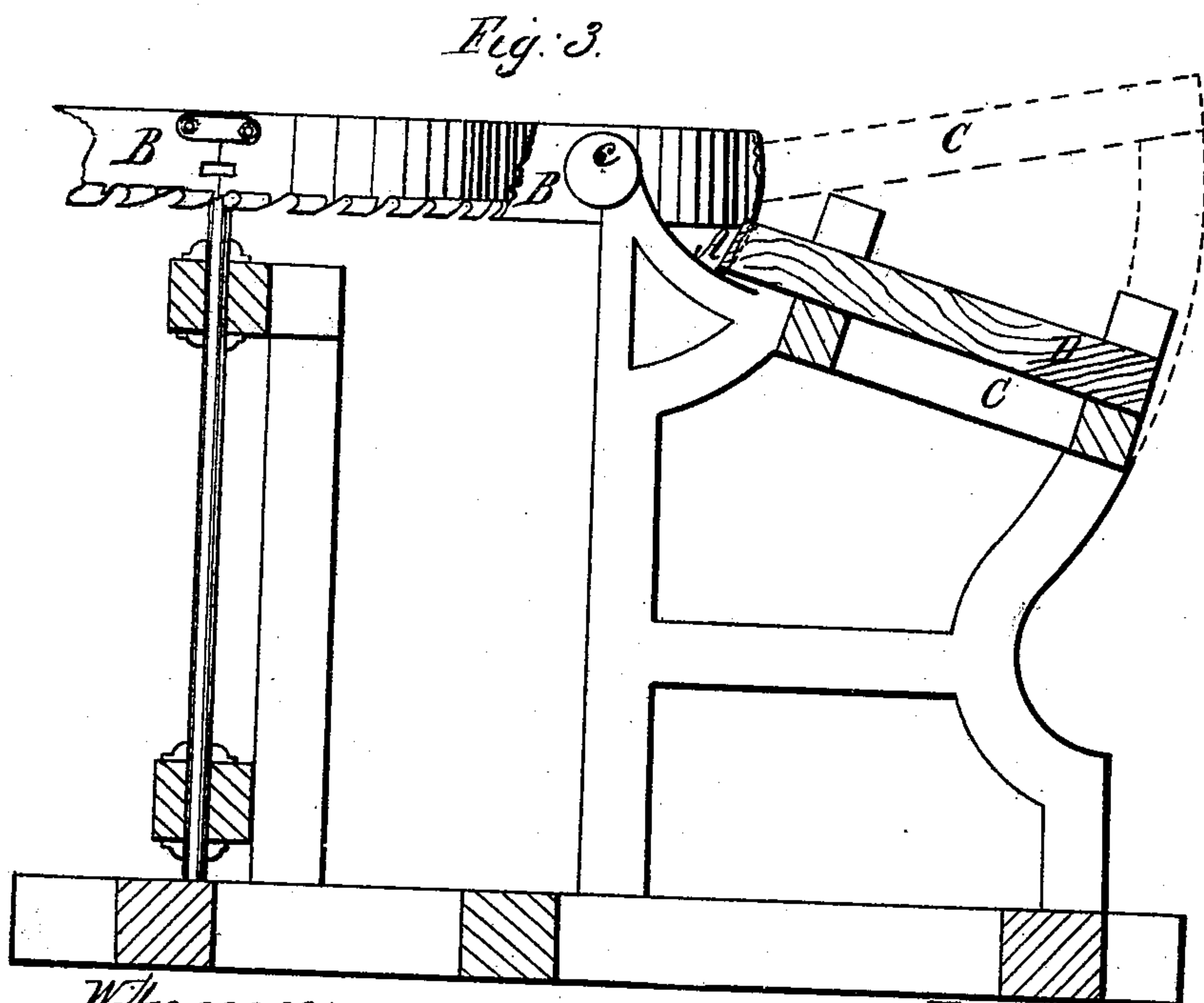
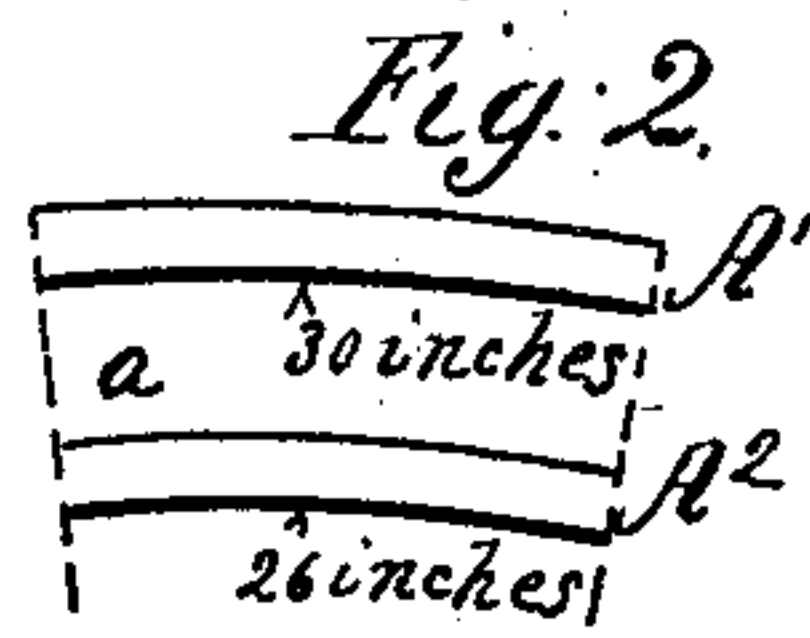
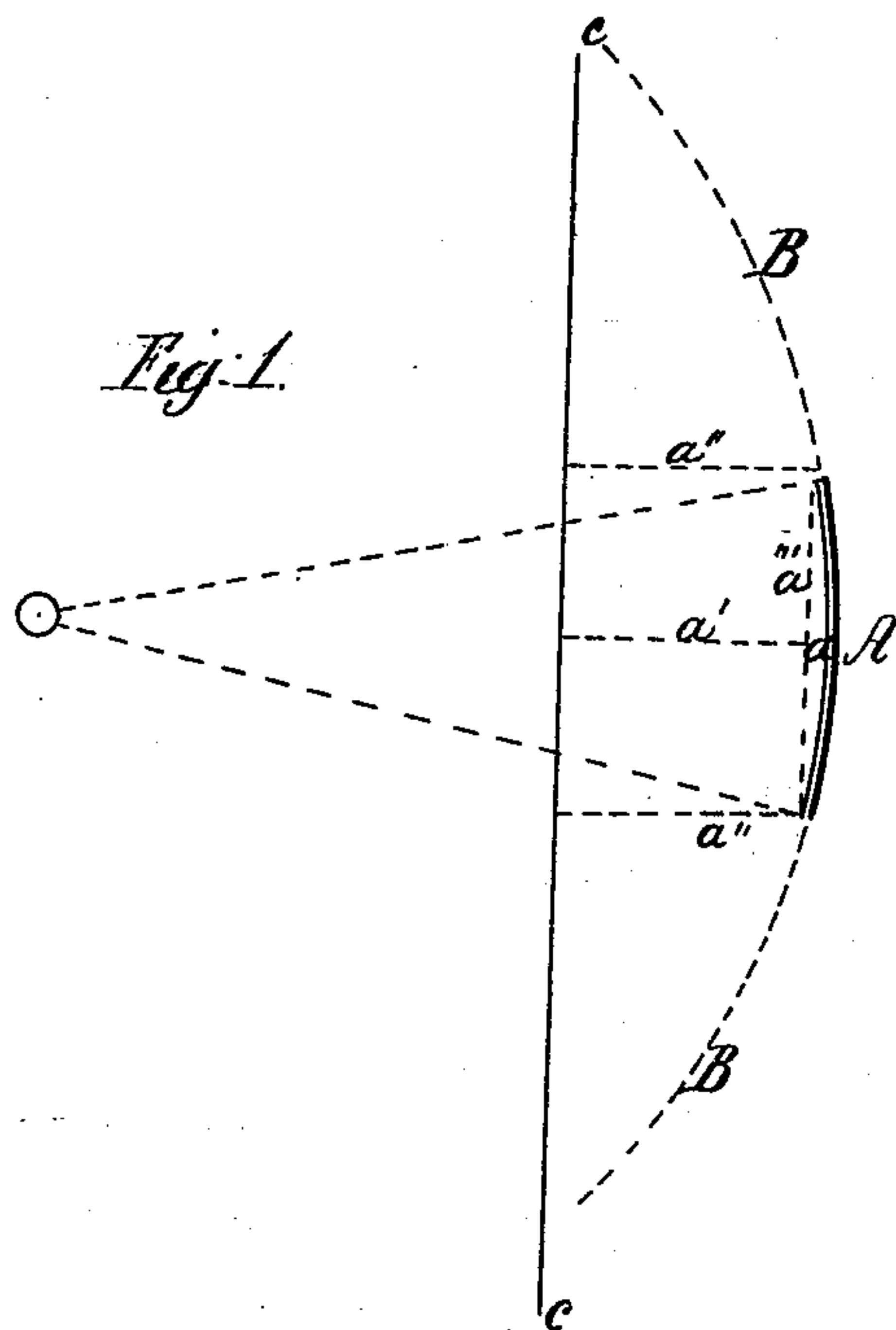


C. Murdock.

Barrel Stave.

N^o 90,679.

Patented Jan. 1, 1869.



Witnesses;
Henry T. Lygatt
John J. Smithson

Inventor;
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United States Patent Office.

CHARLES MURDOCK, OF HARTFORD, CONNECTICUT.

Letters Patent No. 90,679, dated June 1, 1869.

IMPROVEMENT IN BARREL-STAVES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, CHARLES MURDOCK, of Hartford, county of Hartford, and State of Connecticut, have invented certain new and useful Improvements in Barrel-Staves; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, in which—

Figure 1 shows the stave, at B, on its edge, with the saw in dotted lines.

Figure 2 shows the curvature of the stave at the bilge and ends.

Figure 3 is a view of the block from which the stave is sawed.

The invention consists of the stave, as a new article of manufacture, when such stave is sawed to the curvature, longitudinally and transversely, that it is to have when in position in a barrel or cask.

Originally staves were split from timber, and dressed, by any means, into shape, and were then forced or sprung into shape by means of power applied around the staves when set up for a barrel, and then temporarily held by truss-hoops.

More recently, the staves, that were either split, sawed, or cut straight, were bent into shape singly by force, and, when in such shape, were jointed, so as to give the proper shape and form to the barrel.

Another mode in practice is to steam the stave, and, when softened by such process, to bend it into the proper curvature both longitudinally and transversely.

All these methods are expensive, and staves steamed and bent, as is well known, will not keep their shape, and force has again to be used, in order to have them assume their shape again in the cask.

Staves have also been cut and sawed, having the proper longitudinal curvature, and with a uniform transverse curvature, or the transverse curvature has the same radius the entire length, and differing from mine in this, that the stave, at the two ends, has a curvature of two inches less radius than in the centre, or bilge, which makes the stave entirely different from other staves, as well as cheapening them in their production, for it costs no more to saw them in the form above described than to saw them either straight or with a longitudinal curvature and a uniform transverse curvature the whole length, as will be seen by my method. No extra dressing is needed to give the desired form to the stave at the ends and at the bilge.

To enable others skilled in the art to make and use my invention, I will describe its construction and operation.

The stave, as seen in fig. 1, at A, is sawed in a ma-

chine, and by a saw, both patented to me, December 15, 1868, which drops the stave from the machine in the form as described and shown.

A, in fig. 2, is an end view of the stave, and shows this transverse curvature, and having that curvature on a radius of fifteen inches, or the diameter of the cask at the bilge, being thirty inches.

A², in fig. 2, is an end view of the stave at either end, the transverse curvature being on a radius of thirteen inches, or the end diameter of the cask, twenty-six inches.

B, in figs. 1 and 3, is a revolving horizontal cylindrical saw, in the form shown, and fully described in one of the patents above quoted, as well as the construction and manner of operating the machine to saw the stave.

The means of giving the form to the stave is fully shown in figs. 1 and 3, in which *c* is the point upon which the table C, that carries the block to be sawed into staves, is pivoted.

D is the block, from which the staves are sawed.

The saw B being put in revolution, and the block in place on the table, the table and block are raised up to the saw, and high enough to saw the stave A from the block.

It will be seen that the dotted lines *a'' a''*, in fig. 1, represent the radius, or half diameter of the barrel, and dotted lines *a'* represent the half diameter of the barrel at the bilge, making the difference of the radius from the pivoted point *c* on line *a'* to be as much greater than on line *a''* as the distance is from line *a''* to A, represented by *a*, or as seen in the enlarged view in fig. 2, where the transverse curvature is shown at the ends and the bilge of the stave, *a* representing the difference in the radius of the two points in the stave, by which operation the stave is sawed with the transverse curvature of different radii at different points of its length, and as it should be to make a complete barrel or cask.

I lay no claim to staves formed into proper shape by other means than what I have described as my method of producing such staves.

Having thus described my invention,

What I claim, and desire to secure by Letters Patent, as a new article of manufacture, is—

The stave above described, when sawed so as that the transverse curvature at the centre, or bilge is on a longer radius than at the two ends, substantially as described.

CHARLES MURDOCK.

Witnesses:

HENRY N. MYGATT,
NICHOLAS CLUTE.