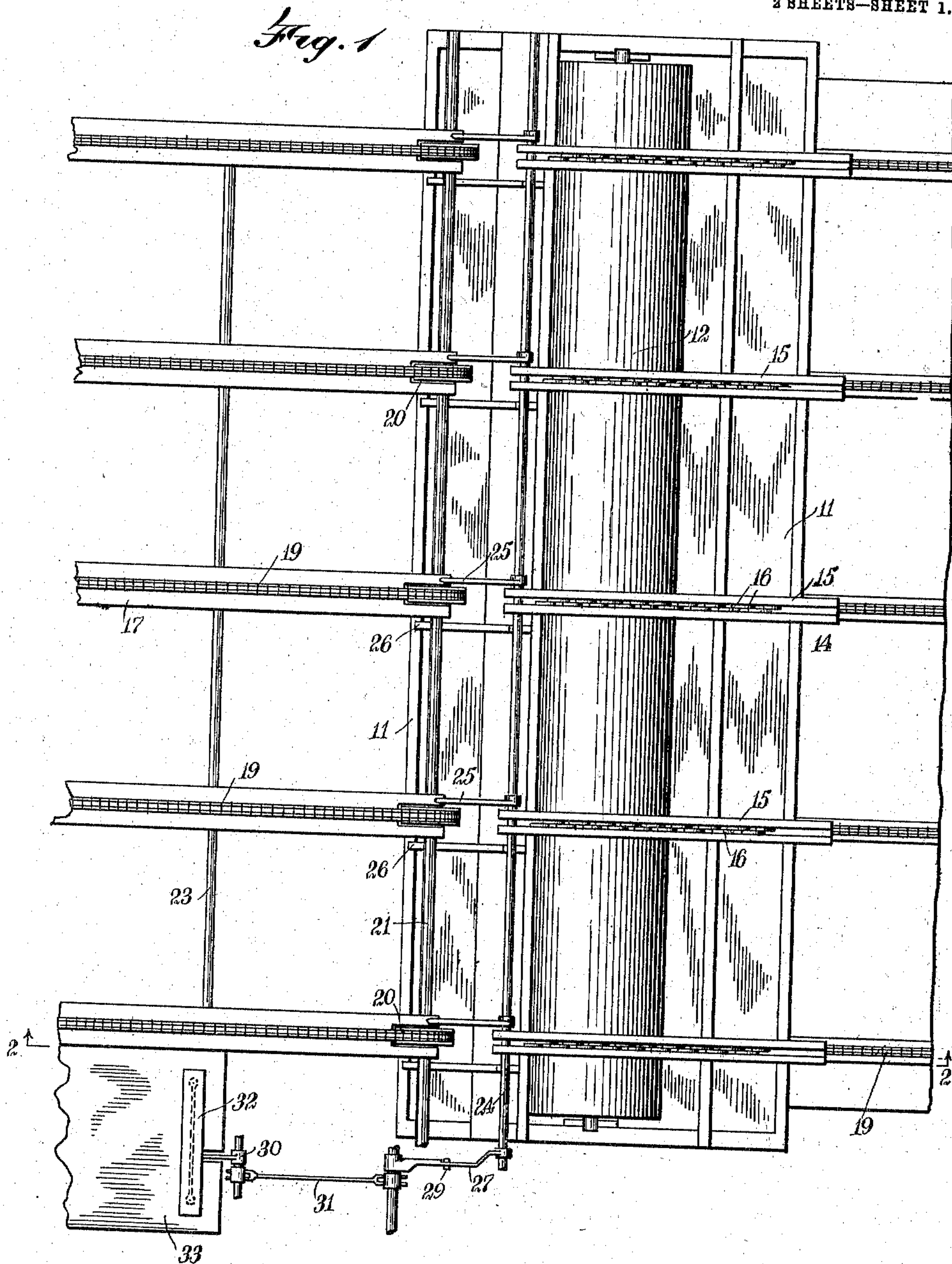


W. L. BATEN.  
DEVICE FOR DIPPING LUMBER.  
APPLICATION FILED APR. 15, 1910.

966,988.

Patented Aug. 9, 1910.

2 SHEETS—SHEET 1.



WITNESSES:  
*F. H. Smith*  
*W. W. Hale*

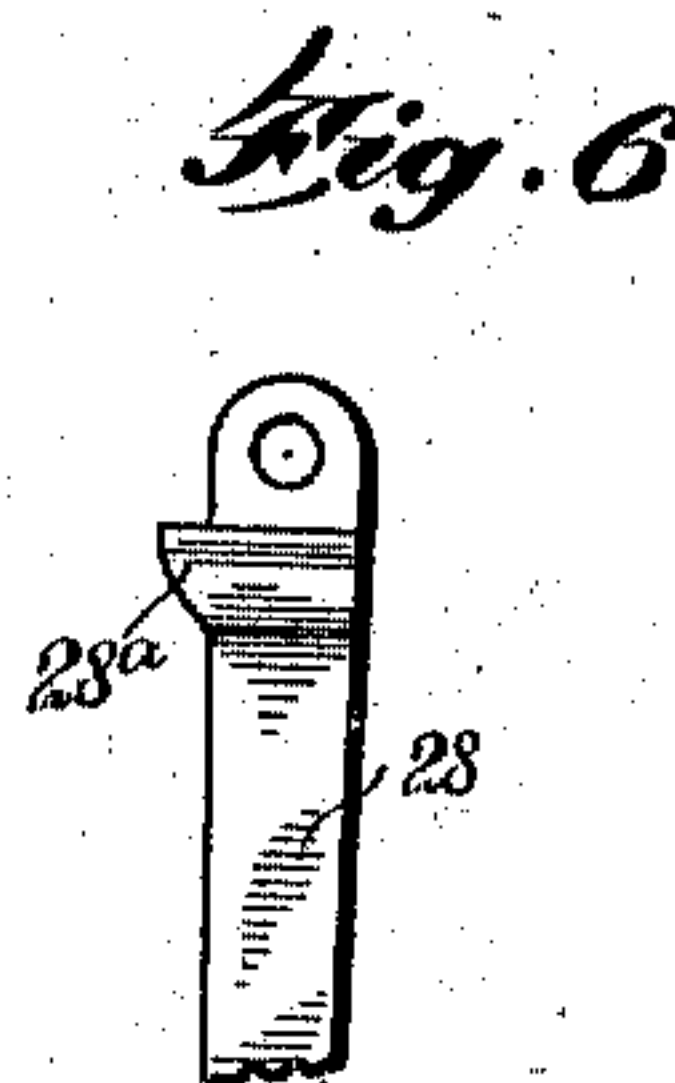
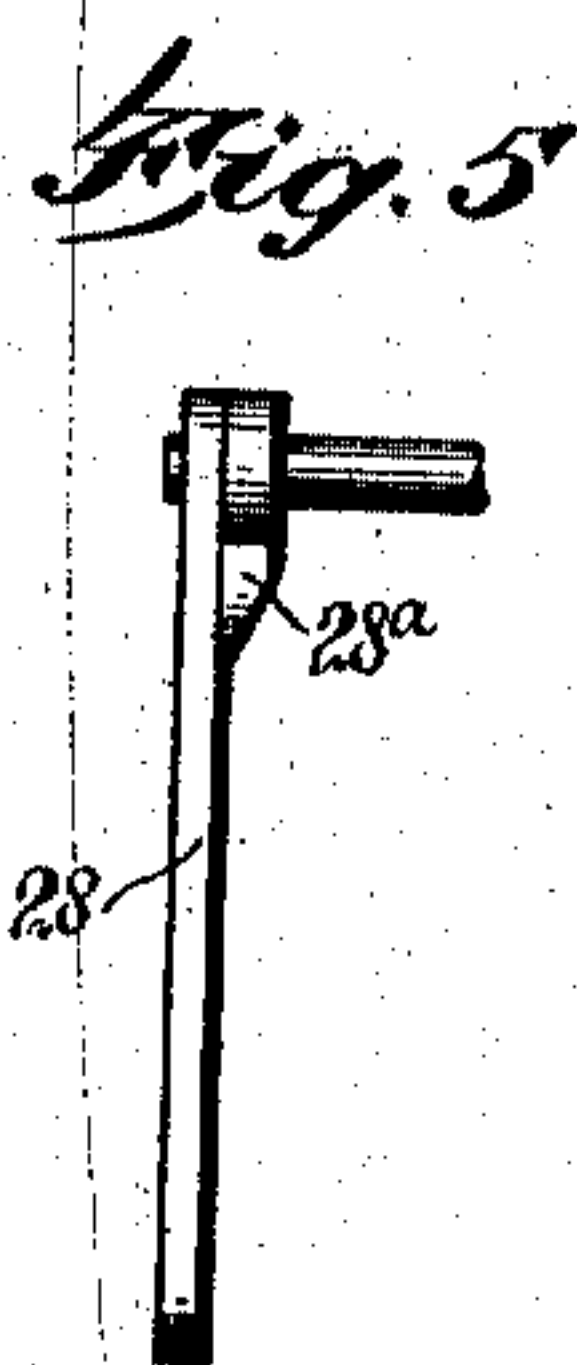
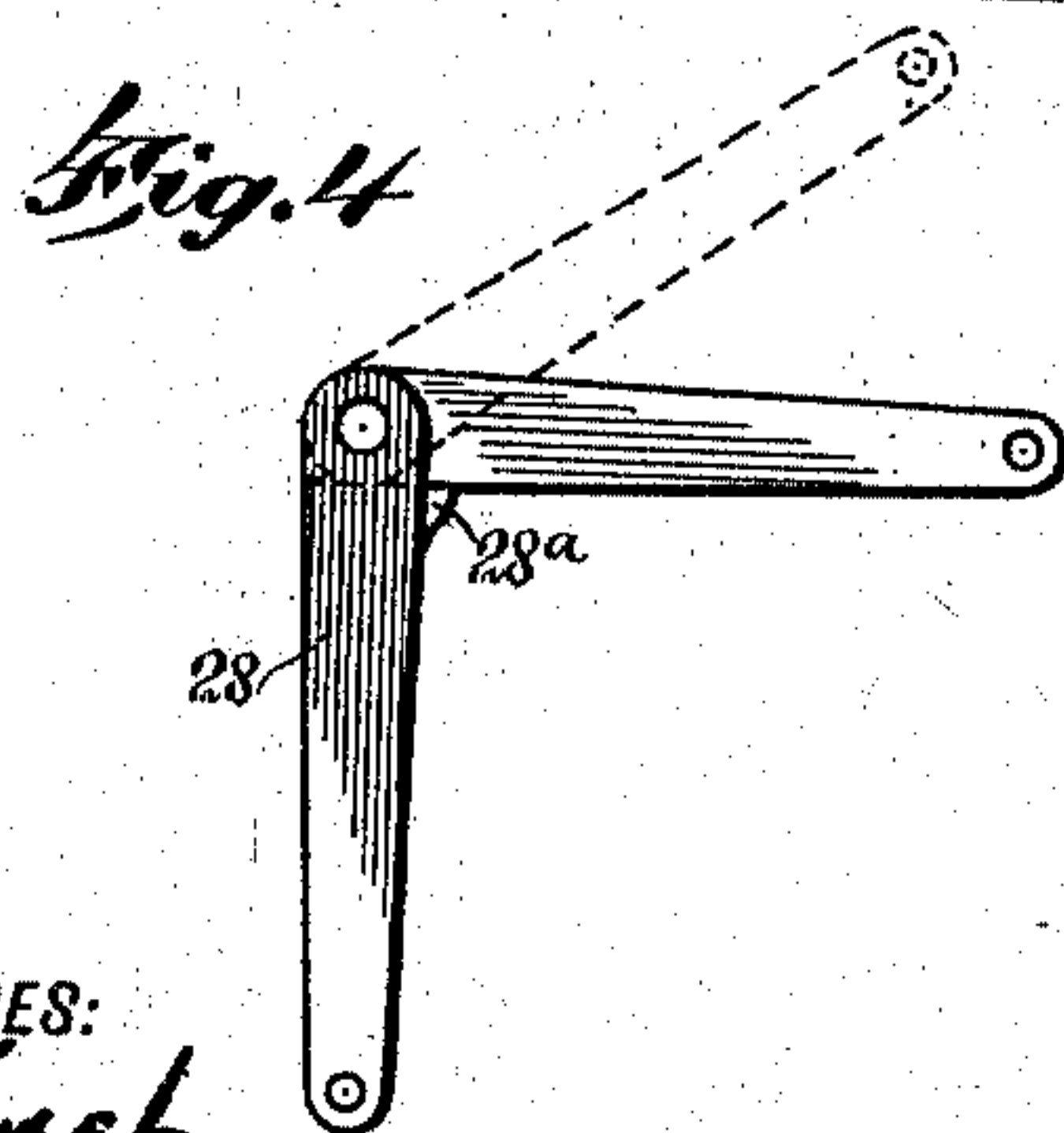
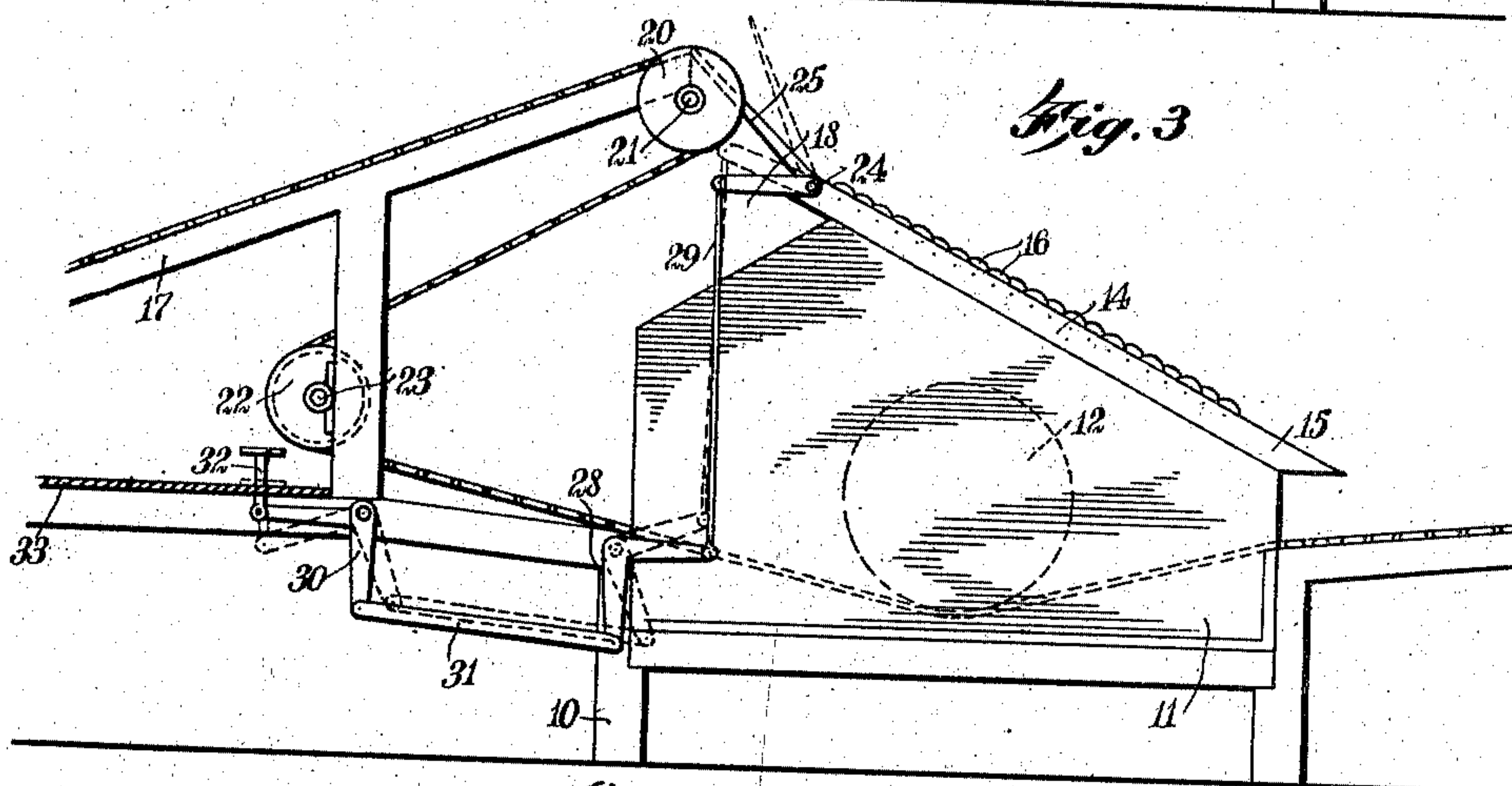
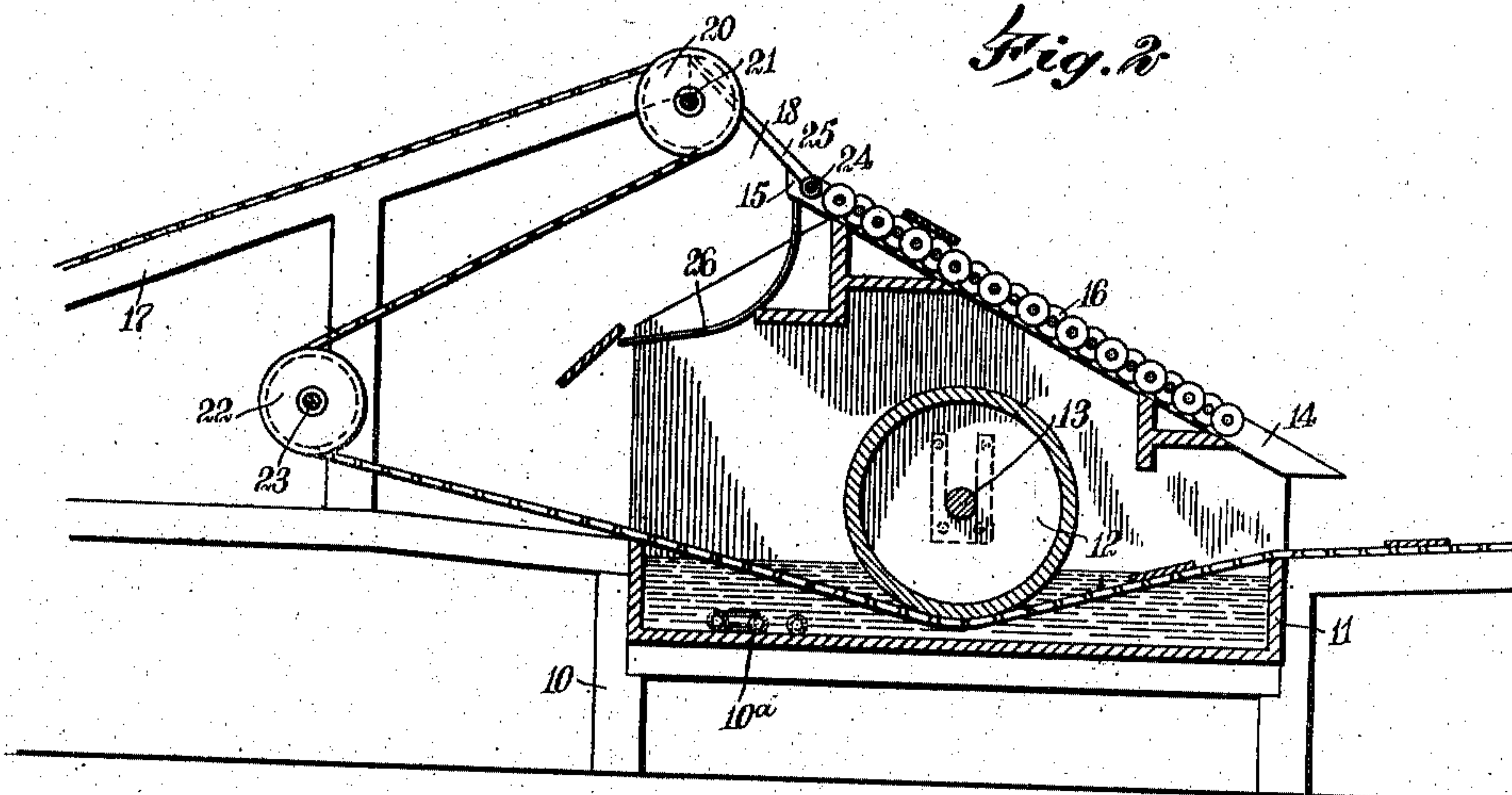
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WITNESSES:  
*Y. D. Smith*  
*W. A. Baten*

INVENTOR  
*William Lucian Baten*  
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 ATTORNEYS



# UNITED STATES PATENT OFFICE.

WILLIAM LUCIAN BATEN, OF CAMPTI, LOUISIANA, ASSIGNOR OF ONE-HALF TO  
THOMAS J. BATEN, OF BEAUMONT, TEXAS.

DEVICE FOR DIPPING LUMBER.

966,988.

Specification of Letters Patent.

Patented Aug. 9, 1910.

Application filed April 15, 1910. Serial No. 555,734.

*To all whom it may concern:*

Be it known that I, WILLIAM LUCIAN BATEN, a citizen of the United States, and a resident of Campti, in the parish of Natchitoches and State of Louisiana, have invented a new and Improved Device for Dipping Lumber, of which the following is a full, clear, and exact description.

The invention is an improvement in what is commonly known as a "soda dip" machine, such a machine being used in connection with a saw mill for passing the lumber through a soda bath, which is necessary in timber of certain characters in order to prevent the product when it is air-dried from bluing or mildewing and consequently lowering the grade. Soda dip machines as hitherto constructed, so far as I am aware, are such as to pass the entire output fed to them from the saw, through the soda bath, and as it is unnecessary to dip much of the lumber, only about 30% in the usual run, the major portion of the solution is wasted. In accordance with my invention, only such lumber passes through the soda tank or bath as determined by the operator or grader, the travel of each piece through the bath or over a by-pass being controllable at his will.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a plan of a soda dip machine constructed in accordance with my invention; Fig. 2 is a cross-section of the same substantially on the line 2—2 of Fig. 1; Fig. 3 is an end elevation of the machine partly in section; Fig. 4 is a side view of a bell-crank lever forming an element of the controlling mechanism; Fig. 5 is an edge view of the said lever; and Fig. 6 is a fragmentary inner face view of one of the arms of the said lever.

Arranged at the required elevation on a suitable support or framework 10, is a horizontally-disposed open tank 11 for containing the soda bath, this bath being ordinarily a 10% solution of bicarbonate of soda, the tank being sufficiently long to receive lengthwise the longest lumber which is to be dipped and heated by a steam coil 10<sup>a</sup>. Extending longitudinally of the tank, substantially centrally thereof, is a submerging

roller 12, the roller being arranged near the bottom of the tank and having its axle or journals 13 at the ends, journaled in suitable bearings, which are carried by the end walls of the tank, or other supports arranged at or near these points, these walls or supports being elevated slightly above the roller and carrying a by-pass for the lumber, which is in the nature of a downwardly and forwardly-inclined slide 14, the slide at its lower end extending well over the side of the tank, and, as best shown in Fig. 1, is made up of a number of pairs of parallel bars 15, each pair of bars having bearing rollers 16 journaled between them, the rollers arranged in two rows, with the rollers of one row staggered relatively to the rollers of the adjacent row.

A conveyer 17, for feeding the lumber from the saw mill as the lumber is cut from the timber, is shown to incline upwardly toward that side of the tank adjacent to the elevated side of the by-pass or slide, the inner terminus of the conveyer being located a slight distance above the elevated end of the slide and spaced therefrom to leave a substantial gap 18 between them, through which the lumber is adapted to drop under certain conditions, as hereinafter explained. The conveyer is preferably in the nature of a series of chains 19 arranged side by side at suitable intervals and passing over sprocket wheels 20, which are secured to a shaft 21, journaled at the head of the supporting framework, this framework, as best shown in Fig. 1, embodying a longitudinally-extending beam arranged directly under and supporting each chain of the conveyer. From the sprocket wheels 20, the chains 19 pass over sprocket wheels 22, secured to an idle shaft 23 arranged a substantial distance below the shaft 21, the chains thence passing through the tank underneath the submerging roller 12 and thence out of the tank to the point of discharge, and return by a suitable route back to the saw mill.

At the head of the slide 14, a rock shaft 24 is supported, having a number of attached skids or fingers 25 adapted to seat on the ends of the longitudinal beams of the conveyer and bridge the gap 18, the fingers or skids when in this position forming a continuous passage from the conveyer to the slide 14, whereby the lumber is fed over



the said tank and discharged on the conveyer chains at the lower end of the slide or by-pass. At the head of the slide or by-pass a stationary chute or skid inclines downwardly and inwardly under the gap 18 and is composed of the curved fingers 26, the skid discharging on the conveyer chains between the idle or guide sprocket wheels 22 and the submerging roller 12.

10 The shaft 24, to which the fingers or skids 25 are attached, is extended beyond one end of the tank, where it is provided with an attached arm 27, the same being operatively connected, as shown in Fig. 3, with a bell-crank lever 28, by a link 29, the bell-crank lever being arranged below the arm at or near the elevation of the tank, and in turn connected to a second bell-crank lever 30, by a link 31. To the opposite arm of the bell-crank lever 30 is operatively connected a foot-actuated member 32, projecting above a platform 33, on which the operator or grader stands in determining the character of the lumber passing up the conveyer 17.

25 The bell-crank lever 28 is constructed as shown in Figs. 4, 5 and 6, wherein it is shown that the arms are separately made, with the arm to which the link 29 connects, adapted to swing upwardly relatively to the other arm, but limited in its relative movement in the opposite direction by a stop 28<sup>a</sup>. By reason of this construction of the lever 28, should a piece of lumber become tangled with the fingers, as when the fingers are in the dotted position shown in Fig. 3, the fingers are adapted to swing completely over and point downwardly along the slide 14, whereby the engaged lumber is adapted to escape.

40 The skid fingers 25, bridging the gap 18 in the normal position of the parts, stand closed, as shown in Figs. 1 and 2, and in full lines in Fig. 3. The operator or grader standing on the platform 33 in observing a piece of lumber which should be passed through the soda bath, depresses the treadle or foot-actuating member 32, as the said piece reaches the head of the conveyer, lifting the skid fingers 25 to the dotted position shown in Fig. 3, whereupon the lumber in passing from the conveyer drops down on the skids 26, from whence it slides onto the conveyer chains below and travels through the soda bath in the tank, the lumber being submerged in the bath as it passes under the roller 12. In this way the travel of the lumber through the soda solution or over the by-pass is controllable at the will of the operator, all of the lumber being again brought together on the chains of the conveyer at the foot of the by-pass or slide and carried to a common point of discharge.

60 The timber which should be dipped is readily selected by an experienced grader by the appearance of the wood. Almost all

of the short straw or loblolly pine needs dipping, whereas a small per cent. of the long-leaf pine ordinarily need be treated.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. In a soda dip machine, a lumber conveyer, a tank, a lumber by-pass, and a mechanism controllable at the will of the operator to direct the travel of the lumber from the conveyer over the by-pass or from the conveyer through the tank. 75

2. In a soda dip machine, a tank, a lumber by-pass downwardly and forwardly inclined over the tank, a lumber conveyer leading to that side of the tank adjacent to the head of the by-pass and spaced therefrom to provide a gap for the passage of the lumber to the tank, and a skid to bridge the gap between the conveyer and by-pass, having controlling means operable at will. 85

3. In a soda dip machine, a tank, a submerging roller arranged within the tank, a by-pass for the lumber, arranged over the tank and roller, a conveyer having flexible conveying members for the lumber, spaced from the head of the by-pass to provide a gap for the passage of the lumber, with the said flexible members of the conveyer extending from the said gap downwardly and inwardly and thence passing through the tank under the submerging roller and under the discharge end of the by-pass, and a skid movable to and from a position bridging the gap between the conveyer and by-pass. 90 95 100

4. In a soda dip machine, a soda tank, a downwardly and forwardly-inclined slide supported over the tank, a conveyer leading to the head of the slide and spaced therefrom to provide a gap through which the lumber is adapted to pass, the said conveyer having flexible conveying members extending from the head thereof downwardly and rearwardly and thence passing forwardly through the tank and under the discharge end of the foot of the slide, and a skid movable to and from a position bridging the gap between the conveyer and slide. 105 110

5. In a soda dip machine, a soda bath, a downwardly and forwardly-inclined lumber slide arranged over the bath, a chain conveyer leading to and spaced from the head of the slide, providing a gap therebetween for the passage of the lumber, with the chains of the conveyer passing thereunder through the bath and under the discharge end of the slide, a stationary skid extending from the head of the slide and inclining downwardly and rearwardly under the said gap, and a skid movable to and from a position bridging the gap between the conveyer and slide. 115 120 125

6. In a soda dip machine, a soda bath, a downwardly and forwardly-inclined slide arranged over the bath, a conveyer arranged to feed the lumber through the bath, and 130



skid fingers movable to and from a position connecting the conveyer with the slide.

7. In a soda dip machine, a soda bath, a downwardly and forwardly-inclined slide arranged over the bath, a conveyer arranged to feed the lumber through the bath, skid fingers pivotally supported on the slide to swing to and from a position connecting the slide with the conveyer, and a mechanism for operating the fingers, constructed to permit them to swing forwardly and downwardly along the length of the slide.

8. In a soda dip machine, a tank, a lumber conveyer arranged to feed the lumber through the tank, a by-pass discharging on the conveyer forwardly of the tank, and means controllable at will to operatively connect the by-pass to a portion of the conveyer at the rear of the tank.

9. In a soda dip machine, a tank, a lumber conveyer arranged to feed the lumber through the tank, a by-pass discharging on the conveyer forwardly of the tank, a skid pivotally supported to swing to and from a position operatively connecting a portion of the conveyer at the rear of the tank with the by-pass, and means to operate the skid at will, controllable at a point adjacent to the conveyer and at the rear of the tank.

10. In a soda dip machine, a soda tank, a downwardly and forwardly-inclined slide arranged over the tank and having roller bearings, a lumber conveyer leading to the tank and discharging at a point adjacent to and spaced from the head of the slide, fingers pivotally supported at the head of the slide to swing to and from a position

connecting the slide with the conveyer, and a foot-actuated member arranged at the rear of the tank adjacent to one side of the conveyer and operatively connected to the fingers.

11. In a soda dip machine, a soda bath, a lumber conveyer leading through the bath, a by-pass discharging on the conveyer forwardly of the bath, a skid pivotally supported to swing to and from a position connecting the conveyer forwardly of the bath with the by-pass, and an operating mechanism for the skid having a bell-crank lever with the arms thereof arranged to swing relatively to each other to permit of the skid swinging forwardly to extend along the length of the by-pass.

12. In a soda dip machine, a soda bath, a lumber conveyer leading through the bath, a by-pass discharging on the conveyer forwardly of the bath, a skid pivotally supported to swing to and from a position connecting the conveyer forwardly of the bath with the by-pass, a platform arranged at the side of the conveyer at the rear of the bath, and a foot-actuated member arranged in the platform and operatively connected to the skid to swing the latter from the conveyer when the said member is depressed.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM LUCIAN BATEN.

Witnesses:

J. C. FLEMING,  
THOS. F. PORTER.