

hydraulic press, and both are a division of a copending application previously filed. The object of the present improvement is the same as the one above, and both relate to hydraulic presses for forging and other purposes—such, for example, as bending and testing armor-plates, flanging, and the like—in which the power for lifting the press-head is supplied from an accumulator or other source independent of that from which the power is derived for causing the head to perform its work.

WATER-MOTOR.—M. H. WHITE, Everett, Wash. This apparatus comprises a casing open at each end and having a flat base on which it may rest in upright position on the bed of a stream, so that the water flows through the casing. Placed longitudinally in the casing is a peculiarly-constructed screw, the plates of which are acted on by the current, whereby a rotary movement is imparted, and said movement is utilized for operating the pumps attached to the casing and by which the water is elevated. It is particularly useful for elevating water used for irrigating purposes.

NOTE.—Copies of any of these patents will be furnished by Munn & Co. for ten cents each. Please state the name of the patentee, title of the invention, and date of this paper.



WANTS TO CORRESPONDENTS.

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(9432) W. K. F. says. Will you kindly answer me in the Notes and Queries of the SCIENTIFIC AMERICAN, the following questions: (a) Which would be better to measure the capacity of a 5x7 Crowfoot battery? (b) What should it register? (c) How can any deficiency to register the proper amount be made up? A. A voltmeter will measure the e.m.f., and an ammeter will give you the current in a Crowfoot cell. The voltage is usually about 1.07 volts in a cell freshly set up, and in an old cell may be less than a volt. The amperes depend upon the external resistance, the distance between the zinc and the copper, the strength of the solution, and other things. If a cell is run down, the clear liquid at the top should be siphoned off, and water should be added to bring the liquid up over the zinc.

(9433) W. C. asks: Being a constant reader of your valuable paper, I take the liberty of asking the following questions: Suppose a train traveling at the rate of a mile per minute carries a gun which sends a ball with the same velocity as the train. What would be the result? In other words, would the ball reach a given point in advance of the train? What would be the result if the gun were discharged in the opposite direction? A. As a constant reader of the SCIENTIFIC AMERICAN you should have seen the problem of the gun fired on a moving train discussed several times in recent years. You will find it in Queries 8823, 8862, and 9270. The principle is simple. The gun will do the same to the ball as if the train did not exist. The train will do the same to the ball as if the gun did not exist. Newton's law is "A given force will produce the same effect, whether it acts alone or with other forces." If the ball were discharged in the same direction as that of the train, the ball would go forward with two motions, that of the train and that of the gun. It would thus go ahead of the train a mile a minute. If shot in the opposite direction, the train would carry the ball forward and the gun carry it backward at the same time, a mile a minute. The ball would therefore drop directly from the mouth of the gun to the ground. It is the same with throwing a package from a moving train. Throw it backward if you want it to drop to the ground.

(9434) R. R. asks: Please answer the following question in Notes and Queries column: Can the coils and instruments necessary to produce the Hertzian waves for a wireless telegraph transmitter, to be used with a receiver like that mentioned on page 347 of SCIENTIFIC AMERICAN of April 30, be made by an amateur; if so, where could I get the necessary information? A. Any person with some mechanical ability and experience may confidently undertake to make the wireless telegraph apparatus described in our issue of September 14, 1901. With some knowledge of electrical work, there is no reason to apprehend failure to make it do its work well. The necessary information is given in the paper referred to above. Special instructions for making an induction coil are given in Norrie's "Induction Coils," price \$1. It will be better to buy a relay and sounder than to try to make one.

Business and Personal Wants.

READ THIS COLUMN CAREFULLY.—You will find inquiries for certain classes of articles numbered in consecutive order. If you manufacture these goods write us at once and we will send you the name and address of the party desiring the information. In every case it is necessary to give the number of the inquiry.

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Table with multiple columns listing various scientific and mechanical items, their descriptions, and associated numbers. Items include air compressors, pumps, engines, and various specialized machinery.

Table with multiple columns listing various scientific and mechanical items, their descriptions, and associated numbers. Items include electrical apparatus, pumps, engines, and various specialized machinery.

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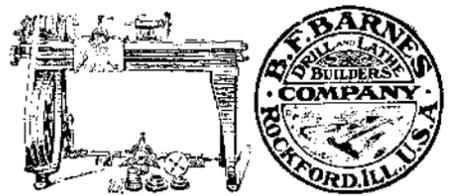
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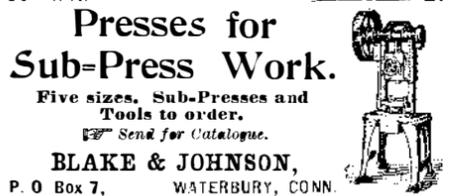


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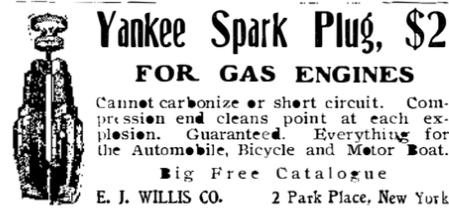


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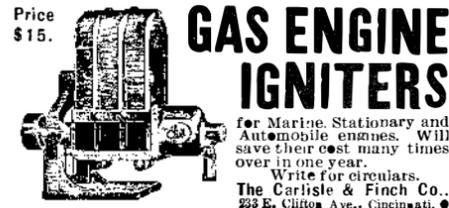
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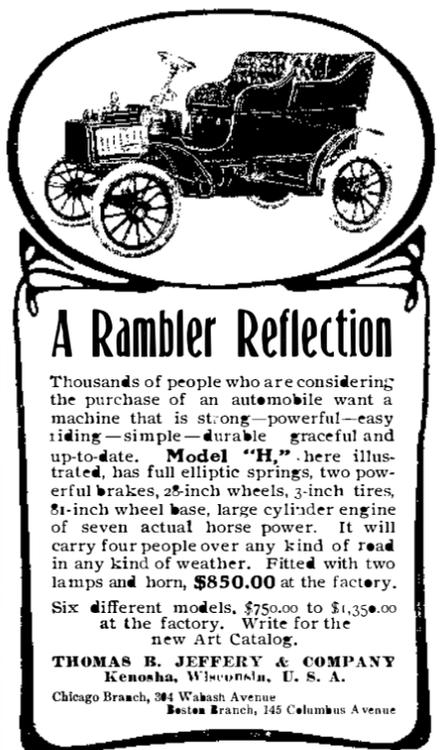


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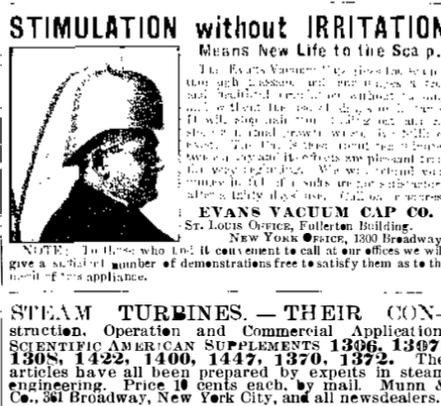
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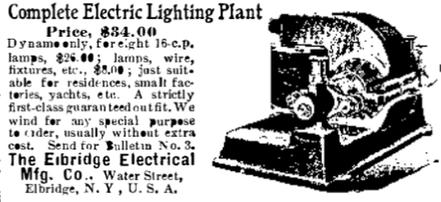
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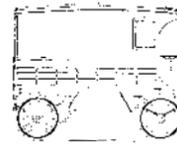
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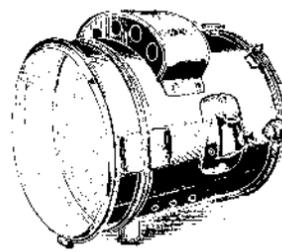


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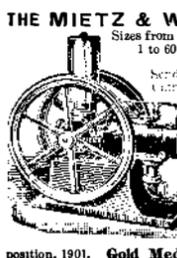


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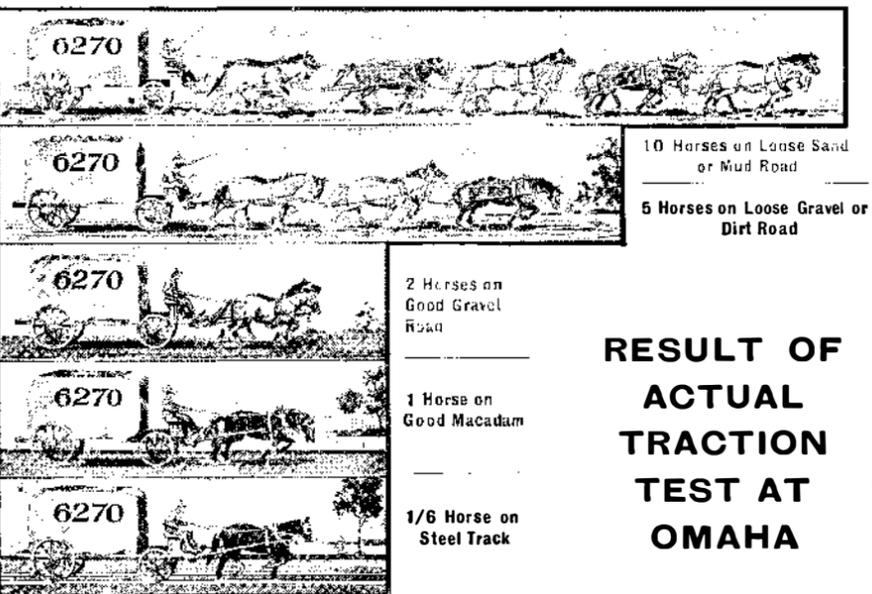
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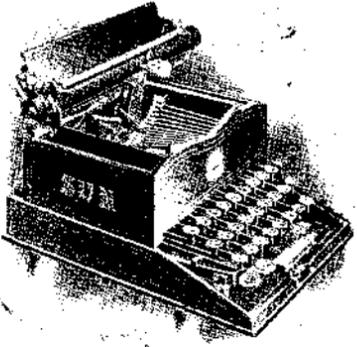
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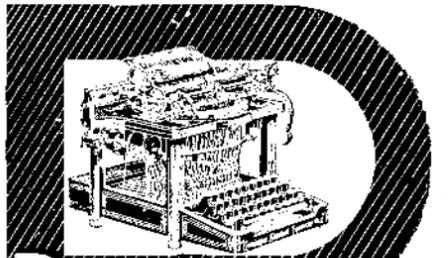
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