

J. B. DOUGHERTY.

BARREL HOOP.

No. 39,720.

Patented Sept. 1, 1863.

Fig: 2.

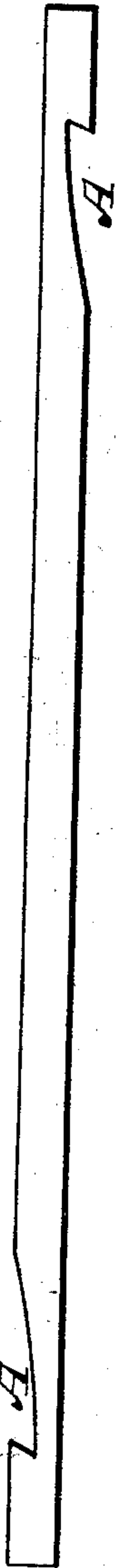
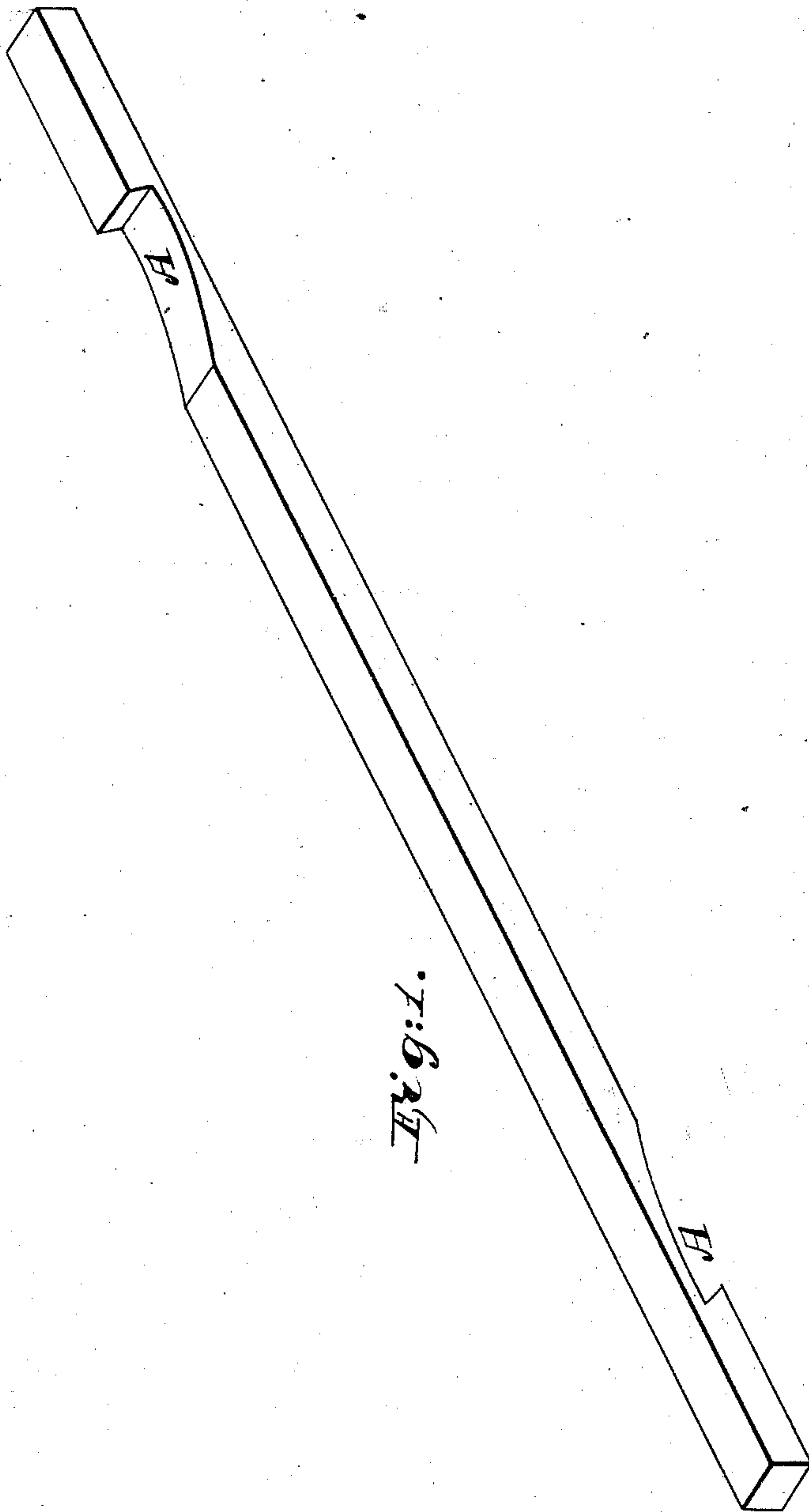


Fig: 1.



John Plim  
Witnesses:  
John J. Carter

Inventor:  
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# UNITED STATES PATENT OFFICE.

JOHN B. DOUGHERTY, OF ROCHESTER, NEW YORK.

## IMPROVEMENT IN BARREL-HOOPS.

Specification forming part of Letters Patent No. 39,720, dated September 1, 1863.

*To all whom it may concern:*

Be it known that I, JOHN B. DOUGHERTY, of the city of Rochester, county of Monroe, and State of New York, have made and invented a certain new and useful Process for Manufacturing Barrel-Hoops; and I do hereby declare the following to be a full and accurate description of the same, reference being had to the accompanying drawings, making part of this specification, and to the letters of reference marked thereon, same letters referring to like or corresponding parts in both figures.

Of said drawings, Figure 1 shows the block or board prepared for cutting into hoop-splints. Fig. 2 shows the splint as prepared for the hoop.

The ordinary supply of hoop material to be obtained in market consists of, first, split hoop-poles; secondly, hoop-splints sawed out of plain boards or blocks, and, thirdly, of hoop material similar to the last which has been cut in long lengths and coiled. When these are placed in the hands of the cooper, he has to cut one lock, apply the hoop-pole to the barrel, mark the second lock, and cut it. The consequence is that twenty per cent. of the hoop poles or splints are spoiled, either from the locks not being the proper distance apart or from being so deeply cut that the hoop breaks at this point. The latter difficulty is one which is very apt to occur, as the cooper has to cut the vertical side of the lock with his adz, and as it is almost impossible to gage the force of the blow at every stroke in accordance with the resistance offered by the material, very many of the hoops are spoiled and nearly all materially weakened. Moreover, as the hoops are not steamed before they are bent, they do not clasp the barrel with that closeness and solidity which is required, and consequently for fine work on small kegs an amount of extra labor is required which adds seriously to the cost of the article. All these difficulties are avoided and a much neater and better article is more quickly produced by my process, which is as follows: I take a suitable board or block of wood, the thickness of which shall be equal to the width of the hoops. On the opposite sides of this board I cut two grooves, as seen at A A, Fig. 1, these grooves being the size and form of the lock of the hoop. I then either

saw it up into hoop-splints or I steam it and cut it with a knife properly arranged for that purpose. If sawed, the hoop-splints are steamed and bent to a cylindrical former, where they remain from ten to twenty-four hours. If steamed before cutting, no second steaming is necessary. It is obvious that, being cut from a board grooved and formed like Fig. 1, each splint will appear like Fig. 2, having the locks already cut. Consequently, after being removed from the former, nothing more is required than to shave the ends a little, when the hoop is complete.

The grooves in the board, which correspond to the locks in the hoop, being cut by machinery, great accuracy may be attained in the distance at which the locks are placed apart, and as, moreover, the hoops, in order to fit the barrels closely and compactly, should have a somewhat conical shape, this can be given with great accuracy by regulating the form of the lock. These points are of greater importance now than they were some years ago, as both the staves and heading of barrels are turned out by machinery with great accuracy, and when the hoops are fitted with a like degree of accuracy they all drive to a like distance onto the barrels, which gives them a uniformity which adds greatly to their appearance, and as the full strength of the hoops is retained, they may be driven much more tightly onto the barrels than it is prudent to do with hoops formed on the old plan. This gives the barrels a degree of tightness far superior to what can be attained under the old methods.

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

1. My process of producing barrel-hoops by cutting them from a block in which the locks are already formed, so as to secure greater accuracy in the shape and size of the hoop, as well as greater strength.

2. My method of forming the splint thus produced into a hoop by winding it after being steamed onto a proper former.

JOHN B. DOUGHERTY.

Witnesses:

JOHN PHIN,

JOHN S. ACER.