

Science and Art.

Curious Essence.

A PERFUME FOR THE HANDKERCHIEF—Take half a pound of orris root; break it into small pieces; then place it in a quart bottle; now pour on the orris root one pint, either of the best pale unsweetened French brandy or of rectified spirits; let them stand together in a warm place for a week or ten days. The tincture of orris produced is now strained off, and to it the following ingredients are added:—Half an ounce of otto of bergamot, one drachm of otto of roses, half a drachm of otto of lavender, and a quarter of a drachm of otto of cloves. Allow the whole to remain together for an hour or so; then filter the perfume through blotting paper, to render it bright. A paper filter is easily made by folding a square piece of blotting paper from corner to corner, then opening the folds to pour the liquid in; a small jug makes a support for it.

TO PRESERVE STEEL GOODS FROM RUSTING—The simplest way of preventing the oxydation of polished iron and steel goods is to dust them over with quick-lime. Where the articles are required to be preserved for many months (such as polished steel grates,) strips of dry brown paper freely covered with powdered lime are to be wrapped round the bars; or they may be placed in cases, and the interstices filled up with quick-lime. Pianoforte wire and small goods are preserved in the same way. The rationale of the method is this—steel will not oxydize in dry air. The presence of quick-lime, from its hygrometric properties, secures dry air, and thus indirectly the lime preserves steel from rust. This is not a new plan, but is the method adopted by the majority of the Birmingham houses.

Another Way—Smear with strong mercury ointment. Wipe carefully before using.
SEPTIMUS PIESSE.

London.

History of Reaping Machines.—No. 29.

In our last, we mentioned only the date of one of Cyrenus Wheeler's patents, and omitted the other. Although it might make no great difference, seeing we referred to the published claim, still we have thought it best to give the date here. The patent was granted on the 6th of last February (claim page 182.) On the 13th of the same month, a patent was granted to Robt. J. Morrison, of Richmond, Va., (one half assigned to E. A. Morrison,) for constructing the cutter teeth and guards in three separate pieces of metal all of similar form, and lying closely upon one another, the middle row being stationary and sharpened, and the upper and lower ones are vibrated, (see claim page 190, Vol. 10, Sci. Am.)

The annexed engraving of a mowing machine is a perspective view, showing parts for which two patents have been granted to Fisk Russell, of Boston, Mass. One dated February 28th, embracing the following claim, the specified arrangement of the supporting wheel with respect to the main driving shaft, when only two wheels are employed to support the shaft—such arrangement consisting in placing the axis of the secondary supporting wheel aside of, and not in line with that of the primary wheel, and disposing the secondary wheel back of or on one side of the driving shaft, (see page 206) The figure shows this improvement clearly.

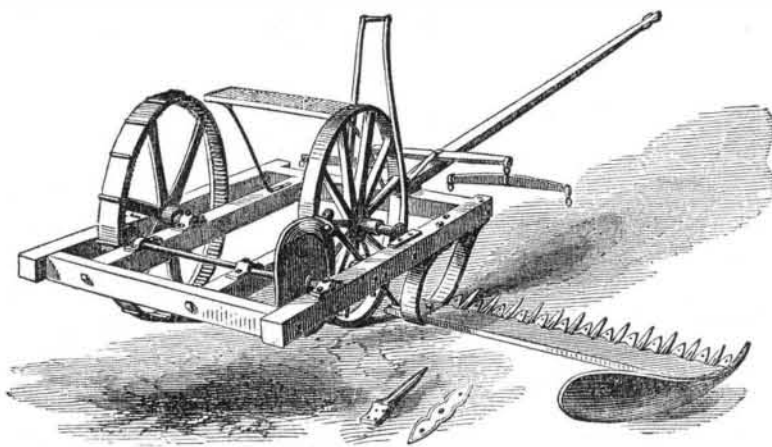
On the 7th of last March, a patent was granted to John H. Manny, of Rockford, Ill., and H. Marcellus, of Amsterdam, N. Y., for auxiliary supporters to grass or stalks of grain, consisting of rods or wires on one side of the sickles, [see claims on page 214.] On the same page are the claims of three re-issued patents of J. H. Manny.

On the 21st of March following, the patent for the second improvement, represented in the annexed fig. 59, was granted to F. Russell, of Boston. The claims are, first, "arranging the secondary supporting wheel and the cutter frame in front of the driving shaft, when such driving shaft and the driving

wheel are arranged and connected by gears, as specified, the same serving to lessen the side pressure on the horses. The gearing which operates the cutter bar is a cam wheel, the edge of which is fan-shaped, which plays between cheeks on the end of the connecting rod of the cutter bar, and thus gives it a reciprocating motion." Another claim embraces "the combination of two knives so that they shall project in different directions

from one cutter bar, in order that either knives may be used in connection with the guard teeth, and either be made to serve as a lever to the other whenever circumstances may require." The figure shows a guard finger and knife, apart by themselves. Each knife is placed upon the guard bar independent moving on a center pivot by means of an iron rod passing under, and attached to the back end of the knives, giving them an

FIGURE 59.

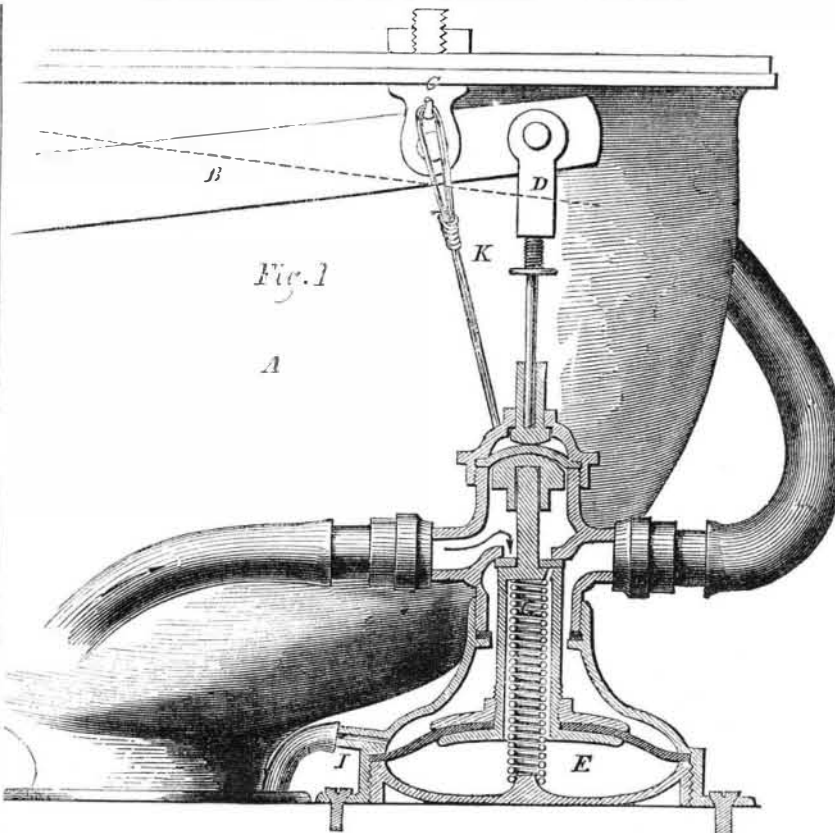


oscillating motion, and making a drawing out. Each knife has a cutting edge on both ends, so that the ends can be reversed when one edge becomes dull. This is like hanging a double set of knives. All this will easily be understood from the figure, [see claims on page 230.] On the same page are the claims of a patent granted to W. A. Wood, of Hoo-sick Falls, N. Y., on the same date. These embrace "making the inner face of the supporting wheel conical for clearing the track for the return swath;" also "forming a quadrangular space on the platform between

the end of the cutting point and the frame of the machine sufficient to hold as much grain as will make a bundle before it is raked from the machine."

On the 28th of March last, a patent was granted to Andrew Dietz, and J. G. Dunham, of Raritan, N. J., for operating the cutters directly from the driving wheels by cams, which appears to be an important improvement in simplifying the machinery, [see claims on page 238.] On page 266 are the claims of the re-issued patent of Abner Whitely, of Springfield, Ohio.

BARTHOLOMEW'S PATENT VALVE.



The annexed figure represents an improved valve adapted to the purpose of a pan water closet or hopper, and which was patented by F. H. Bartholomew, of this city, June 20, 1854. The purpose of the invention is to obviate the necessity of the cistern, service box, ball, cock, &c., saving the expense and space required, and making a more desirable arrangement, the whole being beneath the seat out of sight.

This valve is used with the common well-known pan closet, the only alteration being that the lever, B, must extend beyond the fulcrum about 1 1/2 inches, to attach the stem, D, as shown. As represented in the figure, the valve is placed directly beneath the end of lever B, and secured to the trunk of the closet by wire K, so as to prevent it from being forced away from its place when the lever, B, is lifted. By lifting the lever knob

the valve is opened, admitting a full flow of water directly from the Croton head, or other supply, to the basin, while the lever is suspended. Upon dropping the lever and closing the pan, the valve is still suspended open long enough to fill the pan full, avoiding the use of a service box in the air chamber for that purpose. The lower portion of the valve stem is cylindrical, connecting with the variable chamber, E, in which a spring, G, is confined, which holds the valve shut when not held open. This variable chamber (upon the lever being lifted,) discharges through the two outlets shown above G, the larger outlet (at the right of G) being closed by the rubber washer shown, when the chamber is discharged, and upon dropping the lever to close the pan, the valve is suspended from shutting until the chamber, E, can refill through the small opening at the

left of G, thus allowing the pan to fill. The quantity of water for filling the pan is regulated by the stem screwed into D.

This valve, when required for the purpose of a hopper, is so made that the thimble on the top of the stem forms a valve, which is held upon the valve seat by the pressure upon the seat board, so that a limited quantity of water only is used. No concussion by the water is produced by this valve.

This valve is manufactured for the trade by the inventor, No. 84 Marion street, above Prince, New York, where more information may be obtained.

Gamboge.

Camboge or Gamboge, a gum resin, forming a well known yellow water color. The best gamboge is from Siam and the kingdom of Cambaja (whence its name), and is said to be the produce of *Garcinia Cochinchinensis*, the broken leaves and branchlets of which form a yellow milky juice, which is run into bamboos, so as to form cylindrical sticks. Another kind, which is suffered to harden in masses, which are covered with leaves, is said to be derived from *Cambogia gutta*. The best gamboge is brittle and inodorous, of conchoidal fracture, orange-colored, or reddish yellow, smooth, and somewhat glistening. Its powder is bright yellow. It may be resolved into resin and gum by the successive action of ether and water. The finest gamboge contains about 70 per cent. of resin, sometimes termed *gambogic acid*, which forms numerous salts. Gamboge is used as a pigment, and in miniature painting; also to tinge gold varnish. In medicine it is used as a drastic purge. It is sometimes improperly used by confectioners to color liqueurs. An artificial gamboge, of very little value, is manufactured with turmeric and other materials.



Inventors, and Manufacturers

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