J. F. Brodhead,

Crozing Staves.

No. 967. Patented Oct. 5, 1838.

Fig. 1.

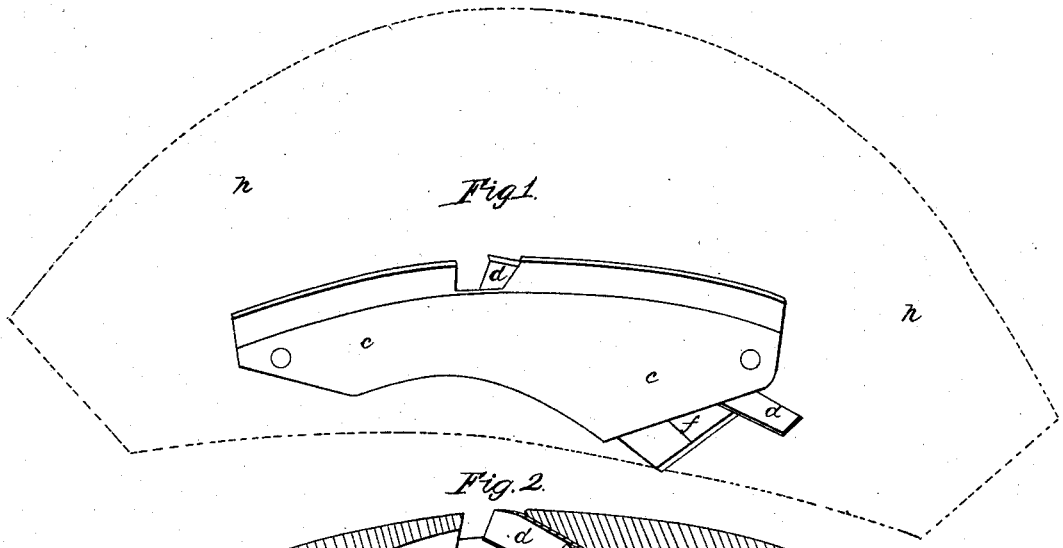


Fig. 2.

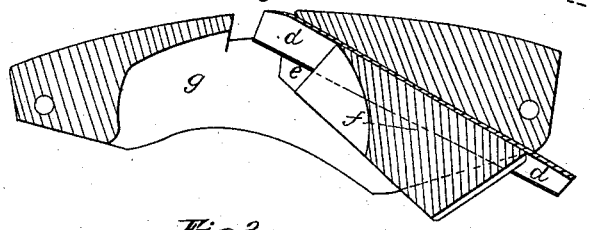
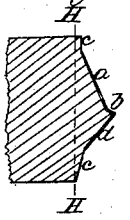


Fig. 3.



UNITED STATES PATENT OFFICE.

JAMES F. BRODHEAD, OF KINGSTON, NEW YORK.

CROZE FOR COOPERING.

Specification of Letters Patent No. 967, dated October 8, 1838.

To all whom it may concern:

Be it known that I, JAMES F. BRODHEAD, of Kingston, in the county of Ulster and State of New York, have invented a new and useful Improved Apparatus for Cutting the Channeling in Hogsheads, Barrels, &c., and hereby declare the following to be a full and exact description thereof, reference being had to the drawings accompanying and making part of said description.

The object of my invention is to construct an instrument resembling in many particulars a common circular bench plane which shall cut the channeling in barrels or any cask of a similar nature, and the result is, that an instrument such as will be hereafter described will perform this in a most perfect manner without the operator being compelled to have recourse to the use of more than one tool as has been necessary in the employment of those heretofore known and used and may be denominated the combined stackhowel and croze.

Figure 1, of the drawings represents a top view; Fig. 2 a longitudinal section. Fig. 3 is a section showing the form of the outer rim. This rim which constitutes the face of the instrument is made in a circular form of a circumference equal to that of the interior of the cask to be operated upon and as represented at Fig. 3 is of a peculiar form.

x x, Fig. 3, is an imaginary line at right angles with the sides, *e* Fig. 3 is a portion of the face equal to about $\frac{1}{3}$ its width at right angles with the sides, *a* Fig. 3 extends from the termination of *e* about $\frac{1}{3}$ the width of the face at an angle of 25°, *b* from the termination of *a* about $\frac{1}{16}$ the width of an angle of 80°; returning *d* extends about $\frac{1}{3}$ the width from the termination of *b*, at an angle of 40°, *c* from the termination of *d* at an angle of 10° to the opposite side.

c and *d* constitute the sides of the instrument. It is to be understood that I do not confine myself to the precise angles above laid down but vary them as I think proper, while the general form is retained. The cutter *d*, Figs. 1 and 2, is made of a form corresponding that of the two projections *a a* united and is fitted into a suitable socket *e* Fig. 2 and confined by a wedge *f* Figs. 1 and 2 in the usual manner of confining plane irons. Immediately before the wedge and cutter a cavity *g* Fig. 2 is made of suitable dimensions to admit the thumb of the operator and for the escape of the shavings and the whole is attached to a circular piece of wood *h* Fig. 1, which serves as a handle and gage, as, resting on the chime of the cask with the plane attached to the under side it is passed around and guides the cutter in its operation.

What I claim as my invention and desire to secure by Letters Patent, is—

The making the face of an instrument of the form herein described which will at one operation complete the channel in casks of all descriptions, and this I claim as combined with a corresponding form of the cutter and as being attached to the gage *h*, in the manner herein described.

JAMES F. BRODHEAD.

Witnesses:
J. W. HUBBARD,
J. J. ROANE.