H. S. SMITH.

MANUFACTURE OF STAVES.

No. 183,821. Patented Oct. 31, 1876.

Fig. 1.

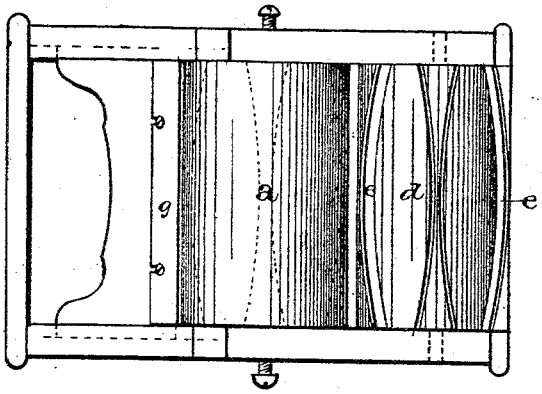


Fig. 2.

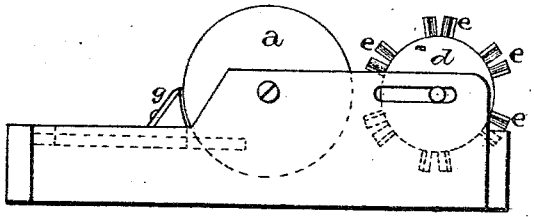


Fig. 3.

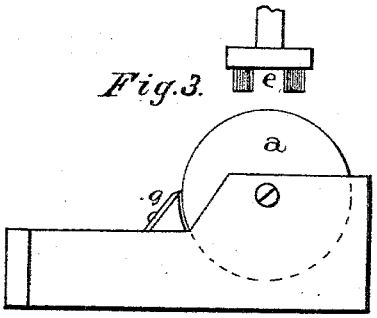


Fig. 5.

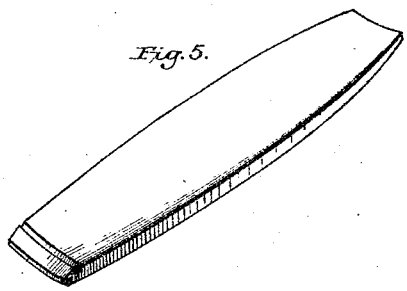
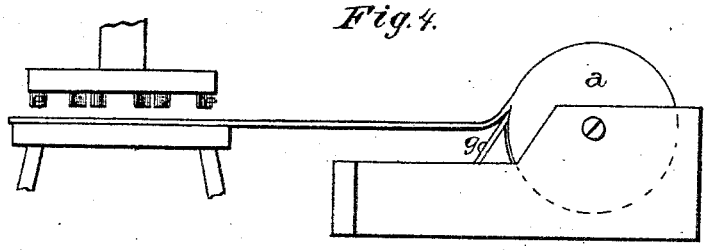


Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

HEMAN S. SMITH, OF BROOKLYN, ASSIGNOR, BY MESNE ASSIGNMENTS, TO NEW YORK BARREL COMPANY, OF NEW YORK, N. Y.

IMPROVEMENT IN THE MANUFACTURE OF STAVES.

Specification forming part of Letters Patent No. **183,821**, dated October 31, 1876; application filed December 2, 1875.

To all whom it may concern:

Be it known that I, HEMAN S. SMITH, of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in the Manufacture of Staves; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in the manufacture of staves for barrels and casks of all kinds; and it consists in making them directly from the surface of the log by means of machinery, as will be more fully described hereinafter.

The accompanying drawings illustrate different machines for carrying my invention into practice.

A log or stick of wood, *a*, of suitable length and thickness, is placed between two revolving mandrels, heads, or centers of any kind, and made to revolve at any desired speed. Fed forward against this log while it is revolving, by means of a screw or other feed device, is a revolving cylinder, *d*, having a number of knives, *e*, projecting out from its periphery, which knives are made to cut into the surface of the log to a depth to be regulated by the thickness of the stave desired. These knives are arranged in sets, and made the shape of the stave to be cut, so that, as they are pressed into the surface of the log, they cut the stave ready to be shaved off by the cutter or knife *g*, which cutter or knife will be preferably what is known as the "Brown cutter."

If so desired, suitable chisels or cutting instruments may also be attached to the ends of the cutter, so as to croze and bevel the ends of the staves on their inner or hollow side. Thus the staves will be shaved off perfectly finished, ready to at once be made into barrels or casks.

As the knives are so arranged that their backs touch, or almost touch, each other, and as the staves are shaved off from the log exactly of the thickness required, it will be readily seen that the only portion of the whole log that is lost is the first surface next to the bark, the heart of the log, that can never be used for staves, and the small pieces that are lost on account of the taper at the ends of the staves.

Instead of the cylinder carrying knives, a set of knives may be secured to a jointed rod or bar, that is made to strike the log from any desired point, and with the necessary rapidity.

Another method of cutting the staves is to shave off the surface of the log in a continuous sheet, and then have the sheet thus cut passed under a drop carrying suitable knives, where the staves are cut at a single stroke. A suitable mechanism, which forms no part of this invention, instantly sweeps away the staves and cuttings, as the sheet moves forward for another cut. This drop mechanism may work either in unison with the cutter that shaves off the sheet, or the two may be entirely separate.

In each of the methods above referred to, the chisels for finishing the ends of the staves may be used in the act of cutting the sheet from the log.

Having thus described my invention, I claim—

A stave for barrels and casks that is made by machinery from the surface of the log, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 1st day of December, 1875.

H. S. SMITH.

Witnesses:
ROBT. M. BARR,
M. F. HALLECK.