No. 686,547. Patented Nov. 12, 1901.

# C. SEYMOUR.

## AUTOMATIC WHEEL RIM FINISHING MACHINE.

(Application filed May 22, 1901.)

(No Model.) 5 Sheets—Sheet 1.

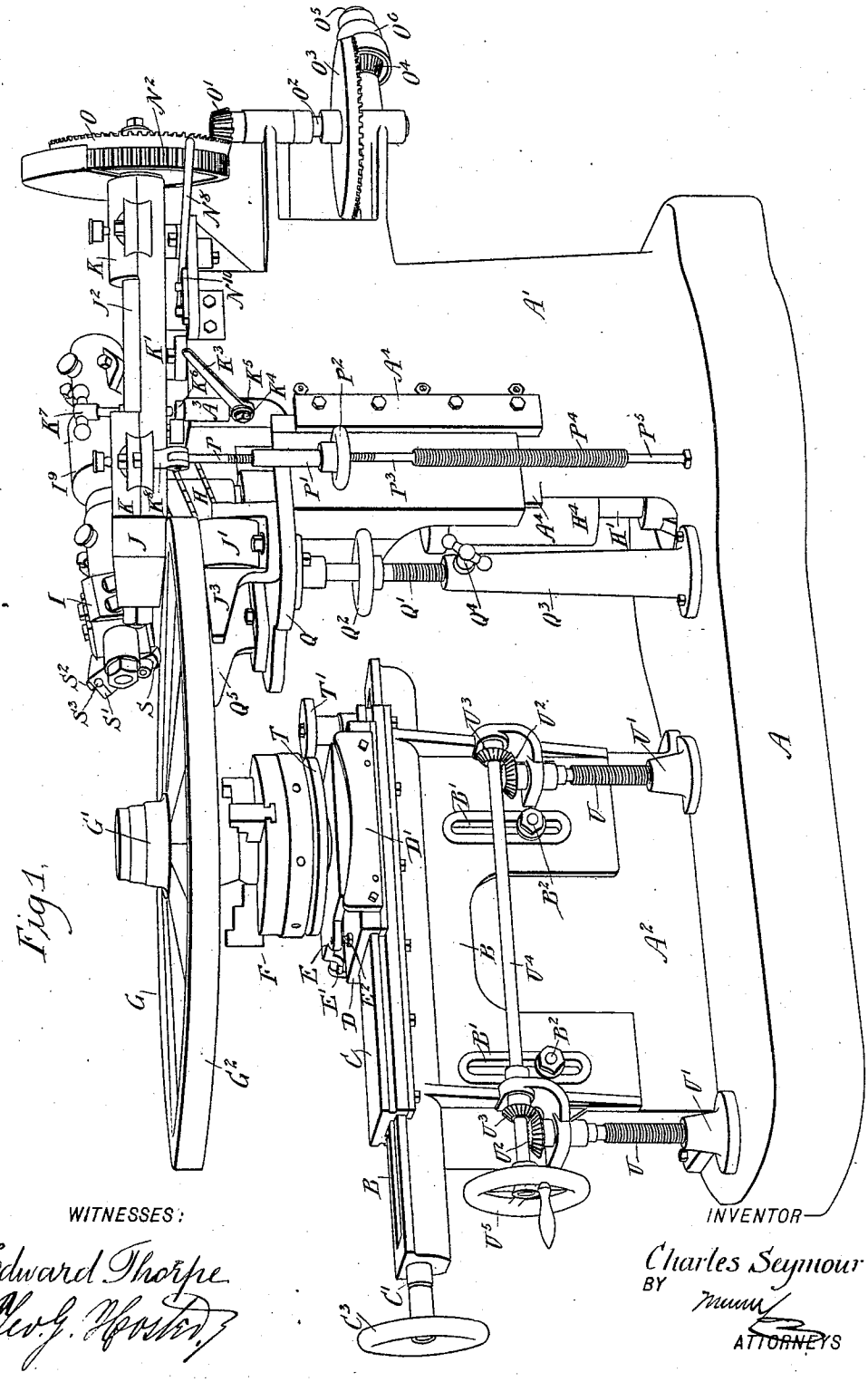


Fig. 1.

WITNESSES:

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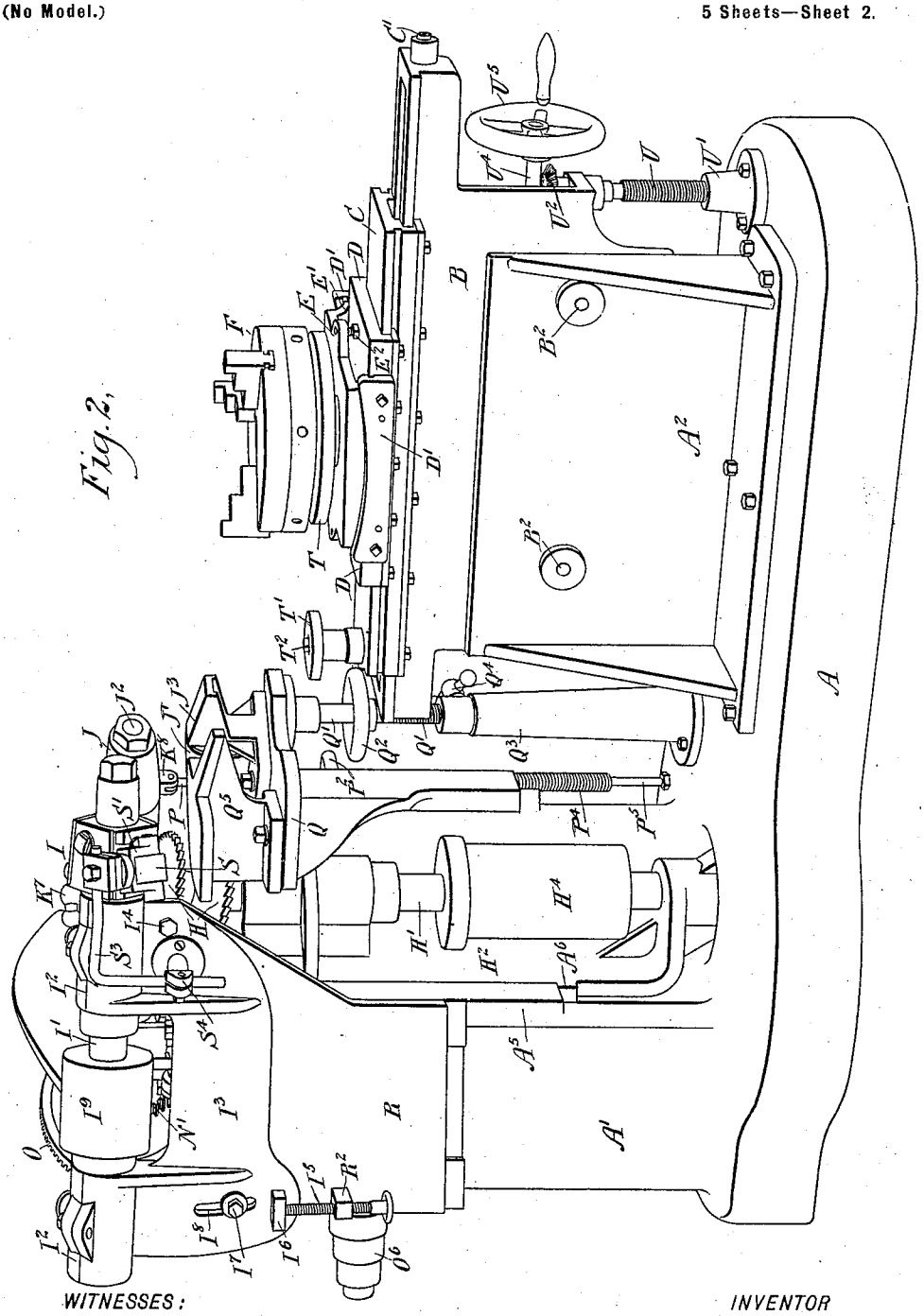
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AUTOMATIC WHEEL RIM FINISHING MACHINE.

(Application filed May 22, 1901.)

(No Model.) 5 Sheets—Sheet 2.

Fig. 2.



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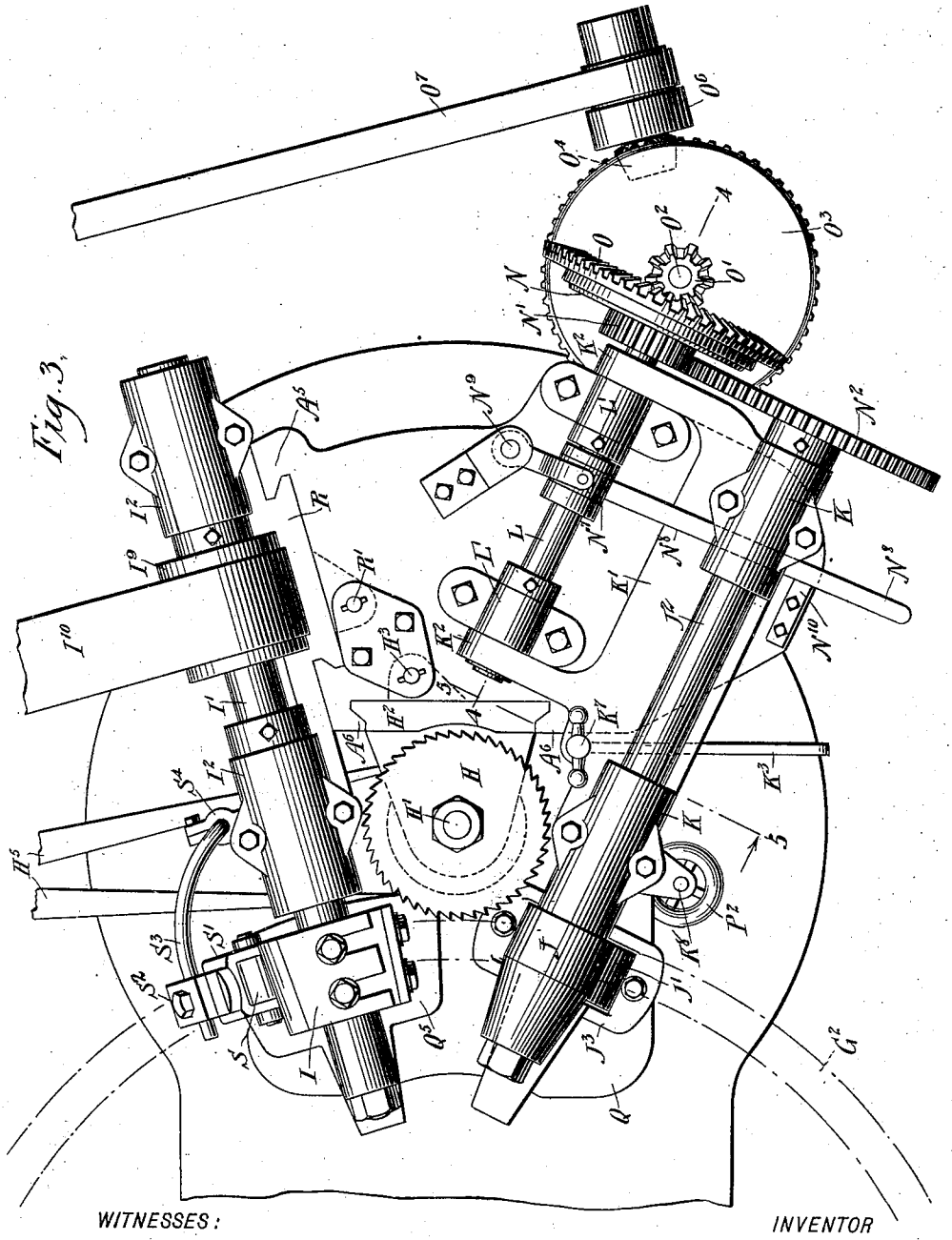
# C. SEYMOUR.

## AUTOMATIC WHEEL RIM FINISHING MACHINE.

(Application filed May 22, 1901.)

(No Model.) 5 Sheets—Sheet 3.

Fig. 3.



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AUTOMATIC WHEEL RIM FINISHING MACHINE.

(Application filed May 22, 1901.)

(No Model.) 5 Sheets—Sheet 4.

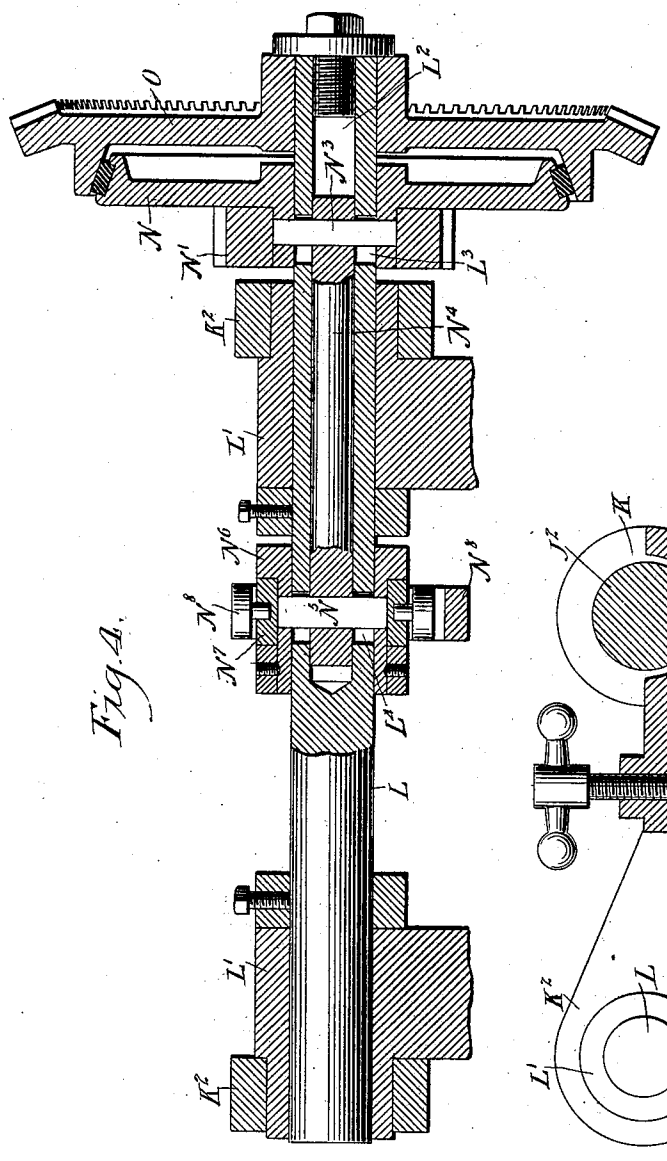


Fig. 4.

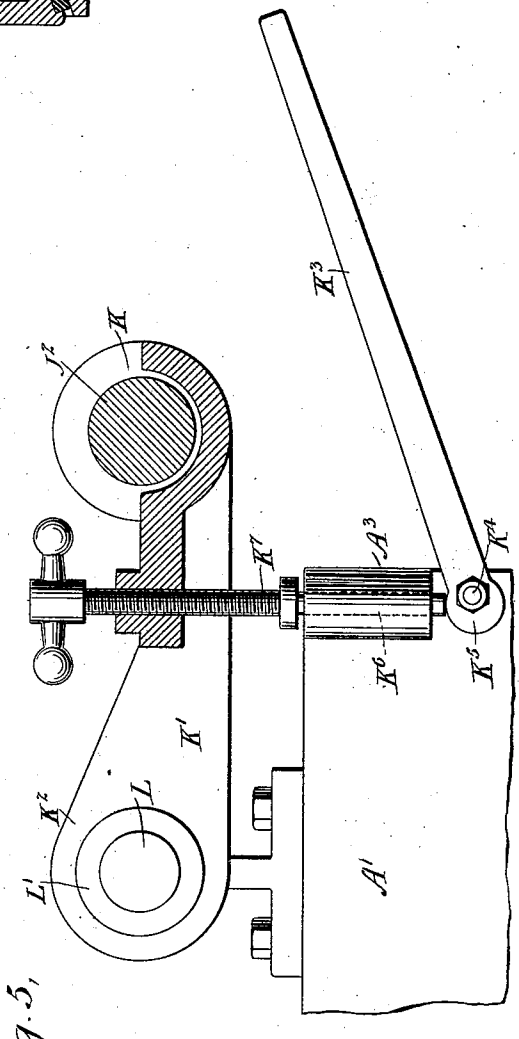


Fig. 5.

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AUTOMATIC WHEEL RIM FINISHING MACHINE.

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(No Model.) 5 Sheets—Sheet 5.

Fig. 6.

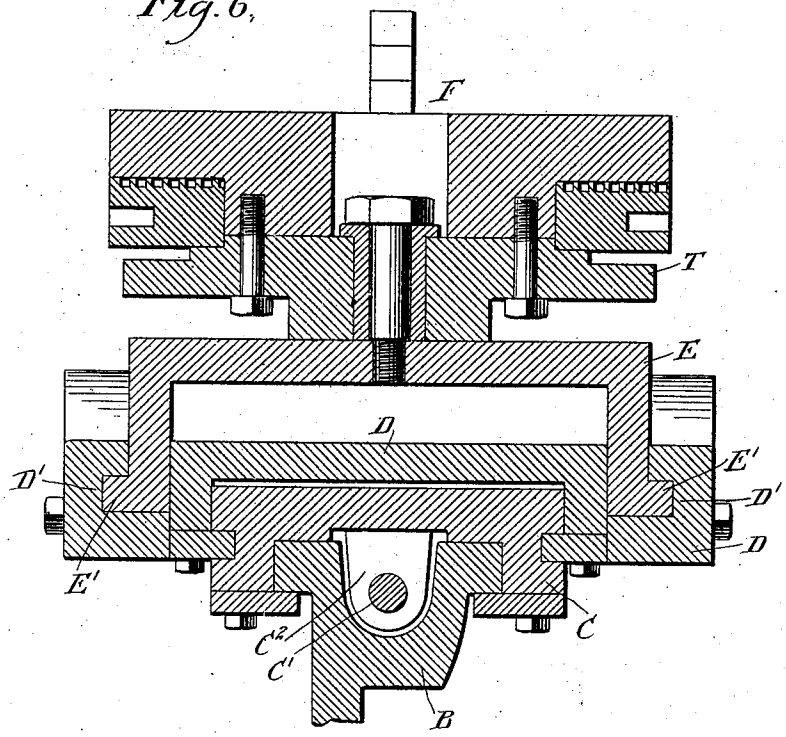
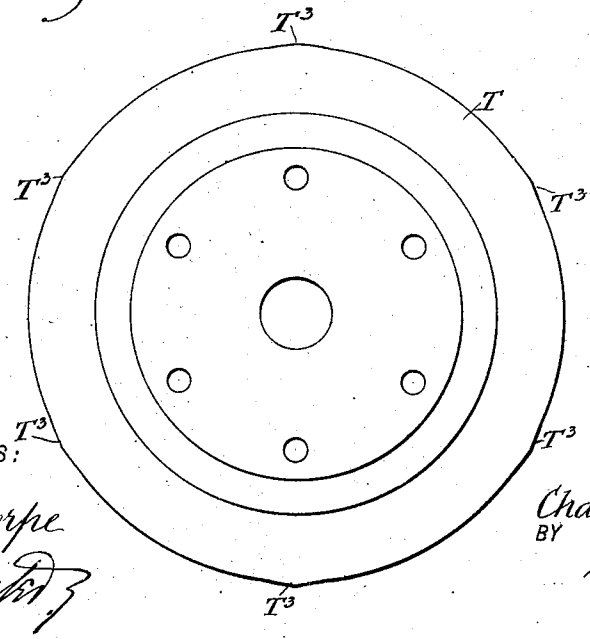



Fig. 7.




WITNESSES:

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# UNITED STATES PATENT OFFICE.

CHARLES SEYMOUR, OF DEFIANCE, OHIO, ASSIGNOR TO THE DEFIANCE MACHINE WORKS, OF DEFIANCE, OHIO, A CORPORATION OF OHIO.

## AUTOMATIC WHEEL-RIM-FINISHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 686,547, dated November 12, 1901.

Application filed May 22, 1901. Serial No. 61,406. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES SEYMOUR, a citizen of the United States, and a resident of Defiance, in the county of Defiance and State of Ohio, have invented a new and Improved Automatic Wheel-Rim-Finishing Machine, of which the following is a full, clear, and exact description.

The invention relates to woodworking-machines; and its object is to provide a new and improved automatic wheel-rim-finishing machine more especially designed for the use of wagon and wheel manufacturers and arranged to dress the tread of the wheel very true and accurate relatively to the hub and to plane the sides of the rim either straight or to a bevel, leaving the rim perfectly smooth, so as to require no further hand labor for finishing the wheel-rim.

The invention consists of novel features and parts and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in 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 front perspective view of the improvement with the wheel in position. Fig. 2 is a rear perspective view of the same with the wheel omitted. Fig. 3 is an enlarged plan view of the feeding, dressing, and driving devices. Fig. 4 is an enlarged sectional side elevation of the driving-gear for the feed mechanism, the section being on the line 4 4 in Fig. 3. Fig. 5 is an enlarged transverse section of part of the same, the section being on the line 5 5 in Fig. 3. Fig. 6 is an enlarged transverse section of the wheel-hub-supporting chuck, carriage, and bed; and Fig. 7 is a plan view of the cam-wheel for lifting the fellies at the joints high on the tread.

The improved machine is mounted on a frame having a base A and columns A' $A^2$, of which the column A' supports the feeding, dressing, and driving devices, and the column $A^2$ carries a vertically-adjustable bed B, on which is held to slide longitudinally a carriage C, on which is mounted to slide loosely in a longitudinal direction a slide D, adjustably supporting a carrier E, on which is mounted to turn loosely a chuck F, engaging the hub G' of a wheel G, the rim $G^2$ of which is to be dressed at the tread by wabble-saws H and at the sides by a cutter-head I.

The feeding device for rotating the wheel G and drawing the same bodily to the wabble-saws H and cutter-head I consists, essentially, of feed-rolls J J', located one above the other and engaging the sides of the rim $G^2$, the axes of said feed-rolls J J' standing in a vertical plane tangential to the center of the wheel G, so that when the feeding device is in action and the roll J or both the rolls J J' are rotated then the peripheral faces of the rolls engaging the sides of the rim $G^2$ impart a rotary motion to the wheel and at the same time draw the wheel toward the wabble-saws H, located adjacent to the feed-rolls, as shown in Fig. 3. It is understood that this bodily movement of the wheel G is possible, as the chuck F, engaging the hub G' of the wheel, is mounted to turn on the carrier E, adjustably mounted in the slide D, having free longitudinal movement on the carriage C.

The feed-roll J, engaging the top of the rim $G^2$, is secured on a shaft $J^2$, journaled in suitable bearings secured to or formed on an arm K', having eyes $K^2$, mounted to swing on bearings L', attached to the top of the column A' and engaged by a shaft L, on which is mounted to turn and to slide a friction-clutch N, adapted to be thrown in mesh with the friction-surface of a bevel gear-wheel O (see Fig. 4) in mesh with a pinion O', secured on the upper end of a vertical shaft $O^2$, journaled in suitable bearings carried by the column A'. On the shaft $O^2$ is secured a bevel gear-wheel $O^3$ in mesh with a pinion $O^4$ on a driven shaft $O^5$, having step-pulleys $O^6$, over which passes a belt $O^7$, connected with other machinery for imparting a rotary motion to the shaft $O^5$ to cause the pinion $O^4$ to rotate the gear-wheel $O^3$ and the shaft $O^2$. The rotary motion of the latter is transmitted by the pinion O' to the gear-wheel O, mounted to turn loosely on the outer end of the shaft L, and which gear-wheel imparts a rotary motion to the clutch N whenever the latter is thrown in mesh with the friction-surface of said bevel gear-wheel O. A pin-

ion N′ is secured to the clutch N and is in mesh with a bevel gear-wheel $N^2$ on the shaft $J^2$, so that when the clutch N is rotated from the gear-wheel O then the pinion N′ rotates the gear-wheel $N^2$, the shaft $J^2$, and the feed-roll J to rotate the wheel G and to turn the same toward the wabble-saws H, as previously explained.

The friction-clutch N is under the control of an attendant, and for this purpose the hub of said clutch-wheel is provided with a diametrical pin $N^3$, engaging a rod $N^4$, extending loosely in a bore $L^2$ of the shaft L, said pin $N^3$ extending through elongated slots $L^3$ in said shaft L. (See Fig. 4.) The rod $N^4$ is provided with a second pin $N^5$, extending through elongated slots $L^4$ in the shaft L, said pin being secured at its ends in a sleeve $N^6$, having a shifting collar $N^7$, engaged by a shifting lever $N^8$, fulcrumed at $N^9$ on the top of the column A′ and extending to the front of the machine, so as to be within convenient reach of the attendant of the machine. When the attendant moves the shifting lever $N^8$ from the left to the right, then the sleeve $N^6$ is moved in a like direction and the pin $N^5$ imparts movement to the right to the rod $N^4$, so that the pin $N^3$ shifts the clutch N in a like direction and in frictional engagement with the gear-wheel O. The rotary motion of the latter is now transmitted to the clutch N, and the pinion N′ thereof rotates the gear-wheel $N^2$, the shaft $J^2$, and the feed-roll J, as previously explained. When it is desired to stop the rotation of the roll J, then the attendant swings the lever $N^8$ to the left away from a stop-block $N^{10}$ and throws the friction-clutch N out of mesh with the gear-wheel O, so that further rotation of the said friction-clutch N, the pinion N′, gear-wheel $N^2$, shaft $J^2$, and feed-roll J ceases. When it is desired to temporarily throw the feed-roll J out of engagement with the top of the rim $G^2$, then the attendant swings the arm K upward by pressing the lever $K^3$ downward, said lever $K^3$ being fulcrumed at $K^4$ on the column A′ and formed at its fulcrum end with a cam $K^5$, engaging the lower end of a pin $K^6$, mounted to slide vertically in a bearing $A^5$, formed on the column A′. (See Fig. 5.) The head of the pin $K^6$ forms a rest or stop for the lower end of a screw-rod $K^7$, screwing in the arm K, so that the downward swinging movement of the arm K′, shaft $J^2$, and feed-roll J can be regulated according to the width of the rim $G^2$ under treatment. When the lever $K^3$ is swung downward, the cam $K^5$ lifts the pin $K^6$ and the screw-rod $K^7$, and thereby imparts an upward swinging motion to the arm K′ to lift the feed-roll J from the top of the rim $G^2$.

In order to hold the feed-roll J in firm frictional contact with the top of the rim $G^2$, the arm K′ is provided with a depending eye $K^8$, (see Fig. 1,) connected with a screw-rod P, screwing in the hub P′ of a hand-wheel $P^2$ under the control of the attendant and connected by a rod $P^3$ with a spring $P^4$, secured by a rod $P^5$ to the base A, the tension of the spring $P^4$ being adjusted to the desired degree by the attendant turning the hand-wheel $P^2$, so as to screw the hub P′ up or down on the rod P, and thereby put the spring $P^4$ under the desired tension.

The friction-roll J′ is journaled in a bearing $J^3$, secured to a table Q, mounted to slide vertically in guideways $A^4$, arranged on the column A′, said table being provided at its under side with a screw-rod Q′, having a hand-wheel $Q^2$ under the control of the attendant, the said screw-rod being mounted to turn loosely in bearings on the table and screwing in a nut $Q^3$, bolted to the base A. A set-screw $Q^4$ serves to lock the screw-rod Q′ in the nut $Q^3$ after the table Q has been adjusted vertically to bring the top of the feed-roll J′ in engagement with the lower side of the rim $G^2$ of the wheel under treatment. The table Q is provided with a supplementary table $Q^5$, located directly below the cutter-head I to prevent the rim from wabbling while the cutter-head is in action and to press the top of the rim $G^2$.

The cutter-head I is of any approved construction and is secured on a spindle I′, journaled in bearings $I^2$, formed on or attached to a hanger $I^3$, fulcrumed at $I^4$ on a saddle R, vertically adjustable on guideways $A^5$, arranged at the rear of the column A′, as is plainly shown in Fig. 2. A suitable screw-rod R′ serves to adjust the saddle R vertically on the guideway $A^5$ to bring the cutter-head I in proper relation to the rim $G^2$. When facing rims having straight sides, the spindle I′ is disposed horizontally; but when it is desired to bevel the sides of the rim then the spindle I′ is thrown in an angular position, and for this purpose the hanger $I^3$ is pivoted on the saddle R and can be swung up or down, so as to bring the spindle I′ into the desired angular position. For this purpose a screw-rod $I^5$ engages a lug $I^6$ on the hanger $I^3$, said screw-rod being mounted to turn in a nut $R^2$, formed or secured at the rear saddle R. (See Fig. 2.) By the attendant turning the screw-rod $I^5$ the hanger $I^3$ is swung up or down, according to the direction in which the screw-rod $I^5$ is turned, so as to give the spindle I′ and the cutter-head I the desired inclination to cut the side of the rim $G^2$ to a bevel. After the hanger $I^3$ is adjusted, as described, then it is fastened in place on the saddle R by a bolt $I^7$, extending through a segmental slot $I^8$ in the hanger $I^3$. (See Fig. 2.)

On the spindle I′ is secured a pulley $I^9$, connected by a belt $I^{10}$ with other suitable machinery for imparting a continuous rotary motion to said pulley $I^9$, spindle I′, and cutter-head I. Immediately at the rear of the cutter-head I is arranged a guide-roller S, adapted to travel on the upper side of the wheel-rim $G^2$, so as to hold the same firmly down on the table $Q^5$ at the time the cutter-head I is in action and dresses the said side of the wheel-

rim. This roller S is journaled in a bar S', adjustably held by a set-screw $S^2$ on an arm $S^3$, vertically adjustable in a clamp $S^4$, attached to the rear of the hanger $I^3$, so as to move with the latter when the hanger is adjusted, as previously explained.

The wabble-saws H are journaled on the upper end of a spindle H', journaled in suitable bearings carried on a saddle $H^2$, vertically adjustable on guideways $A^6$, formed on the column A', said saddle $H^2$ being engaged by a screw-rod $H^8$ for moving the saddle vertically and bringing the saws H into proper position relatively to the tread of the rim $G^2$. On the spindle H' is secured a pulley $H^4$, connected by a belt $H^5$ with other machinery for imparting a continuous rotary motion to the pulley $H^4$, the spindle H', and the wabble-saws H for the latter to dress the tread of the rim $G^2$.

In order to regulate the depth of the cut of the wabble-saws H, a cam-wheel T is provided, secured to or forming part of the chuck F and adapted to abut with its peripheral surface on a stop T', preferably in the form of a disk, mounted to turn loosely on a stud $T^2$, carried by the carriage C. (See Figs. 1 and 2.) The cam-wheel T is circular for ordinary rims; but in case it is desired to form the joints of the fellies high on the tread then the wheel T is provided at its peripheral surface with rises or projections $T^3$, corresponding to the joint to be formed on the tread. (See Fig. 7.) The rises $T^3$ are spaced apart and correspond in number to the joints on the rim $G^2$, it being understood that when the wheel G is placed in position the joints of the fellies are brought in register with the rises $T^3$, so that when the machine is in operation and the wheel G is bodily drawn by the feed-rolls J J' to the wabble-saws H, as previously explained, then the wheel T by abutting against the stop T' gages the depth of the cut and at the same time controls the shape of the tread according to the shape given to the peripheral surface of the wheel T. The chuck may be moved into a tilted position to bring the wheel G in a corresponding position relatively to the feed-rolls J J', the wabble-saws H, and the cutter-head I, and for this purpose the carrier E is formed at its front and rear with segmental guideways E', engaging correspondingly-shaped bearings D', formed or secured to the sides of the slide D (see Figs. 1, 2, and 6) to allow of rocking the carrier E in said bearings D' and give the desired tilting to the chuck F and the wheel G. When the desired adjustment has been made, then the carrier E is located in place on the slide D by screws $E^2$ screwing in the ends of the carrier E and abutting on the top surface of the slide D, as is plainly shown in Figs. 1 and 2.

For wheels having different diameters it is necessary to adjust the chuck F nearer to or farther from the wabble-saws H, the cutter-head I, and the feed-rolls J J', and for this purpose the carriage C is held longitudinally adjustable on the bed B by a screw-rod C' under the control of the attendant and mounted to turn in the bed B and engaging a nut $C^2$ on the carriage C. A hand-wheel $C^3$ on the outer end of the screw-rod C' is under the control of the operator to turn the screw-rod C' and move the carriage C forward or backward on the bed B. The latter is held vertically adjustable on the column $A^2$ to bring the top of the wheel G in proper relation to the feed-rolls J J', saws H, and cutter-head I, and for this purpose the bed B is formed with vertically-disposed elongated slots B', engaged by bolts $B^2$ for securing the bed in place on the column $A^2$ after the bed has been vertically adjusted. Screw-rods U are mounted to turn in bearings on the bed B and screw at their lower ends in nuts U', secured to the base A, and at the outer ends of said screw-rods U are secured bevel gear-wheels $U^2$ in mesh with bevel gear-wheels $U^3$, secured on a longitudinally-extending shaft $U^4$, journaled in suitable bearings on the bed B. A hand-wheel $U^5$ is secured to the outer end of the shaft $U^4$ and is adapted to be turned by the attendant, so that when it is desired to raise or lower the bed B for the purpose mentioned then the attendant after loosening the bolts $B^2$ turns the hand-wheel $U^5$ to turn the shaft $U^4$ so that the bevel gear-wheels $U^3$ $U^2$ impart a turning motion to the screw-rods U for the latter to screw up or down in the nuts U', and thereby raise or lower the bed B and the parts carried thereby.

The operation is as follows: In order to place a wheel in position, the attendant first slides the slide D, and with it the carrier E, chuck F, and wheel T, to the left (see Fig. 2) and then places the hub G' of the wheel G into the opened jaws of the chuck F. Then the jaws are closed in the usual manner and the slide D, with the parts supported thereon, is moved to the right until the wheel T abuts against the stop T' and the rim $G^2$ of the wheel extends over the feed-roll J' and the table $Q^5$, the feed-roll J then being in an uppermost position, with the lever $K^3$ depressed and the spindle $J^2$ at a standstill. The attendant now shifts the lever $N^8$ to the right and throws the clutch N in friction gear with the wheel O to rotate the spindle $J^2$ and the feed-roll J, and then the attendant swings the lever $K^3$ upward to allow the arm K' to swing downward by its own weight, aided by the spring $P^4$. The feed-roll J now moves in contact with the now upper side of the rim $G^2$ and imparts a turning and drawing motion to the wheel G, as previously explained, so that the wabble-saws H dress the tread and the cutter-head I dresses the upper side of the rim. When the wheel G has made one revolution, the wabble-saws H and the cutter-head I have dressed the tread and upper side to an exceedingly smooth finish, and then the attendant presses the lever $K^3$ and swings the feed-roll J upward out of engagement with the rim and then shifts the lever $N^8$ to the left to bring the feed-roll to a stand-

still. The attendant now slides the slide D and parts carried thereby outward to the left, loosens the jaws of the chuck F, and then removes the wheel. The above-described operation is then repeated. For wheels of different diameters longitudinal adjustment is made of the carriage C on the bed B by the operator turning the hand-wheel $C^2$ either to the right or left, and for wheels of different length in the hub and width of rim vertical adjustment is made of the bed B by the attendant loosening the bolts $B^2$ and turning the handle-wheel $U^5$, as previously explained. The cutter-head I and the saws H are correspondingly raised or lowered by the operator turning the screw-rods R' and $H^3$, respectively. For giving a bevel to the side of the rim the hanger $I^3$ is adjusted to move the spindle I' into an angular position. The wheel G is tilted by adjusting the screw $E^2$ and oscillating the carrier E in a longitudinal direction, as before explained, it being understood that the carrier is made to oscillate, so as to prevent the wheel working loose from its grasp by the hub in the chuck. The wheel rotates in a plane not quite parallel with the planes of the table Q and carriage C, being sure to tip forward just enough to impinge firmly upon the table immediately under the cutter-head I. By faulty adjustment on the part of the attendant this angle is often somewhat magnified and the tendency to work loose in the chuck made still greater if the carrier E were not free to oscillate. The hubs of the wheels, too, of one batch of wheels may differ slightly in length and augment the difficulty mentioned. The center of oscillation of the carrier E is approximately at the center of the wheel of the average size. The screws $E^2$ are set so as to allow the chuck to oscillate the required amount. It is further understood that only one side of the rim is dressed by the machine, the under sides of the sections of the rim having been trued by previous operations, so as to furnish a true surface from which to gage succeeding operations. However, the lower surface may be redressed by the machine, if desired, by putting the wheel into the machine a second time, readjusting the machine for that purpose.

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

1. A woodworking-machine, having a dressing device, a support for a wheel arranged to permit the wheel to rotate, the said support having movement toward the dressing device, and a feeding device arranged to rotate the wheel and to draw the same bodily to the dressing device, as set forth.

2. A woodworking-machine, having a chuck mounted to slide and adapted to support the wheel to be dressed, and a feeding device engaging the rim of the wheel at angles to radial lines extending from the center of the chuck and wheel, as set forth.

3. A woodworking-machine, having means for supporting the wheel so that it may rotate and also move radially, a dressing device for the tread of the wheel, and a feeding device for engagement with the sides of the wheel-rim, to rotate the wheel and draw the same bodily to the dressing device, as set forth.

4. A woodworking-machine, having a dressing device for the tread of a wheel, means for supporting the wheel so that it may rotate and also move toward the dressing device, a feeding device for engagement with the sides of the wheel-rim, to rotate the wheel and draw the same bodily to the dressing device, and means to limit the drawing movement of the wheel, as set forth.

5. A woodworking-machine, having a dressing device for the tread of the wheel, means for supporting the wheel so that it may rotate and also be moved toward the dressing device, a feeding device for engagement with the sides of the wheel-rim, to rotate the wheel and draw the same bodily to the dressing device, a wheel concentric with the wheel to be dressed, and a stop for engagement by the said wheel, as set forth.

6. A woodworking-machine, having a dressing device for the tread of the wheel, means for supporting the wheel so that it may rotate and also be moved toward the dressing device, a feeding device for engagement with the sides of the wheel-rim, to rotate the wheel and draw the same bodily to the dressing device, a cam-wheel having a peripheral face corresponding in shape to the finished tread of the wheel under treatment, and a stop adapted to be engaged by the peripheral face of the said cam-wheel, as set forth.

7. A woodworking-machine having a support for supporting the hub of the wheel and allowing the wheel to rotate freely, the said support being free to move longitudinally, and a feeding device comprising feed-rolls engaging opposite sides of the wheel-rim and having their axes in a common plane extending tangential to the center of the said support, as set forth.

8. A woodworking-machine having a support for supporting the hub of the wheel and allowing the wheel to rotate freely, the said support being free to move longitudinally, and a feeding device, comprising feed-rolls engaging opposite sides of the wheel-rim and having their axes in a common plane extending tangential to the center of the said support, one of the said feed-rolls being driven, as set forth.

9. A woodworking-machine having a support for supporting the hub of the wheel and allowing the wheel to rotate freely, the said support being free to move longitudinally, and a feeding device, comprising feed-rolls engaging opposite sides of the wheel-rim and having their axes in a common plane extending tangential to the center of the said support, one of said feed-rolls being driven, and

the other being journaled in adjustable bearings, as set forth.

10. A woodworking-machine having a support for supporting the hub of the wheel and allowing the wheel to rotate freely, the said support being free to move longitudinally, and a feeding device, comprising feed-rolls engaging opposite sides of the wheel-rim and having their axes in a common plane extending tangential to the center of the said support, one of the said feed-rolls being driven, and means under the control of the operator for throwing the said driven feed-roll out of engagement with the wheel-rim, as set forth.

11. A wheel-rim-finishing machine, having a chuck for engaging the hub of the wheel and mounted to turn, a carrier for the said chuck, a slide having longitudinal movement and on which the carrier is secured, a dressing device for the wheel-rim tread, and feed-rolls engaging the sides of the rim for rotating the wheel and its chuck, the feed-rolls standing at angles to radial lines of the wheel, to draw the wheel, chuck, carrier and slide toward the tread-dressing device, as set forth.

12. A wheel-rim-finishing machine, having a chuck for engaging the hub of the wheel and mounted to turn, a carrier for the said chuck, a slide having longitudinal movement and on which the carrier is secured, a dressing device for the wheel-rim tread, and feed-rolls engaging the sides of the rim for rotating the wheel and its chuck, the feed-rolls standing at angles to radial lines of the wheel, to draw the wheel, chuck, carrier and slide toward the tread-dressing device, a cam-wheel on the said chuck, and a stop for engaging the periphery of the cam-wheel to control the movement of the wheel toward the dressing device and gage the depth of the cut of the said device, as set forth.

13. A wheel-rim-finishing machine, having a chuck for engaging the hub of the wheel and mounted to turn, a carrier for the said chuck, a slide having longitudinal movement and on which the carrier is secured, a dressing device for the wheel-rim tread, feed-rolls engaging the sides of the rim for rotating the wheel and its chuck, the feed-rolls standing at angles to radial lines of the wheel, to draw the wheel, chuck, carrier and slide toward the tread-dressing device, a cam-wheel having rises at its peripheral face corresponding in number to the felly-joints of the wheel and conforming to the high joint desired on the tread of the wheel, and a stop for engaging the said peripheral face of the cam-wheel, as set forth.

14. A wheel-rim-finishing machine, having a tread-dressing device, means for supporting the wheel to allow it to rotate freely and also to be moved toward the tread-dressing device, a feeding device to rotate the wheel and draw it toward the dressing device, and a controlling device for the wheel to regulate the depth of the cut of the tread-dressing device, and to control the shape of the high joint at felly-joints of the rim, as set forth.

15. A wheel-rim-finishing machine, having a tread-dressing device, means for supporting the wheel to allow the wheel to rotate freely and also to be moved toward the tread-dressing device, a feeding device for rotating the wheel, and for moving it toward the dressing device, and a controlling device for the wheel to regulate the depth of the cut of the tread-dressing device, and to control the shape of the high joint at felly-joints of the rim, the said controlling device consisting of a cam-wheel formed at its peripheral face with rises registering with the felly-joints and formed according to the high joint to be produced on the joints of the fellies at the tread, and a stop for engagement by the said peripheral face, as set forth.

16. A wheel-rim-finishing machine, having a chuck for engagement with the hub of the wheel, a carrier on which the chuck is mounted to turn, the said carrier having segmental guideways at its front and rear, a slide having correspondingly-shaped bearings on its sides for the said guideways, fastening-screws engaging the ends of the carrier and adapted to abut against the top surface of the slide to lock the carrier against movement on the slide, and an adjustable carriage on which the slide is mounted, as set forth.

17. A wheel-rim-finishing machine having a chuck for engagement with the hub of the wheel, a carrier having segmental guideways and on which the chuck is mounted to turn, a slide having bearings for the said guideways, means for locking the carrier against movement on the slide, and an adjustable carriage on which the slide is mounted, as set forth.

18. A wheel-rim-finishing machine having a vertically-adjustable bed, a carriage longitudinally adjustable on the said bed, a slide free to slide longitudinally on the said carriage, a carrier having segmental guideways engaging bearings on the said slide, a chuck mounted to turn on the said carrier and adapted to receive the hub of the wheel, as set forth.

19. A wheel-rim-finishing machine having a vertically-adjustable bed, a carriage longitudinally adjustable on the said bed, a slide free to slide longitudinally on the said carriage, a carrier on the said slide, a chuck mounted to turn on the said carrier and adapted to receive the hub of the wheel, means for tilting the said carrier on the said slide in a longitudinal direction, and means for locking the carrier in place after the latter is tilted to the desired position, as set forth.

20. A wheel-rim-finishing machine, having a feed device comprising feed-rolls for engaging the sides of the wheel-rim, a driven spindle for one of the feed-rolls, a pivoted arm having bearings for the said spindle, and a device under the control of the operator for temporarily swinging the said arm upward to

move the driven feed-roll out of engagement with the wheel-rim, the said device comprising a screw-rod screwing in the said arm, a pin mounted to slide vertically and forming a stop for the screw-rod, and a manually-controlled lever formed at its fulcrum end with a cam adapted to engage the said pin, as set forth.

21. A wheel-rim-finishing machine, having a feed device comprising feed-rolls for engaging the sides of the wheel-rim, a driven spindle for one of the feed-rolls, a pivoted arm having bearings for the said spindle, means for swinging the said arm upward to move the driven feed-roll out of engagement with the wheel-rim, a screw-rod connected with said pivoted arm, a hand-wheel having a hub in which said rod screws, and a spring connected at one end with the said hand-wheel and at the other end with a fixed support, as set forth.

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

CHARLES SEYMOUR.

Witnesses:
GEO. W. DEATRICK,
JOSEPH BAUER.