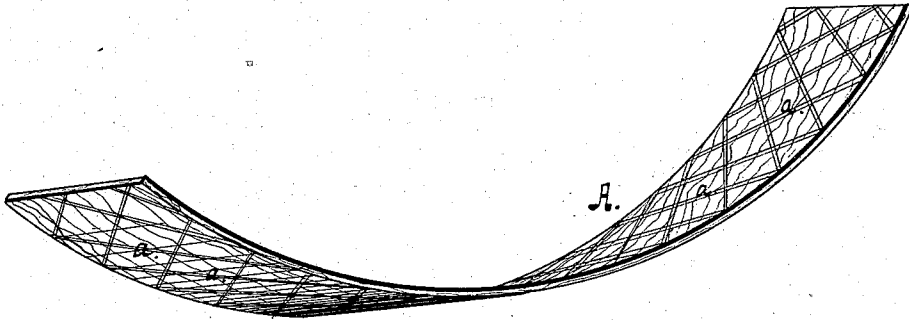


(Model.)

B. RICE.  
BEER CHIP.

No. 257,977.

Patented May 16, 1882.



WITNESSES.

*W. A. Beaman*  
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# UNITED STATES PATENT OFFICE.

BERNARD RICE, OF BROOKLYN, NEW YORK.

## BEER-CHIP.

SPECIFICATION forming part of Letters Patent No. 257,977, dated May 16, 1882.

Application filed November 1, 1881. (Specimens.)

*To all whom it may concern:*

Be it known that I, BERNARD RICE, of Brooklyn, Kings county, State of New York, have invented certain new and useful Improvements in Beer-Chips; and I hereby declare the same to be fully, clearly, and exactly described as follows, reference being had to the accompanying drawing, in which is illustrated in perspective view a chip embodying my present invention.

My said invention relates to the "chips" or "shavings" employed by brewers for clarifying the beer in vats or tuns previous to kegging it. These chips consist of beech-wood, by preference, and have heretofore been used in the form of thick shavings, or of sawed lath-like chips, straight and flat, or of a mixture of the two. Grave objections lie to either form, which it is the design of my invention to obviate. The shavings invariably break in numerous places on the convex side, forming interstices into which the particles of yeast and impurities settle, rendering it impossible to properly cleanse the shavings in the usual revolving washers. The sawed chips, while not open to this objection, are deficient in superficies, are liable to pack and stick together, and on the whole are inferior to the shavings. The desideratum is a shaving or chip having a large superficies, curved so as not to pack nor adhere to other chips, tough enough to withstand the agitation in the washer without breaking, and one which will not mildew when kept in stock. Such a chip I have succeeded in preparing, and that at a cost less than that of the chips as heretofore made.

In practice I cut a sheet of veneer from a revolving log in the usual way, choosing by preference the inner portion of the log, which is free from knots, and comparatively free from resin, and thoroughly dry the sheet. Either before or after drying I cut it into chips about eighteen inches long by one and a quarter inch wide, and pass them between heated calendar-rolls, such as are described in Letters Patent granted to A. B. Rice, May 6, 1879, No. 215,162. This process has the effect to compact the fiber and prevent the chips from becoming soggy

and sinking in the vats, to toughen them and prevent them from breaking in the cask or washer, and it gives them a permanent curvature, so that they never straighten out. It also increases the density of the wood, rendering it of substantially the same specific gravity as the beer, whereby the chips do not tend to float exclusively at the surface, but remain suspended in the beer. The calendering, furthermore, dries out the sap and resin.

In order to insure a proper bending of the chips, an extra roller or bender may be attached to the calendering-machine; but that is not essential. The rolls may also have embossed figures or lines, so as to indent the chips and increase their superficies.

It will be understood that the calendering process may be applied to sliced or sawed chips; but those produced by a cut around the log are to be preferred.

The accompanying drawing illustrates a chip, A, having indented or raised lines *a*, and a curvature in proportion to its length about that which is imparted by the rolls, and which is found to answer well in practice. The chips are readily distinguishable from those heretofore used by their toughness, pliability, permanent curvature, and by the peculiar density and gloss of their surfaces.

I am aware that chips having a roughened superficies caused by sawing them out from lumber are old, and I am not to be understood as claiming broadly a rough chip; but I am not aware and do not believe that prior to my invention beer-chips having their specific gravity increased by compacting or calendering the wood were ever known or used.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

A calendered beer-chip having indentations or grooves impressed upon its surface, whereby the superficies of the chip and its density are increased, as and for the purpose set forth.

BERNARD RICE.

Witnesses:

CHAS. S. RICE,  
M. H. RICE.