

No. 754,343.

PATENTED MAR. 8, 1904.

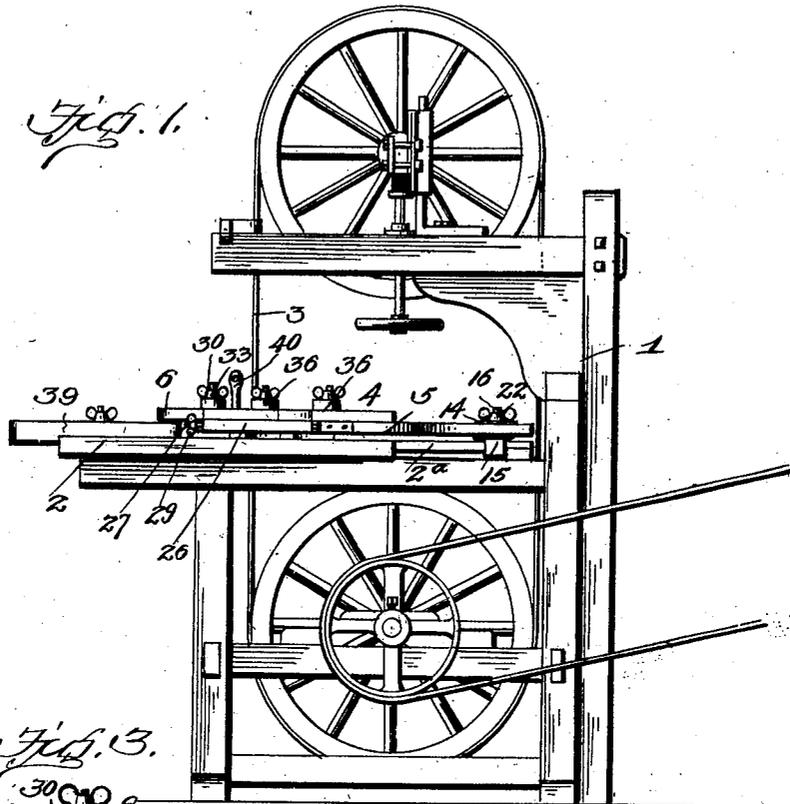
J. PIPER.  
WORK HOLDER FOR SAWING MACHINES.

APPLICATION FILED JULY 9, 1903.

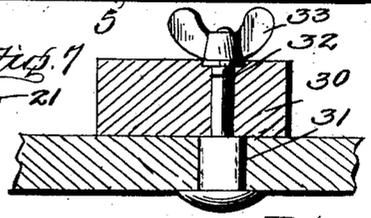
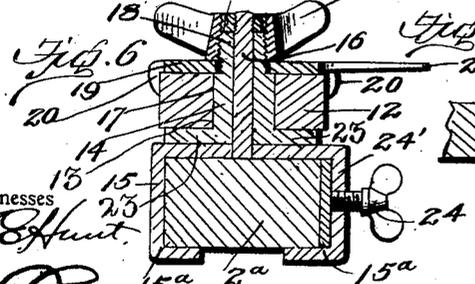
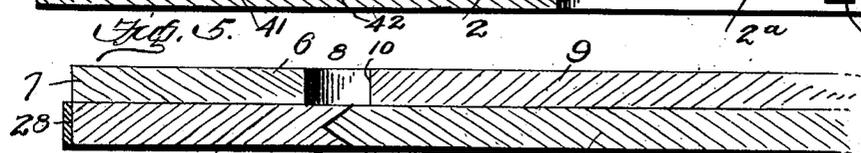
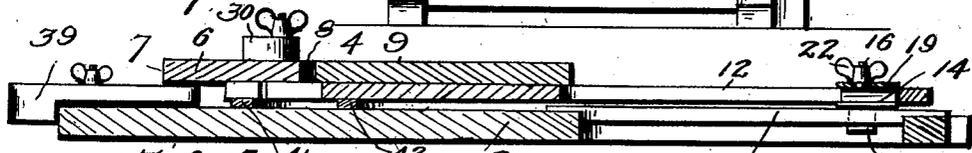
NO MODEL.

2 SHEETS-SHEET 1.

*Fig. 1.*



*Fig. 3.*



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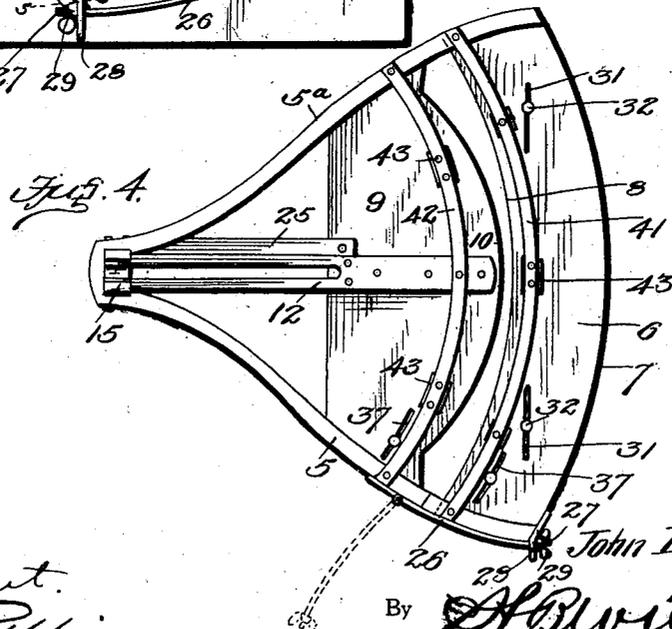
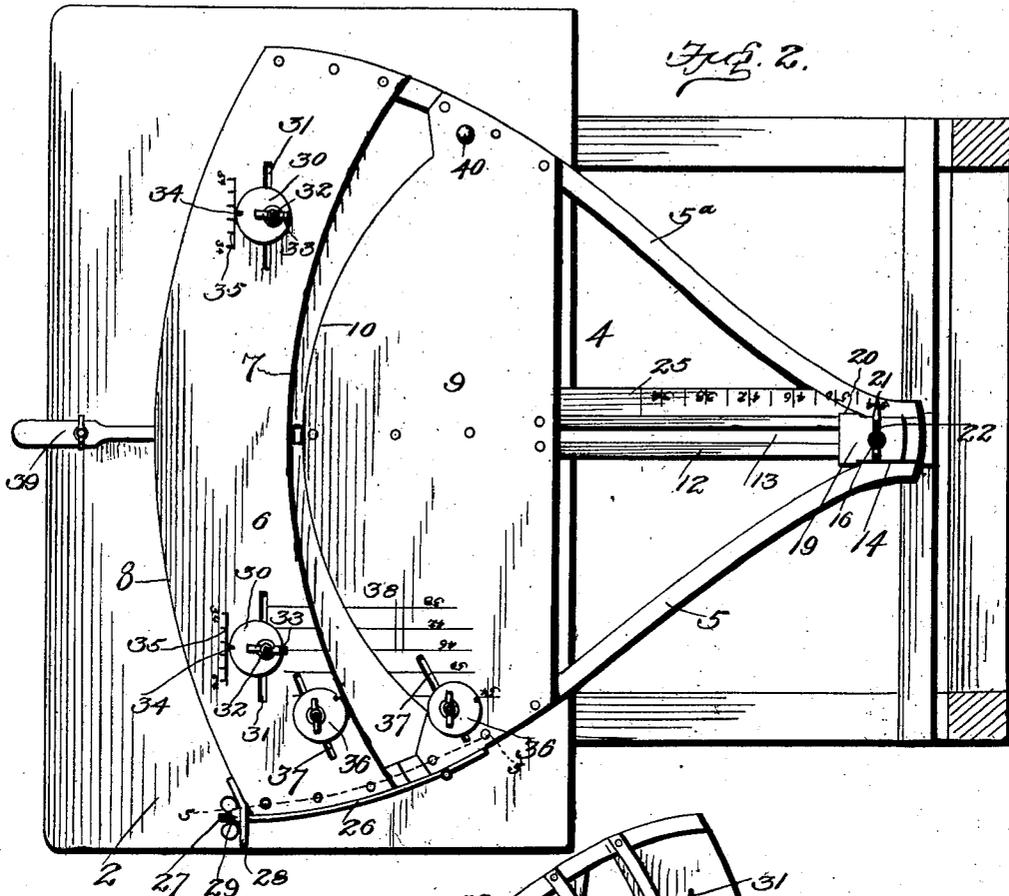
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NO MODEL.

2 SHEETS—SHEET 2.



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# UNITED STATES PATENT OFFICE.

JOHN PIPER, OF KAMPSVILLE, ILLINOIS.

## WORK-HOLDER FOR SAWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 754,343, dated March 8, 1904.

Application filed July 9, 1903. Serial No. 164,861. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN PIPER, a citizen of the United States, residing at Kampsville, in the county of Calhoun and State of Illinois, have invented certain new and useful Improvements in Work-Holders for Sawing-Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to work-holders and guides for sawing-machines.

The object of the invention is to provide a work-holder for sawing-machines for holding and guiding work for curve-sawing, and is particularly adapted for holding blocks from which felly-sections for wheels are sawed.

Another object is to provide a holder and guide of this character which may be adjusted to vary the radius of the arc in which the holder turns.

Another object is to provide means whereby the width of the section sawed may be regulated to correspond with or to be proportionate with the size or radius of such section.

A further object of this invention is to provide a device of this character which will be simple, strong, and durable, quickly and easily adjusted, and which may be used in connection with various kinds of sawing-machines, such as band, jig, or scroll saws.

With these and other objects in view the invention consists of certain novel features of construction, combination, and arrangement of parts, as will be more fully described, and particularly pointed out in the appended claims.

In the drawings, Figure 1 is a side view of a band sawing-machine, showing the application of the holder. Fig. 2 is a horizontal sectional view of the same, showing the holder in top plan view. Fig. 3 is a vertical longitudinal sectional view through the holder and the bed-plate or table of the sawing-machine. Fig. 4 is a bottom plan view of the holder detached. Fig. 5 is a detail vertical section through the meeting edges of the opening at one side of the holder, through which the saw enters, indicated by the dotted line 5 5 on Fig. 2. Fig. 6 is a detail vertical cross-sectional view through the sliding and pivotal connec-

tion of the slotted arm with the bed of the machine. Fig. 7 is a detail vertical sectional view through one of the eccentrically-mounted gage-blocks and a portion of the holder.

Referring more particularly to the drawings, 1 denotes the supporting-frame, and 2 the bed-plate or table of a band sawing-machine.

3 denotes the endless band-saw, which may be mounted upon the machine and driven in any well-known or suitable manner.

4 denotes the holder or carriage, which is substantially V shape in plan and consists of the curved converging side bars 5 and 5<sup>a</sup>, the outer ends of which are bolted or otherwise connected to the ends of a segmental-shaped work-supporting board or plate 6, the inner and outer curved edges 7 and 8 of which are parallel.

9 denotes a work-supporting board or plate arranged in rear of the board 6, the ends of which are also bolted or screwed to the side bars 5 5<sup>a</sup>. The outer edge 10 of the board 9 adjacent to the edge 7 of the board 6 is segmental in shape; but the radius of the same is less than the radius of the edge 7, a space being formed between the edges 7 and 10, in which the saw is adapted to travel. The radii of the edges 7 and 10 represent the largest and smallest arcs which may be cut on work carried by the holder, or, in other words, represent the longest and shortest adjustment of the holder or carriage.

The inner ends of the side bars 5 and 5<sup>a</sup> are securely bolted to the inner end of a centrally-disposed bar 12, the outer end of which projects under the board 9 and is bolted to the same. In the bar 12 is formed a longitudinally-disposed vertical slot 13, in which is arranged a sliding block 14, having a pivotal engagement with a sliding clamp 15 by means of a pin or bolt 16, formed integral with and projecting upwardly from said clamp 15 through an opening 17 in the sliding block 14 and through an exteriorly-threaded nipple or boss 18, formed integral with and projecting upwardly from the block 14. The upper end of the pin or bolt 16 projects above the top of the boss 18 and is threaded, as shown.

The upper ends of the boss 18 and the pin

or bolt 16 pass through a clamping-plate 19, which is adapted to engage the upper face of the slotted bar 12. The plate 19 is provided along its sides at one end with downwardly-turned flanges 20, which engage the sides of the bar 12, the plate being further provided with a laterally-projecting pointer or finger 21.

22 denotes a thumb-nut which is adapted to be screwed on the end of the threaded boss 18 and to engage the plate 19 to clamp the bar 12 between the same and laterally-projecting flanges 23, formed on the lower side edges of the sliding block 14, whereby the said block is adjustably held in place in the slot of the bar 12. The thickness of the nut 22 is greater than the height of the boss 18 above the plate 19 and approximately the height of the projecting end of the pin or bolt 16, and on the end of the pin 16 is screwed a circular nut 24, the diameter of which is small enough to permit the same to enter the upper end of the nut 22 and to engage the end of the boss 18, thereby securely connecting the bar 12 to the clamp 15, but permitting the same to have a free lateral swinging movement.

The clamp 15 consists of a plate having downwardly-bent and inwardly-turned ends 15<sup>a</sup>, which engage the central bar 2<sup>a</sup> of the bed-plate or table 2. A set-screw 24 is screwed through one of the downwardly-turned ends 15<sup>a</sup> of the clamp 15 and engages a wear plate or shoe 24 and forces the same into engagement with the side of the bar 2<sup>a</sup> and securely holds the pivotal connections of the bar 12 in their adjusted positions.

25 denotes a scale-bar arranged in juxtaposition to and carried by the holder 4, and on said bar is marked a scale over which moves the pointer 21 and by which may be ascertained the position to which the pivotal connection of the holder should be adjusted and clamped to form the desired size of felly.

The curved side bar 5 of the holder is cut at a point opposite the space formed between the boards 6 and 9, this parting of the bar 5 being made by a V-shaped cut, as shown in Fig. 5, which will prevent vertical slipping or shifting of the meeting ends of said cut, said ends being held in locked engagement by means of a latch-bar 26, hinged at one end to one part of the bar 5 and having its opposite end formed into a bolt 27, which is adapted to be swung into engagement with a slotted arm or keeper 28, projecting from the end of the opposing part of the bar 5 and to receive a thumb-nut 29, which is adapted to be screwed up against the arm 28 to draw and hold the ends of the two portions of the bar 5 together. When this latch-bar is disengaged, the divided portions of the bar 5 may be spread apart to admit the saw into the space between the work-supporting surfaces 6 and 9.

30 denotes two circular blocks which are eccentrically mounted and adapted to slide in

slots 31, formed in the board 6. The blocks 30 are held in sliding engagement with said slots by means of flat-neck bolts 32, which pass upwardly through the slots 31, the flat neck portion of the bolts engaging the walls of the slots and preventing the turning of the bolts in the slots.

The cylindrical portions of the bolts pass through the blocks 30 and are adapted to receive thumb-nuts 33, which screw down upon the blocks and clamp them to the board 6 in their adjusted positions. On the periphery of each of the blocks 30 at approximately their widest radius is formed an indicating mark or groove 34, which is adapted to cooperate with scales 35, arranged on the board 6 adjacent to the blocks 30 in the adjustment of said blocks. The office of the blocks 30 is to regulate the thickness of the felly-blocks by limiting the outward movement of the piece from which they are being cut. This distance may be regulated by shifting the blocks 30 in the slots 31 to increase or diminish the thickness of the felly. The scales 35 may be arranged in such relation to the scale on bar 25 that when the pivot of the holder is adjusted along the scale-bar 25 to a certain number for a certain size section of wheel the groove 34 on the blocks 30 are set opposite the same number on their scales 35, which will cause the thickness of the section to be cut to be proportionate to the diameter of the wheel to be formed by said sections.

36 denotes blocks formed and mounted similar to the blocks 30 and adapted to slide in slots 37 near the ends of the boards 6 and 9, one of said blocks being arranged on each side of the saw-passage between the boards and adapted to act in conjunction with scales 38 to form adjustable stops which regulate and proportion the length of the sections. The eccentric mounting of the blocks 30 and 36 enables the same to be adjusted to a small degree without sliding the same in their slots and will sometimes be found advantageous for slight adjustments.

39 denotes a carriage or holder stop which is connected to the bed or table by a bolt and thumb-nut and is adapted to engage the side of the saw-carriage immediately after the saw has passed through a block to prevent the side of the carriage from striking the saw.

40 denotes a stop or holding-pin which is adapted to be inserted through a hole in the board 9 and to engage a hole in the table or bed-plate to temporarily hold the carriage while the pivotal connections of the same are being adjusted, after which the pin is removed and hung in a convenient place on the saw-frame.

41 and 42 denote curved or segmental bars which are bolted or screwed to the under side of the boards 6 and 9 and to the side bars 5 and 5' and 12 to strengthen and brace these

parts, filling-blocks 43 being placed between the bars 41 and 42 and the boards 6 and 9 to prevent spring of the same.

In practice the pivotal connection of the carriage and the blocks 30 and 36 are adjusted to the desired size marks. The latch-bar 26 is now opened and the parts of the side 5 sprung apart far enough to admit the saw. The latch is then fastened again. A block to be  
 10 sawed is now placed on the carriage against the blocks 30 and 36 and held by the operator, while he pushes or swings the carriage around on its pivot, forcing the saw through the block and cutting the first piece from the block.  
 15 The carriage or holder is now brought back, the block moved up, and carriage again pushed around and a felly-section cut off, this operation being repeated until the desired number of sections of this radius have been cut, when  
 20 the pivotal point of the carriage is adjusted to a different radius, when sections of a different size may be cut.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion, and the minor details of construction may be  
 30 resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus fully described my invention, what I claim, and desire to secure by Letters  
 35 Patent, is—

1. In a sawing-machine of the character described, a work-holder comprising a frame having work-supporting surfaces having spaced curved adjacent edges of different radii, said edges having an intervening opening for  
 40 the saw, and representing the largest and smallest arcs of cut, substantially as described.

2. In a sawing-machine of the character described, a work-holder comprising side pieces

and an intermediate supporting-surface having a saw-slot, one of said side pieces being divided in line with the slot, the divided portions having a tongue-and-groove connection, and means for holding said portions from spreading, substantially as described. 50

3. In a sawing-machine of the character described, a work-holder comprising side pieces and an intermediate supporting-surface having a saw-slot, one of said side pieces being divided in line with the slot, the divided portions having a V-shaped tongue-and-groove  
 55 connection, and means for holding said portions from spreading, substantially as described.

4. In a sawing-machine of the character described, the combination with a supporting-  
 60 frame, of a segmental work-holder having a transverse curved saw-slot, a sliding pivotal connection between the frame and vertex portion of the work-holder, said connection including a gage member cooperating with  
 65 means for indicating various positions to which said connection should be adjusted to cut different sizes of articles, gage-stops on the outer side of said slot adjustable at an angle to the  
 70 arc of curvature thereof to predetermined positions corresponding to certain positions of adjustment of the sliding pivotal connection, whereby the holder may be adjusted to vary  
 75 the radius of the arc on which it turns and the stop may be adjusted so that the width of the sections sawed may correspond with such radius, and other stops adjustable parallel to the  
 80 arc of the slot to regulate the length of the sections.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN PIPER.

Witnesses:

J. M. HOWDESHELL,  
 T. O. HARDESTY.