No. 720,985. PATENTED FEB. 17, 1903.

C. W. TALGE.

VENEER SAWING MACHINE.

APPLICATION FILED JULY 25, 1902.

NO MODEL. 2 SHEETS—SHEET 1.

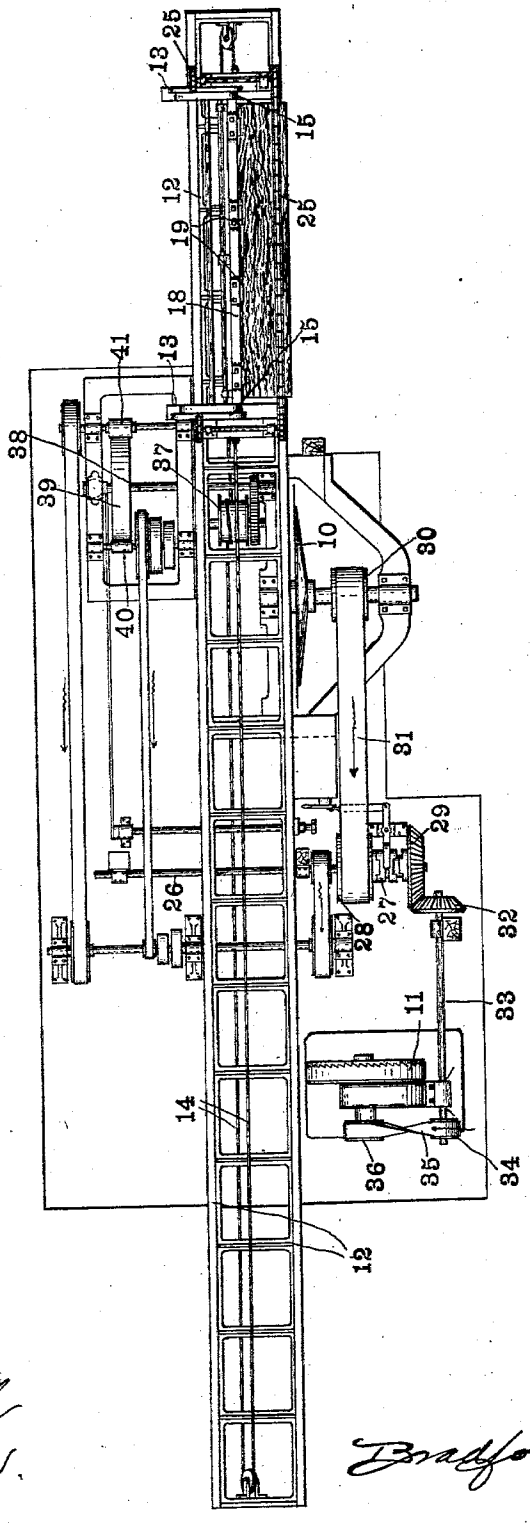

Fig. 1.

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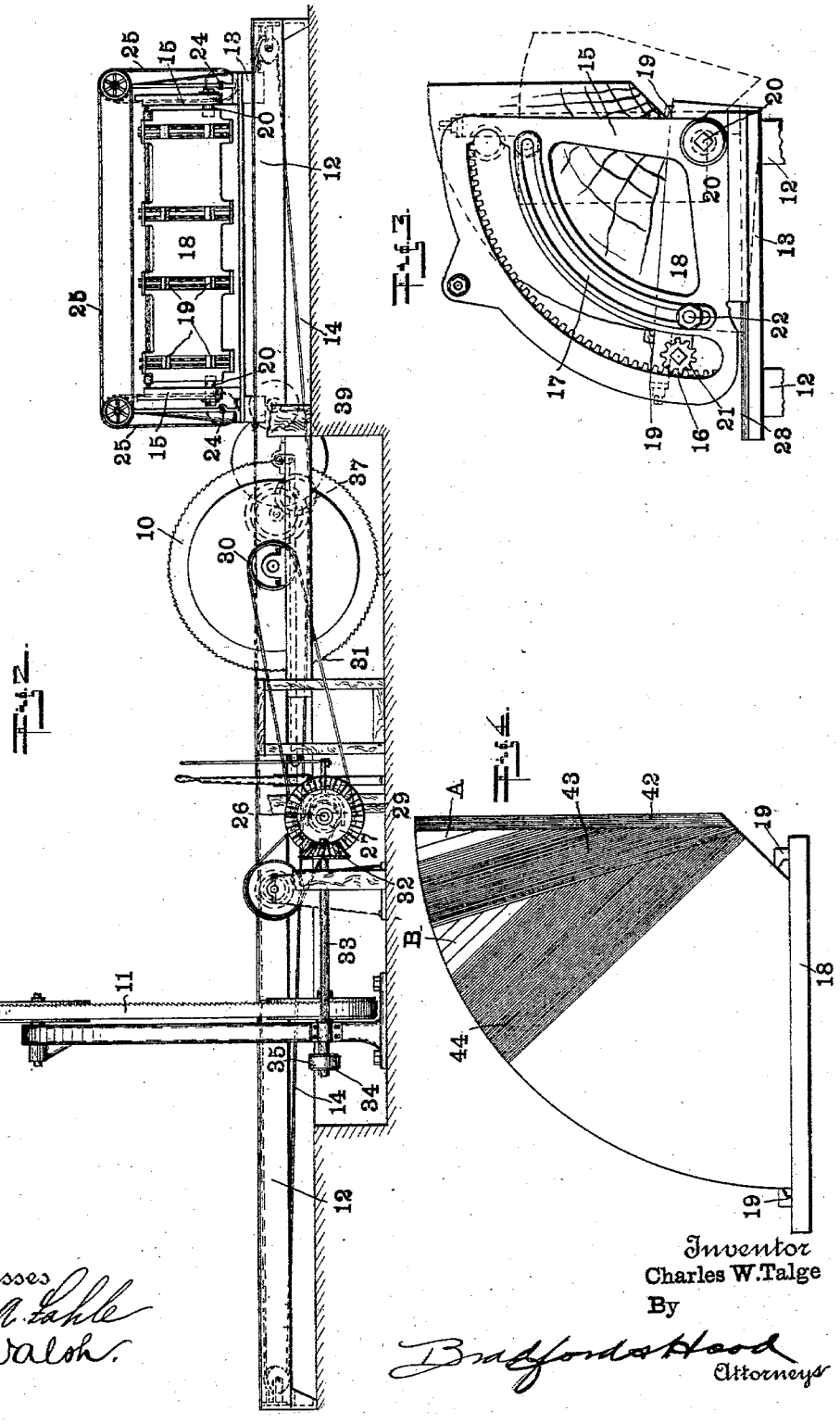

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UNITED STATES PATENT OFFICE.

CHARLES W. TALGE, OF INDIANAPOLIS, INDIANA.

VENEER-SAWING MACHINE.

SPECIFICATION forming part of Letters Patent No. 720,985, dated February 17, 1903.

Application filed July 25, 1902. Serial No. 116,894. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. TALGE, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Veneer-Sawing Machines, of which the following is a specification.

In the manufacture of quarter-sawed veneers it is usually customary to form from the log a flitch the width of which is a radial portion of the log, and economy of production compels the use of a flitch several inches in thickness. As a consequence only a comparatively small portion of the veneers cut from this flitch show the quartered figure of the wood to the greatest advantage, the best figure appearing in that veneer which most nearly approaches the true radius of the log. The flitch is usually secured to a stay-log rigidly supported upon a carriage, which is provided with means for moving it adjacent the saw, and in order to obtain good "figures" some sawyers "block up" one edge or the other of a flitch, changing the character of the "blocking" from time to time, so as to bring the radial lines of the flitch into the sawing plane. Such adjustment of the flitch takes much time, however, and makes the mill cost of the veneer too high for the average trade.

Recently it has been proposed to support the stay-log upon an axis near the lower edge thereof and parallel with the line of movement of the carriage, whereby the angle of the stay-log, and consequently the angle of the flitch secured to its face, might be varied with relation to the sawing plane, so that the flitch may be easily shifted with relation to the saw, and thus enable the sawyer to more nearly approach the radial lines of the flitch without disturbing the adjustment of the flitch upon the stay-log. When a flitch is supported upon such an adjustable stay-log, a change of angle of the stay-log results in the initial presentation of the upper corner only of the flitch, and consequently a triangular piece of greater or less thickness must be removed before the flitch is "squared" and a face of sufficient width produced parallel to the sawing plane from which commercial veneers can be sawed.

It is of course well known that a veneer-cutter is of such character that only veneers can be produced by its use, a veneer-saw consisting of a thick disk-like body, (very much thicker at its axis than at its periphery and the thickening lying on one side only of the cutting plane,) to the periphery of which is secured a narrow comparatively thin saw having very little set. The clearance of a veneer-saw depends, therefore, upon the transverse yield of the cut veneer over the thick body. A "lumber-saw," on the contrary, is provided with more "set" and is thickest at its cutting edge, so that it will clear itself, and is thus capable of cutting boards (as distinguished from veneers) of any thickness and cannot cut veneers because the set wastes too much stock.

The triangular piece of the flitch must in the ordinary veneer-mill be removed in successive veneers, which, because of their narrowness, become waste, which must be thrown away.

The object of my present invention is therefore to produce a veneer-machine consisting of a veneer-cutter, a lumber-saw capable of producing material of any desired thickness beyond veneers, a single carriage upon which is mounted a stay-log, the angle of which may be varied with relation to the cutting planes of the two cutters, whereby the angle of presentation of the flitch to the cutters may be varied at will without disturbing the adjustment of the flitch on the stay-log, and means for bringing the carriage into coöperative conjunction with either of the cutters, whereby after a sufficient number of veneers have been removed from a flitch the angle of said flitch with relation to the cutting planes of the cutters may be readjusted, the flitch then presented to the lumber-saw, which by one or more cuts may operate to quickly remove so much of the newly-presented corner of the flitch as will produce sufficient width for veneers, the operation of the lumber-saw being such as to produce from this otherwise wasted corner a product having commercial value, and thereafter presenting the flitch

again to the veneer-cutter, as many adjustments of the flitch and successive uses of the two cutters being had as may be desired to produce in the veneers the figure which may be desired.

The accompanying drawings illustrate my invention as applied to a veneer-sawing machine.

Figure 1 is a plan. Fig. 2 is an elevation. Fig. 3 is an end elevation of the stay-log and its supports on a slightly-enlarged scale; and Fig. 4 is an end view of a quarter-log flitch, showing my improved method of sawing.

In the drawings, 10 indicates a veneer-saw of usual construction, and 11 indicates the lumber-saw, which in the present case is shown as a band-mill, although it is to be distinctly understood that any form of saw capable of producing boards may be used without departing from my invention. The veneer-saw and the lumber-saw are located upon the same side of a carriage-way 12 and are spaced apart a distance slightly greater than the length of a log, which may be supported upon carriage 13, which carriage is mounted so as to reciprocate upon the ways 12, and suitable driving means—such, for instance, as the cable 14—is provided for that purpose.

In the drawings I have shown a carriage 13 of the general form commonly used in veneer-mills. At each end of this carriage, however, I provide a quadrant-standard 15, provided with a segmental rack 16 and groove 17. The stay-log 18, provided with the usual clamping-dogs 19, is pivotally supported upon trunnions 20 between the segmental standards 15 on an axis parallel to the line of movement of the carriage, and said stay-log may be adjusted about its trunnions by means of a pinion 21, meshing with rack 16 and held in any desired adjusted position by means of clamping-bolts 22, one passing through each of the slots 17. The segmental heads 15 are, as usual, mounted upon transverse ways 23 on the carriage 13, so that the stay-log as a whole may be adjusted transversely of the carriage toward and from the cutting planes of the saws by the usual adjusting-screws 24 and connecting-chains 25. Any suitable means may be used for driving the two saws 10 and 11. In the drawings I have shown a main driving-shaft 26, to which is keyed a clutch 27, adapted to engage a pulley 28 or a gear 29. Passing from pulley 28 to pulley 30 on the arbor of the veneer-saw is a suitable belt 31. Gear 29 is connected by a suitable gear 32, shaft 33, pulley 34, belt 35, and pulley 36 to the driving-arbor of the band-mill 11. It is to be understood that the particular driving connections for the two saws do not constitute the essence of my invention. The cable 14 may be driven by a drum 37, which is geared to a driving-shaft 38, carrying the friction-wheel 39, which wheel may be thrown into engagement with the forwarding friction-wheel 40 or the returning friction-wheel 41 in the usual manner.

In operation I find it entirely possible to use a quarter-log flitch such as is shown in Fig. 4. When such a flitch is used, the stay-log 18 will be thrown down into the position shown in Fig. 3 and the flitch, which has been previously properly treated in a usual manner, secured thereto. The carriage will then be adjusted toward the sawing plane of the veneer-saw 10 and a desired number of veneers 42 taken from the flitch. As soon as the figure begins to get small the operator will throw the free end of the stay-log up, so as to thus move the outer corner of the flitch toward the sawing planes. With the old style of saw it would then be necessary to remove a three-cornered piece A before a sufficient width could be obtained for commercial veneers, and this three-cornered piece would be removed by taking successive veneer slices, which because of their narrowness could not be utilized, and therefore must be thrown away. In my machine, however, as soon as the stay-log has been readjusted (the adjustment of the flitch upon the stay-log being undisturbed) the operator brings the carriage into coöperative conjunction with the band-mill 11, by means of which the entire corner A may be removed at one cut, or, if desired, this corner may be cut into desired thicknesses—say anywhere from one-half inch to two inches or more—to produce a product which may be commercially utilized. As soon as the three-cornered piece A has been removed to produce a desired width of face for the veneers the carriage is then returned to coöperative conjunction with the veneer-saw and a plurality of veneers 43 cut from the flitch. The stay-log is again readjusted, a three-cornered piece B removed by the saw 11, and more veneers 44 cut by the veneer-saw, &c., as many adjustments of the stay-log being made as may be necessary to produce the proper figure in veneers and the veneer-saw and lumber-saw being used in succession at each adjustment of the stay-log. By my mechanism I am not only enabled to prevent the waste of the three-cornered pieces A B, &c., but I also save very materially in time. These three-cornered pieces are necessarily several inches thick—say two inches at the least—and if twentieth veneers are being cut it would thus be necessary with the present machines to make approximately twenty cuts to bring the material down to a sufficient width of face for commercial veneering. In my machine, on the contrary, the three-cornered piece may be removed by a single cut, or, if inch stock is required, by two cuts, the saving in time and stock being thus very evident.

I claim as my invention—

1. In a veneer-cutting machine, the combination, with a flitch-holder, of means for cut-

ting a veneer from the flitch, a lumber-saw, means for adjusting the flitch-holder angularly and transversely with relation to the cutting planes, and means for bringing the flitch-holder into successive separate conjunction with the two cutters.

2. In a veneer-cutting machine, the combination, with a stay-log carriage and ways therefor, of a stay-log angularly adjustable upon the carriage on an axis substantially parallel with the line of movement thereof, a veneer-cutter, and a lumber-saw both arranged in conjunction with the carriage-ways, means for adjusting the stay-log transversely with relation to the cutting planes, and means for reciprocating the carriage upon its ways, whereby a flitch carried by the stay-log may be angularly and transversely adjusted with relation to the cutting planes of the two cutters and be brought into separate successive conjunction therewith.

3. In a veneer-sawing machine, the combination, with a stay-log carriage and ways therefor, of a stay-log angularly adjustable upon the carriage, a veneer-saw, and a lumber-saw both arranged in conjunction with the carriage-ways, means for adjusting the stay-log transversely with relation to the cutting planes of the two saws, and means for reciprocating the carriage upon its ways, whereby a flitch carried by the stay-log may be angularly and transversely adjusted with relation to the cutting planes of the two saws and be brought into separate successive conjunction therewith.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 23d day of July, A. D. 1902.

CHARLES W. TALGE. [L. S.]

Witnesses:

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JAMES A. WALSH.