No. 637,308. Patented Nov. 21, 1899.

G. X. WENDLING & O. W. CRAWFORD.

LUMBER DRYING TRUCK.

(Application filed Sept. 14, 1899.)

(No Model.) 5 Sheets—Sheet 1.

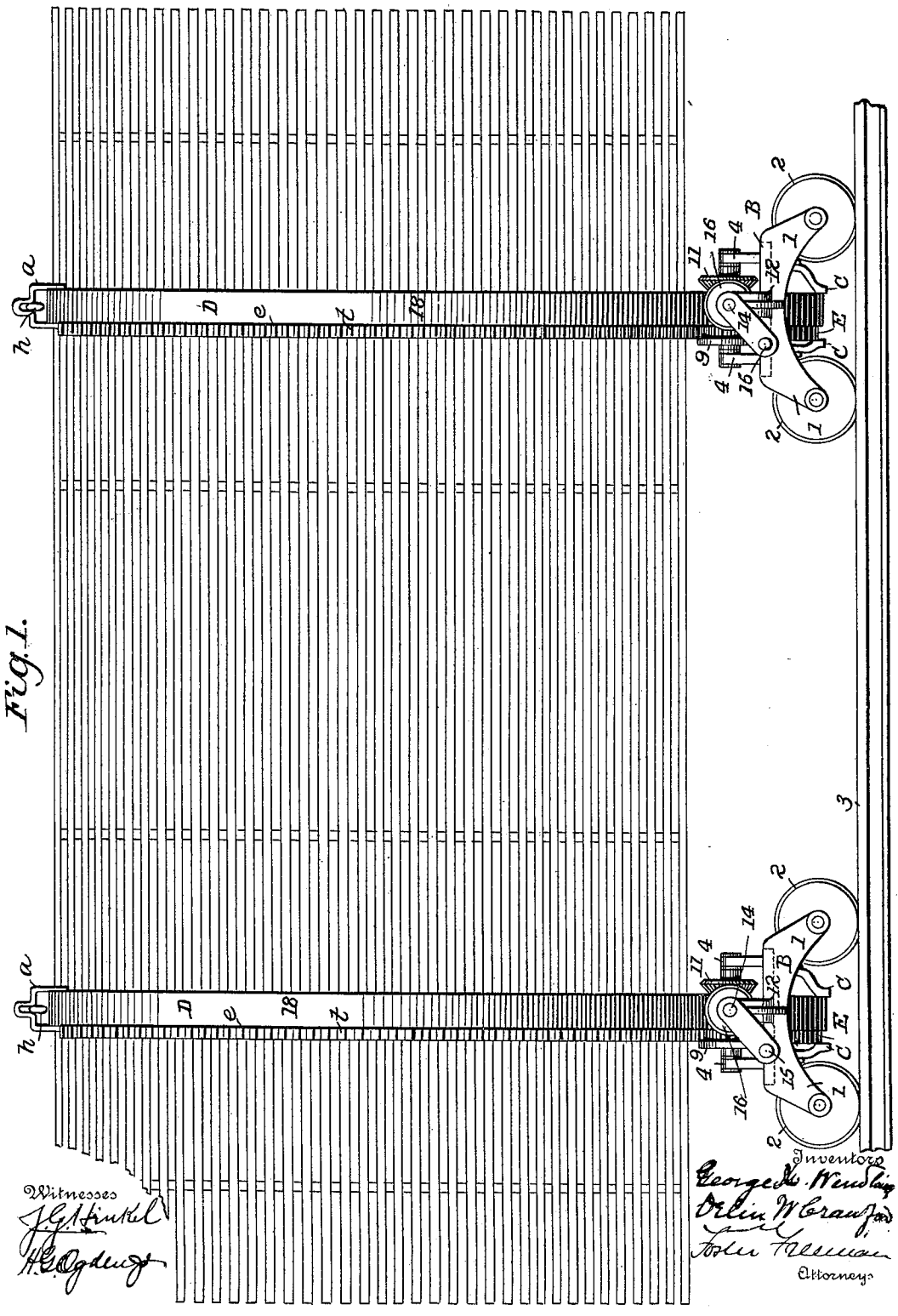

Fig. 1.

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Fig. 2.

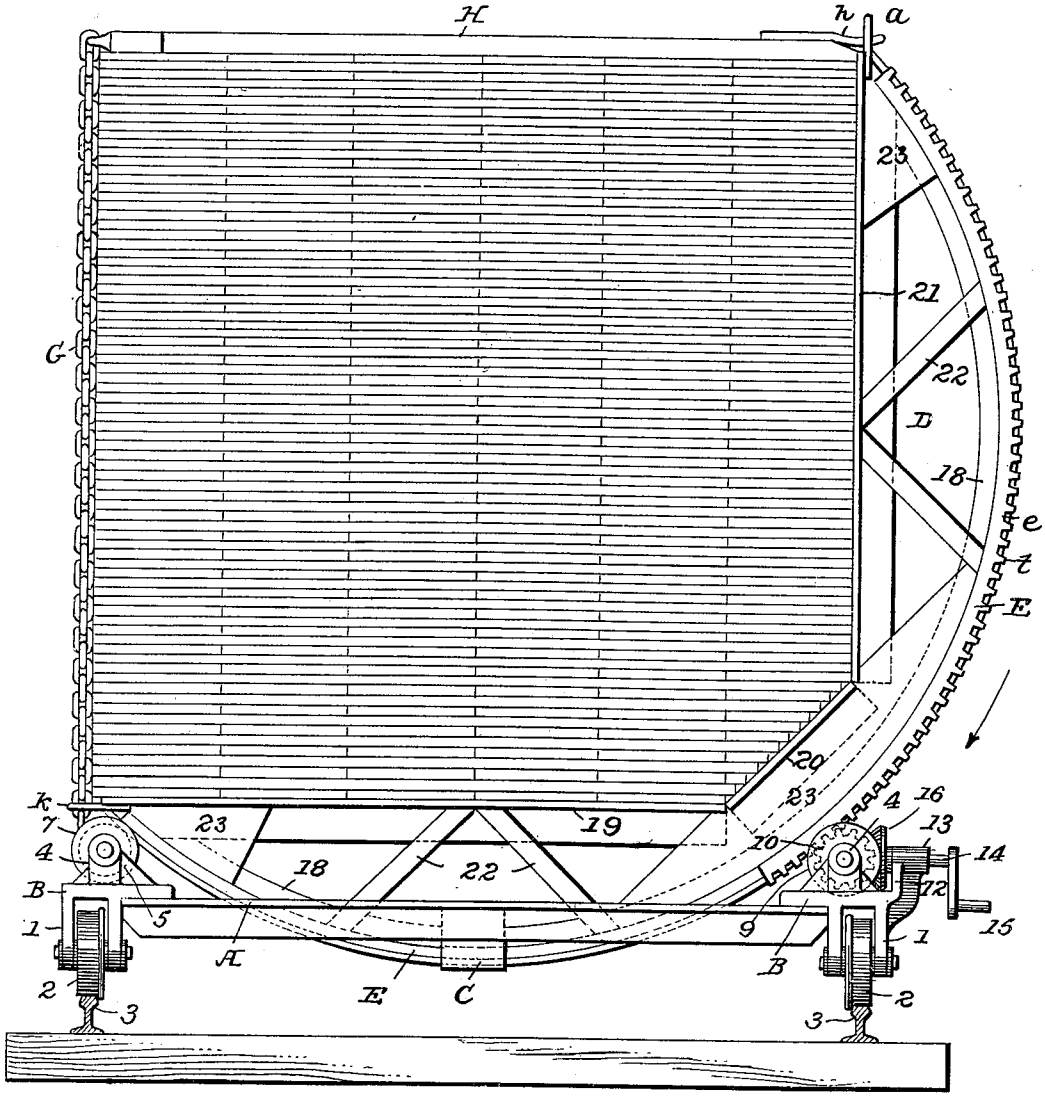

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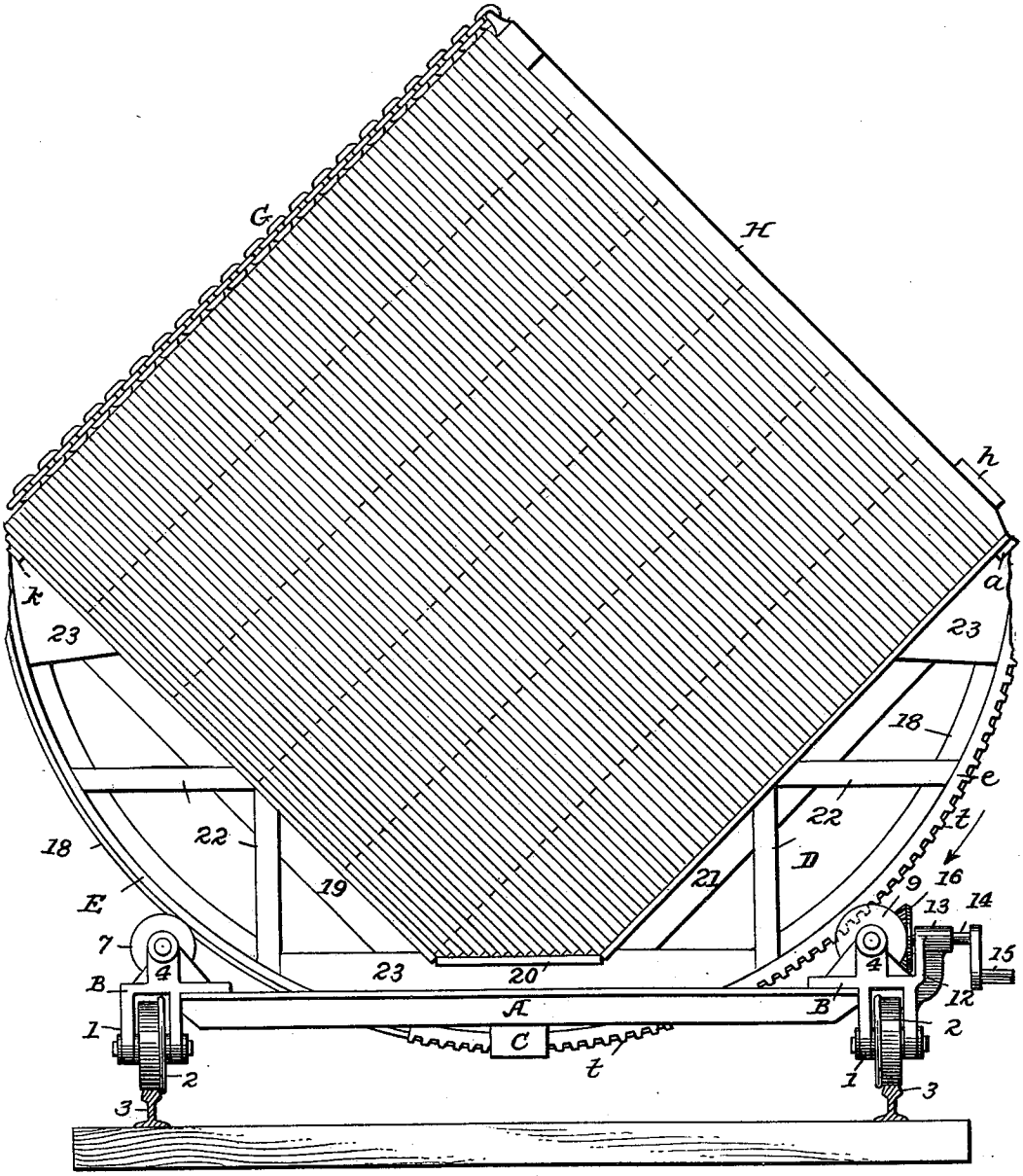
Fig. 3.



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(No Model.) 5 Sheets—Sheet 4.

Fig. 4.

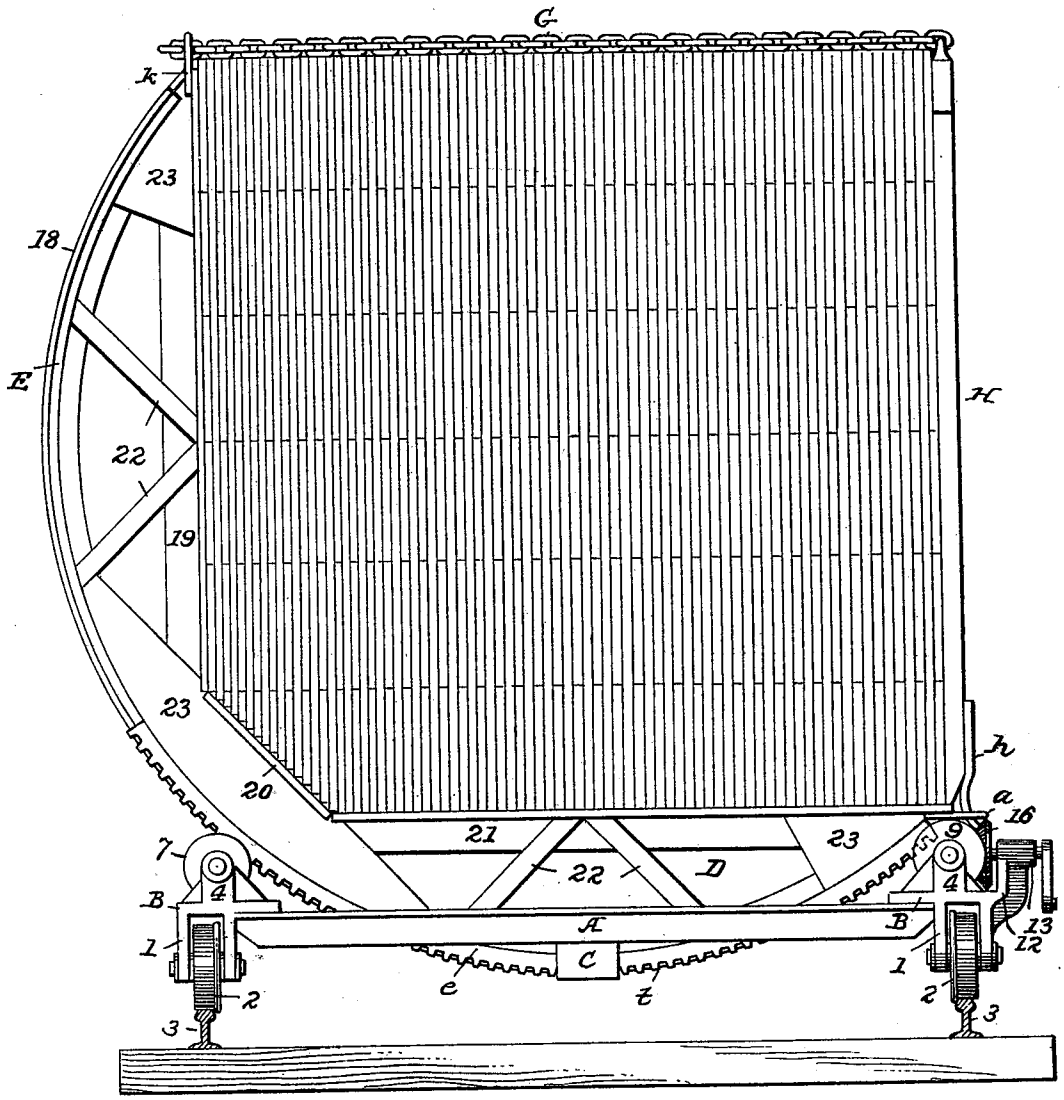

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Fig. 5.

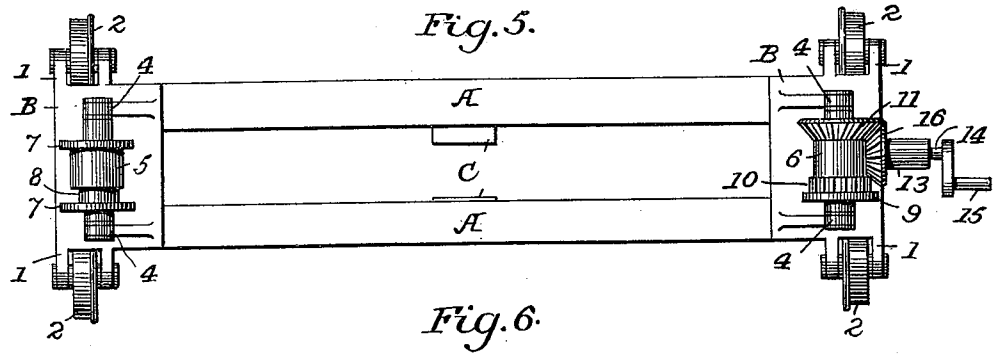
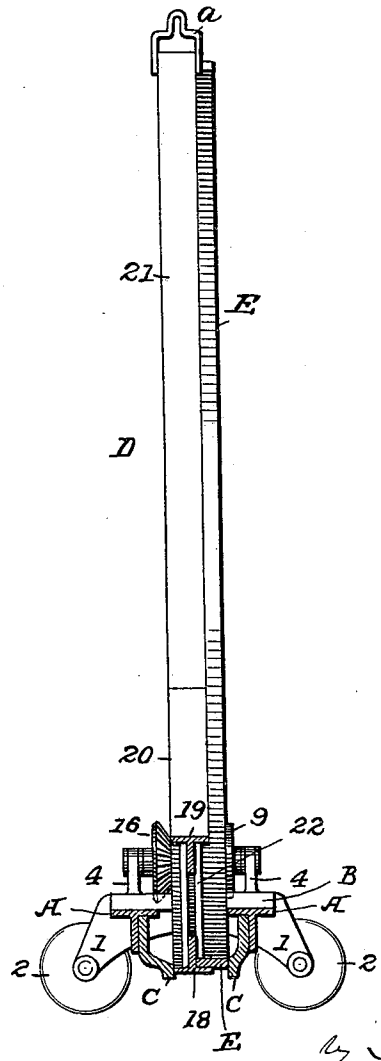


Fig. 6.



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UNITED STATES PATENT OFFICE.

GEORGE X. WENDLING AND ORLIN W. CRAWFORD, OF SAN FRANCISCO, CALIFORNIA.

LUMBER-DRYING TRUCK.

SPECIFICATION forming part of Letters Patent No. 637,308, dated November 21, 1899.

Application filed September 14, 1899. Serial No. 730,491. (No model.)

To all whom it may concern:

Be it known that we, GEORGE X. WENDLING and ORLIN W. CRAWFORD, citizens 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 Lumber-Drying Trucks, of which the following is a specification.

This invention relates to lumber-driers, its object being to provide an apparatus upon which the lumber may be stacked flatwise, with suitable spacing-strips between the layers, and the stack be subsequently turned bodily to bring the layers edgewise, and thus provide a series of vertical flues between the layers, up which the heated air or other drying medium will pass.

The invention will be fully described hereinafter, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of our improved apparatus, showing the stack of lumber thereon, the layers being flatwise. Fig. 2 is an end elevation of Fig. 1; Fig. 3, an end elevation showing the stack partially turned; Fig. 4, a similar view showing the stack completely turned to bring the layers edgewise; Fig. 5, a plan view of one of the trucks; Fig. 6, a vertical transverse section of the truck and lumber-supporting frame.

In carrying out our invention we propose to use a plurality of trucks and frames spaced apart to support the lumber. The number of trucks and frames employed will depend upon the length of the lumber to be dried, and may range from two to six or more. Ordinarily two trucks will be sufficient for lumber sixteen feet or less in length.

The truck will preferably be formed of a pair of parallel beams A A, spaced apart and connected by tie-plates B B at their ends. For strength and lightness the beams will preferably be of T-iron, as shown in the drawings, but this is not essential.

The ends of the tie-plates B are extended outwardly and downwardly and bifurcated to form bearings 1 1 for the truck-wheels 2, the latter being flanged and adapted to run upon track-rails 3. The plates B are also provided with upwardly-extending spaced bearings 4 4, in which supporting and guiding rollers are journaled, one of these rollers being indicated by 5 and the other by 6. The roller 5 is provided with a flange 7 at each end and with a circumferential groove 8 close to one flange, for a purpose to be hereinafter referred to.

The roller 6 is provided with a flange 9 at one end in line with one of the flanges 7 on the roller 5. It is also provided with gear-teeth 10 in line with and of substantially the same width as the groove 8 in the roller 5. At its other end the roller 6 is provided with a bevel-gear 11, the inner face of which is in line with the inner face of the other flange 7 on the roller 5, and the inner face of this gear 11 serves as a guide for the lumber-supporting frame, as will be referred to more fully hereinafter.

The plate B, upon which the roller 6 is supported, is also provided with an arm 12, carrying a sleeve 13, which serves as a bearing for a shaft 14. The latter is provided with a crank-handle 15 at one end and a bevel-gear 16 at its other end, meshing with the gear 11. It is obvious that when the shaft 14 is rotated the roller 6 and its gear 10 will also be rotated.

Depending from the beams A A, about midway their length, are guiding and supporting plates C C. As shown, these plates are bolted or otherwise firmly secured to the stems of the T-irons of which the beams A are formed, and they are bent to bring the opposing faces of their lower portions in substantially the same vertical planes as those of the inner faces of the flanges 7.

The lumber-supporting frame is indicated by D, and it is movably supported and guided by the rollers 5 and 6 and the plates C C on the truck. As shown, the frame consists of an outer segmental bar 18, preferably of T-iron, the stem being disposed inwardly and the head forming the bearing-surface which engages the rollers 5 and 6, and the inner straight bars 19, 20, and 21, rigidly connected to the bar 18 by a series of braces and tie-plates, (indicated by 22 and 23, respectively.) The bars 19, 20, and 21 will also preferably be of T-iron, with the stem opposing the stem

of the segmental bar 18, and the braces 22 and tie-plates 23 will preferably be bolted to the stems.

As shown, the bars 19 and 21 are arranged at a right angle to each other, while the short bar 21 extends diagonally from one to the other at their adjacent ends.

E is a bar curved like the bar 18 and secured thereto. It extends the entire length of the bar 18 and is provided with a downwardly-projecting flange *e*, which extends somewhat more than half its length. The edge of this flange is provided with teeth *t* to form a rack-bar. The side of the bar E is outside the edge of the bar 18, and the teeth *t* are adapted to engage with the gear-teeth 10 on the roller 6 and also to project into the groove 8 of the roller 5. The bar 18 and bar E together are of such width as to fit closely, but loosely, between the flange 9 and inner face of the bevel-gear 11 between the plates C and between the flanges 7 of the roller 5, and these flanges, gear, and plates will serve to guide the frame and maintain it in vertical position.

At the outer end of the bar 21 is a loop *a*, with which the end *h* of a bar H is adapted to be detachably engaged. To the other end of the bar H a chain G is attached, and this chain is adapted to be detachably engaged with any suitable holding device *k* on the outer end of the bar 19.

Having described the preferred manner of constructing the truck and lumber-supporting frame, we will now describe the manner of using them.

The necessary number of trucks and frames will be spaced apart the desired distance to properly support the lumber to be dried, and the latter will then be piled up upon the supporting-frame flatwise, suitable spacing-strips *f* being interposed between the several layers of lumber. When the frame is filled, the bar H will be engaged with the loop *a* and the chain G secured on the catch *k*, thereby binding the lumber securely upon the frame. When the lumber is thus secured upon all the frames, the crank-handles 15 will be turned, and by the rotation of the gears 10 the several frames will be caused to turn about the radial center of the bar 18, and when they have turned a quarter-circle the lumber will be supported edgewise on the frames, and the spacing-strip *f* will cause a series of vertical flues to be formed between the layers, up which the hot air or other drying medium can pass, and thus subject the lumber to the action of such drying medium on opposite sides uniformly. As the frame is turned about its axial center the teeth of the rack-bar E, which project slightly beyond the bearing-surface of the bar 18, will when they reach the roller 5 find clearance in the groove 8.

While we have illustrated and described certain details of construction as being preferable, it is to be undertood that we do not limit the embodiment of our invention to the precise forms shown, as such may be modified and changed in many ways without departing from the spirit or sacrificing any of the advantages of our invention.

Having described the invention, we claim—

1. In an apparatus for drying lumber, a plurality of trucks, each carrying a frame upon which the lumber is supported, said trucks and frames being spaced apart, and mechanism mounted upon the trucks and connected to the respective frames to cause the latter to turn about their axial centers, substantially as set forth.

2. In an apparatus for drying lumber, a truck provided with supporting and guiding rollers, and a lumber-supporting frame comprising in part a segmental bar to engage said rollers, and gearing mounted on the truck and engaging teeth on the semicircular bar, whereby the latter may be turned about its radial center, substantially as and for the purpose set forth.

3. In an apparatus for drying lumber, a truck having spaced parallel beams, and guiding and supporting rollers, combined with a lumber-supporting frame having as a part thereof a segmental bar adapted to be supported upon the rollers and extend between the beams, a rack-bar on the semicircular bar, and gearing mounted on the truck and engaged with the rack-bar, substantially as and for the purpose set forth.

4. In an apparatus for drying lumber, a truck having spaced parallel beams, guiding and supporting rollers mounted above said beams, and guide-plates depending from said beams, combined with a lumber-supporting frame, having an outer segmental bar adapted to be supported upon said rollers and work between said guide-plates, substantially as and for the purpose set forth.

5. In an apparatus for drying lumber, a truck having spaced parallel beams, guiding and supporting rollers mounted above said beams, one of said rollers having a gear-wheel, and guide-plates depending from the beams, combined with a lumber-supporting frame having an outer segmental bar adapted to be supported upon said rollers and to move between said plates, a rack-bar on the semicircular bar to engage the gear-wheel on the roller, and means to rotate the latter, substantially as set forth.

6. A lumber-supporting frame, comprising the segmental bar 18, the bars 19 and 21 arranged at a right angle to each other, and braces for rigidly connecting the bars 19 and 21 to the bar 18, substantially as set forth.

7. A lumber-supporting frame comprising the segmental bar 18, the bars 19 and 21 arranged at a right angle to each other, the bar 20 extending diagonally between the adjacent ends of the bars 19 and 21, and braces and tie-plates to rigidly connect the bars 19, 20 and 21 to each other and to the bar 18, substantially as set forth.

8. A truck for use in a lumber-drying apparatus, comprising the spaced parallel

beams A A, tie-plates B, bearings 1 projecting from said plates, supporting-wheels 2 journaled in said bearings, bearings 4 extending upwardly from said plates B, supporting and guiding rollers 5, 6, journaled in the bearings 4, and means to rotate one of said rollers, substantially as set forth.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

GEORGE X. WENDLING.
ORLIN W. CRAWFORD.

Witnesses:
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H. F. PEART.