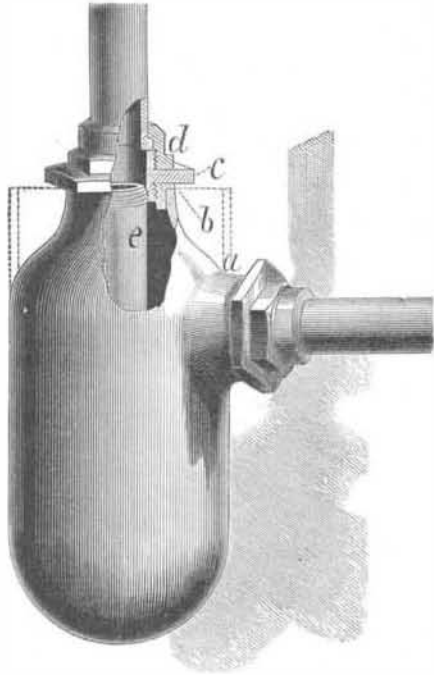


REMOVABLE BOTTLE TRAP.

The object of an invention recently patented by Mr. G. M. McCloskey, of No. 191½ Atlantic Avenue, Brooklyn, N. Y., is to facilitate the cleaning of bottle traps and also to increase the ease of attaching and detaching the traps from the pipes. The body of the trap is cast in the shape of a cylindrical cup, as indicated by the dotted lines in the engraving. The open end is spun so as to fit upon the screw tube,



McCLOSKEY'S REMOVABLE BOTTLE TRAP

b, which is soldered in place, and into which is screwed the tubular part, *c*. Upon the outer part of the tube is screwed the coupling ring, *d*, whose inwardly projecting flange holds the inlet pipe firmly in place. The pipe, *e*, is screwed into the inner end of the tube, *c*, so as to form a continuation of the inlet pipe extending nearly to the bottom of the trap. The upper part of the side of the trap is cast upon a female screw similar to the one shown at *b*. The outlet pipe is held in place in the same way as the inlet. With this construction the trap can be disconnected from the outlet and inlet pipes by unscrewing the coupling rings, so that it can be easily cleaned and replaced. The trap being cast in one piece, soldering of the parts is done away with.

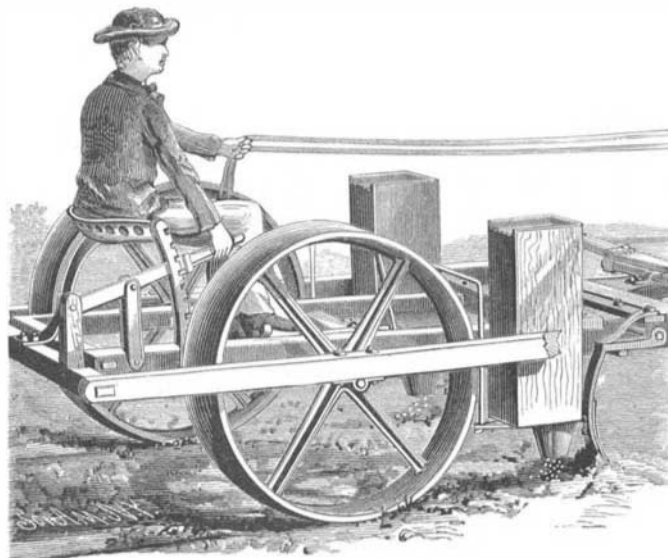
CORN PLANTER.

The annexed engraving represents an invention patented by Mr. Charles J. Mikesch, of Conover, Iowa, which is designed to facilitate the operation of corn planting. The wheels are made with wide concave rims to adapt them to cover the seeds. The ends of the axle are attached to the side bar of an outer frame which incloses the machine, and to the forward end of which the tongue is secured. An inner frame, fitting in between the hubs and resting upon the axle, oscillates freely between the cross bars of the outer frame. To a support attached to the rear bar of the outer frame is pivoted the end of a lever which, at a short distance from the end, is joined to the inner frame by a bar. The forward end of the lever moves along a notched circular bar as shown. By moving this lever the inner frame is oscillated, and by means of the notched bar and bolt, which is operated from the handle, the frame can be locked in any desired position.

To the lower ends of angular shaped bars journaled upon a cross rod are attached plows which open the furrows to receive the seed. A spring bearing upon the horizontal portion of the bar holds the plow down, yet permits it to move up when it encounters an obstruction. This construction is clearly shown in the engraving, in which the forward part of the side bar is cut away. The seed boxes are secured to the forward cross bar of the inner frame. The two seed dropping slides are connected by a rod which is joined by a link to an arm projecting upwardly from the end of a short shaft whose other end is rigidly attached to the center of a bar, which is so placed that the driver, when sitting upon the seat, can rest his feet upon the ends and so operate the seed dropping slides. The slides at the lower ends of the boxes receive the seeds from slides placed near the center (both sets of slides are operated by the same bar), and at the next movement of the dropping mechanism drop the seed in a bunch through the funnels to the ground.

Efficiency of Coal.

A pound of average coal develops, with perfect combustion, 12,000 units of heat, which, multiplied by 772, the mechanical equivalent in units of work of one unit of heat, equals 9,264,000 foot pounds of work, representing barely a consumption of one-quarter pound of coal per indicated horse power per hour. The very best engines of modern times, leaving out only a few exceptional cases, require not less than 2½ pounds of coal per horse power per hour. The average engine uses very much more.



MIKESCH'S CORN PLANTER.

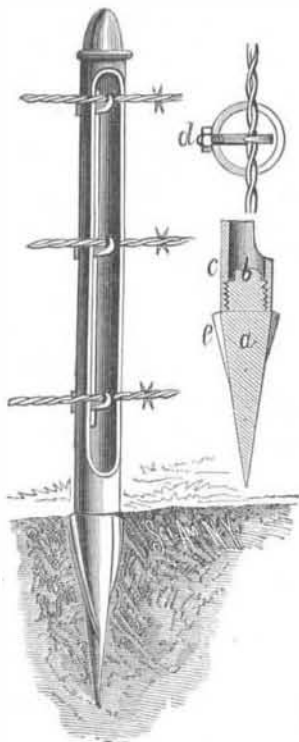
Keep Your Eyes on Congress.

"Some of the bills now before Congress, notably those of Mr. Anderson and Mr. Voorhees, should they become laws, would prove a death-blow to our most flourishing industries. They would be more disastrous in their effects than an immediate adoption of absolute free trade. They would rob honest men of the fruits of their brain labor in order to benefit a few who are too lazy mentally, morally, and physically to exert what little ability the Lord in His generosity saw fit to waste on them.

"Shame on all who do not stand up manfully in defense of the right of every man to enjoy the honest fruits of his labor, mental or physical! More shame on those who, being intrusted with the duty of protecting those rights, neglect that duty, and are silent when their voices should be heard in vigorous protest! But greatest shame of all on those who willfully betray their trust and besmirch their reputations by advocating this wholesale robbery of a class of men to whom the nation is indebted for much of its present greatness!"—*Sewing Machine Journal*.

IMPROVED FENCE POST.

The base of the post consists of a cast iron point, *a*, having spiral flanges, *e*, and a shoulder above which is a screw threaded section and a driving head, *b*. This section is driven into the ground about to the shoulder. The upper section is made of a suitable length and size of gas pipe, about one-half of which is cut away as shown in the accompanying perspective and sectional views. Through the back of the remaining part is cut a slot which is nearly as long as the open front portion. The lower end of the pipe is screw-threaded to fit upon the ground section, and the upper end is fitted with a plug. Wires are secured to the posts by hook headed bolts (shown at *d*, in the cross sectional cut) which extend through the slot, and are held by nuts so as to draw the wires firmly against the two edges of the post; two bearing points are thus formed, against which the wire may be clamped and securely held at any desired height.



MINER'S IMPROVED FENCE POST.

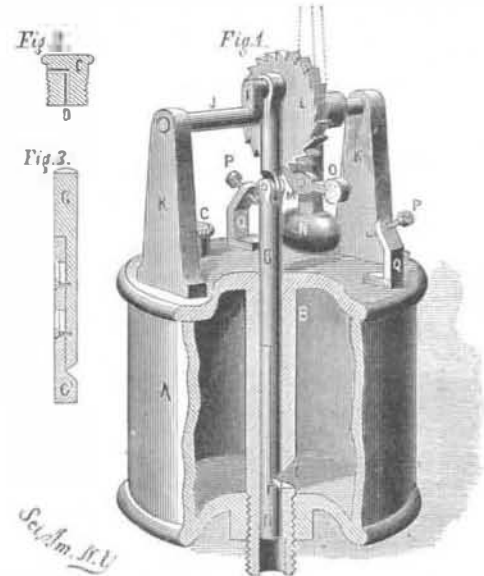
When deemed advisable, in order to make the fence more easily visible to animals, the upper hook may be replaced by a bolt, having an L form, for holding the lower edge of a board, the upper edge being passed under a lip formed in the top of the pipe.

This construction makes a simple and durable post which can be quickly and easily set.

This invention has been patented by Mr. E. D. Miner, of Dayton, Washington Territory.

IMPROVED VALVE OILER.

The accompanying cut shows an invention, recently patented by Mr. S. D. Mershon, of Rahway, N. J., which is designed to facilitate the oiling of the moving parts of machinery, and also to secure regularity in the amount of oil delivered. Through the center of the oil cup, *A*, passes a tube, *B*, which may be made solid with the top and screwed into a hole in the bottom. Oil is introduced into the cup through an opening in the top that is closed by a cap, *C*, having a hole, *D*, through it, as shown in the sectional view, Fig. 2, in order to admit air to the cup to take the place of the oil as it is discharged. In the lower part of the



MERSHON'S IMPROVED VALVE OILER.

tube, *B*, is an opening, *E*, through which oil passes to the interior and enters the recess, *F*, in the rod, *G*. This rod fits accurately in the tube, and its lower portion is made up of two halves held together by screws passing through short slots in the extension part, *G'*, as indicated in the longitudinal section, Fig. 3. When the rod is raised, the recess comes opposite the opening and becomes filled with oil; as the rod moves downward the oil in the recess is carried with it and flows out through the lower part of the tube to the surface to be oiled. The upper part of the rod is jointed, and its upper end is attached to a crank formed upon a shaft, *J*, revolving in bearings, as shown. At each revolution of the shaft the recess, *F*, discharges its contents. On the shaft is secured a ratchet wheel, *L*, into the teeth of which meshes the end of a pawl, *M*, which is pivoted to, and operated by, the swing of the pendulum, *N*. The pawl is held in gear with the wheel by the weight on the arm, *O*. The jar of the engine will keep the pendulum in motion; but it may be extended as indicated by the dotted lines and actuated by an arm attached to some moving part of the machinery. The swing of the pendulum is limited by the set screws, *P*, passing through the upper ends of the standards, *Q*. By means of the set screws the movement of the pendulum can be regulated so as to move the wheel through the space of one or more teeth, thereby increasing or diminishing the time required for the shaft to make a revolution, and thus regulating the time between the discharges of oil.

Lead Pencils.

With the improved machinery now used, ten hands will make about four thousand lead pencils of the cheaper grade a day. The cedar comes chiefly from Florida, and it is received in slabs of pencil length, one for the lead to go in and the other to cover it, as may be seen by examining the end of any lead pencil. Four little grooves are sawed in the thicker slabs, for the leads, which are kept in hot glue and taken one by one and inserted in the grooves. Then the thin slab is glued to the leaded slab, and, thus united, they are run through a moulding machine, four pencils coming from each slab. After the ends are rasped they are run between grooved wheels at considerable pressure for the only finish they get. This burnishes them, and they are tied in dozens and boxed for sale, mostly in plain wood, and of three degrees of hardness. The graphite used comes in a fine black powder, and is mixed with German white clay, about half and half, and then ground with moisture, forming a paste. This is pressed in dies into lengths of four leads, which are cut and then baked at a very high temperature. These sell at 85 cents, \$1.50, and \$2 a gross, and are very good articles, writing smoothly and evenly. The manufacturer makes about one hundred per cent, selling the pencils at eighty-five cents a gross, and the retailer makes a good thing selling them at a cent a piece. The graphite costs about twenty-five cents a pound, and the clay little more than the freight. The more clay is used in the leads the harder they will be. The cedar is cut mostly from fallen trees in Florida swamps.—*Geyer's (N. Y.) Stationer*.

THE report that a party of Americans intend purchasing the volcano Popocatepetl or Vesuvius, and erecting extensive works there for the mining of sulphur and the manufacture of sulphuric acid, lacks confirmation.