

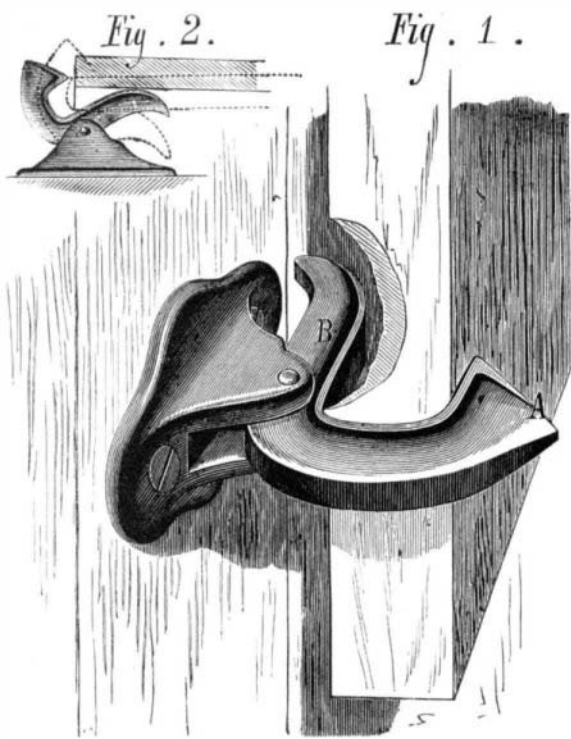
MECHANICAL HORSE GROOMING.

The benefits of machine grooming are twofold: first the removal of dirt, and, second, the keeping the pores of the skin open. The former only deals with the hair, giving to the animal a clean, shining coat; the latter promotes the health, thereby enabling horses to do more work, and milch cows to yield a larger quantity of finer milk. In both cases the difference is more in favor of machine grooming than some may perhaps imagine. Under a general practice of machine grooming, there would be less scurf and dirt to remove, so that the work would be done in half the time.

The engraving represents the groomer, invented by Messrs. Newton, of High Holborn, London, England. The winchhandle projects from a fly wheel, around the periphery of which an endless gut band passes over a small pulley below. The framing of the machine is bolted to the floor. The three arms shown at different angles are tubes, each having a rotary spindle in it. These are connected to the spindle of the pulley already referred to by miter gear at each articulation, of a circular instead of a conical form, so that the spindles are actuated, whether at an angle or in a straight line. The brush is on the end of the spindle in the tube arm, held in the hand of the operator. The weight, with cord over the pulley, counterbalances the arms, thereby relieving the hand of the operator. The three arms bend in any direction; and by connection with the spindle of the pulley, they have also a rotary motion, enabling the operator to apply the brush to every part of the body, as back, belly, sides, and out and inside of the legs, and so forth. When the operator, holding the brush, turns the spindle of the pulley in the direction in which it is rotating, it is in favor of the person at the winch; but when he turns it the opposite way, it is the reverse. The machine is not more difficult to work than a chaff cutter, turnip pulper, or cake breaker. The brush may be taken off, and a polisher, consisting of a cylinder about the same size as the brush, composed of disks of thick felt material, put on.

IMPROVED BARN DOOR FASTENING.

We illustrate herewith a simple device for holding barn doors open. It works automatically, is composed of but two castings, has no springs, and, in short, is decidedly better than the hook and staple commonly used for the purpose. It consists of a strong hook peculiarly shaped, pivoted in a stand, which is attached by screws to the side of the barn. When not engaged, the hook stands as shown in the horizontal view, Fig. 2. The door, in swinging open, first strikes the beveled nose, A, pushes it back, and then meets the rear curved arm, B. As the latter is carried back, as shown in the dotted lines, Fig. 2, the nose, A, is once more carried forward and caused to engage the edge of the door, as exhibited in Fig. 1. There is a stop in the base to prevent the



hook from swinging back too far to be opened by the door.

Patented through the Scientific American Patent Agency, May 2, 1876, by Mr. Perry A. Peer. Agents wanted. For particulars address Mr. H. P. Kauffer, Kalamazoo, Mich.

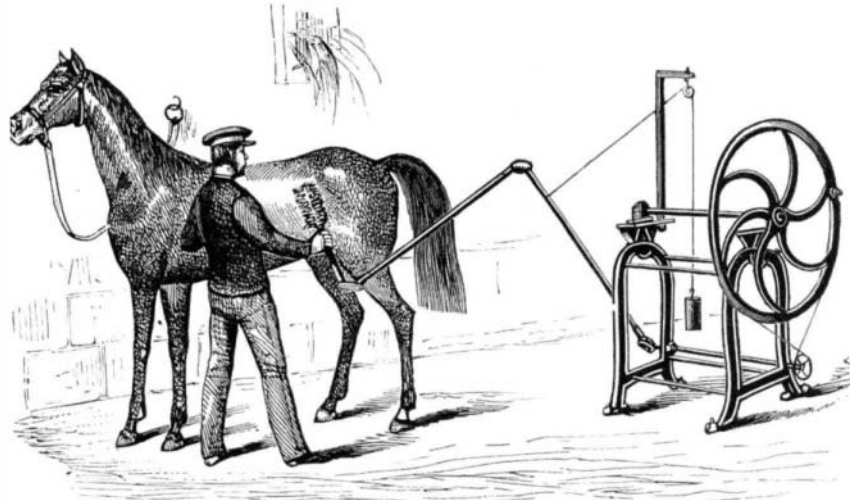
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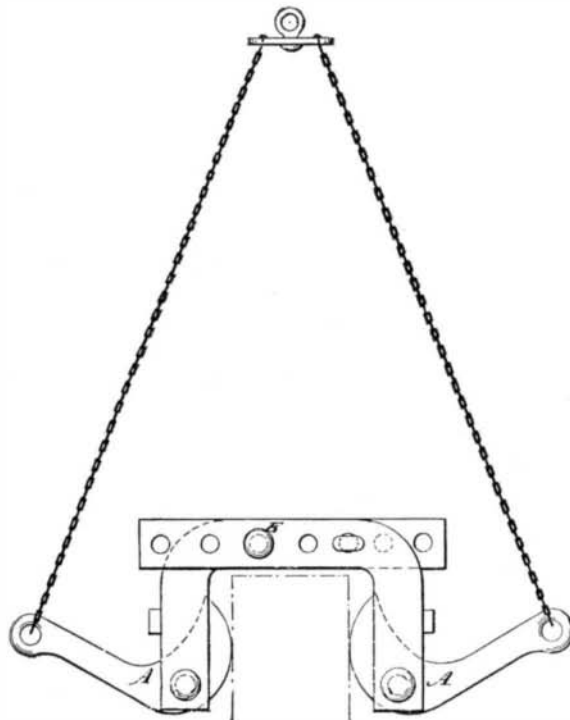
**MECHANICAL HORSE GROOMER.**

facts will show that their terms are much lower than those of any other journal of the same class in proportion to the extent of circulation.

Parties who desire to have their machines illustrated can address the undersigned, who are also prepared to send artists to make sketches of manufacturing establishments, with a view to their publication in the SCIENTIFIC AMERICAN. address MUNN & CO., 37 Park Row, New York city.

A NEW STONE LIFTER.

This is a simple and ingenious device, patented through



the Scientific American Patent Agency, April 25, 1876, by Mr. Sidney E. Shepard, of Mineral Point, Wis. It consists of a pair of eccentric lever gripping jaws, A, which are pivoted in a frame formed of two parts, as shown in the engraving. These parts are adjustable along each other, and may be secured by pins, E, to shift the jaws nearer together or further apart in order to adapt them for different sized stones. The arms of the jaws are connected by chains to an eye plate, and to the latter the hoisting rope is attached. The device will prove useful to builders and in stone quarries.

Another Chinese Giant.

Land and Water says that the last newspaper from the East inform us that a Chinese giant of extraordinary height has been discovered. His name is Chiu ki Tszu; he is nearly 7 feet 4 inches high, and weighs 297 lbs.; he is 37 years old, and a native of Shantung Province. He is taller by 2½ inches than Chang, and is believed to be the tallest Chinaman ever on exhibition. He is now on his way to the Centennial at Philadelphia, in charge of an Italian showman. He was picked up in Chefoo, where he worked as a coolie, and has an enormous appetite. On his way down to Hong Kong he was allowed fourteen bowls of rice and vegetables to each meal, and he ate it all without complaining.

PROFESSOR E. T. Quimby, of Dartmouth College, N. H., writes to state that J. D. L.'s solution of the Pythagorean problem was published more than 25 years ago, in Professor Alpheus Crosby's work on geometry.

Exhibition of the Applications of Electricity.

The exhibition is to take place in the Palais de l'Industrie in the Champs Elysées, and is announced to open on the 14th of July, and to close at the end of November. As in the case of the Maritime Exhibition held last year, and of that of Brussels, which is to open in June, exhibitors will have to pay for the space they occupy. The amount of interest which will be excited by such an exhibition may be best estimated by reference to the subjects of the eighteen groups which form the programme. The first group is retrospective, including as far as possible the apparatus of all the early discoverers. The second is devoted to laboratory apparatus, and static and dynamic electricity. The third group includes batteries, piles, and generators of all kinds. The fourth is devoted to electro-magnetism and its converse. The fifth group comprises the entire field of electric telegraphy. Others are devoted to electric horology, to the applications of electricity to railway trains, signals, etc.; to electric motors of all kinds; electric lighting, with its applications to photography; electro-chemistry, electro-metallurgy, synthesis, and analysis; electro-galvanic applications to the fine arts; electrotypy and electro-engraving; medical electricity; lighting conductors, and other apparatus connected with atmospheric electricity; the applications of electricity to military and naval purposes; electric toys and curiosities; and lastly, a collection of all the works that can be obtained upon electricity and its applications, whether French or foreign, with an analytical catalogue. The subject is a large one, and capable of interesting illustrations.

The proposal has been supported by the government; and the letters of the ministers of war, of the marine, finance, public instruction, and public works have recently appeared in print: The ministers of war and of the marine have authorized the officers of the army and navy to lend their aid, and have themselves named several officers of both services, and the other ministers have offered similar assistance.

Comte Hallez d'Arros, with whom the scheme originated, has formed a numerous and powerful committee of organization, including many of the best known men of science, engineers, and others in France, for instance MM. Edmond Becquerel, Bréguet, Dalloz, Dumoulin, De la Gournerie, Drs. Lionville, Lœury, Marié-Davy, Tessie du Motay, a large proportion of the members being engaged in the practical applications of electricity.

A SIMPLE KEROSENE-TESTING DEVICE.

Mr. H. E. Mead, of New York city, contributes the annexed illustration of a simple method, devised by himself, for testing kerosene oil with such ordinary appliances as are sure to exist in or about every dwelling. The extensive use of kerosene makes it important that people should understand how to avoid the numerous dangerous compounds sold as illuminating oils under high-sounding names.

This apparatus consists of a common tin pan of water, set upon bricks at a sufficient height to allow of a lighted lamp being inserted beneath. In the pan is floated a patty pan con-



taining a tablespoonful or two of the oil to be tested. A thermometer is also placed in the water. The indications of this instrument are noted as the water becomes gradually heated by the lamp, and from time to time an ignited match is applied to the oil. It is safe to advise the prompt throwing of the entire supply of oil into the sink in case a flash occurs below 100°. It is as dangerous as gunpowder. It is also a safe rule not to purchase oil which flashes below 110°; and it should be further understood that the greater the heat the material will endure without flashing, above 110°, the greater is the proportional increase in its safety.

NEWSPAPER and other publishers will be supplied with electrotypes of the Centennial Buildings and most of the other engravings which appear in the SCIENTIFIC AMERICAN and SUPPLEMENT, on very cheap terms. For prices address the publishers, and indicate at the same time what engravings are desired, and the date of the issue in which they appeared.