

(Specimens.)

R. H. HERDER.

SHAVING FOR VINEGAR GENERATORS AND FOR CLARIFYING BEER.

No. 437,902.

Patented Oct. 7, 1890.

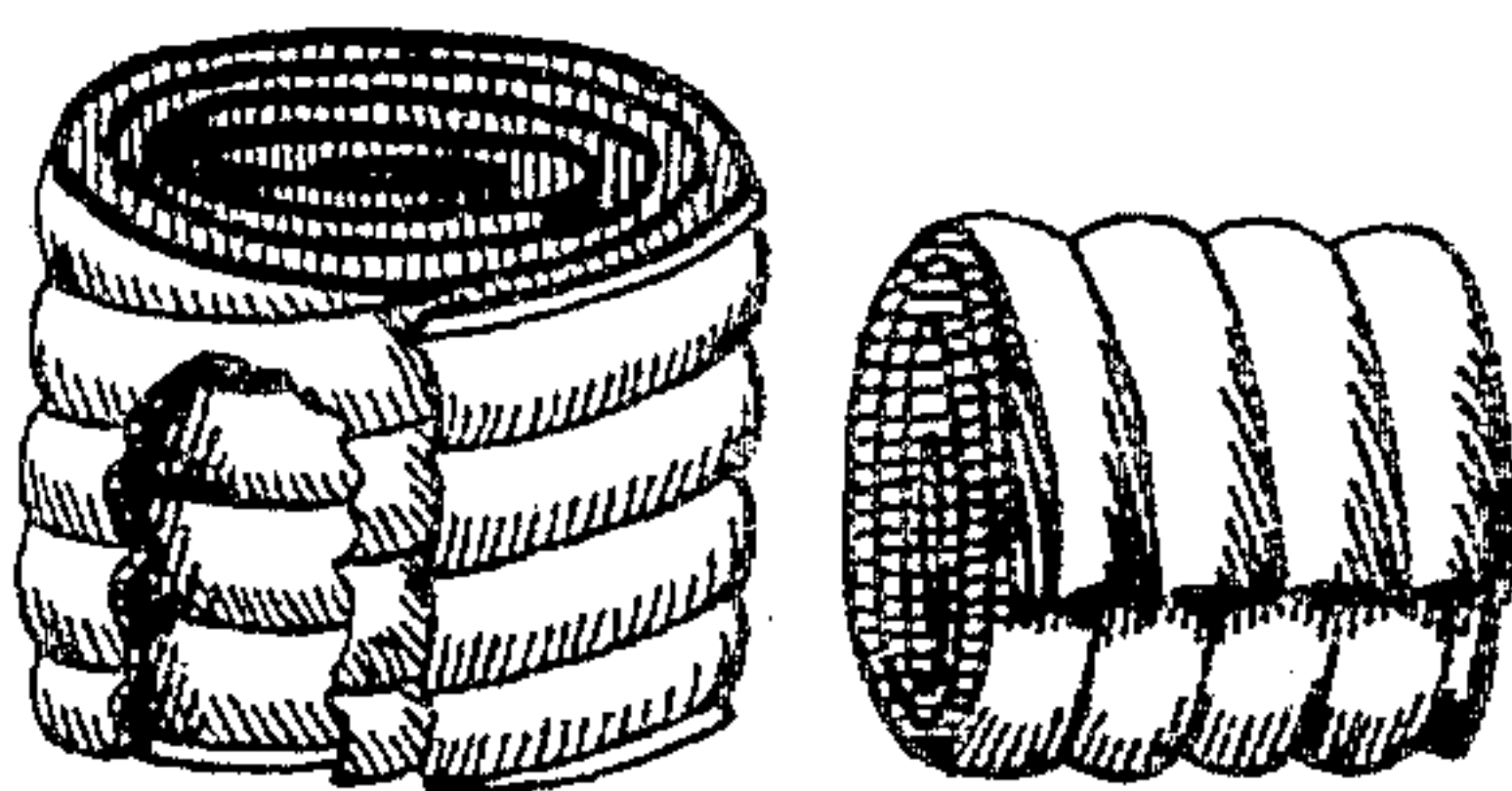
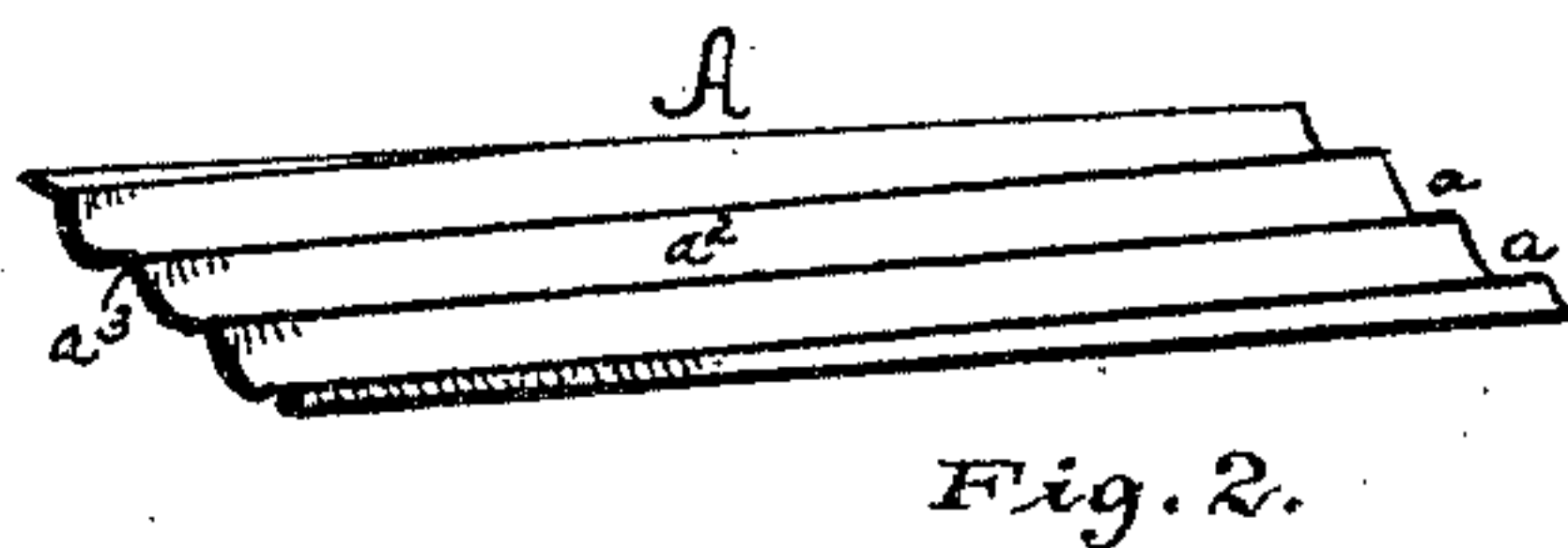
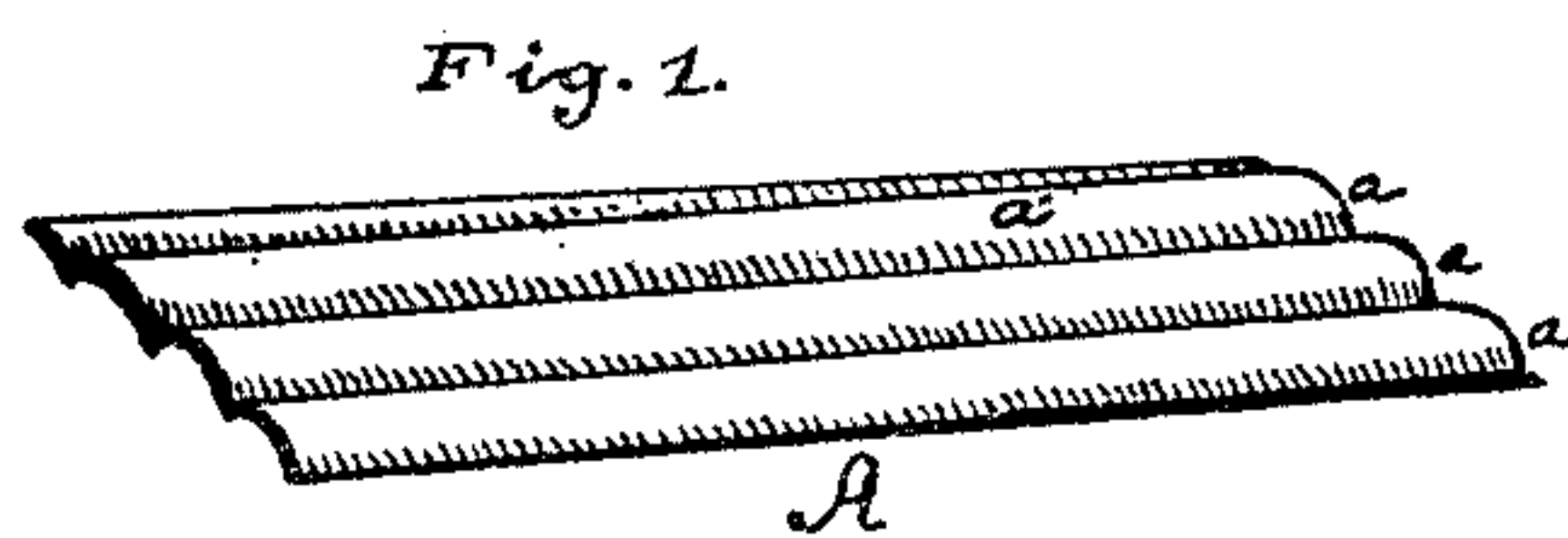


Fig. 3.

Witnesses:

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Fig. 4.

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UNITED STATES PATENT OFFICE.

RUDOLPH H. HERDER, OF CHICAGO, ILLINOIS, ASSIGNOR TO WILHELMINE HERDER AND PETER N. KOHLSAAT, BOTH OF SAME PLACE.

SHAVINGS FOR VINEGAR-GENERATORS AND FOR CLARIFYING BEER.

SPECIFICATION forming part of Letters Patent No. 437,902, dated October 7, 1890.

Application filed February 5, 1889. Serial No. 298,777. (Specimens.)

To all whom it may concern:

Be it known that I, RUDOLPH H. HERDER, a citizen of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Shavings for Vinegar-Generators and for Clarifying Beer, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to the wooden shavings principally employed in the manufacture of vinegar; and it consists in so shaping the obverse and reverse surfaces of the shaving that when packed in the vat or generator there shall be provided a series of connected ways or continuous conduits through which the liquid shall be free to pass and be exposed to the action of atmospheric air to aid acidification, which is accelerated by bringing every portion of the fluid in contact with the air and thereby combining the wort with the oxygen thereof. I do not, however, limit the application of my invention to the manufacture of vinegar. It is equally servicable for the clarification of beer in breweries.

I denominate my improved chip by the generic term "fluted shaving."

My invention is adapted to be packed within a generator in extended strips or coils, or both combined, all as hereinafter fully described, illustrated in the drawings, and specifically pointed out in the claims.

Referring to the accompanying drawings, wherein like letters of reference point out similar parts on each figure, Figure 1 is a view of a portion of a shaving constructed according to my invention. Fig. 2 is a view of the opposite side thereof. Fig. 3 represents shavings coiled up, parts being broken away.

The ordinary shaving is planed by special machinery, of dimensions about one foot in length and one-half inch wide, thus forming a ribbon strip which coiled up becomes a close and compact volute, and when placed in the generator will not subserve the purpose desired. These closely-wound coils present no interstitial conduits for passage of air and wort, and therefore, besides other objectionable features, offer an insufficient surface.

My invention contemplates the provision of a wooden shaving that by peculiar construction can be wound continuously from end to end upon itself into a volute, having, however, from edge to edge a series of continuous spiral grooves or channels, thereby presenting the whole surface of the wood to the action of the liquid.

In the drawings, A represents a fluted chip composed of a series of integrally-conjoined longitudinal sections of tubes a , the surfaces of these sections on one side being curved outwardly, as shown at a' , while upon the opposite side the tube-sections are curved inwardly, as shown at a^2 . The various fluted sections, being permanently conjoined, thereby present at each point of juncture an angular projection or rib a^3 . These tubular sections extend the full length of each shaving, but preferably diverge in a slightly-oblique direction, so that when the shaving is coiled into a volute no portion of the curves will lie parallel with the plane of underlying or overlapping laminae. The curves a' , a^2 , and ribs a^3 will assume a given spiral pitch, leaving a diversity of irregular surfaces and variety of channels that will secure the most favorable results for the purpose intended.

In forming the shavings I employ a peculiarly-shaped knife, whereby the finished article is readily produced without further manipulation; but I lay no claim herein to any special tool or machine for manufacturing the shaving.

Whether a fixed or revoluble generator is employed, there will be provided by the use of my chips an indefinite number of channels and openings permeating the whole mass. Some will be lateral and oblique, some spiral, and some sinuous—in fact, the direction of these openings and channels will be varied and the liquid will pass over more of the wood surfaces than can be possible with any form of chip heretofore provided, the benefit of which has been hereinbefore pointed out.

What I claim, and desire to secure by Letters Patent of the United States of America, is—

1. A fluted shaving for employment in the manufacture of vinegar and beer, having on one surface a series of invertedly-curved sec-

tions extending the full length thereof and upon the opposite surface a series of outwardly-curved sections extending the full length thereof, the respective curves composing longitudinal sections of tubes integrally joined their full length, substantially as described.

2. A fluted shaving for manufacturing vinegar and analogous purposes, divided its full length into conjoined sections of tubes, said tubular sections inclined in a line obliquely to the edges of the shaving, as and for the purpose intended, substantially as described.

3. A fluted shaving for employment in the manufacture of vinegar and analogous pur-

poses, provided its full length with continuous outwardly-extending curves on one side in an oblique direction, and invertedly-aligning curves on its opposite surface coiled up into a volute, whereby a continuous spiral channel will extend and surround the coiled shaving, as and for the purpose intended, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

RUDOLPH H. HERDER.

Witnesses:

WILLIAM H. LOTZ,
OTTO LUBKERS.