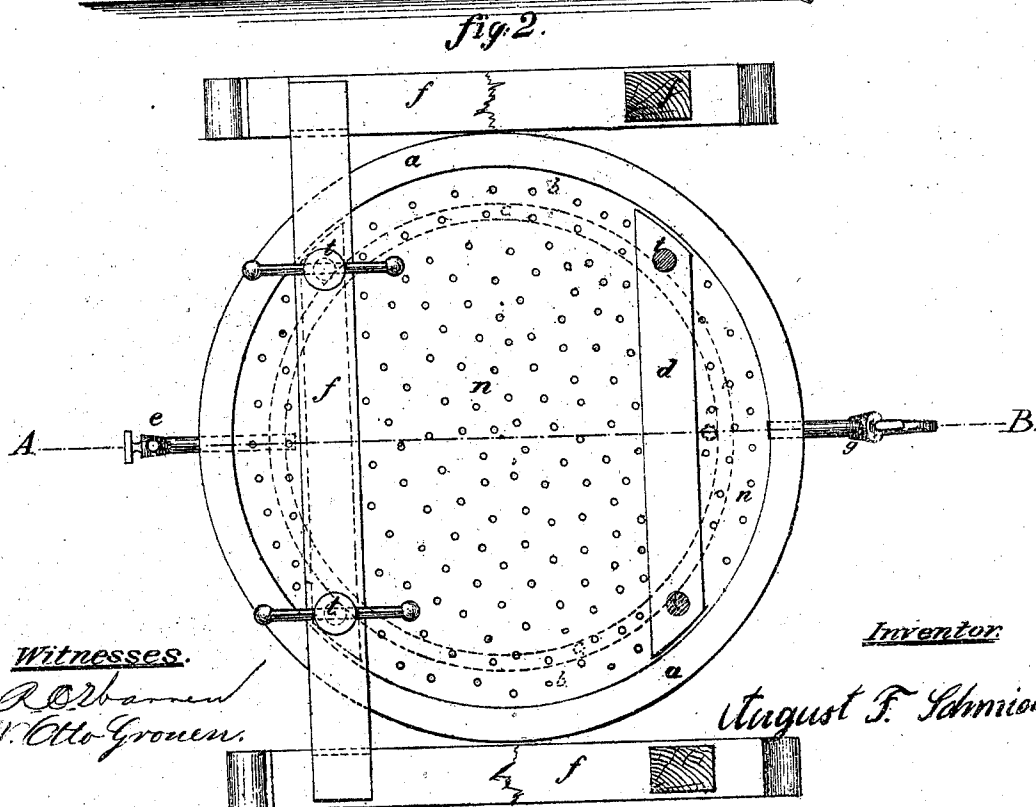
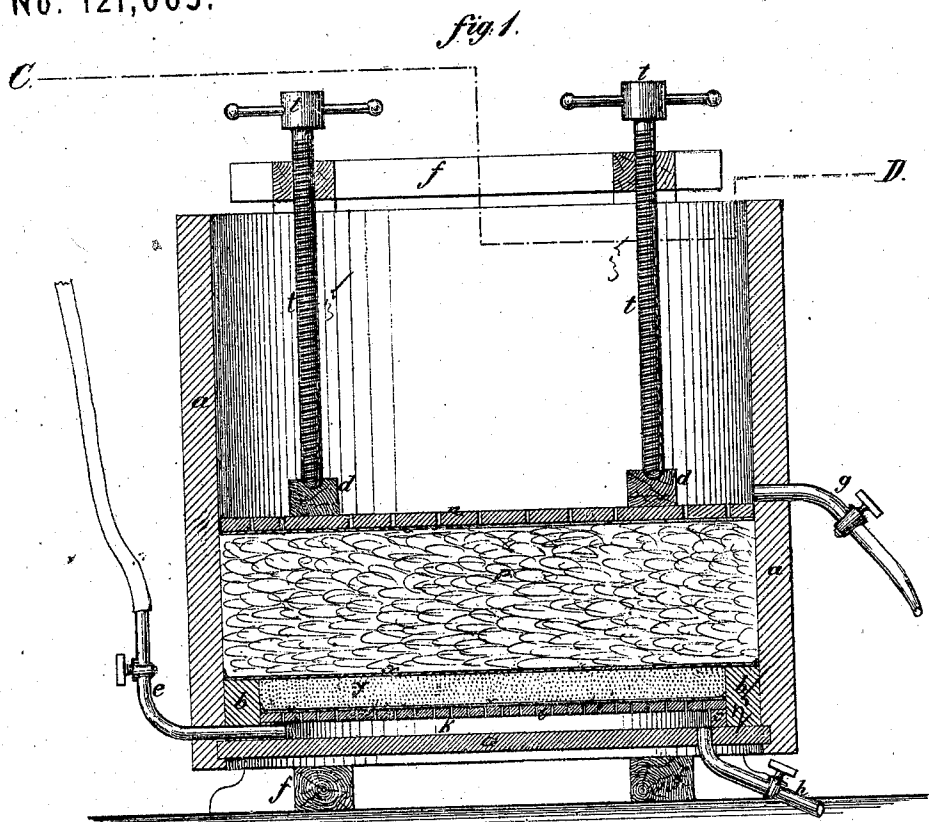


# August F. Schmidt's Imp<sup>vd</sup> Wine Filter.

No. 121,065.

Patented Nov. 21, 1871.



# UNITED STATES PATENT OFFICE.

AUGUST F. SCHMIDT, OF DAVENPORT, IOWA.

## IMPROVEMENT IN WINE-FILTERS.

Specification forming part of Letters Patent No. 121,065, dated November 21, 1871.

*To all whom it may concern:*

Be it known that I, AUGUST F. SCHMIDT, of Davenport, county of Scott and State of Iowa, have invented certain Improvements in Wine-Filters, of which the following is a specification:

The first part of my invention relates to the construction of a projecting solid ring on the bottom of the filter-vat, which will resist the compression of the paper pulp to the extent of its circular surface, so as to compress the outer circular part of the paper pulp more than its central part, and thus shutting off all possible passages through which unfiltered wine could make its way to the top of the filter. The second part of my invention relates to the application of the compressing-screws to the top of the filter-cover, and not passing through the filter, as in those now in use, by which arrangement the wine is prevented from coming in contact with the iron and thus being injured or affected by it.

Figure 1 is a vertical central section on line A B, Fig. 2. Fig. 2 is a plan view, with a part of the frame and screws in a horizontal section, on line C D, Fig. 1.

*a* is the cylindrical-shaped vat, on the bottom of which is the solid ring *b*, and inside of the latter is the ring *c*, all three being made of wood. On the smaller ring *c* rests a perforated wooden bottom, *i*, upon which is a layer of woolen blanketing, *x*. The space *y*, between this woolen blanketing *x* and the top surface of the cylindrical ring *b*, is filled with fine sand, upon which a layer of felt, *r*, is placed, covering the sand and upper surface of ring *b* completely. The space *p* above this layer of felt is filled with paper pulp which has been compressed to about one-third of its original volume. Over this paper pulp is placed another layer of felt, *o*, and on this is placed the perforated cover *n*, upon which are laid, segmentally, the two cross-pieces *d d*. *t t t t* are four iron screws, resting with their ends on the cross-pieces *d d*, and passing through the upper part of the frame *f*, which frame *f* should be constructed substantial enough to resist the applied pressure of the screws *t t*. *e* is an inlet-pipe, with stop-cock. *g* is a pipe, with faucet to draw off the filtered wine from above the perforated cover. *h* is a pipe, with stop-cock, passing through the bottom of vat *a* into the space *k*, to empty the filter after the operation.

The wine to be filtered is connected, under a sufficient amount of pressure, with the pipe *e*, by means of a hose or pipe. This pipe *e* leads the unfiltered wine into the space *k*, formed by the smaller ring *c*, between the bottom of the vat *a* and the perforated bottom *i*. Thence it passes through the perforated bottom *i* and the layer of woolen blanketing *x* into the space *y*, filled with fine sand, where the coarsest portion of the sediment contained in the wine is deposited. Leaving the space *y* containing the sand it passes through the layer of felt *r* into the space *p* containing the paper pulp; thence through the upper layer of felt *o*, and through the perforated cover *n*. The wine, after having forced its way through the two layers of felt *r* and *o* and the paper pulp *p*, will appear above the upper surface of the perforated cover *n* entirely clear and free from all sediment, from whence it is drawn off into a clean wine-cask through the pipe *g*. In case that the filtered wine, during the operation, should not prove entirely cleared from sediment, an increase of pressure, by means of the four screws *t t t t* on the cross-pieces *d d*, will force the perforated cover *n* on the paper pulp and compress the latter; and as the solid circular ring *b* will offer a more firm resistance to this pressure than the more flexible central part of the sand-filling and the perforated bottom *i*, it is evident that the circumferential part of the paper pulp lying just above the surface of the ring *b* will be more compressed than the central part; and by this means the wine, finding less resistance in the central part of the paper pulp than at its outer cylindrical surface, will take its way through the central portion of the paper pulp, and all possibility of passing around the pulp is avoided.

I claim as my invention—

1. The projecting ring *b* on the bottom of the vat *a*, substantially as and for the purpose hereinbefore set forth.
2. The application of the compressing-screws *t t t t* from the top of the filter, substantially as and for the purpose hereinbefore set forth.

AUGUST F. SCHMIDT.

Witnesses:

R. O. WARREN,  
W. OTTO GRONEN.