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## Improved Horse Rake.

This engraving represents a new improvement in horse rakes, by which it is claimed they are rendered more perfect in operation, and less liable to raise when not desired.

In order to control the action the inventor pro vides a lever, A, jointed to the frame at one end, and having a short arm, B, working on it. This latter connects with a vertical arm, C, on the rake shaft, as will be seen by the engraving.

It will further be observed that in the position there shown the rake teeth are held firmly to their work, preventing them from raising partially, and scattering loose uneven winrows. At the same time panies. A local paper describes it thus:-

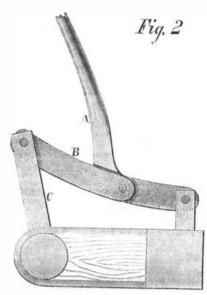
### it will be more effectual than the widest passage that can be afforded in any theater. The fire-proof curtain at Edinburgh has been tested by the architect, Mr. D. MacGibbon, and has been pronounced successful, and to work in the best manner. The whole contrivance is ingenious, and worthy the attention of all managers of first-class theaters here."

### The Opal Mine in California.

There is great excitement in California over the reported discovery of an opal mine in Calaveras county. The mine is claimed by seven different com-



purposes, in the market, and ts adaptability to an almost endless variety of manufactures, warrants a further mention and commendation of it to our readers. The article is known to the trade as the "elastic black varnish paint," which, unlike varnishes, contains no coal tar, and at the same time yields an even and rich luster, with a body of treble the consistency of ordinary black paint. For painting iron which is to be exposed to heat or the weather, such as boilers and chimney tops, radiators, railings and steam pipes, this black-varnish paint is peculiarly well compounded, since the warmth or atmosphere neither causes it to emit the nauseating odor of benzine, so often arising from newly heated radiators, nor scale off and corrode. It is also a baking varnish and possesses the two-fold advantage of its paint and japan nature, over common varnish. The factory of the firm is located at Edgeworth, and thence it passes into the market under brands suited to its different customers. We notice that in the report of the committee of Mechanics' Association Fair, lately held here, this paint was especially mentioned as one of the best substitutes for ordinary lead, oil, or tar applications, and in



the teeth are free to conform to undulating ground by the springing of the teeth.

Fig. 2 shows the invention enlarged. This combination forms a toggle joint, and acts equally well to prevent the rake from falling when the lever is thrown forward so as to raise it clear of the ground, as it does when going from one field to another.

This rake is easily operated by any boy old enough to drive, and the lever can be applied to a machine of any style. It may be reversed, if desired, so as to operate from the tront instead of the rear of the driver.

In unloading, the lever is brought forward to about an angle of 45° with the shafts, and no further, and can be returned to a rest or lock without letting go of the lever.

It was patented by O. J. Hardgrove, on March 22d, 1864. For further information or shop rights address O. J. Hardgrove & Co., Canton, Ohio.

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eight inches, contains a rather large quantity of the minerals, some specimens resembling in form the branches of a tree, others that of kidneys, more or less large. In some parts of the vein the minerals are colored by a mixture of foreign matters, occurring since their first formation. In that state they are either opal jaspers or resinite jaspers. Sometimes they are soft, gelatinous or pasty, and in that state they come from a moist, gravely trachyte. In other places they are white on the surface, and often to the center; but a dead white like the carbonate of lime. From time to time, in the healthy and compact parts of the vein, an opal bas a considerable degree of purity and more or less transparency. We have taken a lew specimens of the latter sort from the shaft, at the depth of about one hundred feet, and by our analysis we found it composed as follows :-Silex, 90.50; water, 9.50-100. The elements of that composition are exactly those of the true opal, and the pretty reflections similar to those of the prism, which are met with in this kind of mineral, are certainly due to the presence of a little more water than

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"This vein, varying in thickness from four to indorsement of that opinion, a medal and diploma were granted its manufacturers.-Commercial Bulletin, Boston.

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