

plug. These radii correspond to the openings of the vertical way, and can in turn be brought opposite to either. The lower part of the plug ends in a square head, on which is fitted the washer *e*, the extremity of which is turned to receive the nut *f*. This square head and the plug must be in one piece, and the latter may not be screwed on to the former.

c. Hinged lever, the hinge of which is attached to the part *b* of the plug by a strong head, which must be riveted. This lever has a square opening, into which runs the bolt *d*.

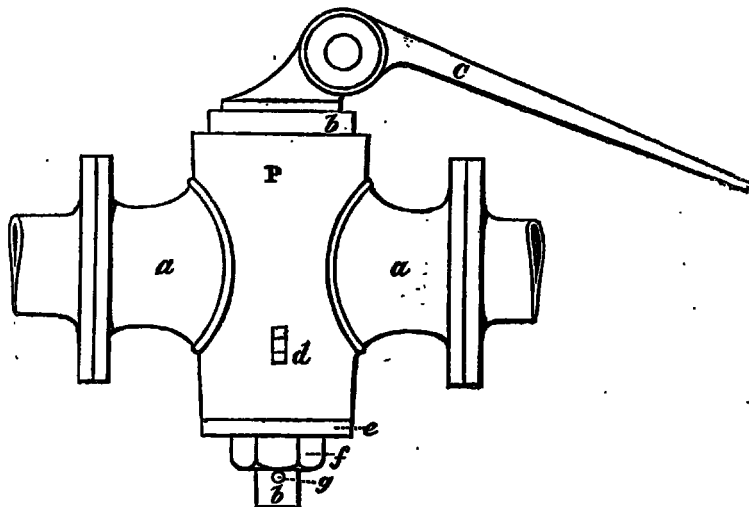
d. Bolt in one piece, with the box of the tap. It is inserted into the square opening in the lever *c* and through it the bow of a padlock attached to the tap.

e. Washer fitted on to the square head of the plug *b*.

f. Nut holding the plug *b* in the box forming the vertical way.

They must be free at the lower part of the vertical way. Immediately below the nut *f* the turned head on to which the nut screws has a hole *g* 3 millim. in diameter for receiving a leaden seal.

Plate I.—Drawing of the Tap for filling and emptying a Juice-Meter.



(B.)—Description of the Meter (“Mesureur-Compteur”).

§ 1. Two measuring vessels at least, with a meter, to be used for ascertaining the amount of juice worked shall be set up in every beet-root sugar factory. They shall be in such number that no one vessel shall be filled more than once in twenty minutes. (Article 63 of the Law.)

§ 2. The essential parts of this apparatus are:—

- A. A vessel for measuring the juice.
- B. A bronze three-way tap admitting and discharging the juice alternately.*
- C. A counter showing the number of fillings.
- D. A receiving-tube holding a sample of each successive filling.

A. Measuring Vessel.

§ 3. The vessel for measuring the juice is in cast iron, or iron plate, or copper, sufficiently stout to bear the pressure of the sampling and counting apparatus without yielding; it is cylindrical, with a concave bottom, in the middle of which is a single orifice *E* for alternately admitting and discharging the juice. It is filled to the top; any excess of juice flows out into a circular chamber *F* attached to the exterior of the vessel, and is carried by the uninterrupted, isolated, and plainly visible communication *G* either to the diffusion vessels, to the tank of the press house, or to any other apparatus used for extracting the juice. (Article 35, § 2, of the Law.)

The words “uninterrupted communication” signify that the different parts of the tube draining the overflow must be united by soldered rings or by collars with at least two rivets, 5 millim. thick at least, the round heads of which shall be plainly visible.

In diffusion factories the communication *G* is furnished with a free valve, otherwise, an iron plate is riveted to the overflow chamber *F*, 2 centim. from the bottom,

* The tap *B* may not be packed. The key *U* is held in box *V* by nut *y* standing against washer *z*.