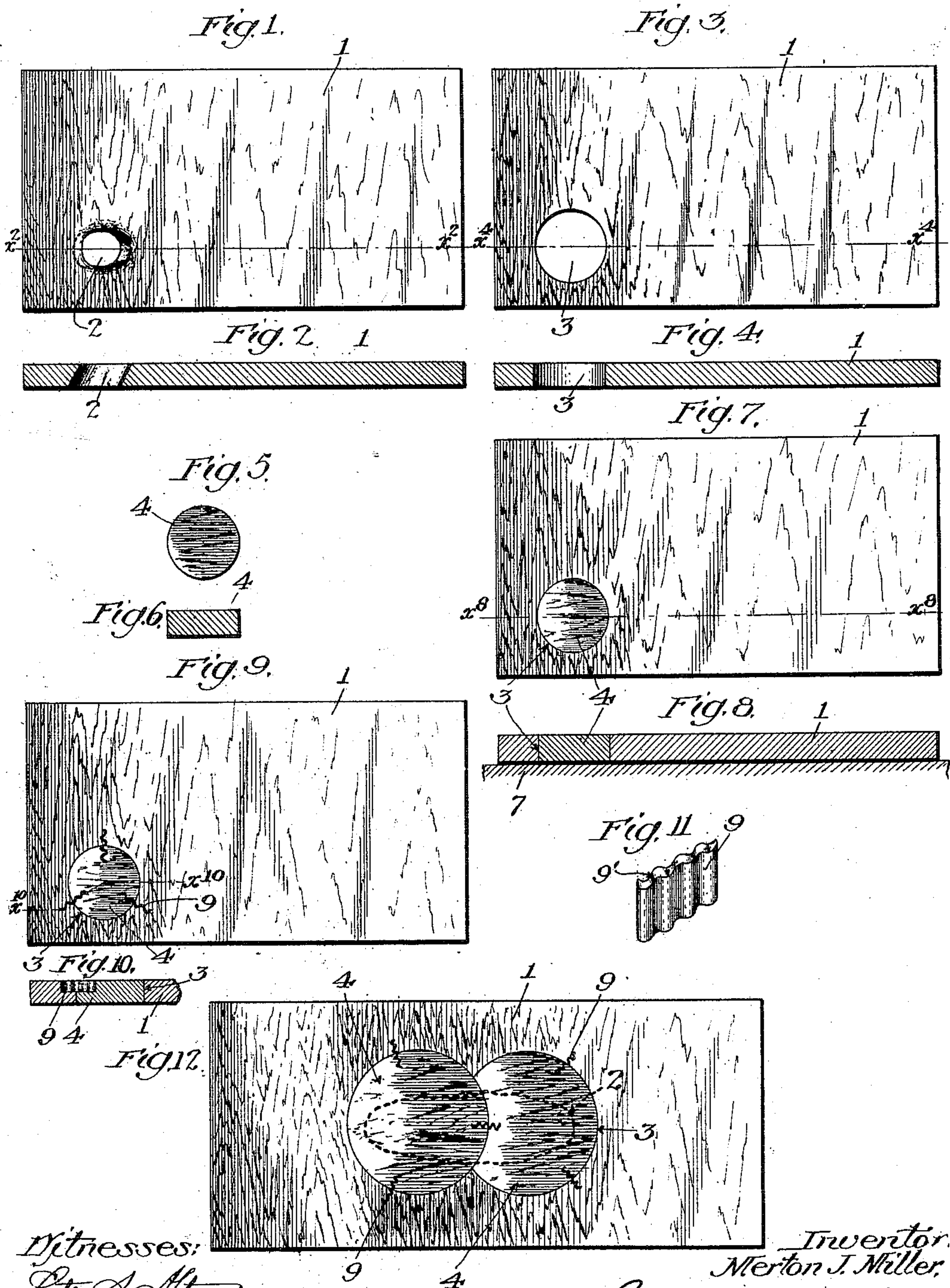


M. J. MILLER.
METHOD OF TREATING BOX SHOOKS.
APPLICATION FILED APR. 2, 1910.

982,973.

Patented Jan. 31, 1911.



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UNITED STATES PATENT OFFICE.

MERTON J. MILLER, OF LOS ANGELES, CALIFORNIA.

METHOD OF TREATING BOX-SHOOKS.

982,973.

Specification of Letters Patent.

Patented Jan. 31, 1911.

Application filed April 2, 1910. Serial No. 553,148.

To all whom it may concern:

Be it known that I, MERTON J. MILLER, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Method of Treating Box-Shooks, of which the following is a specification.

This invention relates to a method of treating box shooks, so as to enable shooks which are defective by reason of knot holes or other imperfections therein to be brought to a condition in which they will be free from such defects and will present substantially the same appearance as if they were made of sound lumber, and the main object of the invention is to provide a method for accomplishing this result in economical and rapid manner, whereby the operation is capable of being carried out commercially on a large scale.

Another object of the invention is to provide a method of treating box shooks as stated, whereby a flush or even surface may be provided on one face of the box shook by an operation capable of being carried out in a rapid and economical manner.

The invention comprises a method of operation and the box shook produced thereby, said method consisting essentially in boring or otherwise forming at the several knot holes or defects in the lumber an opening or hole of sufficient size to include the knot hole or defect, all the holes being of a given standard size so as to render the method generally applicable to all of the lumber without detail fitting to each particular piece, and subsequently closing said holes with a wooden plug of corresponding shape and size, said plug occupying substantially the entire hole, but being particularly fitted with reference to the face side of the shook so as to present a flush surface. The plugs being all of a standard size and shape, there is no question of selection thereof to fit the different sizes and shapes of holes or other defects in the lumber, and the boring and filling operation can be carried out in a routine manner largely by machinery, thereby reducing the expense of the operation to a minimum.

The accompanying drawings illustrate the manner in which the invention is carried out, and referring thereto:

Figure 1 is a plan of a defective box shook. Fig. 2 is a longitudinal section

thereof on the line x^2-x^2 in Fig. 1. Fig. 3 is a plan of the shook board without the defects in accordance with the present method. Fig. 4 is a longitudinal section on the line x^4-x^4 in Fig. 3. Fig. 5 is a plan of one of the plugs. Fig. 6 is a transverse section thereof. Fig. 7 is a plan of the shook with the plug in position therein. Fig. 8 is a longitudinal section on the line x^8-x^8 in Fig. 7. Fig. 9 is an inverted plan of the finished shook, showing the means at the inside of the shook for fastening the plugs therein. Fig. 10 is a horizontal section on the line $x^{10}-x^{10}$ in Fig. 9. Fig. 11 is a perspective of one of the crimped fasteners for fastening the plugs in place. Fig. 12 is a partial plan of a shook showing the application of the invention for the elimination of an unusual defect in the work requiring the application of more than one plug.

In carrying out the invention, the defective shooks are separated from the clear shooks. 1 designates such a defective shook having a knot hole or defect 2. By means of a suitable boring tool or other cutter, preferably an annular saw, the shook 1 is cut or bored at or adjacent to the knot hole or defect 2 so as to remove all of the portion of the wood containing such defect as shown in Fig. 2 and Fig. 4. The openings or bores 3 are of uniform or standard size irrespective of the variations or differences in the knot holes or defects 2. Plugs 4, see Figs. 5 and 6, are provided corresponding in size and shape to the bores or openings 3, said plugs being therefore all of standard or given size. The shook 1 is placed on a suitable support or table, indicated at 7, in Fig. 8, and a plug 4 is pressed or shoved down into the opening 3, so as to close the same and to fit tightly therein, said plug being shoved down onto the table 7 so that it is flush with the underface of the shook 1. The plug is then fastened in place by means of suitable fasteners 9, preferably crimped fasteners, as shown in Fig. 11, said fasteners being inserted into the rear or inner side of the shook and of the plug, so as to enter said parts at the rear thereof, but not to penetrate through to the front, thereby presenting a clear surface to the front or outside of the shook. By performing all the boring operations successively and all of the plugging or filling operations successively the expense is reduced to a mini-

num so as to be small compared with the saving in lumber and in cost of cutting out defective sections in the shook. As the metallic fasteners 9 are driven into the wood, they serve as keys or wedges, expanding the material of the plugs and causing the same to bind or press against the walls of the opening 3, this wedging or binding action insuring retention of the plugs in place.

10 The plugs 4 may be of a thickness somewhat greater or somewhat less than that of a shook, but it is preferred to place said plugs as stated so that their outer faces will be flush with the face of the shook so as to present an even surface as far as possible. It will be understood, however, that the purpose of the plugs is primarily to close the openings in the shook. Evenness of the surface, particularly on the inside, is of secondary importance. In most cases box 15 shooks are surfaced on one side, namely, the side which is to be presented at the outside of the box, and the plugs 4 are preferably similarly surfaced on one side, being, for example, cut from the waste or scraps of the lumber from which the shooks are cut.

While the plugs are described as being of a standard or definite size, it will be understood that in a large mill where the output is sufficient to justify classification of the shooks, two or more sizes may be used, for example, to provide for large and small knot holes. I prefer, however, in the case of extra large or irregular knot holes which cannot be eliminated by the use of a single plug, to use a plurality of plugs in the manner indicated in Fig. 12 where the dotted line 2' indicates a large knot hole of irregular contour. In that case a bore indicated 40 at 3 is first made so as to include a portion of said large knot hole, this bore being then closed by a plug 4 fastened by fasteners 9 as above described, and another bore or opening 3' being then formed so as to in-

clude another portion of said knot hole, said bore intersecting and cutting out a portion of the first inserted plug and being then closed by a second plug 4', this operation being repeated as often as is necessary to close the hole. The plug or plugs which are later inserted are fastened not only by fasteners 9 extending into the body of the shook 1, but also by a fastener or fasteners indicated at 9' connecting the several plugs.

Fasteners 9 are preferably of crimped metal having a knife edge or beveled edge 9'' at one end thereof to facilitate driving the same into the wood. Said fasteners are sufficiently short so that in general with the usual thickness of shook they do not extend clear through, being inserted or driven into the shook and plugged from the rear side thereof. In some cases, however, particularly when the shook is of extremely thin stock, these fasteners may extend clear through to the front face, and may even be driven from the outside, when the external appearance is immaterial.

What I claim is:

The method of treating a box shook having a knot or other defect therein which consists in forming an opening therein, including said defect, placing the shook with its finished face against a work support having a substantially plane surface, inserting a plug in the opening with its finished face in engagement with said work support, and securing the plug in position by driving fastenings through the adjacent portions of the shook and plug in a direction to force said parts against the work support.

In testimony whereof, I have hereunto set my hand at Los Angeles California this 26th day of March 1910.

MERTON J. MILLER.

In presence of—

ARTHUR P. KNIGHT,
P. H. SHELTON.