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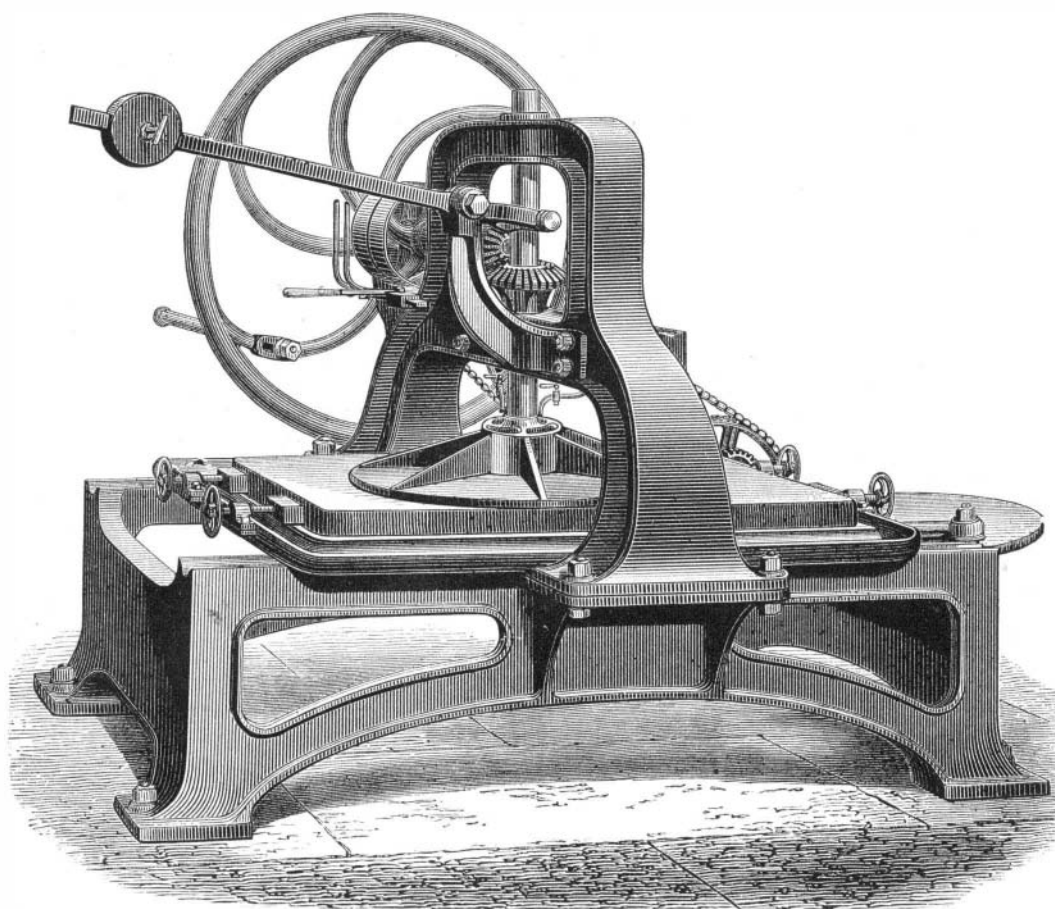
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NEW LITHOGRAPHIC STONE-DRESSING MACHINE.

Lithographic stone is an argillaceous limestone, of a color varying from light buff to a pearl gray. It is quarried in mass, and is split or sawn into slabs of two or three inches in thickness and of any required size. To prepare the stone for use, it is ground to a perfectly uniform face; and then, if the drawing is to be in crayon, a grained surface is produced by rubbing two stones together, fine or coarse sand and water being introduced, according to the nature of the face desired. If the drawing is to be in ink, the surface is polished; but if it is to be in crayon and quite coarse, as is the case with the elegant theatrical show-bills now made by this process, a comparatively rough face is needed. The labor of polishing is done by hand, and it is quite severe, necessitating in most establishments a workman who devotes his time to that alone. A machine has recently been devised for this purpose by MM. Perron and Dehaitre, the annexed engraving of which we extract from the *Revue Industrielle*. It has been found especially useful in working upon large stones, and is said to be capable of performing the labor of six men, and to need but one person to rotate the crank. It also substitutes a uniform pressure in lieu of the variable one exerted by the hand, and thus allows of the production of stones having a much truer face. The construction is exceedingly simple, and requires but little description. The crank wheel actuates bevel gearing, rotating a vertical shaft which carries the grinding disk. The shaft is weighted as shown, and the stone is adjusted on the carriage of the machine by clamps. The carriage moves in ways on the bed, and is caused to travel gradually from end to end of the latter by a simple feed motion actuated by a chain belt from the crank arbor. Pulleys are provided for belting for the application of steam power, and a small pipe leads the water supply from any suitable reservoir.

PORTABLE STEAM ENGINE.

The war in Europe, which has just begun, cannot fail to create a greatly increased demand for American breadstuffs; and as the prospects for the grain crop, as reported from all sections of the country, were never better, our farmers will doubtless require more steam engines this year than ever before. The engine herewith illustrated is well adapted to farm and plantation purposes. It differs from others of its class in the arrangement of the engine on the boiler. The steam cylinder has a broad base, which is fastened to the smoke box by bolts, so as to prevent leakage of steam, however great the strain. Connecting the cylinder with the saddle which supports the crank shaft are two wrought iron bars, constituting the framing, which receive the working stress of the engine. The free expansion of the boiler under all pressures is provided for by the arrangement



PERRON AND DEHAITRE'S STONE DRESSER.

of the saddle, which is not fastened to the boiler. The condensing feedwater heater is placed directly under the boiler, and the feed pump is located below the water line in tank and heater. A single eccentric drives the pump and steam valve. The governor is driven directly from the crank

high. This economy has been accomplished without increasing the total weight of the engine.

wheel, without any carrying pulleys, as will be seen in the engraving, and will work equally well in any position. The speed of the engine can be quickly and readily changed by the engine driver without leaving his usual place. The cylinder is fitted with a balanced valve and automatic cut-off, which adjusts itself to do the work required with economy. The steam dome is large and high, and is located directly on top of the steam chest and within the smoke stack. The road wheels are entirely of wrought iron with the exception of the hubs. The wearing surfaces in this engine are large. The driver's seat, being on the opposite side of the engine, does not show in this engraving.

We learn from the manufacturers that a thrasher in Iowa, who has run one of the Mills engines for three years, states that he has thrashed one thousand bushels of wheat from long straw with one quarter of a cord of wood and ten barrels of water. In another case, a similar result was obtained with less than five hundred lbs. of soft coal. Other good results, similar to the above, are reported. We are also informed that a trial of a fifteen horse power Mills engine, made last year by Mr. William Barnet Le Van, of Philadelphia, Pa., fixed the duty at two and nine tenths lbs. of combustible, and twenty-six and eight tenths lbs. of water, per indicated horse power per hour. The engineer will perceive that this duty is remarkably high.

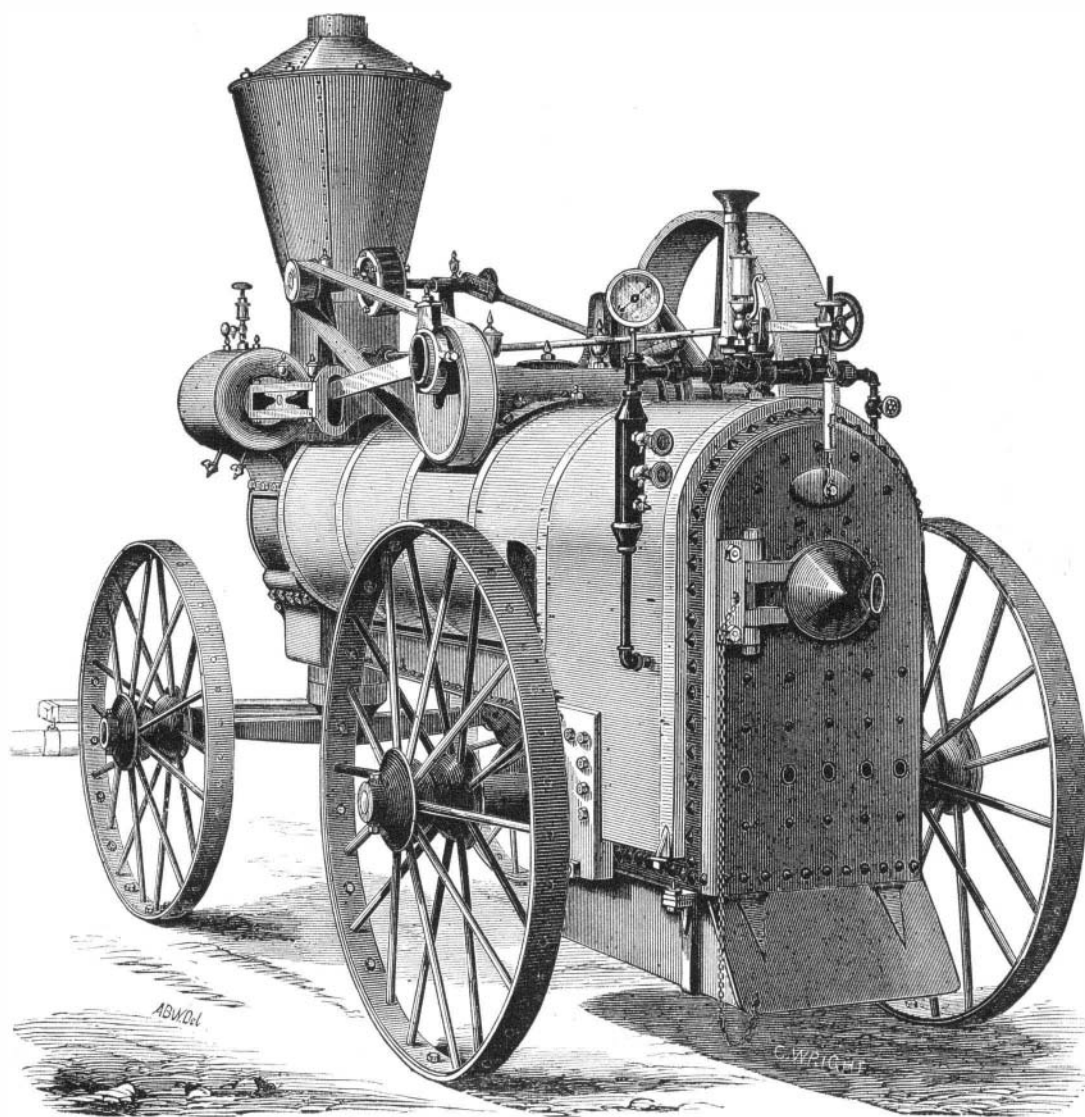
As far back as the Vienna Exposition, Professor R. H. Thurston, then acting as Commissioner for this country, stated in his report on portable steam engines that, although the English builders were far in advance of all others exhibiting, the Mills engine rivalled the best of them.

The engine is made in three different styles, namely, the mounted farm engine as shown in the engraving, the self-moving or thrasher's locomotive, and the self-contained or semi-portable for stationary purposes. For prices and other particulars, address the Fishkill Landing Machine Company, Fishkill-on-the-Hudson, N. Y., or Thomas J. Fales, 18 Park Place, New York, agent for foreign countries.

Helpful Sympathy.

A newspaper editor in the mining regions of Pennsylvania philosophically observes: "When a man gets both of his legs mashed, rendering him unable to work for three months, there's nothing that cheers him up so much, and so effectually keeps the wolf from the door, as for his fellow-workmen to pass a series of resolutions praying for his speedy recovery, and ordering an engrossed copy of the same to be presented to his family."

ARTIFICIAL coral can be made of 4 parts yellow resin and 1 part vermilion, melted very fine.



MILLS' PORTABLE STEAM ENGINE.