

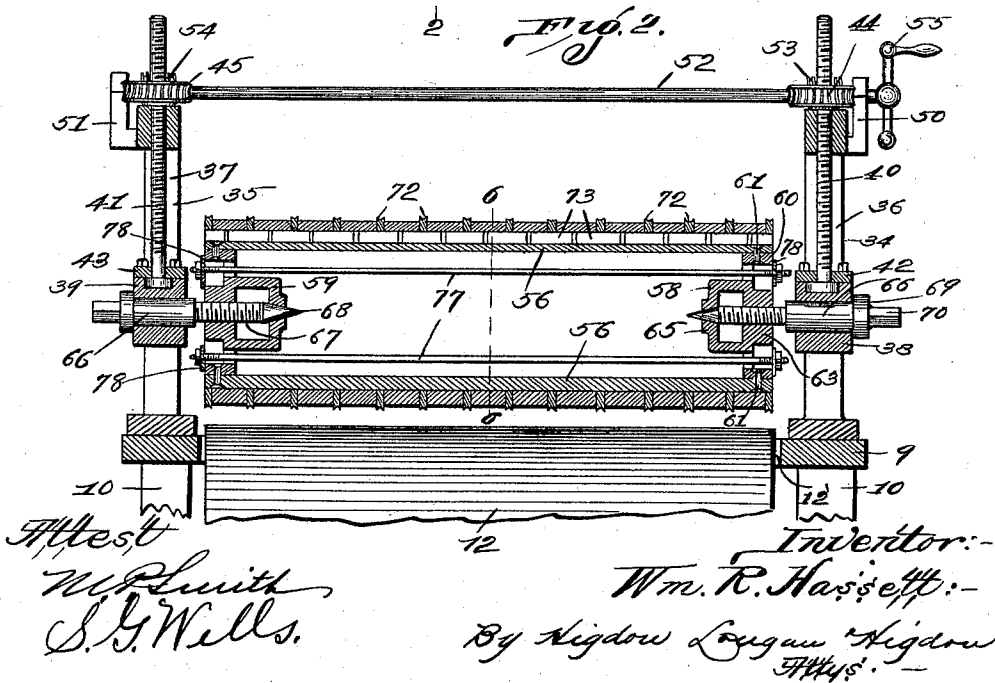
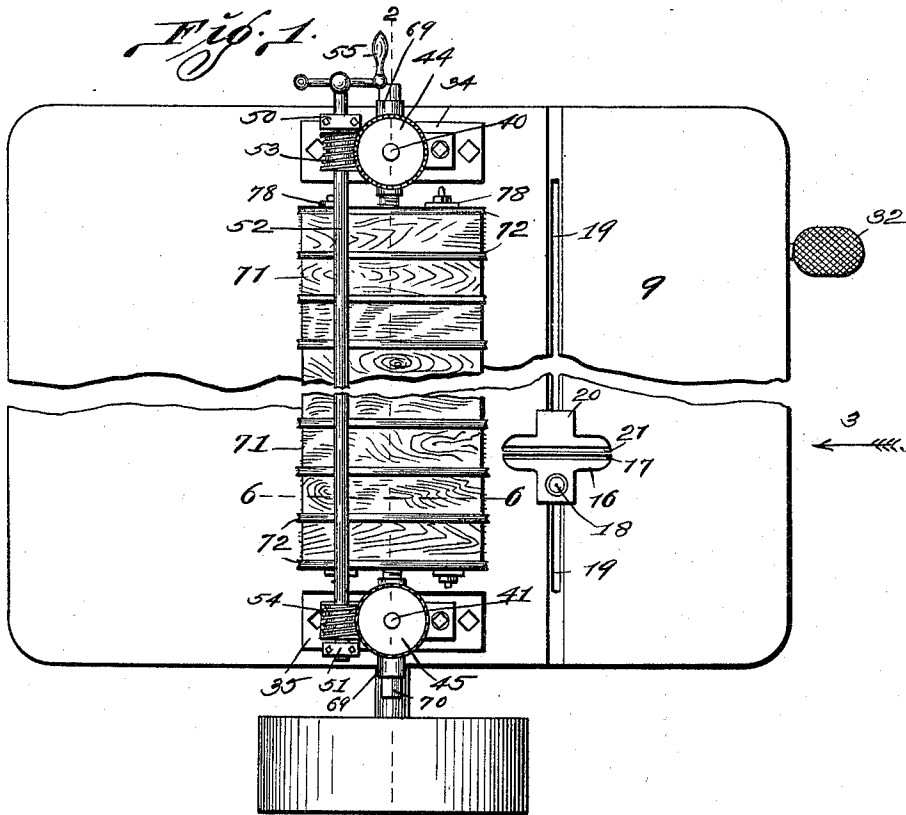
(No Model.)

2 Sheets—Sheet 1.

W. R. HASSETT.
WOOD GRAINING MACHINE.

No. 586,035.

Patented July 6, 1897.



Attest
W. R. Smith
S. G. Wells.

Inventor:-
Wm. R. Hassett:-
By Higdon Longan Higdon
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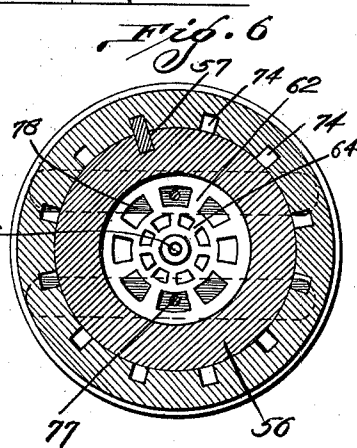
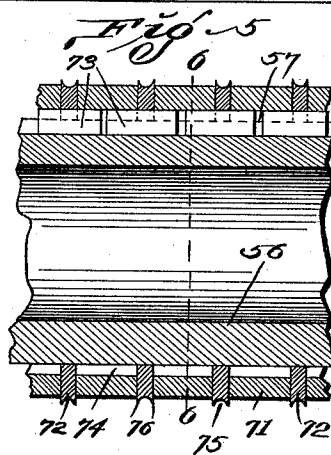
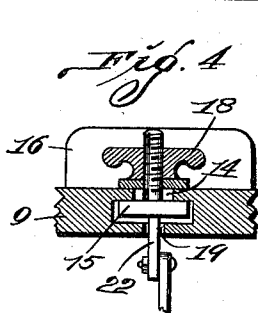
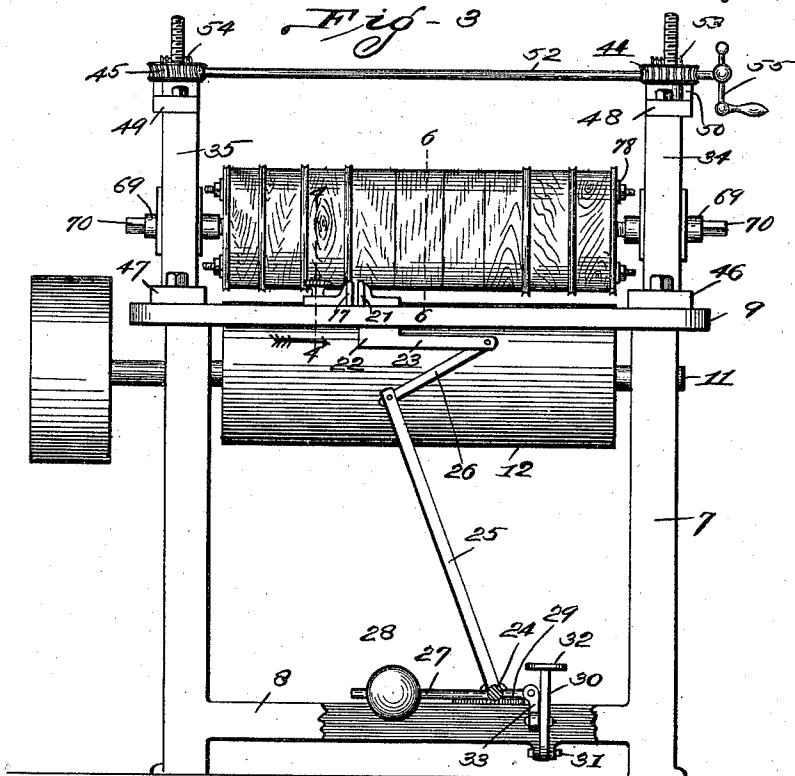
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2 Sheets—Sheet 2.

W. R. HASSETT.
WOOD GRAINING MACHINE.

No. 586,035.

Patented July 6, 1897.



Attest
W. R. Hassett
S. G. Wells

Inventor:-
William R. Hassett:-
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UNITED STATES PATENT OFFICE.

WILLIAM R. HASSETT, OF ST. LOUIS, MISSOURI, ASSIGNOR TO W. J. ALTHANS,
OF NEW YORK, N. Y.

WOOD-GRAINING MACHINE.

SPECIFICATION forming part of Letters Patent No. 586,035, dated July 6, 1897.

Application filed January 11, 1897. Serial No. 618,802. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM R. HASSETT, of the city of St. Louis, State of Missouri, have invented certain new and useful Improvements in Wood-Graining Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to wood-graining machines; and it consists in the novel construction, combination, and arrangement of parts hereinafter shown, described, and claimed.

Figure 1 is a top plan view of a wood-graining machine constructed in accordance with the principles of my invention, the same being broken away through the center to economize space. Fig. 2 is a vertical sectional view taken approximately on the line 2 2 of Fig. 1, the lower or supporting frame not being shown. Fig. 3 is a rear end elevation of the machine and taken looking in the direction indicated by the arrow 3 in Fig. 1. Fig. 4 is a vertical sectional view taken approximately on the line 4 4 of Fig. 3 and looking in the direction indicated by the arrow 4. Fig. 5 is an enlarged detail sectional view of a portion of the graining-cylinder and analogous to the view shown in Fig. 2. Fig. 6 is a transverse sectional view of the graining-cylinder and taken on the lines 6 6 of Figs. 1, 2, 3, and 5.

In the construction of a wood-graining machine in accordance with the principles of my invention I employ a base or supporting-frame consisting of four of the posts 7, having their lower ends tied together by the cross-bars 8, and the plate 9 rests upon and connects the upper ends of said posts, thus forming a table. The bearing-blocks 10 are attached to the under side of the plate 9 in transverse alinement with the center of said plate, and the shaft 11, carrying the drum 12, is mounted in said bearing-blocks 10. An opening 12' is formed through the plate 9 in alinement with the bearing-blocks 10, and the drum 12 projects upwardly through said opening to a point slightly above the upper face of said plate 9. Upon one end of the shaft 11 is a belt wheel or pulley 13 for operating the drum 12. A T-slot 14 is formed in the plate from its upper face and extends

transversely of said plate in a line parallel with the shaft 11. The bolt 15 is placed in position with its head in the slot 14 and its screw-threaded portion projecting upwardly from the plate 9, and the gage 16 is placed upon the plate 9, with its straight edge 17 transversely of and at right angles to the slot 14 and with the bolt 15 extending through said gage. A hand-wheel 18 is placed upon the bolt 15 and above the gage 16 and is operated to set and hold the gage in the desired position. An opening 19 is formed through the plate 9 from the bottom of the T-slot 14, and said opening 19 is slightly longer than the graining-cylinder, but it does not extend entirely across said plate 9.

The yielding gage 20 is placed in position upon the plate 9, with its straight edge 21 in opposition to the straight edge 17, and the arm 22 extends downwardly from said gage 20 to the slot 19 and the arm 23 extends laterally from the lower end of said arm 22. A rock-shaft 24 is mounted in the bearings attached to the cross-bars 8 and in position transversely of the shaft 11, and an arm 25 extends upwardly from said rock-shaft 24 to a point slightly below the arm 23 and a connecting-rod 26 connects the upper end of said arm 25 with the free end of the arm 23. An arm 27 is attached to the rock-shaft 24 and extends toward the right in a substantially horizontal position and at angle of about sixty degrees relative to the arm 25, and the weight 28 is adjustably mounted upon the free end of said arm 27. An arm 29 extends from the rock-shaft 24 in a direction opposite to the arm 27. A treadle or foot-lever 30 is pivotally attached to one of the cross-bars 8 by means of a bolt 31, passing through ears which project downwardly from said cross-bars and through the end of said lever 30, which is opposite the step 32, and a connecting-rod 33 connects the free end of the arm 29 with a point upon the lever 30 intermediate of its ends. When the step 32 is depressed, the weight 28 will be elevated and the sliding gage 20 will move away from the gage 16. When the pressure upon the step 32 is removed, the weight 28 will move the gage 20 toward the gage 16 with yielding pressure.

Posts 34 and 35 are mounted upon the plate

9, and vertically-extending openings 36 and 37 are formed in said posts, and the sliding bearing-blocks 38 and 39 operate in said openings. The bearing-blocks 38 and 39 are in
 5 alinement with the shaft 11. Circular recesses are formed in the upper sides of said bearing-blocks 38 and 39 to receive the circular heads of the adjusting-screws 40 and 41. The plates 42 and 43 have apertures
 10 formed in their centers, through which the adjusting-screws are inserted, and said plates are attached to the upper sides of the bearing-blocks 38 and 39 by means of lag-screws. The adjusting-screws 40 and 41 extend up-
 15 wardly from the bearings 38 and 39 through vertical openings in the upper ends of the posts 34 and 35, and the worm-gears 44 and 45 are screw-seated upon the upper ends of said adjusting-screws, with their lower sides
 20 resting upon the upper ends of the posts, as required, to operate as nuts upon the adjusting-screws to raise and lower the bearing-blocks 38 and 39.

In constructing the posts 34 and 35 the
 25 arms formed by the openings 36 and 37 are formed integral with the bases 46 and 47 of said posts, and the upper ends of said arms are connected by the caps 48 and 49, which caps are held in position by means of lag-
 30 screws. The arms 50 and 51 project outwardly, then backwardly and upwardly from said caps, and in the upper ends of said arms 50 and 51 are formed bearings in which is mounted the shaft 52, which shaft is in a po-
 35 sition parallel with the shaft 11, and the worms 53 and 54 are fixed upon said shaft 52 in position to mesh with the worm-gears 44 and 45. Upon one end of the shaft 52 is an operating-crank 55. When the crank 55 is
 40 operated to rotate the shaft 52, the worm-gears 44 and 45 are operated simultaneously to raise or lower the bearing-blocks 38 and 39.

The graining-cylinder operates between the bearing-blocks 38 and 39, and the position
 45 of said cylinder is adjusted and determined by the position of said bearing-blocks, and said graining-cylinder is in alinement with and opposition to the drum or cylinder 12. In the construction of the graining-cylinder,
 50 I employ the hollow cast drum 56, in the periphery of which is formed key-seats 57, extending the entire length of the drum. The spiders 58 and 59 are fixed in the ends of said drum and each of said spiders consists of the
 55 ring 60, which ring fits closely within the end of the drum and is secured in position by means of the rivets 61, which rivets are inserted through said ring and through said drum. Extending inwardly from the inner
 60 edges of the ring 60 are arms 62, and the inner ends of said arms 62 are joined to the edge of the circular block 63. The arms 64 extend inwardly from the edge of the block 63, and the circular block 65 is joined to the
 65 inner ends of said arms 64 and in a position parallel and in alinement with the block 63. A screw-threaded opening is formed horizon-

tally through the center of each of the blocks 63, and a flaring opening is formed through the center of each of the blocks 65 in aline-
 70 ment with said screw-threaded openings.

The spindles 66 operate in the bearing-blocks 38 and 39 and have screw-threaded portions 67 extending inwardly and screw-seated in the circular blocks 63. The inner ends 68 of
 75 said spindles are conical and fit closely within the flaring openings in the circular blocks 65. The collars 69 are formed upon the spindles 66 and operate against the outer faces of the bearing-blocks 38 and 39, and the extreme
 80 outer ends 70 of said spindles are squared to receive a wrench for inserting said spindles in position or remove them from position. The graining-surface of the cylinder is made up of a series of the rings 71 and 72, which
 85 rings fit closely upon the drum 56 and are held in position by means of the keys 73, which keys are inserted in the key-slot 57 of the drum 56 and in internal key-seats 74, formed in said rings. Fine screw-threads
 90 are formed in the peripheries of the rings 71 and then portions of said screw-threads are cut away to form the desired graining design. An annular concavity 75 is formed in each of the rings 72, thus producing the edges 76
 95 on said rings, which edges project beyond the peripheries of the rings 71 and are designed to cut beads in the boards which pass through the machine.

In making the graining-rings 71 I prefer
 100 to form a series of the internal key-seats 74 in each ring in order that the positions of the rings relative to each other upon the drum 56 may be readily changed, as required to change the graining design. The rods 77 are insert-
 105 ed through openings between the arms 62 and through the drum 56, and the screw-threaded ends of said rods project beyond the ends of said drum.

Clamps 78 have apertures in their centers, through which said screw-threaded ends of
 110 said rods are inserted, and said clamps are of such a length that their ends will engage the end faces of the rings 71 or 72, as indicated in dotted lines in Fig. 6. Nuts are placed
 115 upon the outer ends of said rods and against the outer faces of said clamps, as required to hold said clamps adjustably, removably, and firmly in position, thus holding said rings se-
 120 curely in position upon the drum 56.

When it is desired to change the positions of the rings 71 relative to each other in order to change the graining design, the clamps 78 are removed and the rings may then be spread
 125 apart upon the drum 56, the keys holding the ring which it is desired to move may be removed from their positions, and then said ring may be turned upon the drum 56 to any desired position and the keys replaced, the
 130 rings crowded together, and the clamps replaced. The keys 73 are made in short sections in order that one ring may be moved without disturbing the other rings. The rings 71 may be made in any desired width and are

interchangeable. When it is desired to remove one set of rings and substitute another set, the spindles 66 are removed from the circular blocks 63 and the graining-cylinder 5 may then be readily removed from its position between the blocks 38 and 39, and the rings may be taken off and others substituted, as desired.

In making up the graining-cylinder the 10 beading-rings 72 may be omitted or any desired number of said rings may be used. When the machine is ready to operate and it is desired to feed a board between the cylinders, the gage 16 is set in position upon the 15 plate 9 to feed one edge of the board to a desired point upon the graining-cylinder. The operator then depresses the step 32, thus moving the gage 20 away from the gage 16, and the board is placed in position with one 20 of its edges against said gage 16. The operator then releases the step 32 and the weight 28 causes the gage 20 to press yieldingly against the opposite end of the board from the gage 16 and hold said board in position 25 and cause it to run through the machine in a straight line.

I claim—

1. In a wood-graining machine, the cylinder consisting of the hollow cast drum 56 having the key-seat 57 formed in its periphery 30 and extending from end to end, the spiders 58 and 59 fixed in the ends of said drum, the spindles 66 removably screw-seated in said spiders, the rings 71 and 72 mounted upon 35 said drum and having internal key-seats, and the keys 73 inserted in said key-seat 57 and engaging in said internal key-seats of said rings 71 and 72, there being one of said keys 73 for each of said rings 71, as required to allow said rings 71 to be adjusted independently of each other around said drum, substantially as specified. 40

2. In a wood-graining machine, the hollow cast drum 56, the spiders 58 and 59 fixed in 45 the ends of said drum; each of said spiders consisting of the ring 60 fitting closely within

the end of said drum, the arms 62 extending inwardly from the inner edge of said ring 60, the circular block 63 fixed to the inner ends of said arms 62, the arms 64 extending inwardly from the edge of the block 63, the circular block 65 joined to the inner ends of said arms 64 in position parallel and in alinement with the block 63, said block 63 having a screw-threaded opening formed horizontally 50 through its center, and said block 65 having a flaring opening formed through its center in alinement with said screw-threaded opening through said block 63; the spindles 66 screw-seated in the circular blocks 63 and having conical inner ends fitting in the flaring openings in said blocks 65, substantially as specified. 60

3. In a wood-graining machine, a suitable frame, the plate 9 mounted in a horizontal 65 position upon said frame, said plate having a T-slot 14 formed from its upper face and extending across said plate in a line transversely of the machine, and having the opening 19 communicating with said T-slot, the gage 16 70 slidably and adjustably mounted in said T-slot, the yielding gage 20 mounted in opposition to said gage 16, the arm 22 extending downwardly from said gage 20 through the opening 19, the arm 23 extending laterally 75 from the lower end of said arm 22, the rock-shaft 24 mounted below said plate and in position transversely of said opening 19, the arm 24 extending upwardly from said rock-shaft, the connecting-rod 26 connecting the 80 upper end of said arm 25 with the free end of said arm 23, the arm 27 attached to said rock-shaft 24 and carrying a weight upon its free end, and means of operating said rock-shaft, substantially as specified. 85

In testimony whereof I affix my signature in presence of two witnesses.

W. R. HASSETT.

Witnesses:

MAUD GRIFFIN,
S. G. WELLS.