

**New Agricultural Inventions.**

Henry H. Hatheway, of Clockville, New York, has patented an improved Machine for Picking Hops from the vines which is simple, convenient, and effective. The machine is operated most advantageously by three persons—one to pull and strip the poles, one to draw the vines through the machine, and one to turn it. It may, however, be operated by two persons, or even by one. In the latter case the vines should be cut into lengths, so that the operator can feed the machine with one hand while he turns it with the other.

An improved Bag Holder has been patented by Joseph Lanham Conway, of Bellefontaine, Missouri. This is a simple and effective holder for holding sacks or bags of various sizes while they are filled. It consists in a frame which is adjustable as to length and breadth, and is provided with spurs for receiving the edges of the mouth of the bag to be filled. The frame is supported by a standard upon which it may be adjusted vertically.

William Carroll Smith, of Jackson, Tenn., has patented an improved Seed Planter, which may be applied to an ordinary plow stock, and which may be used for planting corn and peas in alternate hills, or either separately, and may also be used for planting other seeds.

Jeremiah H. Boyle, of Delhi Mills, Michigan, has patented an improved Vegetable Cutter, which is designed to furnish for farmers, and for other agricultural and domestic purposes, an improved machine for cutting roots and vegetables in a rapid and easy manner, to be used for cooking or feeding purposes, and supply thereby a feed that is more easily masticated by the stock.

John H. Harter, of Nevada, Ohio, has patented an improved Horse Hay Fork, which is made with a single curved tine, to which is pivoted, a little in the rear of its center, the slotted lower end of a bar or standard. The standard is slightly curved, and upon its upper end is formed an eye to receive a hoisting rope, and to it, in the bottom of the eye, is pivoted a pulley, over which the trip cord passes. The end of the trip cord is secured in an eye formed in the upper end of the bar. The lower end of the bar is pivoted to the rear end of the curved tine. To the opposite sides of the middle part of the trip bar are pivoted the outer ends of two connecting bars, the inner ends of which are pivoted to the opposite sides of the middle part of the standard. With this construction the fork can be folded or closed into a compact form for storage and transportation.

Mathew A. Andrews, of Willsburg, Iowa, has invented an improved Draught Equalizer, which consists in the combination of a stationary cross bar, stay rods or braces, a right angled lever, a connecting rod, and a bent lever, having its outer arm curved into U form with the draw bar. It is stated that this peculiar arrangement of levers and rods forms an effective equalizer for three horses.

Irvin J. Saunders, of Coleman Station, Ga., has patented an improved Plow Stock. The object of this invention is to furnish a simple and strong plow stock conveniently adjustable for varying the pitch of the plow.

**NEW CLOTH MEASURING APPARATUS.**

Our illustration shows an automatic machine for measuring textile goods, which is in process of introduction by Messrs. White, Child & Co., of College Hill, London. Its action will be readily understood from the engraving. The treadle movement brings the cloth or other fabric across the table and under the measuring wheel, which imparts motion through worm gearing to a dial at the top of the machine. The rate of measurement is about 150 yards per minute, and the fabric is rolled, or, in trade parlance, "blocked," at the same time. Goods of any thickness can be measured by this convenient labor and time saving apparatus, and at stock-taking time it must prove an invaluable aid in drygoods stores.

**Moth Remedies.**

To the question put a short time since by a committee of the German Society of Railway Companies, what means were in use, and had been well tested, for preserving the cushions in railway carriages against moths, forty-three replies have been received by the directors of the Dutch Railway, from which it appears that the following means are employed:

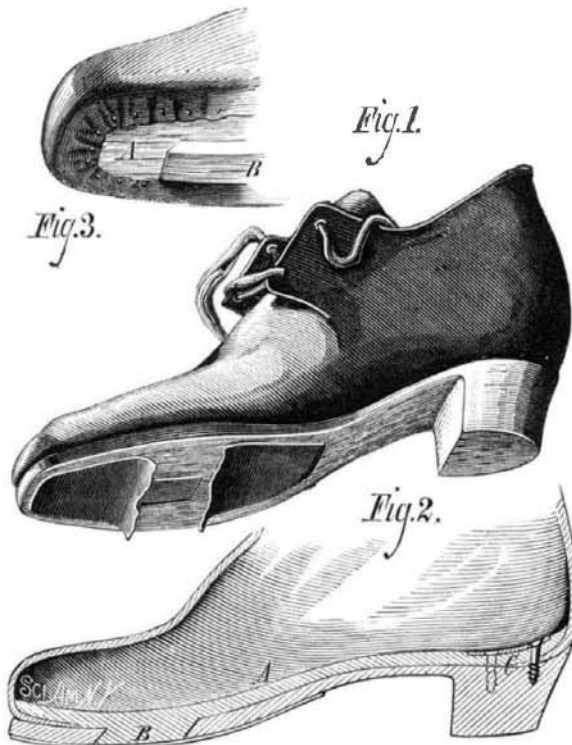
Constant cleaning, airing, and beating of the cushioned carriages (especially in the developing time of moths in the end of May), avoidance of fold in the cloth used, avoidance of a mixture of horsehair with pig's hair, Persian insect powder, insect powder with Spanish pepper or phenyl, camphor, Russian leather, powdered alum, hemp leaves, phenol, pine oil, zinc chloride solution, heating of the cushions in dry air from 70° to 80° C., use of plush instead of woolen cloth, use of seaweed instead of horsehair, avoidance of sheep's wool, occasional use of general compartments as smoking compartments. The directors express themselves to the following effect:

A generally approved means of keeping moths away from the cushions of passenger carriages has not yet been discovered. Frequent airing, beating, and cleaning are useful in this direction; as also, in greater or less degree, a number

of the above mentioned substances when applied to the cushion material. After entrance of moths a thorough cleaning of the material is necessary.

**GAMPERT'S WOOD-SOLE SHOE.**

The invention herewith illustrated consists in a wooden soled shoe in which the sole is made in two parts, between which the edges of the upper are clamped. Said parts are secured by a wedge block formed upon or attached to the insole and by screws. The shoes are, we are informed, easily and conveniently made, and are neat, strong and durable. Fig. 3 shows the inner sole, A, to which the upper is attached; also the wedge block, B. Fig. 2 is a sectional view

**GAMPERT'S WOOD-SOLE SHOE.**

of both soles, showing the wedge block in place. At C is a metal plate which prevents the screws from splitting the insole. Fig. 1 shows the complete shoe, with a portion of the sole covering removed to exhibit the wedge block.

This device was patented through the Scientific American Patent Agency, May 14, 1878, by Mr. W. Gampert, of Keokuk, Iowa, who may be addressed for further particulars.

**Science and Sentiment.**

At the anniversary of Founder's Day, which was lately celebrated at the Adelphi Academy Building, Brooklyn, President Noah Porter, of Yale College, spoke as follows on the relations between science and sentiment:

"Much has been said of late concerning a supposed an-

waste nor fraud, nor with encouragement to idleness and imposture. Sentiment would dictate that a prompt and generous relief should be supplied to all who are in distress, especially if guiltless of crime, and that for such persons almshouses and homes for the friendless should be made comfortable, if not attractive, homes of solace and rest. Science lifts up her voice against lavish and indiscriminate public charity, and refers us to the established principles in relation to the care and management of pauperism and misfortune, which it has matured out of the business experience of many generations. Sentiment would compel two young persons to marry as soon as they take a liking to each other, regardless of age, adaptation, health, or the means of subsistence. Science rudely steps in between them, sternly forbids the bands, and reads a solemn lecture to the parties upon the sin against society and humanity of contracting an early or an improvident marriage. Sentiment asks for unlimited credit and the indefinite deferring of pay day. Science affirms that unless credit is restricted and payment is enforced both lender and borrower will be ruined. Sentiment charms the heart of the people by saying that indefinitely deferred promises to pay by the best government in the world ought to be, and therefore is, the best money in the world. Science cuts short its harangue with the argument that if this were true all the world would be eager to take this money at a premium. Sentiment demands free trade on one side because every man desires to buy in the cheapest market, and protection on the other because home industry ought to be encouraged. Science rejects such argument, and calls the free trader and the protectionist sentimentalists. Sentiment demands that the profits of labor and capital shall be equally divided; but science contends that if the demands of sentiment were allowed there would be scant profits to be divided; that capital would vanish like a mist, and labor would beg for employment upon any terms."

**American Coal in Europe.**

The United States Consul at Genoa reports that important results are likely to flow from the recent effort of a Philadelphia coal company to introduce American anthracite coal into the non-coal-producing regions of Southern Europe. Two cargoes have been received during the past quarter, and the experiment, which at first threatened failure, has proved a gratifying success. When first put on the market the highest bid was 22 francs (\$4.25) per ton—an amount insufficient to cover freightage from New York. On its becoming known that the coal was well adapted for smelting purposes, the price at once advanced to 40 francs (\$7.72) per ton, which covers cost and freight, and leaves a fair margin for profits. Heretofore, English coke, selling at 60 francs (\$11.58) a ton, has been almost exclusively used by Italian iron founders; but as American anthracite, on trial, yields equally good results, if not better, there is no reason why it should not command the market. Over 200,000 tons of English coke are annually consumed in the Mediterranean basin. For this trade, American anthracite bids fair to become a successful competitor.

**An Active Volcano in the Moon.**

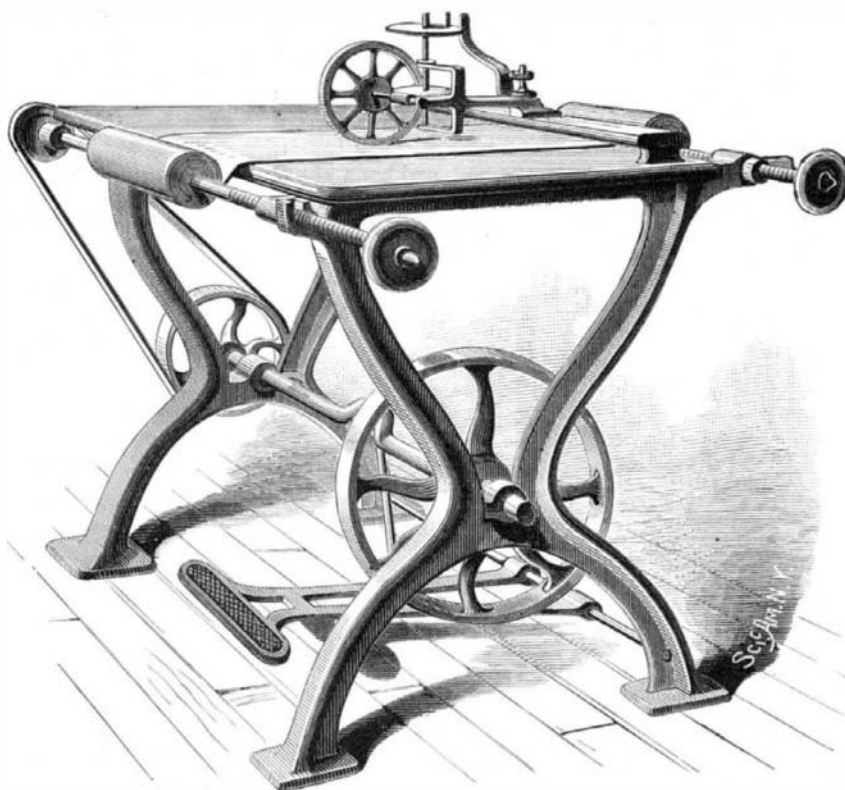
When examining the surface of the moon, May 27, 1877, Dr. Hermann J. Klein of Köln, noticed what seemed to him to be a new crater on the Mare Vaporum, a little to the northwest of the well known crater of Hyginus. Being deep and dark, and about three miles in diameter, it formed a conspicuous object on the dark gray Mare Vaporum. Having frequently observed this region during the last twelve years, Dr. Klein felt certain that the crater was new. Communicating his observation to Dr. Schmidt, of Athens, he was assured by that veteran selenographer that no such crater appeared in any of his numerous drawings of that part of the lunar surface; nor is it shown by Schroter, Lohmann, or Mädler, who carefully drew the same region with the fine refractor of Dorpat. In April, 1878, Dr. Klein laid the discovery before the Selenographical Society, and since then the new crater has been observed by several English students of the moon. The Mare Vaporum lies close to the center of the visible surface of the moon, so that objects in this region are very slightly affected by the lunar librations. The region has been closely studied by many, and as it contains several well known craters, some of them less than a mile in diameter, it is evident that the large crater described by Klein is new.

**Tic-Douloureux.**

A patient who for several years had suffered from an intense neuralgia facialis came under the treatment of Professor Peters, of Paris, who put him under a treatment of six grains of bromide of potassium, the dose repeated thrice daily for the first month, four grains thrice daily in the second month, two grains thrice daily in the third month. The result is reported as being astonishing.

Great success is claimed by Professor Gubler in the use of aconitum napellus for the ordinary form of facial neuralgia, particularly when congestion is present.

Professor Lee, of the "Hôtel Dieu," Paris, relates a case

**NEW CLOTH-MEASURING APPARATUS.**

tagonism between science and sentiment, or, as it is often called, sentimentalism. A few examples will best illustrate this antagonism as it is considered by those who accept it. Sentiment, we are told, in the old time encouraged the poor and sick folks to gather about the church doors or lie along the wayside, thinking they might move the pity and receive the alms of their fellow men. Science has taught man to gather them into asylums and hospitals, where healing and relief may be dispensed with wise judiciousness, with neither



where a patient of his, after thirty years of suffering from the tic douloureux, got quickly rid of his pain after a few daily administrations of eight-grain doses of salicylate of soda.—*Correspondenz Blatt.*

**LANDING OF CLEOPATRA'S NEEDLE.**

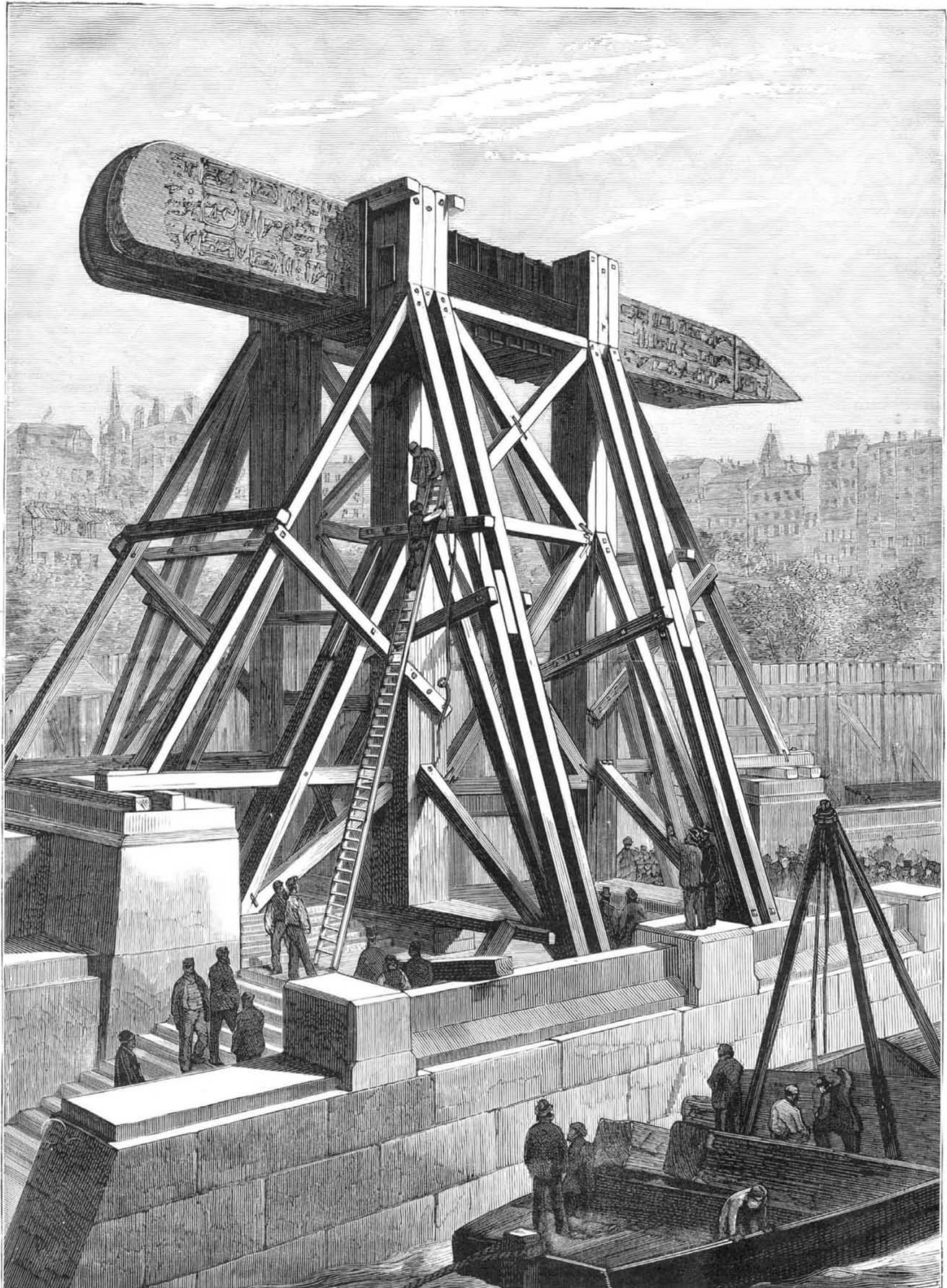
The difficulties which Mr. Dixon has had to contend with in carrying out his work in connection with the transport of the Egyptian obelisk to England having at last been overcome, the concluding and most difficult part of the undertaking, that of raising and placing the obelisk on its pedestal, is about to be commenced. A timber cradle has been prepared alongside the Adelphi steps, and by the time this paper

is published the Cleopatra will probably be safely landed upon it; she is then to be lifted by hydraulic jacks and moved forward at the same time, and afterward a little side-wise, until the stone lies across the center of its pedestal. The iron cylinder vessel, in which the voyage was made, will then be cut to pieces, and twenty feet in length of the center part of the obelisk will be incased in an iron jacket with protruding arms, resembling the trunnions of a monster cannon. These trunnions will rest on two iron girders. A timber scaffolding will then be erected with four uprights, each formed of six balks of timber placed three and three together, the ends of the girders fitting into the spaces between the timbers. Hydraulic jacks will then be placed un-

derneath the girders, and the whole mass gradually lifted, the height gained being secured by solid timber packing. The stone will then exactly represent a monster cannon, and can be swung on its trunnions into a vertical position, and lowered on to its pedestal, which meantime will have been constructed beneath it. Our illustration, which is taken from the *London Graphic*, is drawn from the model to which Mr. Dixon's men are working.

**Heat Conductivity.**

Experiments lately made by M. Schumeister on the heat conductivity of cotton, wool, and silk, by a method similar to that employed by Stefan for determining the conduct-



THE MACHINERY FOR PLACING CLEOPATRA'S NEEDLE IN POSITION ON THE THAMES EMBANKMENT.