

SCIENTIFIC AMERICAN

A WEEKLY JOURNAL OF PRACTICAL INFORMATION, ART, SCIENCE, MECHANICS, CHEMISTRY, AND MANUFACTURES.

Vol. XXIII.—No. 16.
[NEW SERIES.]

NEW YORK, OCTOBER 15, 1870.

\$3 per Annum
[IN ADVANCE.]

Improved Stump Extractor.

Our engraving represents a new and improved stump extractor which may also be applied to the raising of heavy weights to load them on trucks in place of the ordinary derrick. Its power may be made to reach any extent within the limits of strength of the materials of which it is constructed.

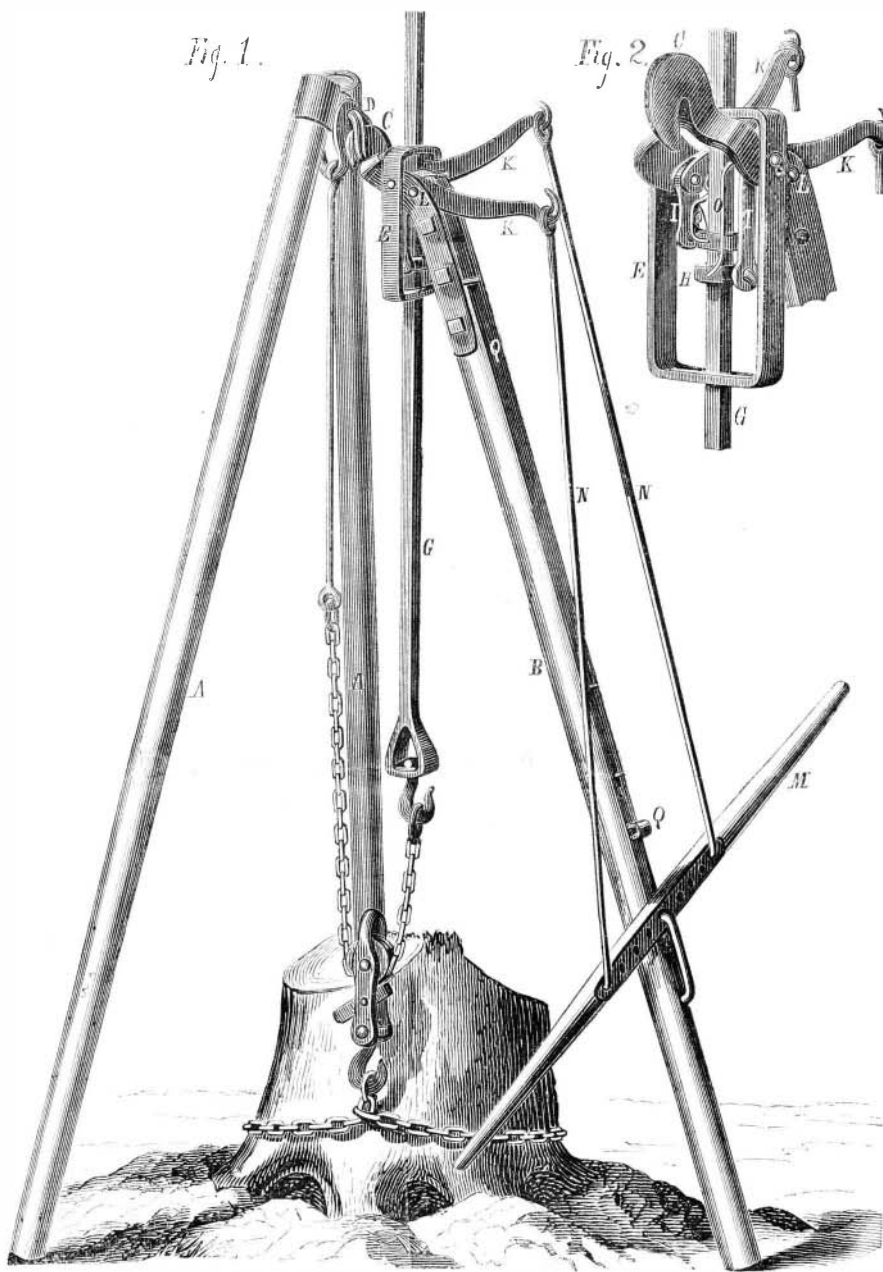
The frame is composed of two legs, A, and the leg, B, hooked together at the top by the long crooked and bent hook, C, and the swivel, D. E is a metal frame suspended on the hook, C, by pivot bolts. G is a square hoisting bar, arranged to slide up and down through suitable holes in the top and bottom of the frame, E. Gripe pawls, H, with square holes, through which the bar, G, passes, are suspended by rods, I, from the short arms of the levers, K, pivoted on the axis, L, and connected at their long ends to the vibrating hand lever, M, by the rods, N, one on each side of its axis, so that when one moves one way the other moves the other way. The gripe pawls, H, are also connected by small rods, O, to the spring levers, F, also pivoted on the axis, L, and connected to the bar, Q, on the leg, B, the bar, Q, being arranged to slide up and down on leg, B.

When this bar, Q, is shoved up, the spring levers press the pawls down and cause them to grip the bar as soon as the levers, K, begin to draw them up, thereby causing the bar to be raised by the alternate up-and-down movement of the pawls, and when the bar, Q, is shoved down, the springs have a lifting action on the pawls which prevent their gripping the bar, until near the end of the upward movement of the levers; so that the further upward movement will lift the bar out of the grip of the pawls below, which being thereby freed, will rise on the bar while it is lowered by the other, until near the end of its upward movement, when, as before, this one will grip and force the bar from the other at the lower position, and so on, letting the bar down.

The springs thus shift the pawls readily to cause them to raise or lower the bar, as may be required. The swinging frame gives the bar freedom to work obliquely to either side of the vertical position, and in case it requires to vibrate perpendicularly thereto the hook and leg, K, will vibrate in that direction.

By shifting the lever rods, I, into holes nearer the central pivot of the hand-lever, M, the speed is reduced and the lifting power is increased, and vice versa. The tripod form of the machine also adapts it for use on rough and uneven land.

Patented, through the Scientific American Patent Agency, May 3, 1870, by George L. Howland and Wm. M. Howland, of Topsham, Me., whom address for further information.



GEORGE L. AND WILLIAM M. HOWLAND'S STUMP EXTRACTOR.

dull thud striking from time to time upon the ear. On inquiry, he finds this strange sound proceeds from the pneumatic tube, the new servant the electric telegraph has called to its aid; and within a glass case, against the wall, he sees trained just like so many fruit trees in an orchard house long tubes of gutta-percha, ending in an oblong-shaped mouth, covered with thick plate-glass. As he is watching, a long round pellet is projected into this reception case with the force of a spent shot—taken out by the clerk in attend-

contained in a recent letter, that, owing to the disturbance to French industry, the price of kid gloves would probably advance. On the 8th ladies' gloves with one button were advanced one dollar per dozen, and on the 19th, another dollar; and so in proportion for other styles. The largest manufacturer 'or this country is Alexandre, who supplies one house in New York with between sixty and seventy thousand dozen pairs of kid gloves per annum. As his principal factory for cutting is in Paris, his shipments have stopped, and his house states that the resumption will depend on the contingencies of the war.

Mr. Muller, who stamps his given name of Alexandre upon the gloves, when first known to Mr. Stewart was in humble circumstances, needing capital to enlarge his industry; but his merit being discovered, the want was supplied, and an enormous establishment is the result. Mr. Muller owns an hotel in Paris for a winter residence, and possesses La Grange, with its sixty bedrooms and fifteen hundred acres of land distinguished in former years as the home of Lafayette. His hospitality corresponds with these important dwellings. He manufactures his own champagne, claret, and brandy, each of a fine quality.

On a visit to me some years ago he gave me the history of this manufacture. The opinion was then quite common that rat skins were used, which he disposed of very summarily. Besides other objections, said he, it is enough to mention that they would be much too short for the hand. In order to purchase kid skins he sends out his agents as early as February to Italy, and they follow the mountain ranges, keeping pace with the opening of spring, until they reach to the plains of the Baltic. Fields which will carry sheep are not used for the goat in flocks. The goat is driven up to nearly the snow line of mountains to feed on the tender branches of shrubs and trees, and they are tended and milked by a class which is not seen in this country.

In walking up the Alps I have found these interesting flocks. The horns of the animal supply handles for knives, its hair is used for cloth, its milk for cheese, its flesh for food—that of the young kid being excellent—and the skin is displayed on fair hands in all civilized countries. It will be years before this entire industry will be introduced into the United States. I should not be surprised if Prussia, availing herself of the opportunity which the disturbed industry of France offers, should become distinguished in this manufacture.

The compensation for sewing is too small to enlist the regular and permanent industry of women, and it is resorted to somewhat as knitting by hand is among us, at intervals in ordinary labor. The movement

of the needle is guided by the notches of a steel clamp held by the sewer, who presently arrives at the experience which permits the work to be done while conversation is engaging part of the attention, and indeed while the eye is directed to a different quarter. It is owing to this facility that a slight reward for the labor is exacted. The sewers are distributed all over France, and receive the material, cut out with precision, and put up in bundles of a dozen pairs.

In order to conduct the distribution of the gloves here with advantage, their form, color, and shade are fixed upon here. Colors which were in demand a year ago are rejected now, and others have taken their place. The closest attention to the probable variations in the public taste must be observed. You would be surprised to see the sample-book shades furnished for the purpose of preparing orders. They represent every tint which our knowledge of nature and art supplies.

No one is competent to say when this branch of industry in Paris will be fully resumed. The vicissitudes of war will not reach it to the extent of damaging the consumer, so far as the manufacture of Alexandre is concerned, for his gloves are not used at home. It may therefore be rapidly restored on the cessation of hostilities. English gloves have not advanced.

In Georgetown, Cal., the largest silver button ever produced in the United States was taken out by J. W. Watson, superintendent of the Brown Silver Mining Company. It weighs 1,141 pounds troy. The button was the result of 32 tons of ore.

The "Instrument Room" of the Electric Telegraph, of London.

This room, the most sensitive spot in the whole world—the cerebrum which receives and transmits intelligence from all quarters of the globe—may be looked upon as one of the most curious sights in the metropolis. Although hundreds of minds are simultaneously conversing, some with tongues of steel, some with the clear sound of the bell, some again by means of piano-like notes, which spell the words letter by letter, although we have the clatter of all these sounds mixed with the metallic tinkle of the electric bell, hailing from distant western and northern cities—not a human voice is heard—although, stranger still, the manipulators are all women. According to the rules of the service, the swifter they talk the better; but it must be done in silence with some unseen correspondent at the extremity, it may be, of the kingdom—a necessary condition in order to insure attention and accuracy while the operators are at work.

It is certainly no unpleasant sight to see these young women doing the work of the world, proving that they are capable of thoughtful labor, and trustworthy in circumstances of great pith and moment. It is discovered at last that the sewing needle is not the only instrument they can master. They are evidently drawn from the middle rank of life; and we are informed that they make capital manipulators, the delicacy of their fingers seeming to point out to them the telegraph instrument as a suitable means of employment.

While the visitor is listening to the clatter of one half of the world talking to the other half, he is aware of a

ance—and immediately opened. It contains a telegraphic message, sent here for transmission to some other wire.

This pneumatic tube at present is only extended to offices half a mile round, but as this half mile is in the busiest part of the city, an area in which it is difficult to get along fast by foot-passengers, portage-work is done in seconds as compared to minutes by this fleet mechanical messenger. Eventually all the great district post-offices will be connected with the central office by pneumatic tubes, thus vastly accelerating the speed of the telegrams.

In addition to the offices within half a mile of Telegraph street, which are thus served by this aerial mercury, the head office at St. Martin's-le-Grand is provided with a tube. The great submarine cables, such as the Atlantic, the Indian, and all the marine lines wishing to use the central office as a means of forwarding messages, will have lines of tube to this room for that purpose. If the reader remembers his old pea-shooter days, he will understand their principle of action in a moment. If he blows he impels the pea, if he sucks he draws it up into his mouth. Pressure and suction are the two forces used in this pea or message-shooter of our maturer days.

The telegraph message comes in a round plug box, covered with carpet or flannel, so as not to make it fit loosely the tube. The suction and propulsive power lies in the depths of the establishment, in the shape of a steam engine.—*Edinburgh Review.*

Kid Gloves.

A correspondent of the Boston Advertiser says: I hope that some of your readers avail themselves of an intimation