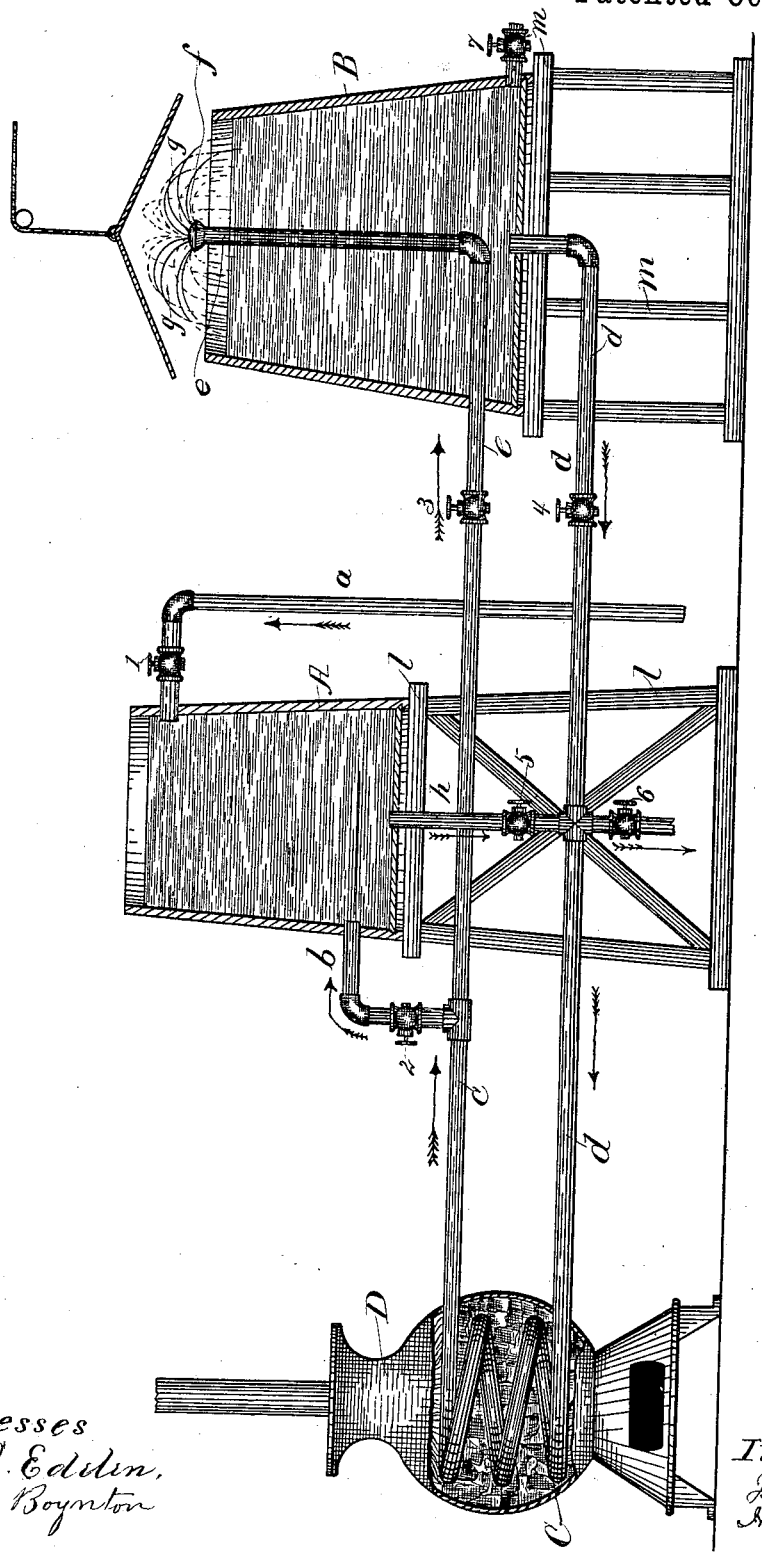
(No Model.)

J. H. WELSH.

PROCESS OF AND APPARATUS FOR AGING AND COMPOUNDING LIQUORS.

No. 266,569. Patented Oct. 24, 1882.



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN H. WELSH, OF ERIE, PENNSYLVANIA.

PROCESS OF AND APPARATUS FOR AGING AND COMPOUNDING LIQUORS.

SPECIFICATION forming part of Letters Patent No. 266,569, dated October 24, 1882.

Application filed January 26, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. WELSH, a citizen of the United States, residing at Erie, in the county of Erie and State of Pennsylvania, have invented new and useful Improvements in Process of and Apparatus for Aging and Compounding Liquors; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and the letters or figures of reference marked thereon.

My invention consists in providing an improved process and apparatus for compounding and aging whisky and other spirits.

My invention is illustrated in the accompanying drawing as follows:

A is a water-heating tank. B is the liquor-mixing tank, and D is the heating-furnace with heating-coil C therein. Pipes *a*, *b*, *c*, *d*, *h*, and *e*, with shut-off cocks 1, 2, 3, 4, 5, 6, and 7, afford communication. The tanks A and B and the heater D are shown in section.

The water-tank A is filled from the supply-pipe *a*, and may be emptied through the pipe *h*. By opening the throttles 2 and 5 and closing all the others the water in the tank A will circulate through pipes *b c*, worm C, and pipes *d* and *h*, and will thus become heated. By closing shut-off 5 and opening cock 4 hot water may be supplied to tank B from A. By opening throttles 3 and 4 and closing the others the contents of tank B can be heated by passing through pipes *c*, *d*, and *e* and worm C. A spray-jet, *f*, may be placed on the end of the pipe *e*, to spray the liquid entering tank B from the heater when desired.

When it is desired to compound a liquor the components of the compound, except what water is to be used, are placed in tank B, and the water to be used is placed in tank A and heated to the required temperature, and is then supplied to tank B by passing through pipes *h*, *d*, and *e*, or through pipes *b c*, coil C, *d*, and *e*. The compound, being thus prepared, generally requires to be thoroughly mixed. This can be done by opening stop-cocks 3 and 4 (others closed) and allowing the liquor to circulate from B through pipe *c*, coil C, and pipes *d* and *e*, which it will do by the action of heat upon the coil. The amount of heat applied to the coil is to be regulated according to the requirements.

Where it is desired to age or ripen the liquor the spray-jet should be in place, and the liquor, as it passes from the tube *e*, be sprayed into the open atmosphere while hot, thereby affording an opportunity for the escape of those particles which are found only in raw or fresh liquors, known as "fusel-oil." It is essential that this spraying be done in the open air, so that the fusel-oil will make its escape and not condense and flow back into the liquid. Care must be taken to not overheat the liquid, and thereby evaporate and waste the liquor.

This process of ripening or aging can be of course used as well whether the liquor acted upon has been previously compounded or not. Therefore it will be seen that my device can be used for aging unmixed liquors, for mixing and aging a compound, and it may be also used for diluting or lowering the proof of liquors.

I am aware that liquors have been heated and sprayed in a close vessel for the same purpose as I do it in an open vessel; but in such cases the fusel-oil is condensed, and all or part of it finds its way back into the liquor.

I am aware that whisky has been dropped through a hollow column containing air, that it has been passed into a chamber containing air, and that a jet of air has been forced against a falling column or jet of whisky in a vessel, all for the purpose of aging the liquor. My process differs from all of the above, in that I eject the whisky into the open air, so that the lighter particles will become separated from the whisky and escape out of the way of the mass being ejected from the nozzle. Therefore

What I claim as new is—

1. The process of aging liquors herein described—viz., heating the liquor and spraying it while hot in the open atmosphere, as described, so that the lighter particles can escape out of the way of the mass being injected from the nozzle.

2. In an apparatus for compounding and aging liquors, the combination of the water-

tank A′, liquor-tank B, heating-coil C, furnace D, pipes *b c a e h*, and stop-cocks 1, 2, 3, 4, 5, and 6, for the purpose described.

3. In an apparatus for compounding and aging liquors, the combination of the tank B, coil C, furnace D, pipes *c d*, and pipe *e*, provided with spray-jet *f*, for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 14th day of December, 1881.

JOHN H. WELSH.

Witnesses:
JNO. K. HALLOCK,
JACOB F. WALTHER.