

No. 734,110.

PATENTED JULY 21, 1903.

G. X. WENDLING.
CLAMP FOR DRYING LUMBER.
APPLICATION FILED JULY 1, 1902.

NO MODEL.

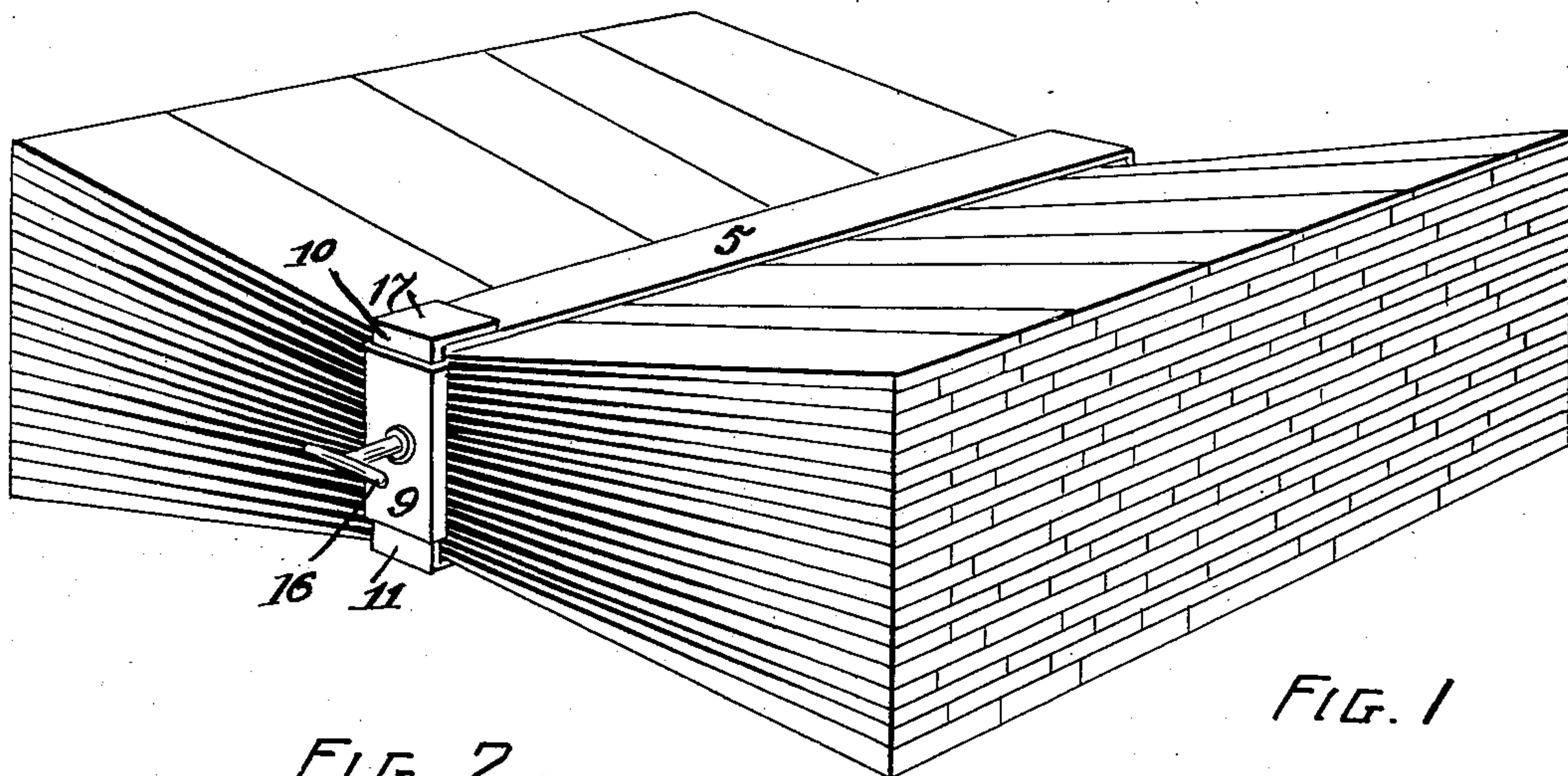


FIG. 2

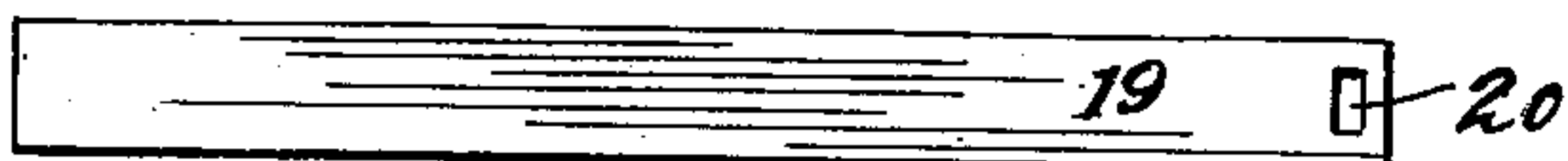


FIG. 3



FIG. 4

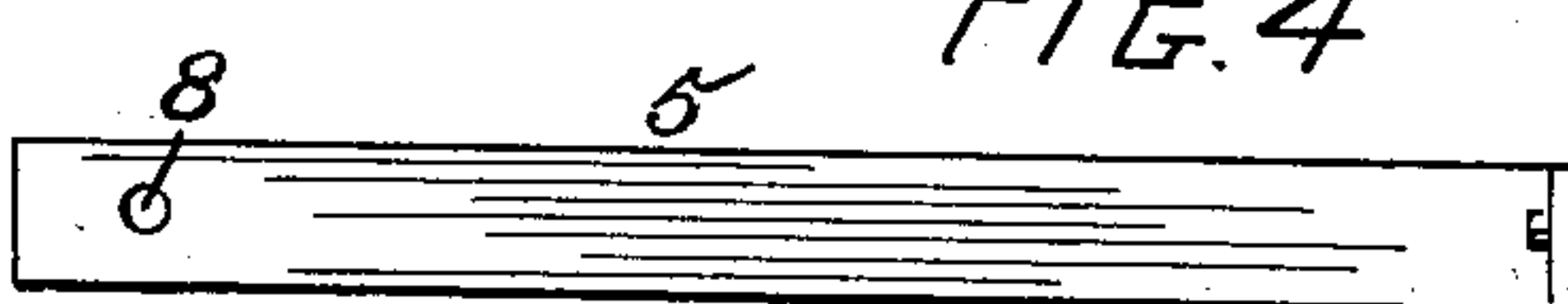


FIG. 5

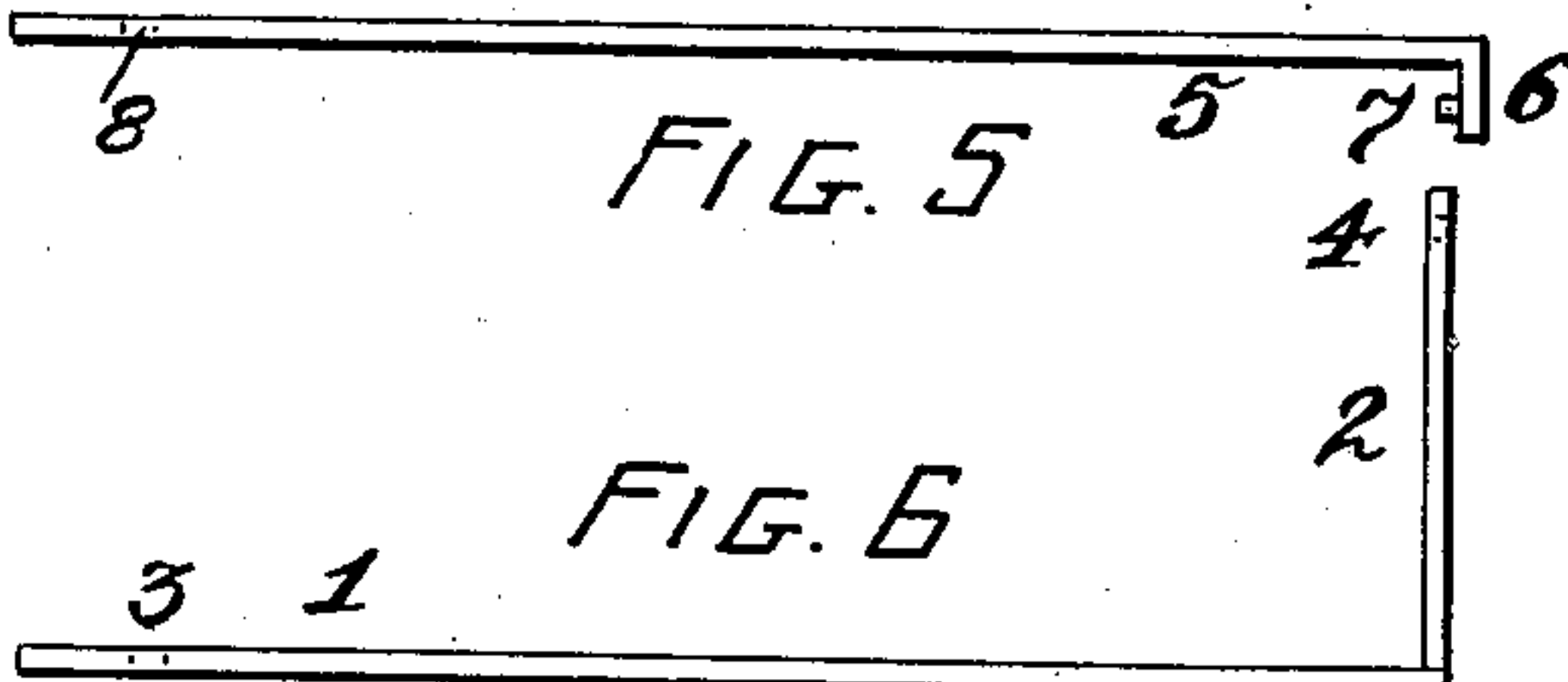


FIG. 6

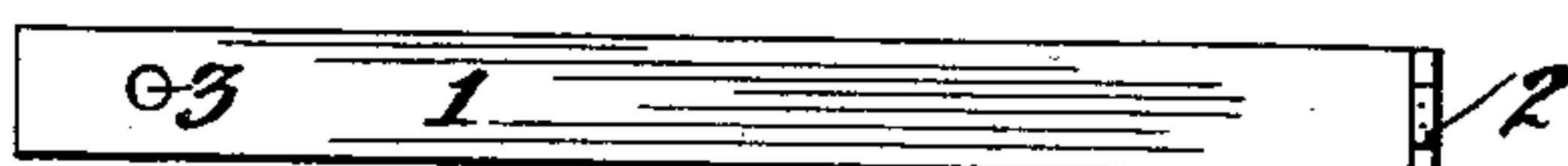


FIG. 7

FIG. 12

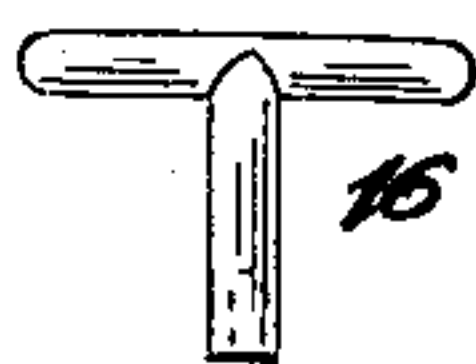


FIG. 11



FIG. 10

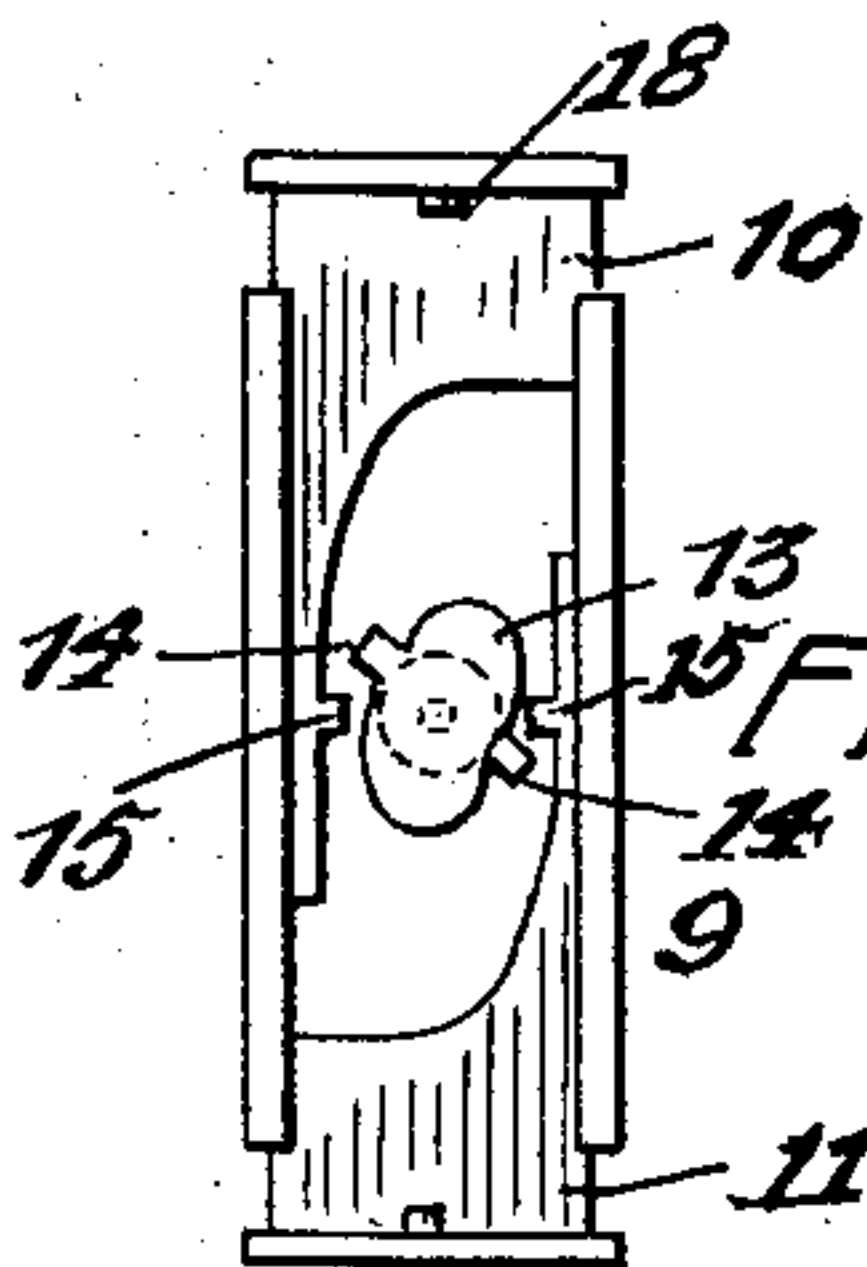


FIG. 9

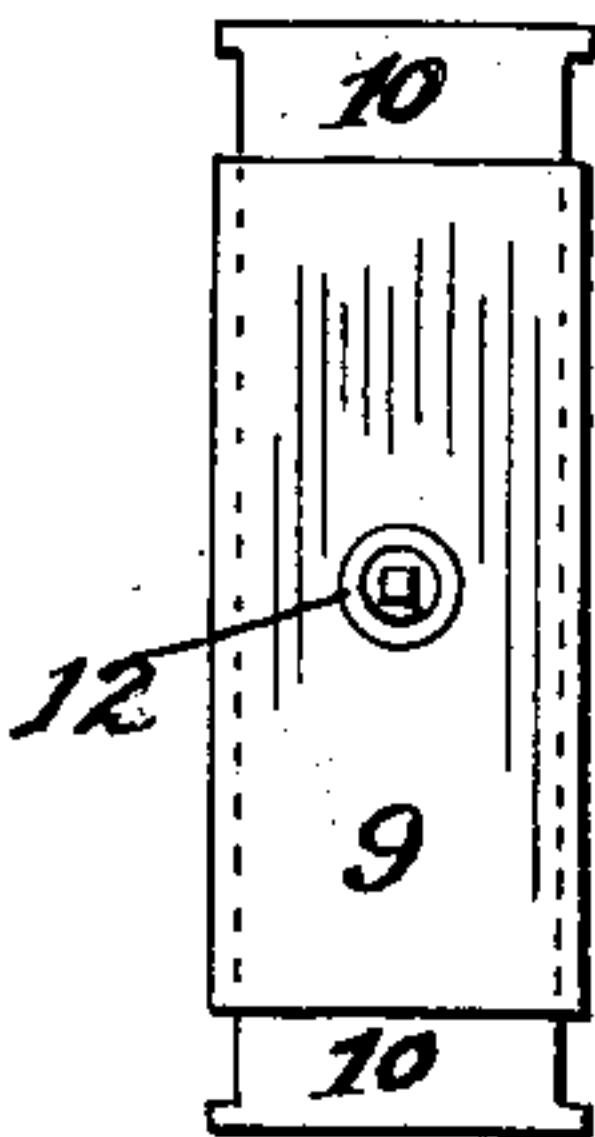
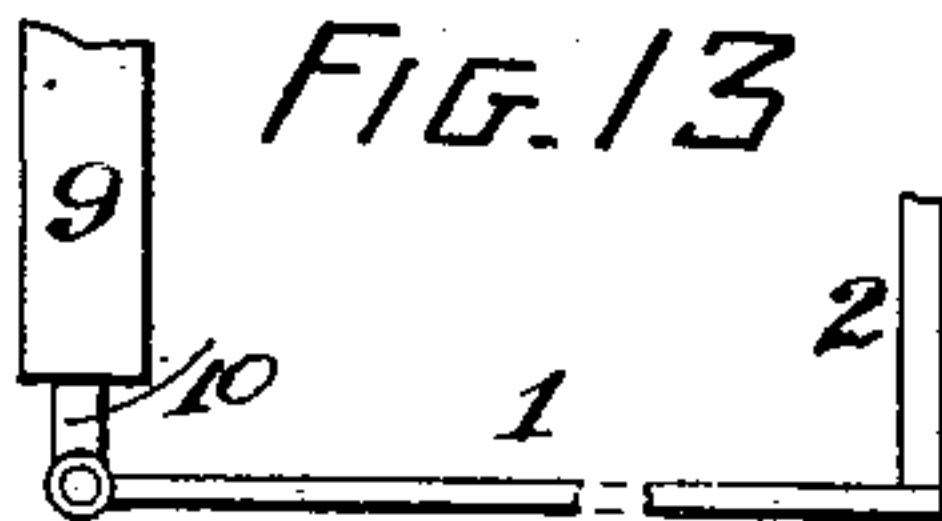


FIG. 8



FIG. 13



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UNITED STATES PATENT OFFICE.

GEORGE X. WENDLING, OF SAN FRANCISCO, CALIFORNIA.

CLAMP FOR DRYING LUMBER.

SPECIFICATION forming part of Letters Patent No. 734,110, dated July 21, 1903.

Application filed July 1, 1902. Serial No. 113,932. (No model.)

To all whom it may concern:

Be it known that I, GEORGE X. WENDLING, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Clamps for Drying Lumber, of which the following is a specification.

My invention relates to the drying of lumber, and especially to the kiln-drying of thin lumber, such as shingles, shakes, &c.

The general object of the invention is to provide a clamp of cheap and simple construction for holding the shingles in bunches while drying, such clamp being composed of separable parts easily assembled and provided with tightening means.

Special objects of the invention are further to so construct the clamp as to admit air between the shingles while drying and also to enable the whole clamp to be removed from dried shingles, leaving them piled or stacked.

A practical embodiment of my invention is shown in the accompanying drawings, in which—

Figure 1 is a perspective view of a bunch of shingles forming a single bundle, held in position to be dried by one of my clamps. Fig. 2 is a plan view of one of the distance-strips. Fig. 3 is an edge view of the same. Fig. 4 is a plan view of the top strip of the clamp. Fig. 5 is an edge view of the same. Fig. 6 is a side elevation of the clamp-bottom. Fig. 7 is a plan view of the same. Fig. 8 is a side elevation of the tightening device. Fig. 9 is a front elevation of the same. Fig. 10 is a rear elevation of the same. Fig. 11 is a plan, and Fig. 12 is a side elevation, of a key for tightening the clamp; and Fig. 13 is a modification showing a hinged bottom piece.

The clamp proper is composed of three parts. The bottom and one end is formed by right-angular strip 1 2, having near its ends perforations 3 4. The vertical part 2 is preferably somewhat smaller in width than the bottom, Fig. 7. The top is a strip 5, bent at one end into a downward projection 6, from which extends inwardly a pin 7. The other end has a hole 8, Figs. 4 and 5. The other end of the clamp is specially constructed to form a tightening device. A guide 9 has two slides 10 and 11, adapted to approach and re-

cede from each other. The guide is closed at the front, Fig. 9, and open at the rear, Fig. 10. Working in the closed front is a pin or shaft 12, having a squared end carrying a double cam 13, having two projections 14, which are adapted to engage with and release corresponding projections 15 on the slides 10 11. The slides are cut away inwardly, so as to afford room for the operation of the cam. A key 16, formed with the shaft, or preferably, as shown, detachable from and fitting it, is the operating device for turning the shaft and cams. Projecting inwardly from each slide is an arm 17, having a pin 18, adapted to engage the holes 3 and 8 in the bottom and top strips, respectively.

The strips 19, having the hole 20 and shown in Figs. 2 and 3, are distance or spacing strips, of which as many are used as the number of layers of shingles requires. These distance-strips when the parts are assembled cooperate with the other parts of the clamp and are attached thereto, but have a special function and purpose of their own.

The illustration given in Fig. 1 of the operation of the device is designed to show its adaptability for clamping a large number of shingles while drying. There are shown twenty layers of shingles arranged in a bundle of the width permitted by the length of the clamp. The shingles are arranged with thin ends meeting and overlapping, as in the ordinary way of packing, and the clamp covers the overlapping edges of both bundles. In assembling the shingles the overlapping thin ends of a layer are laid upon the bottom strip 1 side by side and up to the vertical strip 2. Then a distance-strip 19 is threaded over the strip 2 and overlies the edges of all the shingles in the layer. A second layer of shingles is laid upon the distance-strip, then another strip, and so on alternately, all the strips 19 being thus connected by one end to the upright 2, but having their other ends free. When the alternate layers and strips have been built up to the proper height, the top strip 5 is engaged, by means of its pin 7, with hole 4 in upright 2. The other end of the clamp is completed by interlocking the pins 18 with holes 3 and 8, the tightening device being loose, as shown in Fig. 10. Now by turning the shaft in the proper direction

projections 14 and 15 are brought into contact and the slides forced toward each other, so as to tighten the clamp. By the same movement the cams are brought into frictional contact with the edges of the slides and maintain their position by such friction, with the bundle firmly clamped. In this position the intermediate distance-strips keep the separate shingles out of contact for a considerable part of their length, allowing air to enter between them and in that way greatly facilitating and shortening the operation of drying.

After the bundles are dried or if for any reason it is desired to remove the clamp the tightening device is unlocked by reversely turning the shaft. This releases the slides from the top and bottom strips and enables the top and bottom of the clamp and all the distance-strips to be pulled out from the opposite end, the shingles remaining in their piles and layers.

In the modification shown in Fig. 13 the bottom piece 1 is shown as hinged to slide 11 instead of having a detachable pin-and-hole connection with it.

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

1. In a knockdown clamp for lumber, two clamping members, means for holding said members at a fixed distance apart at one end, and means for holding them at variable distances apart at the other end.

2. In a knockdown clamp for lumber, two clamping-bars held at a fixed distance apart at one end, overlapping members at the other end, and means for moving said members and locking them against movement.

3. In a knockdown clamp for lumber, two clamping-bars held at a fixed distance apart at one end, overlapping members at the other end, and an element between and in engagement with said members for moving them longitudinally and locking them against movement.

4. A clamp for surrounding lumber in layers, formed of detachable parts adapted to be connected, means for drawing together the free ends of said clamp, and distance-strips strung upon one of the detachable parts for interposition between the layers.

5. A clamp for the described purpose, comprising a bottom and end strip, a top strip adapted to be detachably connected thereto,

movable end strips adapted to be detachably connected, respectively, to the top strip and the bottom strip, and means for operating said movable end strips to tighten or to loosen the clamp by a single operation.

6. A clamp for the described purpose, comprising a plurality of strips adapted to be detachably connected to surround a bundle, movable meeting slides forming the free ends of said clamp when connected, a guide for said slides, and a shaft provided with means for operating and locking said slides.

7. In combination with the free ends of a clamp for surrounding shingles or the like, projections on said free ends, a shaft having corresponding projections, and a cam on said shaft adapted for frictional engagement with said free ends.

8. A clamp comprising a right-angular bottom and end strip, a top strip, a pin-and-hole connection between the two, a pair of slides having angular arms adapted for pin-and-hole connection with said top strip and bottom strip, a guide for said slides, a shaft journaled in said guide, and having means for operating said slides simultaneously in opposite directions, and a cam on said shaft for locking said slides.

9. An adjustable clamp for surrounding layers having distance-strips provided with means for stringing them loosely on said clamp for interposition between said layers.

10. An adjustable clamp for surrounding layers of material, and distance-strips secured to said clamp at one end in position to be placed between said layers.

11. An adjustable clamp for layers of material, consisting of a rectangular frame, and distance-strips removably secured at one end to one end of the frame, in position to be placed between said layers.

12. An adjustable clamp for layers of material, consisting of a rectangular frame, and distance-strips, one end of each of which is perforated and adapted to be removably secured upon one end of the frame in position to be placed between said layers.

In testimony whereof I have affixed my signature, in presence of two witnesses, this 23d day of June, 1902.

GEORGE X. WENDLING.

Witnesses:

L. W. SEELY,
F. M. BURT.