

(No Model.)

P. & J. SPIELMANN.

AUTOMATIC FEEDER FOR VINEGAR GENERATORS.

No. 287,064.

Patented Oct. 23, 1883.

Fig. 1.

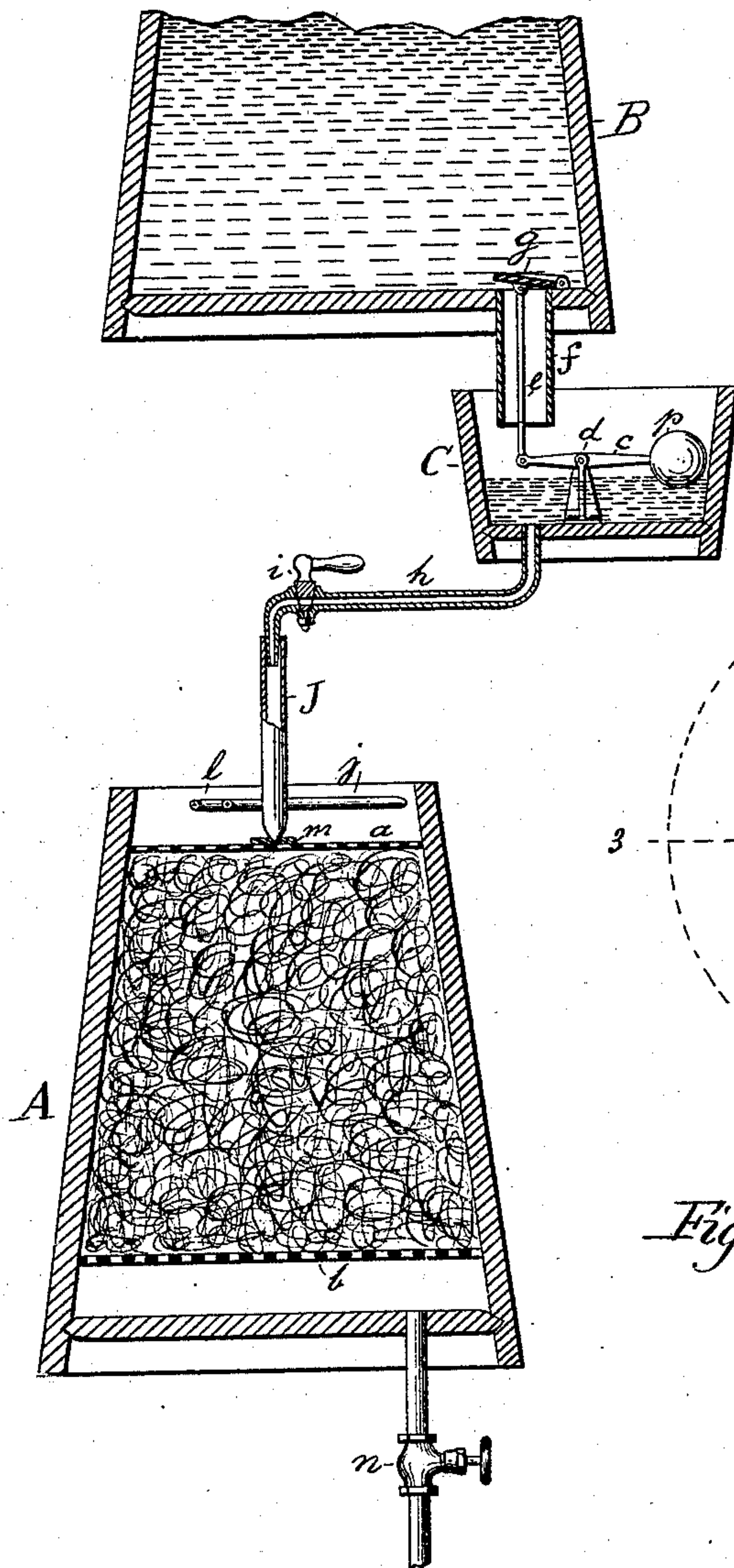


Fig. 2.

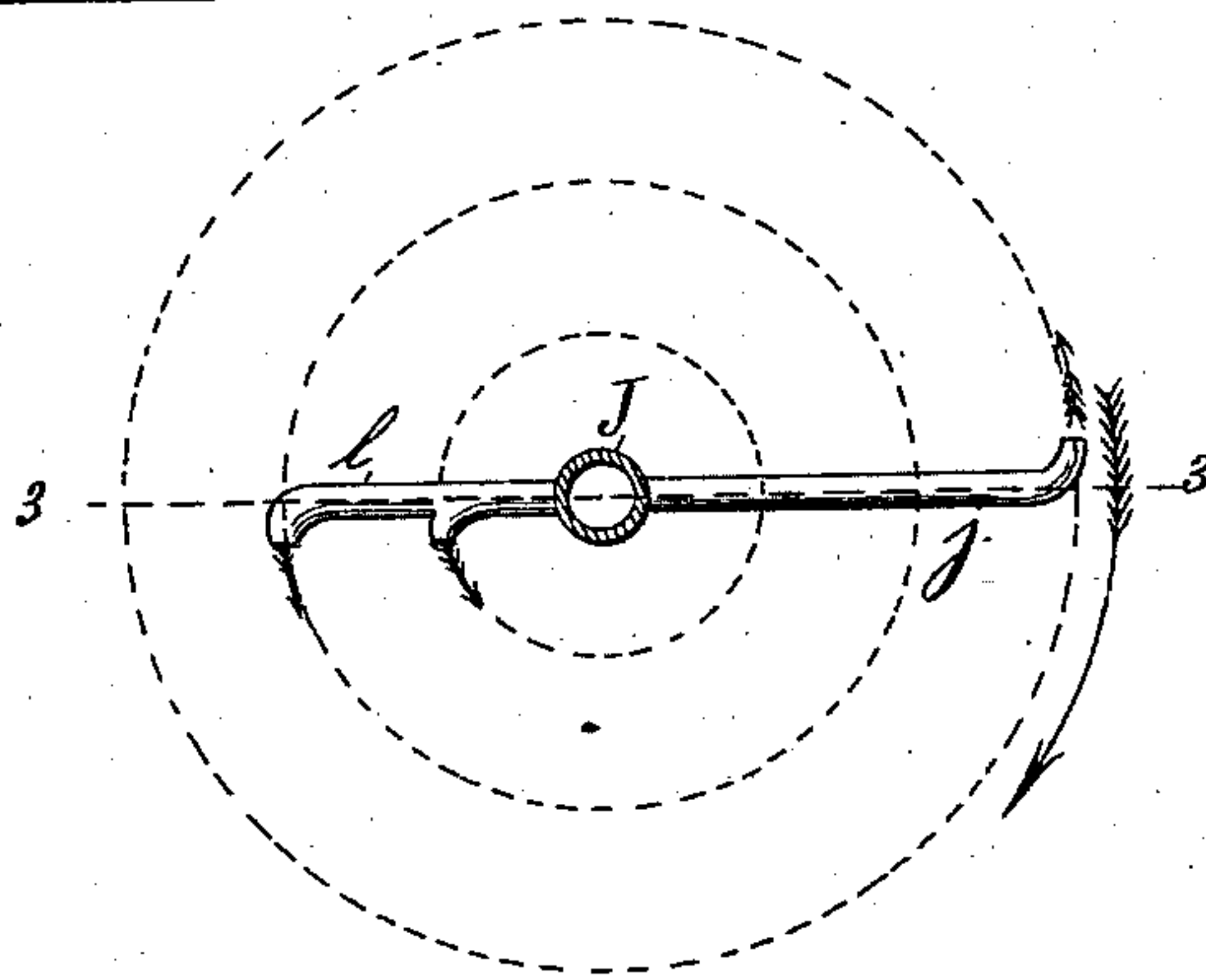
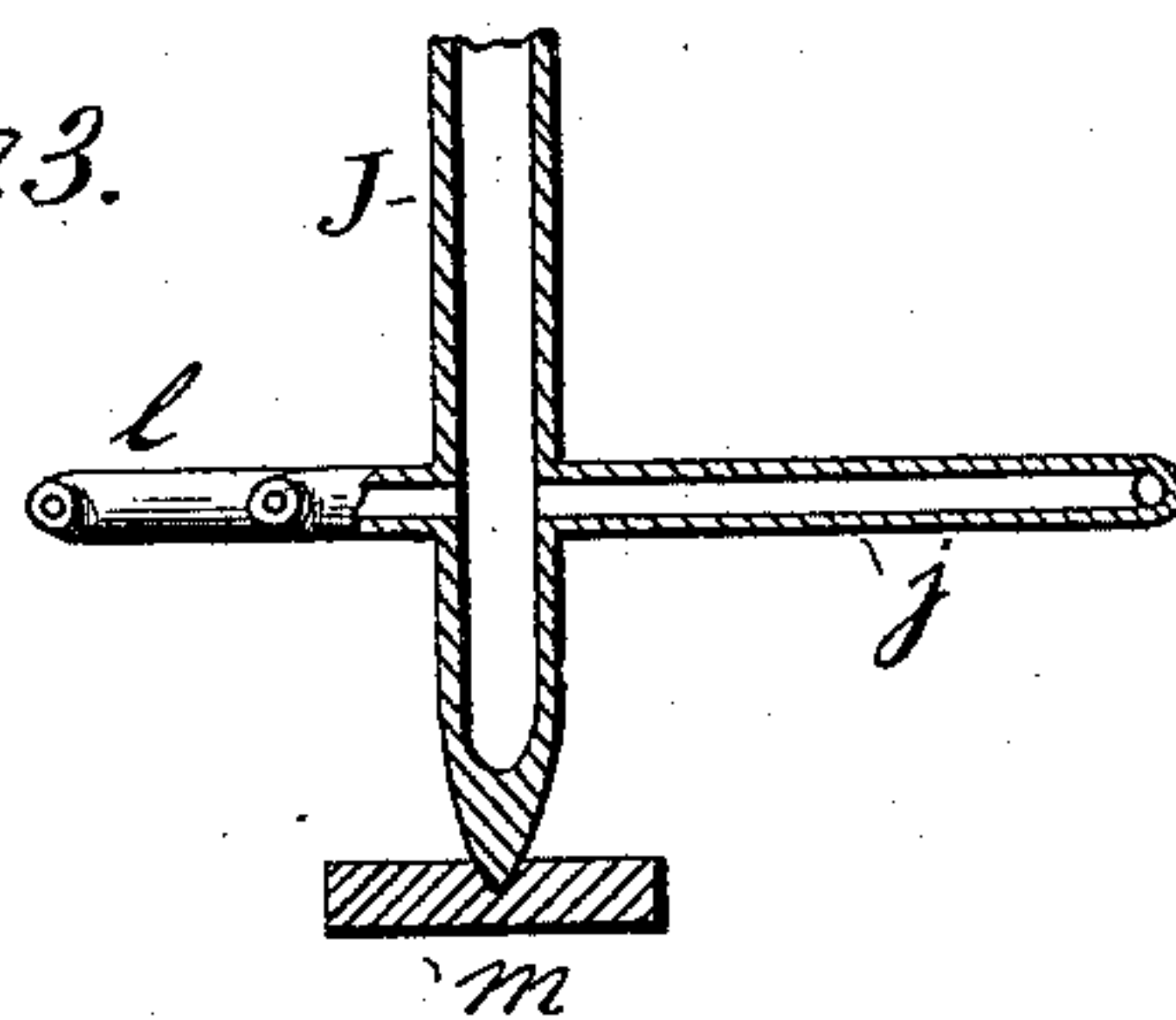


Fig. 3.



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UNITED STATES PATENT OFFICE.

PETER SPIELMANN AND JACOB SPIELMANN, OF CHICAGO, ILLINOIS.

AUTOMATIC FEEDER FOR VINEGAR-GENERATORS.

SPECIFICATION forming part of Letters Patent No. 287,064, dated October 23, 1883.

Application filed February 15, 1883. (No model.)

To all whom it may concern:

Be it known that we, PETER SPIELMANN and JACOB SPIELMANN, of Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Automatic Feeders for Vinegar-Generators; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention has for its object to produce a device for feeding the wort, wash, or alcoholic solution into the vinegar-generator in uniform small quantities, and to expose the same, finely divided, to the action of the atmosphere, and to maintain thereby, as near as possible, a uniform degree of heat in the generator.

Therefore our invention consists of the novel devices and combinations of devices hereinafter described and specifically claimed.

In the accompanying drawings, Figure 1 represents a vertical section of the entire apparatus; Fig. 2, a plan of the rotating feeding-tube, and Fig. 3 a cross-section of the feeding-tube on line 3 3.

Corresponding letters in the several figures of the drawings designate like parts.

A denotes the generator, which consists of a tub having two perforated horizontal diaphragms, *a* and *b*, the space between which diaphragms is filled with beech shavings.

B is a reservoir or tub on the next upper floor of the building, that is to hold the wort, wash, or alcoholic solution to be turned into vinegar; and C is a funnel-bucket provided with a lever, *c*, that is pivoted in a bracket or stand, *d*, has a hollow ball, *p*, secured upon one end, to act as a float, and is connected with its opposite end to a rod, *e*, which, extending upward through the discharge-spout *f* of tub B, connects with a lid-valve, *g*. By this arrangement the discharge of liquid from tub B into funnel-bucket C is regulated in a manner that, after such funnel-bucket has been filled with liquid to a certain level, the valve *g* will be closed by the action of float *p*, and only so much liquid is allowed to feed from tub B as is discharged from funnel-bucket C. From the funnel-bucket C extends a discharge-pipe,

h, that has to its end a faucet, *i*, the vertical nozzle of which is just above the center line of generator A.

J is a vertical glass tube, about one inch diameter and eighteen inches high, that has a closed and pointed bottom end, and has near its bottom end two horizontal radial tubular arms, *j* and *l*. The arm *j* is about one-third longer than arm *l*, and each arm is contracted at its end to form a small orifice, and the ends of both arms are curved to be opposite to each other. The arm *l* has formed, besides, at about mid-length in its side, a small hole or orifice, that points toward the same direction as the end orifice. This tube J is set with its pointed end in a socket of a brass or glass plate, *m*, that is secured upon the center of the perforated diaphragm *a*, and the tube J is sustained in its vertical position by the nozzle of faucet *i*, that enters the upper end of such tube J. The faucet *i* being opened to fill tube J, the issue of jets of liquid from the orifices on opposite sides of horizontal arms *j* and *l* will cause such tube to revolve by the recoil of such jets, and the liquid will thus be sprinkled over perforated diaphragm *a* of tub A from three openings that are radially one from the other about equal distance apart, thus distributing the liquid in very small quantities over the entire surface of such diaphragm, whence it will trickle through the shavings until issuing from the lower perforated diaphragm and collecting in the bottom of the tub, to be drawn off through valve *n*. By this arrangement the alcoholic solution exposes a large surface to oxidation, and only three and one half gallons per hour being thus fed into the generator in uniform small quantities to be acetified by percolating through the shavings, the heat caused by acetification will be kept up to a temperature of from 85° to 105° Fahrenheit, and is never cooled down, as with feeding at intervals into the generator larger quantities of the solution. The funnel-bucket C being kept filled by the float and valve to the same level, and the faucet *i* being opened to feed just the amount that can issue from the orifices in arms *j* and *l*, the speed of rotation of these arms will be very steady, and no overflow of the liquid can occur. The liquid be-

ing discharged from tub A through faucet or valve *n* into a reservoir underneath, it is pumped back into tub B, to be passed through the generator again in a like manner as before described, and after having thus been percolated through the generator three times a high-grade vinegar is obtained.

By the above-described device, bringing about an automatic uniform feed for the generator, not only considerable labor is saved, but a stronger and higher grade vinegar of fine and pure qualities is produced.

What we claim is—

1. An automatic feeder for vinegar-generators, consisting of the vertical glass tube J, having closed and pointed bottom end and horizontal radial tubular arms *j* and *l*, the arm *j* being somewhat longer than the arm *l*, and having an orifice at its end, and the arm *l* having an orifice at its end and mid-length, re-

spectively, substantially as and for the purpose set forth.

2. The automatic feeder for a vinegar-generator, consisting of glass tube J, having perforated radial arms *j* and *l*, and being pivotally supported above the generator A on a socketted plate, *m*, in combination with reservoir B, having valve *g*, and funnel-bucket C, having lever *c*, with float *p* and rod *e*, and faucet *i*, all constructed and arranged to operate substantially as and for the purpose set forth.

In testimony that we claim the foregoing as our invention we affix our signatures in presence of two witnesses.

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Witnesses:

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