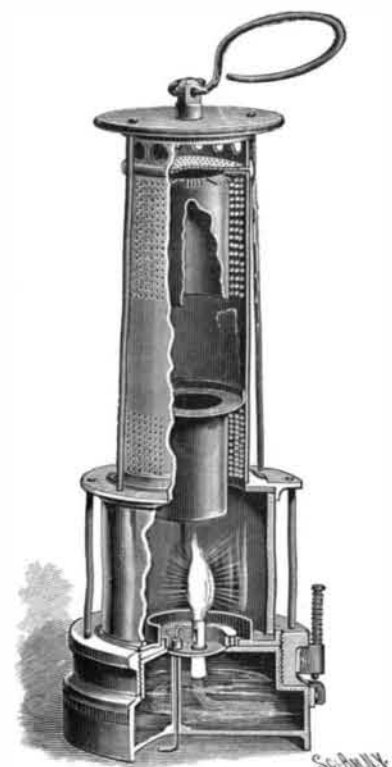


AN IMPROVED MINER'S LAMP.

A lamp strong enough to resist the action of burning gas within it, which is perfectly ventilated, and which gives a steady light in a current of air, is shown in the accompanying illustration, in which portions are broken away to show the interior. It has been patented by Mr. William J. Callaghan, of Connellsville, Pa. The lamp proper, or oil-holding reservoir at the base, screws into the upper portion, to which it is

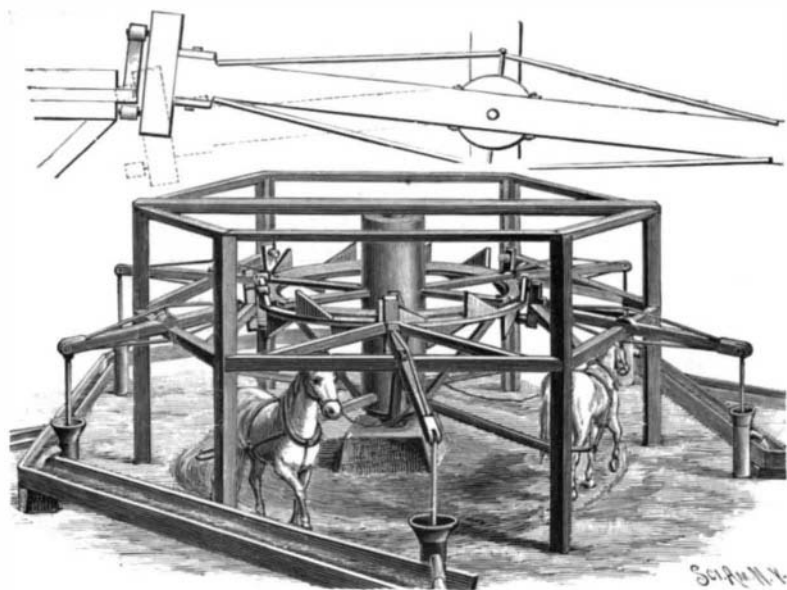


CALLAGHAN'S SAFETY LAMP.

secured by a safe and strong lock, in the form of a spring bolt with a catch on its outer end, which enters a socket in the lamp body. In the outer tube, above the glass portion, are top and bottom perforated sections, opposite which are internal shields, the lower one being adjustable up and down, as desired, these shields preventing any rapid propulsion of gas through the lamp. The upper shield is closed at the top by a perforated plate, above which are side apertures. Extending from the bottom up through the oil reservoir is a tubular way in which is loosely fitted a piece of wire, sharpened at one end, and bent to form a pick, by which the wick may be conveniently raised or lowered, or freed from incrustations. The construction is such that the flame cannot be projected outward from the lamp, and all parts are easily examined at any time.

AN IMPROVED HORSE POWER.

The accompanying illustration represents, in perspective and sectional views, an improvement in horse powers designed more especially for pumping purposes. It has been patented by Mr. E. J. Wood, of Beckwith, Cal. It consists of a revolvable cam wheel held in position by a suitable framework, and having around its outer rim a series of inclines, as shown. A vertical cross piece upon the inner end of each lever carries two engaging pulleys of a proper distance apart to allow the alternating cams to pass between as the wheel is revolved, thus imparting a smoothly acting and powerful reciprocating movement to the levers. The framework is preferably of an octagonal shape, thus giving a combination of strength with an artistic effect, and also the capacity for operating a lever at each of its sides. The power is especially adapted for



WOOD'S "ARID BELT PUMPING POWER."

raising the underflow of surface water for irrigation and other purposes, as it will pump simultaneously from a group of pumps fifty feet apart if desired.

Chime Whistles on Passenger Engines.

It is being announced by some of the technical papers that the Pennsylvania Railroad has adopted chime whistles as standard for its passenger engines. The fact is that this road has been equipping its passenger engines with chime whistles for the past two years,

and is now pushing such equipment as rapidly as possible. This is not only complimentary to the good sense of the Pennsylvania's management, but it is also a healthy sign of the increased attention that is being given by railroad managers to what we have frequently spoken of as the refinements of railroad management.

The most successful managers of large retail establishments vie with each other in adopting refinements of their service that eliminate every possible phase of trade that is disagreeable to their patrons. The same policy should prevail in railroad operating. Railroads have transportation to sell, and much of it is retailed to individual passengers who are apt to bestow their future patronage where the results promise to be most pleasant; or, at least, where there is a minimum of disagreeable features. The squalling, bellowing, screeching whistles used on many passenger engines are properly classed among the latter. Their rasping tones are annoying in the daytime and exasperating at night, when they frequently startle sleeping passengers, or entirely chase away the gentle god vainly being wooed.

The action of such roads as the Pennsylvania and Michigan Central in recognizing these facts, and adopting whistles with soft, pleasant tones for their passenger engines, will surely have the effect of prompting other roads to do likewise or of drawing a larger proportion of patronage to themselves.—National Car Builder.

The Meerschaum Industry.

Mr. Cumberbatch, British consul at Angora, in his latest report, says that rich deposits of meerschaum are found 20 miles to the southeast of Eski Shehir, an important station of the Anatolian Railway. The Belgian consul in Constantinople, who recently visited the place, states that it would be difficult to determine the exact area in which the meerschaum is to be found. Judging from the number of pits at considerable distances from each other, it must be extensive. The localities where most work is carried on are Sepetdj-Odjaghi and Kemikdj-Odjaghi. The meerschaum is extracted in the same way as coal. Pits from 25 feet to 120 feet deep are dug, and as soon as the vein is struck horizontal galleries, sometimes of considerable length, are made, but more than two galleries are seldom to be found in one pit. The stone as extracted is called "ham tash," or rough block, and is soft enough to be easily cut with a knife. It is white with a yellowish tint, and is covered with a red clayey soil of about one inch thick. In this state the blocks are purchased by dealers on the spot, not by weight or by measurement, but according to approximate quantity, either per load of three sacks or per cartload, the price varying from £5 to £30 per load, according to quality. These blocks are dried and subjected to certain preparations before being conveyed to Eski Shehir. Some of them are as small as a walnut, while others attain the size of a cubic foot. Those which combine regularity of surface and size are the best. The manipulation required before they are ready for exportation is long and costly. The clayey soil is removed and the meerschaum dried. In summer exposure for five or six days to the sun's rays suffices, but in winter a room heated to the required temperature is necessary, and the drying process takes eight to ten days. When dried the blocks are well cleaned and polished, then they are sorted into about 12 classes, each class being packed with great care in separate cases, and each block being wrapped in cotton wool. The bulk of the meerschaum is sent to Vienna, where it is worked, and dispersed all over the world. Most of the finest specimens are sent direct to Paris. Certain American dealers have visited Eski Shehir with the object of obtaining the raw article direct instead of through Vienna, thereby saving the higher custom house duty payable on the worked meerschaum. The quantity annually exported is put down at 8,000 to 10,000 cases. The various taxes levied by the Turkish government amount to about 37 per cent ad valorem.

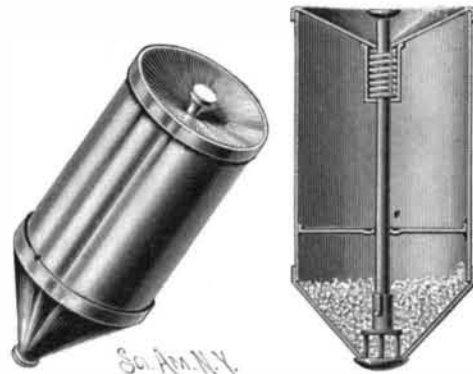
How to Locate a Claim.

To make a quartz location after July 1, the prospector must sink a hole at least ten feet deep to solid formation, must have at least one well defined wall, and must stake his ground so that the stakes can be found. The notice of location must be placed in a conspicuous place at the discovery shaft, where it can be seen—not on some stump or tree in the neighborhood. He is allowed ninety days to do this work. If he relocates an old prospect hole, he is required to sink it at least ten feet deeper than when he first found it, and stake and record his location the same as though

it was an original discovery. If he runs a tunnel it must be at least ten feet long, so as to determine the fact that a vein supposed to carry the precious metals has been discovered.—The Mining Review.

A TOILET POWDER RECEPTACLE.

The illustration shows a holder for tooth powder, etc., arranged to readily deliver a certain quantity upon a tooth brush, or where desired, without waste. It has been patented by Mr. L. S. Upton, Governor's Island, New York City. It has a conical bottom and hopper-shaped top, with an apex opening closed by a valve with inwardly extending stems connected to a head carrying a sleeve with an L-shaped slot, engaged by a pin on the end of a plunger. The plunger is held normally in the position shown by a coiled spring, and has on its outer end a thumb-piece, by pressing on

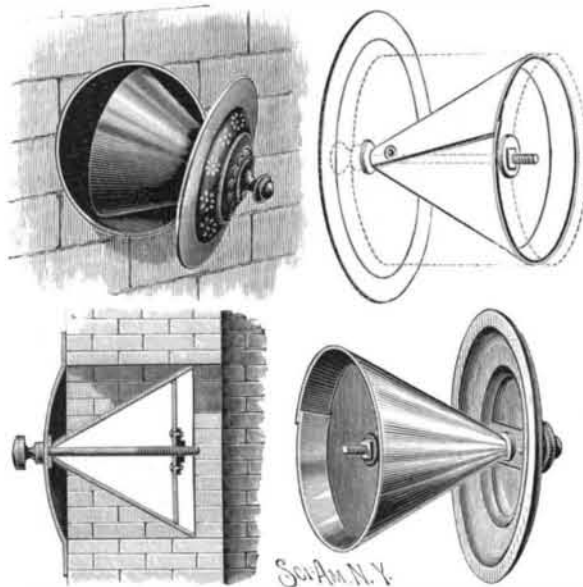


UPTON'S POWDER HOLDER.

which the valve is opened to pass the powder out of the receptacle, the plunger returning to normal position on the removal of the pressure, and at the same time seating the valve. The valve is removably connected with the plunger to permit of conveniently placing the powder in the receptacle.

A CHIMNEY FLUE PIPE OPENING COVER.

To prevent gases, smoke, soot or fire from passing into a room of the house from a pipe opening of the chimney flue, Mr. Axel A. Gustafson, of Axtell, Neb., has patented the device of which several views are presented in the accompanying illustration. It has a dished cover, with an annular flat flange adapted to rest on the face of the wall, so that the cover closes the pipe opening, and in the center of the cover turns a screw rod, with a knob on its outer end, while on its inner end screws a nut in a disk which engages the inner surface of a cone-shaped expansion thimble. The thimble has overlapping side portions connected



GUSTAFSON'S SAFETY FLUE THIMBLE COVER.

with each other near the apex of the cone by a rivet which forms a pivot, permitting the base end of the thimble to readily expand or contract on moving the disk inward or outward by turning the screw rod. The device may thus be readily fixed in position in the pipe opening, and is removed without trouble when a pipe is to be placed in the opening.

Ravages of Snakes and Wild Animals in India.

The number of deaths in India caused by bites of wild animals and reptiles is on the increase. The deaths from snake bites last year were 21,000, and in the same period nearly 120,000 deadly snakes were killed. Wild animals caused the death of 2,800 persons in the same year. The tigers killed nearly a thousand; leopards, 291; wolves, 175; bears, 121; and elephants, 68. On the other hand, nearly 15,000 wild beasts were killed, including nearly 1,300 tigers and more than 4,000 leopards. In addition to the loss of human life, nearly ninety thousand head of cattle were destroyed. The bounties offered by the government seem ineffectual to decrease the number of wild animals.