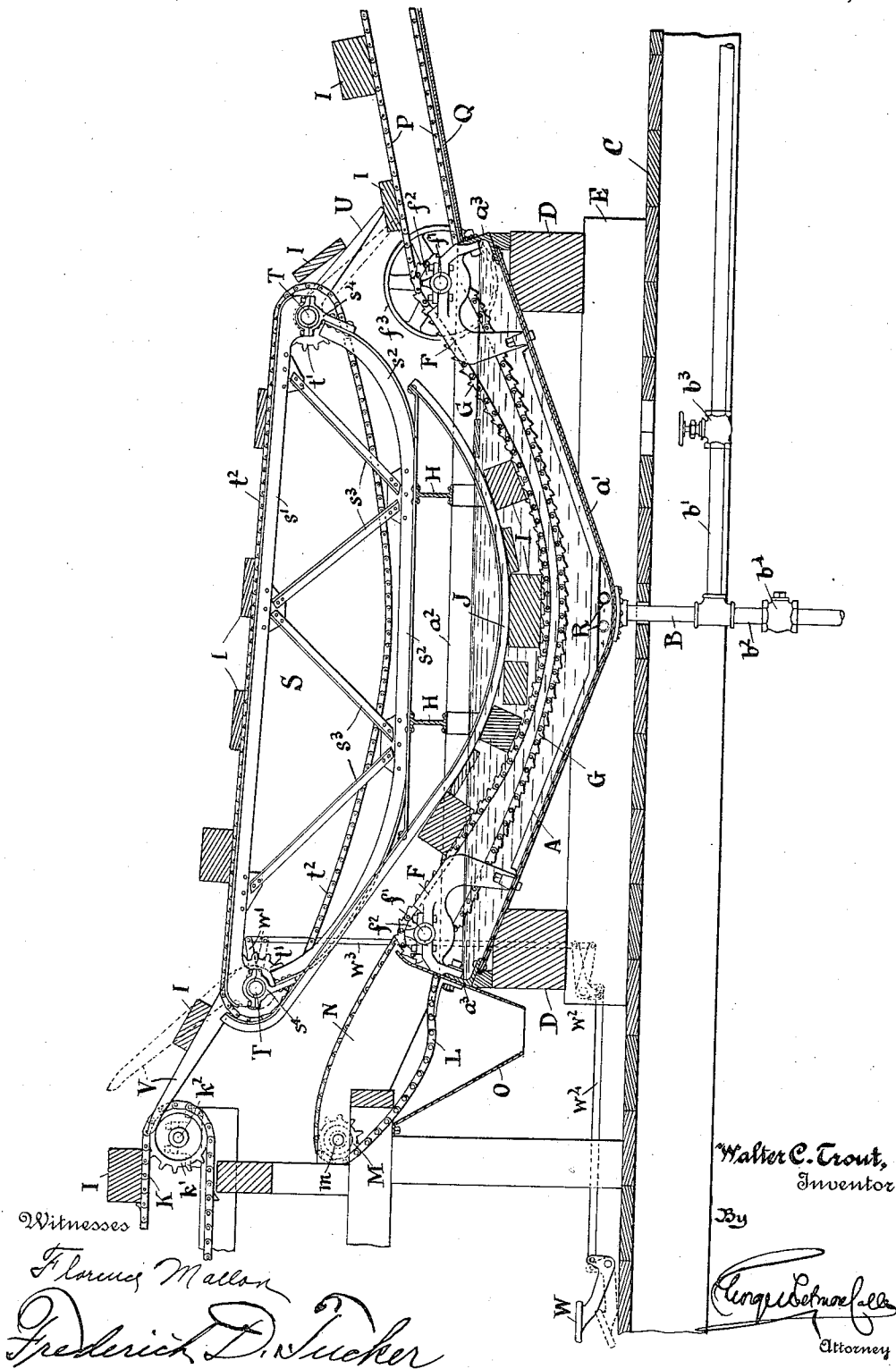


W. C. TROUT.
DIPPING TANK FOR LUMBER.
APPLICATION FILED FEB. 23, 1911.

1,052,985.

Patented Feb. 11, 1913.



UNITED STATES PATENT OFFICE.

WALTER C. TROUT, OF LUFKIN, TEXAS.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WALTER CHARLES TROUT, of Lufkin, Texas, have invented a Dipping-Tank for Lumber, of which the following is a specification.

This invention relates to apparatus for dipping lumber, more particularly for carrying out the soda-dipping process, and relates to certain improvements which I have made in the dipping-tank described and claimed in the co-pending application, which I filed jointly with William Henry Trout on Sept. 20, 1909, Ser. No. 518,561.

Dipping-tanks are installed in the regular path of the lumber as it passes from the saw and trimmer to the sorter, and thereafter to the tank automatically. In the regular course of things, some of the lumber will require dipping and some not, and it is therefore desirable to provide means for diverting from the tank that portion of the lumber which it is not desired to dip. To this end in my present invention, I have provided a by-pass around the tank, this by-pass being in the form of a runway for the lumber immediately over the tank, and movable bridges at both ends of the by-pass, with means for operating them or one of them, whereby some lumber is directed through the tank, and the rest over the by-pass.

The nature of my invention will be more particularly hereinafter described and set forth in my claims.

The accompanying drawing illustrative of my invention shows a longitudinal section thereof, which is all that is necessary to its comprehension by those skilled in the art.

In this drawing, the tank, which is designated A, is in the form of a sheet of metal a' creased in the middle into the form of a flattened V-shape, provided with suitable ends a^2 , and provided with marginal flanges consisting of angle-bars a^3 . At the bottom of the tank is the filling and drain-pipe B, which is divided into two branches b' and b^2 provided with valves b^3 and b^4 respectively, the branch b' being that through which the dipping solution is supplied to the tank, and the branch b^2 being a drain-pipe. The whole rests on the floor C of the mill, and upon longitudinal and transverse sills D and E or other suitable mounting. Bearing pedestals F are mounted at both sides of the tank to support the longitudinal

shafts f' carrying sprocket-wheels f^2 on which travel the carrying-chains G, one of said shafts f' being driven by a pulley f^3 . Longitudinally of the tank are mounted a pair of beams H which support the curved lumber-guides J, serving to guide the lumber I, and hold it depressed beneath the level of the solution in the tank, as shown.

At the infeed end of the tank is arranged a lumber-conveyer consisting of a set of lug-chains K running on sprocket-wheels k' mounted on a shaft k^2 , said conveyer delivering the lumber considerably above, and at a short distance from the delivery-end of the tank, as shown, in order that it may drop upon a set of loose chains L, which turn on sprocket-wheels M on a shaft m , and on other sprocket-wheels mounted on the shaft f' and hidden in the drawing by the sprocket-wheels f^2 ; said chains L rest upon bridge-beams N to support them against the impact of the lumber falling thereon, and guide the lumber by gravity into the tank. The purpose of so delivering the lumber is to shake off therefrom any adherent sawdust, which falls into the spout O and is conveyed to a suitable place of disposal. At the opposite end of the tank is an independent conveyer consisting of chains P, which travel on loose sprocket-wheels on the shaft f' , and receive the lumber from the chains G; below this chain is located a drip-pan Q, which by its backward inclination toward the tank receives any drippings from the lumber, and returns them to the tank, thus preventing unnecessary waste of solution.

At the bottom of the tank is mounted a steam-coil R, which serves to maintain the solution at the proper temperature.

Immediately over and upon the longitudinal beams H are mounted the by-pass frames S, said frames each comprising as shown in the drawing a suitable combination of angle or T-bars s' , s^2 latticed together by diagonals s^3 , and having connected to their ends bearing-blocks s^4 in which freely turn shafts T, said shafts carrying sprockets t' , on which are mounted loose-chains t^2 . As will be seen the forward shaft T is placed at a higher elevation than the rear shaft, thus giving the upper lap of the chain a downward inclination, whereby lumber delivered thereupon acts by gravity to turn the chains and travel along them to the lower side, from which they fall onto a set

of skids or bars U turning loosely on the shaft T as shown, said shafts or bars delivering the lumber to the conveyer P, and rising to permit any lumber from the dipping-tank to pass under them.

At the forward end is provided a movable bridge in the form of a set of skids V, which turn upon the shaft T, and may be keyed thereto; said skids bridging the interval between the conveyer K and the by-pass chains t^2 , and carrying lumber by gravity from one to the other. They are raised into the dotted-line position to permit lumber to pass into the dipping-tank by means of a rock-arm w' keyed to the shaft, and an operating treadle W which is connected thereto by an intermediate bell-crank lever w^2 and connecting-rods w^3 and w^4 as shown, whereby the lever being depressed into the dotted-line position the skids are raised as shown. Any other preferable arrangement may be adopted for raising the skids.

From the above description it will be readily seen that my invention is not limited to special forms and mechanical constructions such as I have hereinabove shown by way of illustration, but that the principles thereof are expressible in a variety of ways as will be well understood by those skilled in the art; therefore the scope of my claims is to be interpreted in view of such alternative constructions.

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

1. In a lumber-dipping apparatus, the combination of a tank, a conveyer adapted to convey lumber through said tank and means for driving same, said conveyer being independent of any means for conveying the lumber to or from said tank, a by-pass located over said tank and having means for conveying lumber across it, a conveyer adapted to convey lumber to said tank, and movable means for intercepting the lumber from said last-named conveyer and delivering it to said by-pass.

2. In a lumber-dipping apparatus, the combination of a tank, a conveyer adapted to convey lumber through said tank and means for driving same, said conveyer being independent of any means for conveying the lumber to or from said tank, a by-pass located over said tank and having means for conveying lumber across it, a conveyer adapted to convey lumber to said tank, movable means for intercepting the lumber from said last-named conveyer and deliver it to said by-pass, and a device adapted to be actuated at the will of the operator for shifting said movable means so as to direct the lumber through the tank or over the by-pass at will.

3. In a lumber-dipping apparatus, the combination of a dipping-tank, independent

means for conveying lumber through said tank and means for separately driving it, a set of bridge-beams at the delivery-end of said tank, and a conveyer adapted to deliver lumber and drop it from a distance above upon said bridge-beams, whereby the dust is shaken off said lumber before passing to said tank.

4. In a lumber-dipping apparatus, the combination of a tank, a conveyer limited to the tank and adapted to convey lumber through said tank and means for driving same, said conveyer being independent of the means for conveying the lumber to and from said tank, a by-pass located over said tank and having means for conveying lumber across it, a conveyer adapted to convey lumber to said tank, movable means adapted to intercept the lumber from said last-named conveyer and deliver it to said by-pass, a device adapted to be actuated at the will of the operator for shifting said movable means so as to direct the lumber through the tank or over the by-pass at will, and an independently driven conveyer adapted to receive lumber from said first-named conveyer as it rises from said tank and convey it away.

5. In a lumber-dipping apparatus, the combination of a tank, a conveyer disposed substantially within the confines of the tank and adapted to convey lumber through said tank and means for driving same, a by-pass located over said tank having means for conveying lumber across it, a conveyer adapted to convey lumber to said tank, movable means for intercepting the lumber from said last-named conveyer and deliver it to said by-pass, a device adapted to be actuated at the will of the operator for shifting said movable means so as to direct the lumber through the tank or over the by-pass at will, an independently driven conveyer adapted to receive lumber from said first-named conveyer as it rises from said tank and convey it away, and a backwardly inclined drainpan located under said last-named conveyer and adapted to deliver drippings from the lumber back into said tank.

6. In a lumber-dipping apparatus, the combination of a dipping-tank, an independent conveyer adapted to convey lumber therethrough and means for driving it, a by-pass frame located over said conveyer, shafts mounted at the ends of said frame and carrying wheels, parallel chains traveling on said wheels, the upper laps of said chains having a downward incline from front to back, an independent conveyer adapted to deliver lumber to a point higher than the infixed end of said last-named chains and at a distance therefrom, a movable bridge comprising pivoted skids extending across the interval between said chains and said last-named conveyer whereby lumber is con-

veyed from the latter to the former, and means for tilting said skids so as to permit lumber from said conveyer to be delivered to said tank.

5 7. In a lumber-dipping apparatus, the combination of a dipping-tank, an independent conveyer adapted to convey lumber there-
 10 through and means for driving it, a by-pass frame located over said conveyer, shafts
 15 mounted at the ends of said frame and carrying wheels, parallel chains traveling on said wheels, the upper laps of said chains having
 20 a downward incline from front to back, an independent conveyer adapted to deliver
 25 lumber to a point higher than the infeed-end of said last-named chains and at a distance therefrom, a movable bridge comprising
 30 pivoted skids extending across the interval between said chains and said last-named conveyer whereby lumber is conveyed from
 35 the latter to the former, means for tilting said skids so as to permit lumber from said conveyer to be delivered into said tank, an
 40 independently driven conveyer adapted to receive lumber from said first-named conveyer and carry it away from the tank, and
 45 a second movable bridge comprising skids loosely turning on the lower shaft of the by-pass adapted to carry lumber across the
 50 interval between said by-pass and said last-named conveyer.

8. In a lumber-dipping apparatus, the combination of a dipping-tank, an independent conveyer adapted to convey lumber
 35 therethrough and means for driving it, a by-pass frame located over said conveyer, shafts mounted at the ends of said frame and car-

rying wheels, parallel chains traveling on said wheels, the upper laps of said chains having a downward incline from front to back, an independent conveyer adapted to
 40 deliver lumber to a point higher than the infeed end of said last-named chains and at a distance therefrom, a movable bridge comprising pivoted skids extending across the
 45 interval between said chains and said last-named conveyer whereby lumber is conveyed from the latter to the former, a set of bridge-beams immediately below said movable
 50 bridge into which lumber is adapted to fall from said last-named conveyer, said beams being inclined downwardly toward said tank so as to deliver lumber thereinto, and means
 55 for tilting said movable bridge at the will of the operator, whereby to raise it out of the way of lumber and permit the latter to fall upon said bridge-beams.

9. In a lumber-dipping machine, the combination of a lumber-conveyer, a tank, a lumber by-pass, mechanism controllable at
 60 the will of the operator to direct the travel of the lumber from the conveyer through the tank, and means separate from said conveyer and in front of the entrance end to
 65 said tank for receiving the lumber from said conveyer for removing dust from said lumber before passing through the tank.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

WALTER C. TROUT.

Witnesses:

FRED GANN,
 ARTHUR DAY.