

## New Inventions.

## Composition for Printer's Rollers.

R. & H. Harrild have obtained an English patent for a method of reducing the glue to a proper state for combining with molasses and the other ingredients usually employed in the manufacture of the printers' rollers composition, without soaking it in water, in order that the glue may be obtained as free from water as possible. Instead of soaking the glue in water previous to melting it, it is subjected to a high degree of steam pressure in an enclosed vessel, so as to convert it into a jelly-like mass, above which the condensed steam will float, unmixed with the glue. The water is drawn off by any suitable means, and the composition is finished in the ordinary manner.

## Purifying Gutta Percha.

H. H. Day, of New York, has obtained a patent in England for extracting from gutta percha a peculiar etheric oil which it contains preparatory to its being subjected to the process of vulcanization, by submitting it to the action of a liquor which dissolves out the etheric oil, and also, at the same time, by acting upon the woody matter, disengages the sand or other foreign substances held therewith. This liquor is composed of caustic potash (hydrate of potassa) dissolved in water, with an ether formed from a solution of chloride of lime and alcohol added, and after the crude gutta percha is placed therein the whole mass is heated to a boiling point, and so kept for about nine hours, and then treated between rollers under water, in the ordinary manner. When taken out, the gum will consist of a pure and solid mass, resembling india rubber, and fully equal to it in fineness, and in the readiness with which it may be worked to prepare it for the additional process of vulcanization.

## Improved Ore Washer.

Our engravings illustrate the invention of H. Barnard, of this city, which is designed to insure the more perfect separation of gold from auriferous quartz, when crushed, or from any other ore, by mechanical means alone, or combined with amalgamation, and also a washer for any kind of ore.

Fig. 1 represents a general gold washer and separator, and Fig. 2 is an amalgamator and separator combined, intended more especially to break up and disintegrate auriferous substances which require severe agitation, such as those combined with clay, manganese, &c., and also to extract the most minute quantities of gold from iron, sand, or crushed quartz, by means of quicksilver.

The inventor has experienced all the changing scenes of a miner's life on both sides of our continent, and he has endeavored to produce a machine which shall fulfil the want which he himself has felt, namely, one which is simple, durable, portable, and not liable to get out of order; and of his success any miner or mechanic will at once be able to judge. These machines are made of different sizes, to suit the amount of work to be done, the smaller size being about four feet high, and weighing about 250 lbs.

In Fig. 1, A is a sieve pan, that separates pebbles, &c., from the finer auriferous substances, which then pass on to a small convex retention rim pan, C, and from that to a large concave retention rim pan, B, being carried through the center of the pan, B, on to another small convex, C, and over its edge to a large concave, B, and through its center to the general receiving pan, D, the gold being retained behind the rims. Close at the back of each retention rim is a small hole, which, during the process of washing, is closed with a stopper. In order to collect the gold or ores retained behind the rims, the stoppers are withdrawn, and a stream of clear water introduced at the top, which washes all the ores through the holes into the general

receiving pan, D, from which it can be collected into any suitable vessel.

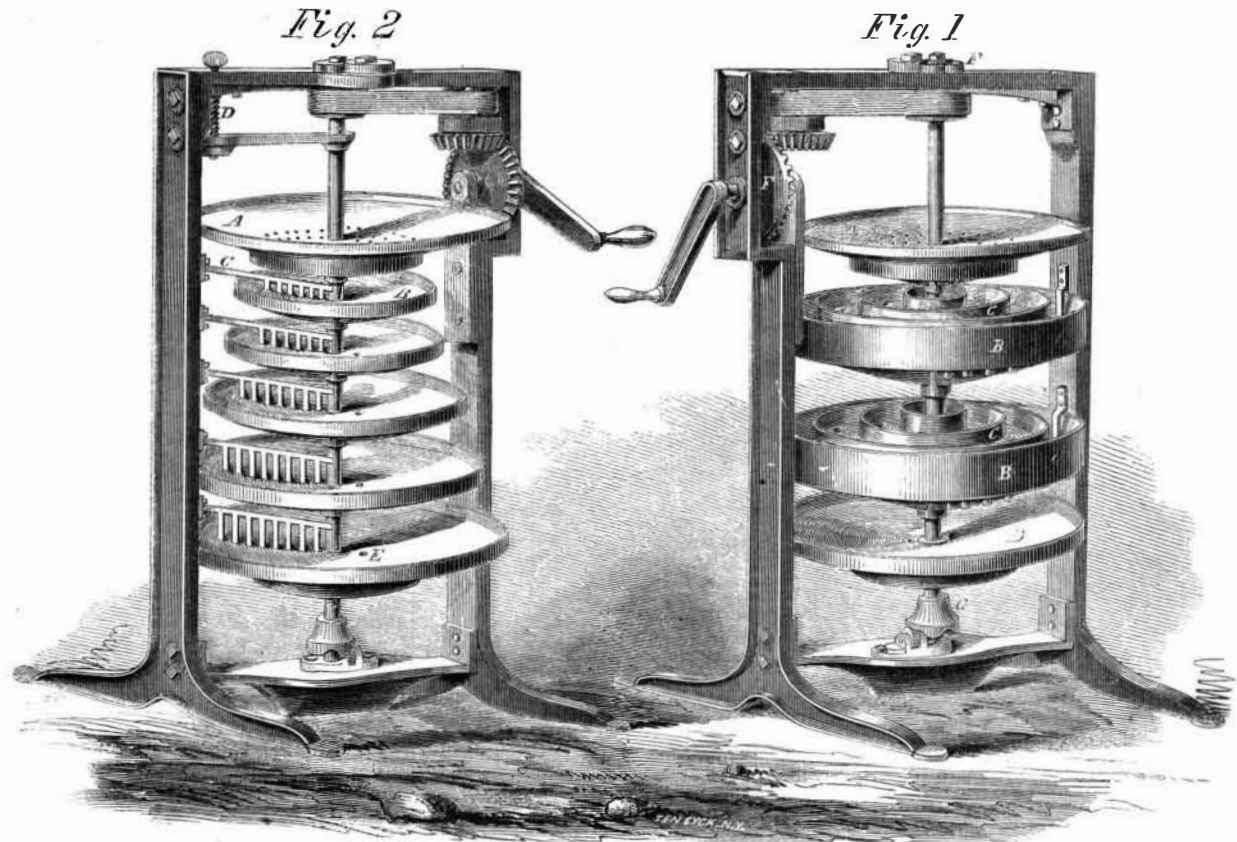
By means of an eccentric, F, the vertical shaft which holds the pans is given five vibratory motions to each revolution of the pans by the gearing, E, and by means of the cam,

G, it also receives the same number of vertical motions in the same time.

Fig. 2 is composed of a series of pans, increasing in diameter, and attached to the shaft by set screws. The substances to be separated are introduced with water by a

sluice or race, discharging on to the sieve pan, A, thence passing through holes into the small concave pan, B. C represents a series of agitators, one in each pan, so arranged as to be moved up and down with the pans, always in the same line, by the screw, D. This

## BARNARD'S GOLD WASHER AND ORE SEPARATOR.



agitator throws the light waste over the edge of the pan to the one below, which is made broader, to receive it, and so on to the next in order, till it passes to the bottom pan, E, the gold being retained in the upper ones. In each of these pans is a hole closed with stoppers, which can be removed to allow the gold

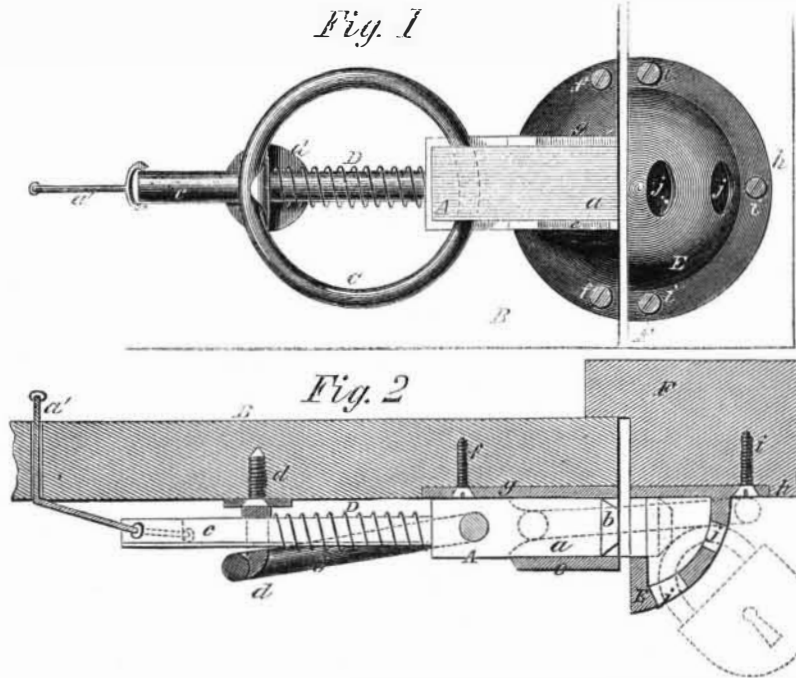
to be washed through when desired. In amalgamating, a similar process is carried on, quicksilver being added to the sand and water, and the amalgam is retained or finally caught in the lower pan.

All that is necessary for the perfect operation of the machine is to properly regulate the

motion and quantity of water necessary to throw off the waste matter.

These machines were patented February 16, 1858, and they may be seen at No. 206 William street, New York, where all communications can be addressed to Barnard's Gold Separator, for further information.

## DEVIN'S RING BOLT.



This invention consists in the use of a slide bolt, with a ring attached, employed in connection with a spring, socket or nosing and guide, so that a most simple and economical ring bolt is obtained, which is suitable for the ordinary hinged doors or sliding ones, such as railroad freight cars, where they should be placed vertically, the socket being in the floor or in the top, as most convenient, and not horizontal as in our illustrations.

Our engravings represent a perspective view of the ring bolt, Fig. 1, and an horizontal section, Fig. 2. A represents the slide or bolt, the outer part of which, a, is of quadrilateral form, and has a chamfered end, b; the other part, c, of the bolt is cylindrical, and

is fitted loosely in a guide, d, the shank of which is screwed into the door, B. The outer or quadrilateral part, a, of the bolt is fitted in a guide, e, that is secured to the door, B, by screws, f, which pass through a flanch, g, connected with the guide case. Through the part, a, of the bolt, a ring, C, passes, and on the cylindrical part, c, of the bolt a spiral spring, D, is placed, this spring being between the guide, d, and part, a, of the bolt, and having a tendency to keep the latter forced out from the guide case, e.

E is a socket or nosing in the form of a quarter of a sphere having a flanch, h, at its base, through which screws, i, pass to secure it to the casing, E. The socket is secured to

the casing in line with the bolt, A, and a recess is formed in it to receive the outer end of the bolt, A, as seen clearly in Fig. 2, the spring D having a tendency to keep the outer end of the bolt in the socket or nosing. In the socket, openings, j, j, are made, to allow the shackle of a padlock to pass through and secure the bolt by the ring as shown by dotted lines in Fig. 2. It will be seen that when the slide or bolt is secured in this way the implement cannot be detached from the door, because the ring, C, covers the screws, f and i, rendering them inaccessible.

The device may be used as a simple catch or fastening only, by not using the padlock, the ring being allowed to rest or bear against the bolt, and if at any time it is necessary to render the bolt inoperative, the ring, C, may be turned so as to fit over the guide, d, the ring holding the bolt back from the nosing. A chain, a', may be attached to the end of the part, c, of the bolt, and passed through the door, so that the door may be opened from the outside.

The inventor of this cheap and ingenious device is George W. Devin, of Ottumwa, Iowa, from whom any more information may be obtained. It was patented May 4, 1858.

## How to Consume Smoke.

Peter Spence, of Manchester, England, proposes not only to do away with the smoke of large cities, but with the chimnies also. His plan is, to carry the smoke into a large central sewer under the street by proper conduits, and then have at some distance from the city, a Tower of Babel-like chimney, into which all the smoke pipes should come. The idea is certainly novel, but scarcely practicable just yet.

INDEPENDENCE DAY. — This being the Fourth of July week, some of our subscribers may not receive their papers as early as usual by one day.