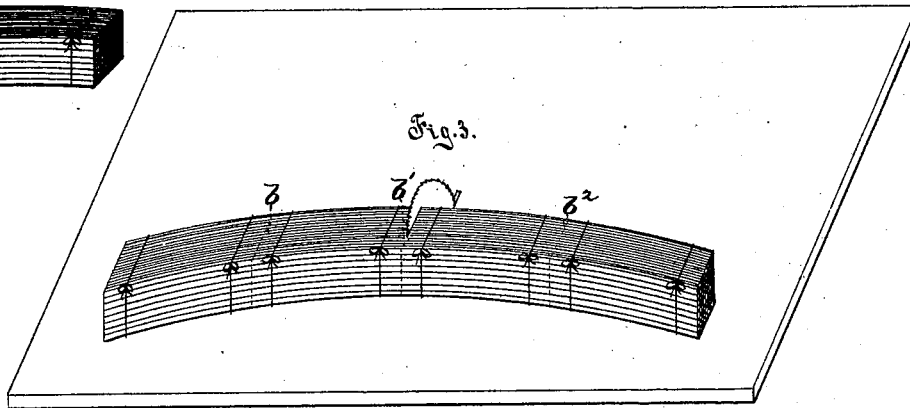
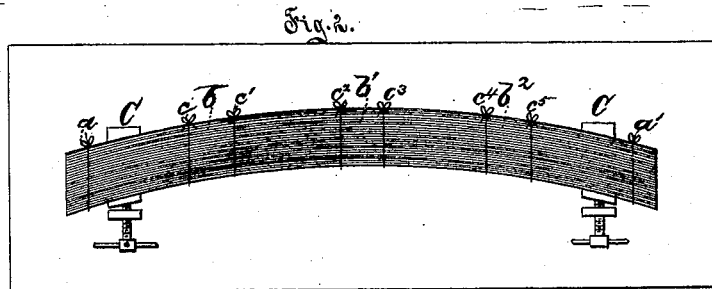
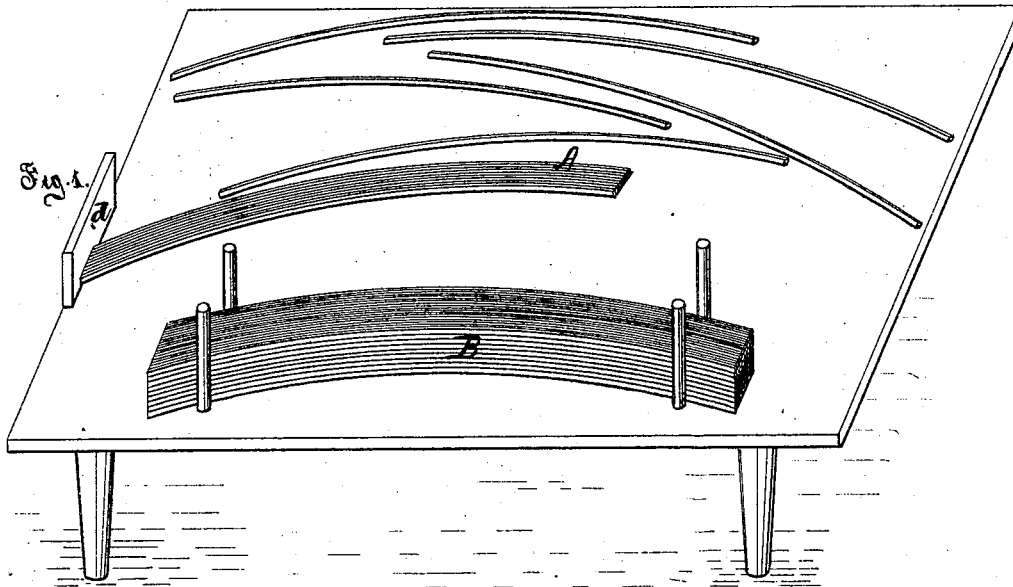


L. REED.  
 Bundling Barrel-Head Linings.

No. 196,310.

Patented Oct. 23, 1877.



Witnesses:  
*Theodore W. Foster*  
*B. E. Clark*

Inventor:  
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 by *J. P. Hitch*  
 his City.

# UNITED STATES PATENT OFFICE.

LOUIS REED, OF NEW YORK, N. Y.

## IMPROVEMENT IN BUNDLING BARREL-HEAD LININGS.

Specification forming part of Letters Patent No. **196,310**, dated October 23, 1877; application filed April 5, 1877.

*To all whom it may concern:*

Be it known that I, LOUIS REED, of the city, county, and State of New York, have invented a certain new and useful improvement in the art or method of bundling and tying together curved barrel-head linings, of which the following is a specification, reference being had to the accompanying drawings, forming part of the same.

It is customary to give additional strength and security to the heads of barrels, kegs, &c., by nailing strips of wood to the chimes against the heads. These strips are called "linings" or "head-linings." Their extensive use has made them largely an article of commerce, of separate manufacture, and sale. The most approved and merchantable kind of these linings are those which, being cut of the proper length, are curved to fit the inner faces of the chimes of the barrels, casks, or kegs on which they are intended to be used, and which are prepared for market by being—one or two hundred of them, more or less—laid together, regularly and in order, and then tied together by strings or wires, thus forming neat, compact bundles.

The price at which these linings are sold makes it necessary that the manufacturer should, in order to be able to derive any profit from their sale, practice the utmost possible economy in their production, and employ the best possible labor-saving expedients and instrumentalities in their preparation for the market.

It is the experience of manufacturers that the arranging of these linings in proper order and tying them up in bundles, as usually done by hand, constitute a large part of the expense of their manufacture. Hence any saving of time or labor that can be effected in these operations, by any means, however simple, is a matter of no inconsiderable importance. A very small saving on each bundle of linings thus affected may make a business profitable which would otherwise be a losing one.

My invention has relation to the method or art of bundling and tying these curved linings; and consists in the several successive operations and manipulations hereinafter described and claimed.

These linings are made of a length to occupy about one-fourth of the circumference of

the head of the barrel or keg to which they are applied, two being used on each head. They are from eight to twelve or fourteen inches in length. Their breadth is somewhat greater than their thickness, and they are curved, so that the broader side fits against the chime of the barrel. When bundled they are laid, with their curved sides together, in layers or tiers, with the edges of the linings in each tier opposite to those of the adjoining tiers. In order to thus arrange the separate linings into bundles, as ordinarily done, each one is taken up by hand and put in its place. When, however, strips of wood are cut in length to make several linings, and then these strips have given to them the requisite curvature, if then laid upon a plane table, and severally left free to take the position which their form will naturally compel them to take, they will very readily, with very little manipulation, all turn upon their edges, so that they can readily be gathered together with their curved sides in contact; but if these long curved pieces are separately cut into short lengths suitable for linings, such short pieces will not readily take their position upon a table on their edges, not being sufficiently curved to be sure to do so, but will be as likely to lie on their flat or broad sides, so that it is necessary in bundling them to take up and place them in the bundle separately, or only two or three at a time.

Having reference to the foregoing facts, I have devised a method of bundling and tying these linings in marketable bundles, wherein I avail myself of the curvatures of long strips to effect a ready and rapid arrangement into packages, and then, by tying these large packages in a peculiar manner, produce merchantable bundles of the completed linings at a great saving of time and labor.

Referring now to the drawings to illustrate my new method, Figure 1 represents a plane table, upon which are thrown a number of the long curved strips of wood designed to be cut into suitable lengths for linings, arranged in order for assembling into a package. Fig. 2 is a view of such package placed in a clamping device and tied together, so as to be capable of having produced therefrom, by merely cross saw-cuts, bundles of the completed linings properly tied. Fig. 3 is a view of a long

bundle undergoing the cutting by a saw into linings, and Fig. 4 is a perspective view of a completed bundle of linings.

In practicing my method of bundling these linings, I lay upon the plane face of a table a number of long strips of wood, cut from a sheet or block in any suitable way, and curved to correspond, or nearly so, to the curvature of the barrel or keg on which the linings are intended to be used. They will all naturally, if separated so as to be free to move readily, arrange themselves on their edges, as shown in Fig. 1. Then I gather a number of them together, with their curved sides adjoining, and adjust them lengthwise, which may be conveniently done against the face of a board, *d*, fixed upright to one end or side of the table. When a number of these strips are thus arranged, as seen at A, Fig. 1, they may be grasped by the hand and laid into a rack, or between pins set in the table, as seen at B, same figure. Several series are thus arranged and laid one upon another within the said rack or pins. The entire collection may then be transferred to a clasp apparatus, as seen at C, Fig. 2, where they may be pressed together for tying. I then apply the strings or wires, as seen in said figure, one string being tied near each end, as at *a a'*. Then I mark off or ascertain the lines where the collection is to be cut through to sever it into linings of the proper length, which, in said Fig. 2, are at *b b' b''*, the collection, as shown, being designed to be cut up into four bundles of completed linings. Of course, any desired number may be made, and the strings applied accordingly. Then, on either side of these lines, and about as far from them as the strings *a a'* are from the ends, I tie a string, as at *c c' c'' c''' c'''' c'''''*. With the collection thus prepared, I sever it into several bundles, by running a saw through between the strings on the lines *b b' b''*, as seen in Fig. 3, each bundle thus produced being arranged and properly tied for transportation and for the market.

In the process of manufacture the long packages or collections described may be tied only at the ends with the ties *a a'*, and stored away, to be cut up into linings as orders may be received, and of such lengths as may be ordered, the intermediate strings being applied so that each two of them will be one on each

side of, and a suitable distance from, the line of cut, so that each bundle of completed linings will be properly bound or ligatured with a string or wire equidistant or nearly so from the ends of the bundle.

It is obvious that the packages of long curved strips, when formed and tied together with both the end and intermediate strings or wires, as above described, may be sawed up into completed bundles of linings at any time thereafter to suit the convenience of the manufacturer, or these packages thus prepared may be sold, and the purchaser may saw them up into such completed bundles.

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

1. The method or process herein described of bundling, for transportation and sale, curved barrel-head linings, consisting in arranging the same on their straight edges upon the plane face of a table, and assembling them together, with their opposite curved sides in contact, into uniform layers or tiers, and laying several tiers together one upon another, as described, to form a package, as seen at A B, preparatory to tying the bundle thus formed with ligatures, one near each end, all as described.

2. The method of tying together curved strips of wood into packages preparatory to the production therefrom of completed curved barrel-head linings, bundled for transportation and sale, consisting in applying to a bundle of curved strips of wood, of suitable form for curved barrel-head linings, and of sufficient length for each to make two or more ligatures, one near each end, and also intermediate ligatures, one on each side of and near to the line or lines of the cut or cuts to be made in severing the package of strips into several packages of completed bundles of linings, so that, when such cuts are made midway between the said intermediate ligatures, each bundle shall be tied with two ligatures, one near each end, all as described.

Witness my hand this 3d day of April, 1877.

LOUIS REED.

Witnesses:

B. S. CLARK,  
M. F. CLIFTON.