

## New Inventions.

### Rotary Engine Propelled by Explosive Gases.

Mr. F. S. Ingersol, of Elyria, Ohio, has invented a very beautiful and simple rotary engine to be propelled in a most ingenious manner by powder. The charge is regulated by a screw and it is struck off by a percussion lock. The cavity for the receipt of the discharge is nicely fitted and perfectly removed when the charge is ignited from all connection with the magazine, so that there is no fear of explosions. The plan of the rotary engine, which we have seen, is very good in itself, and the manner of igniting and supplying the powder is certainly ingenious. The power of gunpowder or gun cotton as a mechanical propellant, has never yet been successfully developed. Brunell tried it, and found that the changes of the atmosphere had such an effect upon the nitrogen that he had to abandon all attempts to use it with any benefit. When we take into consideration that a few grains of powder can propel a mass ten times its weight to a great distance and with a velocity so rapid that the eye cannot see it, (except large shot) we may well conclude that were we capable of harnessing it with an engine the results would astound us. We hope Mr. Ingersoll, who is not a novice in invention, may be the fortunate man to accomplish this.

### Improved Horse Rake.

Mr. Calvin Delano, of East Livermore, Maine, has invented a new and useful improvement in the Horse Rake. Each tooth is connected to a shaft by a hinge by which it is allowed to rise and fall easily and accommodate itself to uneven surfaces. The shaft is connected to a pair of small wagon wheels with a platform attached on which the driver stands, who by means of a bar running under the teeth in connection with an upright lever, lifts the teeth up and discharges the hay in winnows as the driver desires.

### Permanent White Lead Paint.

Every person knows that white lead paint always turns yellow if not exposed to the rays of light. Nothing is more common in houses than to see behind shutters and in corners a dirty yellow where a white should be. This evil has been completely remedied by Mr. James Coppuck of Mount Holly, N. J., who has produced a matchless white, which has been nailed up for months in a close box and has retained all its pristine whiteness. The substance or substances he uses makes all the pigments nearly with which it is combined, exceedingly permanent. Some of these have now stood the test for years and with the inventor, Mr. Coppuck, it is no longer an experiment. Further information may be obtained of him, and we believe that a good opportunity is presented for those who may desire to engage in its introduction.

### New Spark Arrester.

Messrs. Birch and Bruff, of Washington, D. C., the National Intelligencer says, has invented a very neat and simple hood for locomotives and steamboats, which increases the draught and conveys the sparks, &c. into a receptacle, where they are effectually arrested and extinguished, not one being permitted to escape. The apparatus is substantial, permanent, and highly ornamental, and besides its above mentioned important functions, it projects the smoke higher above the train than the mere chimney would, without increasing its length. Numerous spark-catchers have been invented and several are in use, but none, it is believed, have proved perfect. The above invention cannot become easily deranged, and is as permanent a fixture as the chimney itself.

## IMPROVEMENT IN VAULT COVERS.

It is a well known fact that our common vault covers are very inefficient and serve but poorly the purpose intended. We are sometimes afraid to step on one from the danger of its prying up, as has been the case with many, and not without some serious accidents. The city of New York, at least many streets in it, is mined like a rabbit warren. The majority of the Press rooms of our papers, are beneath the streets, as an exhibition of the positive

fact, that the Press is a fundamental strata of city property and city prosperity too. As vault building is becoming more and more common it is certainly necessary to have good, safe and durable covers. This we think has been fully attained by the cover invented by Mr. W. S. Watkins, of this city, which he calls his SAFETY VAULT COVER, an engraving of which is here presented.

Figure 1.

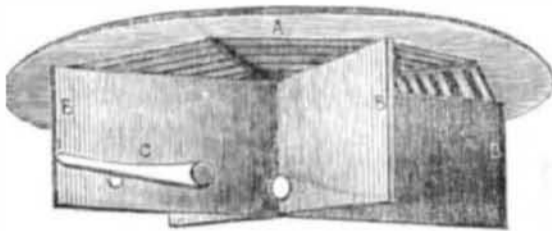


Figure 2.

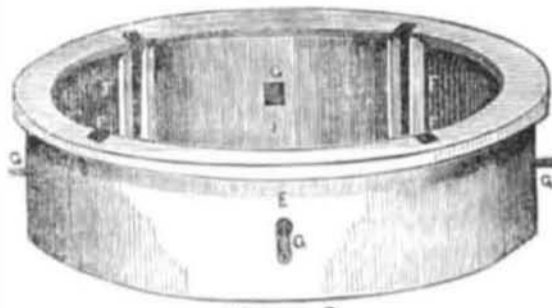


Figure 3.

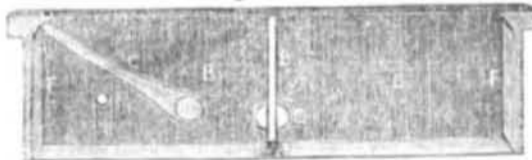


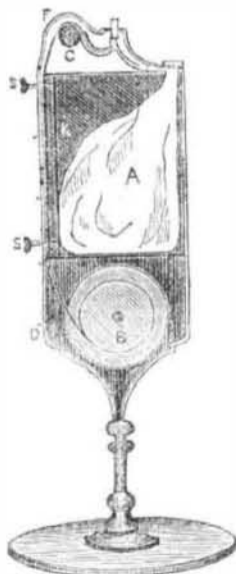
Figure 1, is a view of the cap, or cover.— Figure 2, is a view of the cylinder or collar, and Figure 3 is a sectional view. These covers are generally circular, but they can be made of any shape. The common kind just fit into a circular rim groove, and have but little underhold for firmness. The cap of this cover has four deep flanges designated by B, which fit into perpendicular grooves made to receive them in the collar E, designated by F, fig. 2, and thus secures a firm, solid matching of the cap to the opening of the vault. These grooves may be cut into a stone orifice, or what is better, a cast iron collar. This is the principal feature of the improvement. Fig. 1, is the bonnet of the cover. It is perforated with holes or parallel line openings as may be de-

sired. C, is a sliding pall fixed on the flange, so that when the cover is on, it falls upon the side of the collar, binding the flange B, in the groove F. These palls can easily be raised from above by a small hooked rod thrust through the grate of the bonnet or cap. D, is an opening cut through the cross of the four flanges, by which the vault and cover in the old way may be secured below with lock and chain. G, are screws by which to affix the collar in the vault opening. The invention is very simple and good, and it will soon supersede all other vault covers now in use.

Measures have been taken to secure a patent for the combination of the flanges with the grooves, either made in metal or any other material most suitable.

### Lard and Oil Lamp.

This is the invention of Mr. L. A. Beardsley, of South Edmerstown, N. Y., and exhibits considerable novelty in design and construction



DESCRIPTION.—A, is a gum elastic bag, made to fit the place seen in the lamp, and is to hold the lard or oil. B, the spool from which the cotton wick is drawn up the side of the lamp over the roller C through the tubes. S S, are screws which move the slide, K, forward forcing the lard or oil nearer the flame. From D to F, are slides or lids which can be opened when the lamp is supplied with wick. Mr. B. would like to dispose of rights to

manufacture these lamps and will give proper attention to any communications directed to him.

### Improvement in Gold Pens.



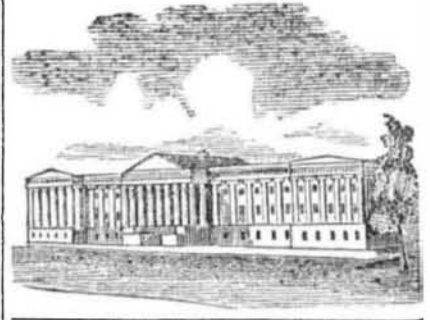
This is a representation of the self-feeding Gold Pens spoken of in the Scientific American of last week. They are designed by Mr. Alfonse R. Cratey, of Brooklyn, N. Y., and present a novel appearance from those in common use. The light line in the centre of the figures represents a silver pallet which lets the ink escape in sufficient quantity for a clean stroke, so that blotting by a new dip of ink from the bottle is entirely prevented, while a considerable supply is kept behind the pallet to ooze out gradually and last for some time.

### New Propeller.

Mr. J. N. Smith, of this city, has secured a patent for the combination of a propeller at the stern of vessels with the action of paddle wheels. Thus uniting the propeller with the paddle.

### New Hemp Dressing Machine.

Mr. N. L. Williams of St. Louis, Mo., has recently invented a machine which will break and clean 120 lbs. of hemp per hour, in the most perfect manner, with but very trifling waste.



## LIST OF PATENTS

ISSUED FROM THE UNITED STATES PATENT OFFICE,

For the week ending April 11, 1848.

To Samuel Wright, of Philadelphia, Penn. for improvement in Cane Umbrellas. Patented April 11, 1848.

To Albert V. Hill and Reynolds Arnold, of Hamburgh, N. Y., for improvement in Boot Planes. Patented April 11, 1848.

To Gilbert Geer, of Troy, N. Y., for improvement in Cooking Stoves. Patented April 11, 1848.

To Jesse Taylor, of Auburn, N. Y., for improvement in Smut Machines. Patented April 11, 1848.

To Lathrop S. Bacon, of Leroy, N. Y. for improvement in Cooking Stoves. Patented April 11, 1848. Ante-dated Oct. 11, 1847.

To George B. Foster, of Taunton, Mass., for improvement in Sash Fasteners. Patented April 11, 1848.

To Jackson Sutton, New York City, for improvement in Lamps. Patented April 11, 1848.

To G. H. Horn, (of Boston,) and B H Horn (of New York,) for improvement in Magneto Electrical Machines for giving shocks, (having assigned to D. C. Morehead, of New York.) Patented April 11, 1848.

To Napoleon B. Lucas, of Jersey Co., Illinois, for improvement in Traps for animals. Patented April 11, 1848.

To Anson Smith, of Birmingham, Michigan, for improvement in Grain Separators.— Patented April 11, 1848.

### DESIGNS.

To John Burgess, of Troy, N. Y., for Design for Stoves, (having assigned to Gilbert Geer.) Patented April 11, 1848.

To James Wager, of Troy, N. Y., for Design for Stoves. Patented April 11, 1848.

### INVENTOR'S CLAIMS.

#### Alarm for Steam Boilers.

H. B. Fernald, of Boston, Mass. Improvement in Alarms for Steam Boilers. Patented Nov. 13th, 1847. Claim.—Having thus fully described the nature of my improvement in the manner of ascertaining that the water in a steam boiler is so far exhausted as to require replenishing; I do hereby declare that I do not claim the employment of a float for the purpose of merely opening a steam valve, floats having been already used in various ways to operate on safety valves; but what I do claim as constituting my invention, and desire to secure by letters patent is the combining of a float within a steam boiler, with a case into which water is to be admitted through apertures in its lower parts, and with a steam whistle; said float having a valve at its upper end, surmounted by a steam whistle: the whole being constructed and operating in the manner and for the purpose herein fully made known.

#### Percolating Apparatus.

By C. Augustus Smith of Cincinnati, Ohio. Improvement in percolating apparatus. Patented 20th Nov. 1847. Claim.—“What I claim as my invention and desire to secure by Letters Patents, is the process of extracting the medical or other valuable properties from vegetable substances, substantially as herein described, viz., by placing the vegetable substances in a percolator, passing a current of steam or vapor into the same, and gradually condensing the steam or vapor while it is diffused amongst the vegetable substances, by the percolator, substantially as herein set forth.

Wrought-iron ought never to be tested beyond half its presumed capacity; nor cast-iron beyond one third, for fear of elongating the former, and of producing permanent injury to the latter.