the movements of marine steam engines, such as are used on board of our ocean steamers. When the vessel sails on an even keel, so that both paddle wheels dip simultaneously in the water, no difficulty is experienced in the working of the machinery. But when the ship rolls or rises and falls on the sea, one paddle is apt to be lifted out of water, and sometimes both are raised so that they cannot dip. Either of these circumstances is sufficient to cause a jerking and wrenching of the engine, by a sudden increase or diminution of speed consequent upon the irregularity of the resistance.

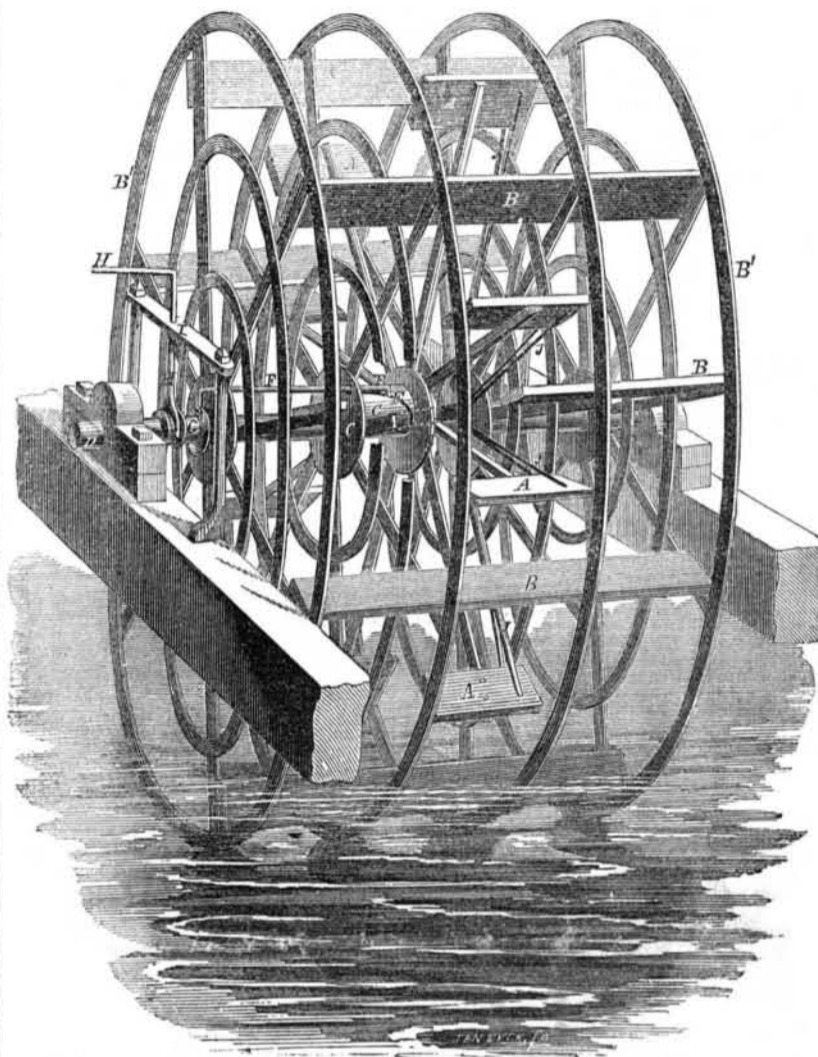
It is proposed to overcome these difficulties by the employment of a series of small paddles, A, placed within the ordinary wheel, B B', said small paddles being attached to a drum, C, revolving loosely upon the main shaft, D. A spiral slot, E, is cut in the periphery of drum C, and in this slot the end of a connecting rod, F, fits, so that when the drum, C, is partially turned forward or back, the rod, F, will receive a corresponding horizontal movement. Rod F connects with a sliding collar, G, on shaft D, and collar G is connected by means of rod H, with the throttle valve of the engine. Rod H passes through a swinging bar, I. By this series of connections the throttle valve is opened or closed according to the position of the small paddles, A.

The paddles, A, are held in place mid-way between the large paddles, by the springs, J, the inner ends of which are attached to the main shaft, D.

When the wheel dips properly, the water will press the small paddles, A, up against the faces of B, and the movement of A will turn C, operate rod F, and open the throttle valve, thus letting on a full supply of steam. When the wheel rises from the water, and no longer dips, the force which pressed back the paddles, A, will be removed, and the springs, J, will cause them to resume their position mid way between the large paddles; by this act the drum, C, will receive partial rotation in a contrary direction from that just mentioned, and rod H will be operated so as to close the throttle valve. In this manner the regulation of the engine is effected instantaneously, according to the power required. If the wheels dip, the full force of the steam is applied to the engine, but if the wheel rises out of the water, the steam is instantly shut off. The speed of the engine is thus regulated according to the work required of it at the moment.

This invention is applicable, at no great ex-

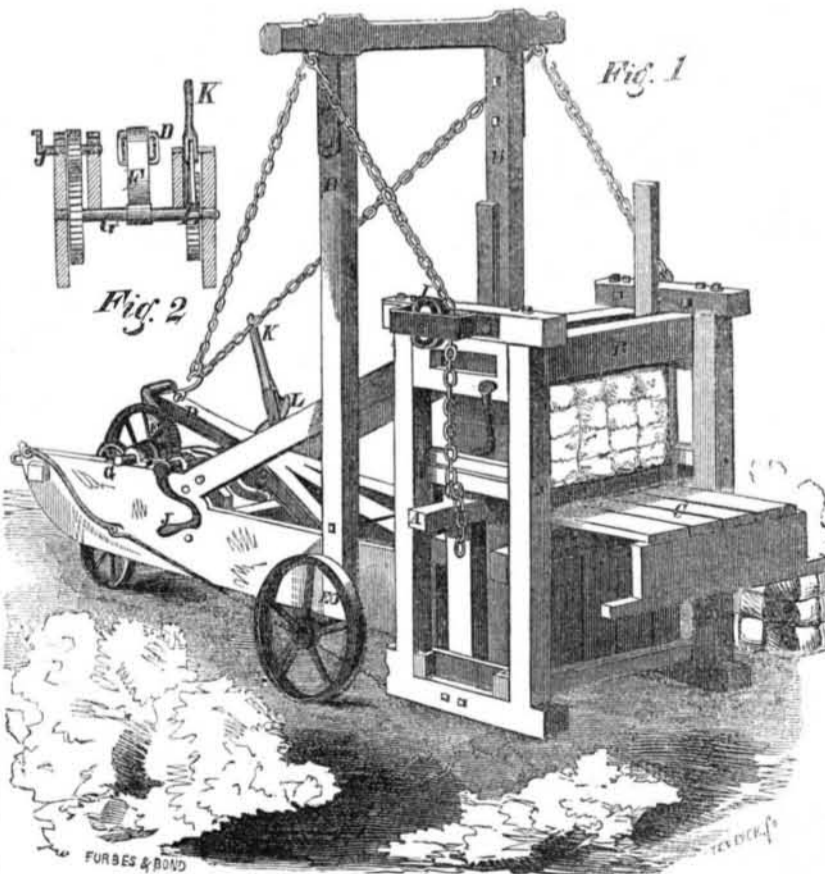
NEW MARINE GOVERNOR.



pense, to the paddle wheels of steamers now in use. The parts are simple and can be made as strong as circumstances require. The regulation of marine engines is an important subject, and any improvement relating thereto

should be carefully examined by engineers. For further information address the inventor, Wm. B. Godfrey, Auburn, Mahaska Co., Iowa, or J. A. Knight & Co., 334 Broadway, N. Y. Patented May 27, 1856.

COMBINED COTTON PRESS AND POWER.



Combination Cotton and Hay Press. Our engraving shows an ingenious cotton mechanism by which the pressure is obtained,

may be separated, at pleasure, from the press, and used, for other purposes, such as moving buildings, raising burdens, extracting stumps, etc.

The press itself is of the usual simple construction, A being the follower, and B the top board, C the hinged side board. The material to be pressed is placed between A and B. The ends of the follower, A, are raised, and the intervening substance compressed. D is a strong lever, one end of which is pivoted, and the other end is connected by strap, F, with a shaft, G, whose office is to wind up strap F, and pull down the end of lever D. (See fig. 2.) It is by the pulling down of lever D that the follower, A, is raised, for it will be observed that chains extend from the end of D to the top of strut frame H, and thence over friction wheels, I, to the ends of followers A. The lower ends of strut H rest on shaft E.

The necessary power for pulling down the end of D is obtained by a train of gear wheels connected with shaft G, in the usual manner, power being first applied at crank J, when the resistance is small and a quick motion admissible. But during the last stages of the operation, when an augmented pressure is wanted, power is applied to lever K, which, by means of its pawl, L, acts on a ratchet wheel on one of the gears. Suitable pawls hold the purchase as fast as obtained. After a bale has been compressed it may be removed, and the follower, A, lowered, by reversing the crank, with great rapidity.

All the parts of this press are strong and simple. It possesses the advantages of quickness of operation, unlimited power, cheapness, and portability. The fact that the power mechanism can be detached from the press and applied to other purposes, as above indicated, will render the machine doubly valuable. This improvement is the invention of Mr. S. W. Ruggles. Patent applied for. Address Mr. G. D. Harris, assignee of the invention, Fitchburg, Mass., for further information.

Decease of Distinguished Inventors and Mechanics.

We have recently recorded the decease of Paul Stillman and George Steers, of this city and N. J. Wyeth, of Cambridge, Mass., men distinguished for their inventive genius and mechanical skill, and now we have another name to add to the sad list. James Renton, of Newark, N. J., the inventor of a new furnace for manufacturing wrought-iron direct from the ore, named "Renton's process," died suddenly at Brighton, Pa., on the 26th ult. His furnace was illustrated and described on pages 169 and 172 Vol. IX, SCIENTIFIC AMERICAN.

Action of Sugar on the Teeth.

The Charleston, S. C. *Medical Journal* states that M. Larez, in the course of his investigations on the teeth, arrived at the following conclusions:

"1st. Refined sugar, from either cane or beets, is injurious to healthy teeth, either by immediate contact with these organs or by the gas developed, owing to its stoppage in the stomach.

2nd. If a tooth is macerated in a saturated solution of sugar, it is so much altered in the chemical composition that it becomes gelatinous, and its enamel opaque, spongy and easily broken.

3rd. This modification is due, not to free acid, but to a tendency of sugar to combine with the calcareous basis of the tooth."

The foregoing conclusions are correct, and candies and condiments should be avoided. They should be kept from children especially. It is well known that maple sugar renders the teeth tender and sensitive.

