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I WILL PURCHASE IN OPEN MARKET ALL THE Calvary Horses that may be presented and pass inspection at the Government Stables, corner of 10th avenue and 25th street, in this city, until further notice.

Payment will be made in checks payable in certificates of indebtedness, when seven (7) or more horses are received. Price, one hundred and sixty dollars each.

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MESSEURS LES INVENTEURS.—AVIS IMPORTANT. Les inventeurs non familiers avec la langue Anglaise, et qui préféreraient nous communiquer leurs inventions en Français, peuvent nous adresser dans leur langue natale.

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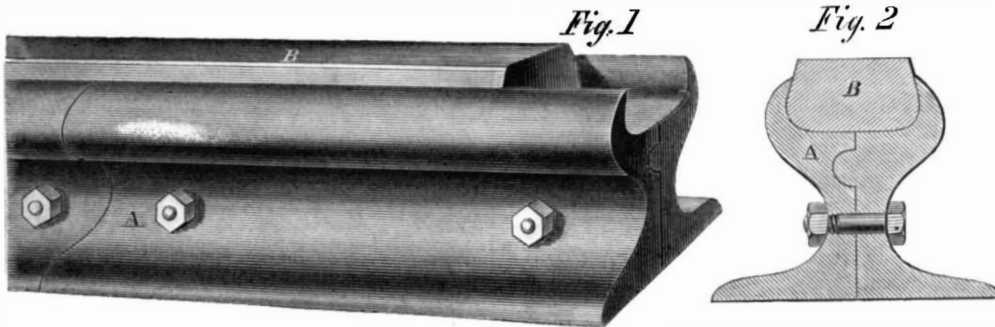
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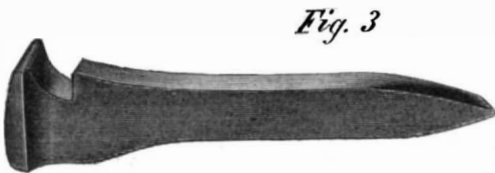
**Steel-capped Rail and Improved Spike.**

Steel rails are gradually coming into use in this country. The great Pennsylvania Railroad Company have purchased 150 tons of steel rails to lay down about depots or other points where much wear occurs. Tests made in England show that while iron rails lasted only a few months those made of steel lasted as many years, and are still fit for use. The rail shown herewith is iron, but steel-capped. It is a made-up rail, or composed of sections. These are tongued and grooved together, as shown in Fig. 2, and the several lengths break joint with each other, as in Fig. 1, at A, while the steel cap breaks joint again with them, so that an even and smooth surface is obtained, without ends liable to spring up for the car wheel to strike against. The steel cap, B, is rolled in continuous lengths of convenient dimensions. The rails are also rolled, of course, and the cap is pushed in as each length of the rail is laid. Where injuries occur to the steel it is easily renewed,

**TELLER'S STEEL-CAPPED RAIL AND IMPROVED SPIKE.**

without causing delay or detention.

In Fig. 3 a peculiarly-formed spike is shown, which holds the rail firmly. It has a recess under one side of the head, and a swell just opposite the recess; the face of the spike next the rail is also curved. The object of this form is as follows:—When the spike is driven it is placed close to the rail, and as it goes in hugs the iron closely, so that when the lower flange comes to the recess the head springs in, being forced to by the swell behind. This form gives a spike



which can never get loose by rising from its bed. Spikes so made will hold the rail as in a vise, and we consider it an extremely useful improvement. They are as easily made as common spikes.

A patent is now pending on this spike through the Scientific American Patent Agency. A patent on this rail was ordered to issue quite recently. For further information address the inventor, Mr. Geo. D. Teller, Buffalo, N. Y.

**A Watch with One Wheel.**

A Sacramento (Cal.) paper has the following paragraph:—"While in San Francisco the other day we saw in the shop window of Mr. Otto Weiderow, on Montgomery street, some of the most ingenious pieces of mechanism we ever witnessed, and more ingenious than we ever dreamed of. Mr. Weiderow has invented and manufactured a watch that has only one wheel. This wheel, a mainspring, and a very little other machinery, is so arranged that the watch when set going, winds itself up, and it will run two years. It would run forever if the material would hold out, but the ingenious inventor says it is necessary to take it apart once in about two years for the purpose of cleaning and repairing the worn parts. It is certainly a very ingenious, yet a very simple and successful piece of work. Mr. Weiderow is also the inventor of a new sort of clock, with engine movement, the pendulum of which is on top, and works like the walking-beam of a steamboat. One of these ingenious and simple clocks, with silver dial gold plated, and gold hands, has been manufactured for exhibition at the Mechanic's Fair, in that city."

**Why Boots Should be Polished.**

Brightly-polished boots are cooler in warm weather and warmer in cold weather than dull and dusty boots; for in warm weather they reflect the sun, which dusty and dirty boots absorb; and in cold weather the clean boot does not allow the warmth of your foot to radiate freely, whereas the unclean boot does. Clean, bright boots are consequently more comfortable, as well as respectable, both in warm weather and cold. Not only will different substances, as iron and wood, give out heat or take it in, more or less, but the same substance radiates heat more or less, actively as it is bright or dull, rough or smooth. Now, dirty boots are rough as well as dull. They have a surface of many little hills and valleys, so that in truth, there is more surface for the heat to pass through either way. As a rough surface is a larger surface, more heat from within and without always passes through dull and dirty boots than polished ones.

Fig. 1

Fig. 2

**ROSIN PRODUCTION IN MICHIGAN.**—J. D. Sturtevant, of Muskegon county, says:—"This season has been so dry that the farmers on our oak openings were obliged to resort to some other business besides farming for a living. Some two or three have experimented in rosin from the common white pine. The white turpentine is saved and simply boiled down, thereby losing all the oil or spirits of turpentine, but saving the rosin, a sample of which I send. Our farmers think they can make money at it at one-half present prices (\$40 to \$50 per barrel). There are several going into the business on a larger scale another spring. The sample is light colored, clear and free from specks, a very nice article."

[If these men would separate the volatile parts of the pitch from the rosin in a still, and condense the oil, they would find that far more valuable than the rosin. Rosin has been regarded as a waste product in procuring spirits of turpentine.—Eds.]

**Cost of Steam Plowing.**

A gentleman of long and careful experience with Fowler's Steam Plow, the cost of which, with its tackle was about £1,000, states that he has it in use for plowing 100 days in the year on an average; that he allows 5 per cent interest and 10 per cent more for wear and tear, or seven-tenths its cost, as the engine is in use for threshing, chaff-cutting, sawing, grinding, etc., three-tenths the time; and that adding to the foregoing allowance, 7s. 4d. per day for repairs of engine and tackle, 15s. 6d. per day for coal, oil and tallow, 11s. per day for wages of attendants, and 7s. per day for water cart, he makes the average cost of plowing in this way a fraction under 8s. (say not quite \$2 per acre. As the price for plowing by horses in his neighborhood was more than 50 per cent higher—from 12s. to 14s. per acre—the saving was very great. Eight acres plowing was an average day's work.

**SHODDY LEATHER.**—We have seen, within a few days, some specimens of a fabric which we presume is no novelty to our friends in the shoe trade, but which was entirely new to us. This fabric is a manufacture from refuse scraps of leather, which are reduced to a pulp by grinding and maceration, and reconverted into solid "sides" of leather, by pressure. The article thus produced is used mainly, we understand for inner soles, but to an unprofessional eye it seems as suitable for all the purposes of leather as the original article.—Salem Gazette.

**A NEW KIND OF FLOUR.**—Grain and flour having become scarce, the rebels have devised a new source of supply, which is thus described by the Savannah Republican:—"We have a sample of sorghum flour, made of the seed of Chinese cane, which may be seen at our office. The planter who sends it to us had no means of bolting this flour, nor had he taken off the hull of the seed before grinding, the consequence is that the flour has a pinkish color. Those who have made a trial of this excellent flour represent it to be an admirable substitute for buckwheat. Made into hoe cake it is a very savory bread. It is likely to come into very general use, if prepared like wheat flour by bolting."

**PROFITS OF PICKLE-MAKERS.**—Mr. L. H. Butler, of Jefferson, Cook County, Ill., has grown sixty acres of cucumbers this year, which are made into pickles. Mr. Butler estimates that his pickles cost him about 23 cents per bushel delivered in Chicago. He has now 1600 bbls. in the salt, for which he has been offered \$16 per bbl. He expects to receive \$20 per bbl. Even at the former price it is easy to see that a nice little fortune is in the hands of the enterprising and energetic planter. Let us all go to raising pickles.

THE

**Scientific American,****FOR 1864!****VOLUME ELEVEN**

NEW SERIES.

The publishers of the SCIENTIFIC AMERICAN respectfully give notice that the Eleventh Volume (New Series) commenced on July 2d, 1864. This journal was established in 1845, and is undoubtedly the most widely circulated and influential publication of the kind in the world. In commencing the new volume the publishers desire to call special attention to its claims as

**A JOURNAL OF POPULAR SCIENCE.**

In this respect it stands unrivaled. It not only finds its way to all most every workshop in the country, as the earnest friend of the mechanic and artisan, but it is found in the counting-room of the manufacturer and the merchant; also in the library and the household. The publishers feel warranted in saying that no other journal now published contains an equal amount of useful information; while it is their aim to present all subjects in the most popular and attractive manner.

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**NUMEROUS SPLENDID ENGRAVINGS**

of all the latest and best inventions of the day. This feature of the journal is worthy of special note. Every number contains from five to ten original engravings of mechanical inventions relating to every department of the arts. These engravings are executed by artists specially employed on the paper, and are universally acknowledged to be superior to anything of the kind produced in this country.

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Canadian subscribers will please to remit 25 cents extra on each year's subscription to pre-pay postage.

**Munn & Co., Publishers,**

37 Park Row, New York.

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