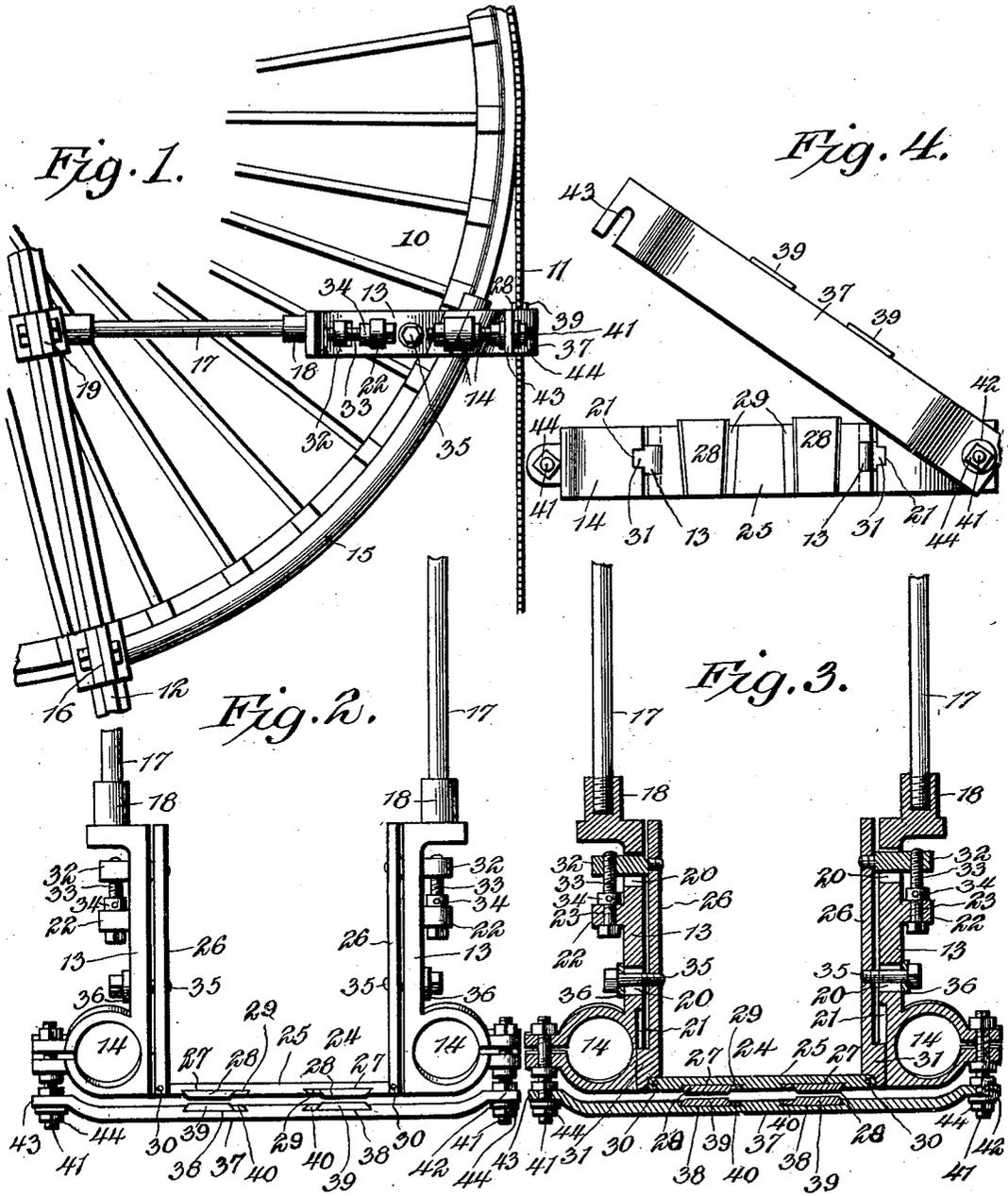


C. R. VAN HORN.  
SAW GUIDE.

(Application filed Sept. 25, 1901.)

(No Model.)



Charles R. Van Horn, Inventor.

By

*E. G. Siggers*

Attorney

Witnesses  
*Howard A. Ott*  
*B. H. Foster*

# UNITED STATES PATENT OFFICE.

CHARLES R. VAN HORN, OF BAY MILLS, MICHIGAN, ASSIGNOR TO THE  
HALL & MUNSON CO., OF BAY MILLS, MICHIGAN.

## SAW-GUIDE.

SPECIFICATION forming part of Letters Patent No. 694,337, dated February 25, 1902.

Application filed September 25, 1901. Serial No. 76,484. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES R. VAN HORN, a citizen of the United States, residing at Bay Mills, in the county of Chippewa and State of Michigan, have invented a new and useful Saw-Guide, of which the following is a specification.

This invention relates to saw-guides, and while designed especially for use in connection with double-cutting band-saws it will be evident to those skilled in the art that it may be employed upon other kinds of saws.

Double-cutting band-saw mills as ordinarily constructed are not provided with an upper guide, the reason being that the mill can be raised or lowered, so that the top wheel may be located close to the log, the impression being that the saw delivered from the wheel so close to its work will be stiff enough to maintain a true course throughout the cut without varying one way or the other. Actual practice, however, has proven this reason fallacious, especially in cutting deal or other thick lumber. For instance, the top wheels of these machines are usually about eight feet in diameter, and in order to allow a thick board or plank to pass between the inside of the saw and clear the wheel the latter must be raised considerably, leaving as much as fourteen inches of saw between its point of leaving the wheel and its entrance into the log.

The object of the present invention is to provide a guide which may be applied to the saw at a point directly over and close to the top of the cut, thus holding said saw rigidly to its proper course and obviating the free span, as above described.

Another feature of the invention resides in supporting this guide rigidly and securely at its opposite ends, so that it will remain firm and immovable during the operation of either cutting edge of a double saw.

A still further feature relates to means whereby the guide may be adjusted to suit the various classes of work and the conditions under which the saw must be operated.

In the accompanying drawings the preferred embodiment of the invention is fully illustrated, and its construction and operation is described in the following specifica-

tion. The invention is, however, not to be limited to the exact form shown, but is open to such changes and modifications as may be permitted by the scope of the appended claims.

In the drawings, Figure 1 is a side elevation of the upper portion of a band-saw mill, showing the improved guide applied thereto. Fig. 2 is a top plan view of the guide detached. Fig. 3 is a horizontal sectional view of the same; and Fig. 4 is a front elevation of the guide, showing the outer guide member in raised position.

Similar numerals of reference designate corresponding parts in all the figures of the drawings.

In Fig. 1 the upper portion of a well-known double-cutting band-saw mill is shown, the wheel being designated 10, the saw 11, and the yoke of the frame 12. The guide which forms the subject-matter of the present invention is supported upon this yoke and is constructed in the following manner: A pair of spaced supporting-arms 13 are arranged upon opposite sides of the wheel, being provided at their outer ends with clamping-yokes 14, which are secured to the upper ends of curved standards 15, which standards are fastened at their lower ends by means of suitable clamps 16 to the yoke 12, preferably in line with the rim of the wheel. Horizontal brace-rods 17 are secured at their outer ends in sockets 18, arranged upon the inner ends of the supporting-arms, these brace-rods being fastened by clamps 19 to the frame 12, as clearly shown in Fig. 1. The supporting-arms 13 are provided with horizontal longitudinally-disposed slots 20 and channels 21, which channels are located in the opposing faces of their outer ends. They are furthermore provided on their outer faces with the lugs 22, having horizontally-disposed openings 23. (Shown in Fig. 3.)

An inner clamping element (designated as a whole by 24) is slidably connected to the supporting element, said element comprising a guide-plate 25, having at its opposite ends guide-arms 26, which are slidably mounted upon the inner faces of the supporting-arms 13. The guide-plate 25 is provided in its outer

face with dovetailed tapering sockets 27, arranged to receive similarly-shaped bearing-blocks 28, preferably made of Babbitt or similar material, said blocks projecting a slight distance beyond the face of the plate and being of less width than the sockets. These blocks are held in place by keys 29, inserted in the spaces between the edges of said blocks and the walls of the sockets. The keys are so constructed that they may be applied upon the inner or outer sides of the bearing-blocks, so that said blocks may be arranged closely together or some distance apart, as shown in the drawings. The guide-arms 26 preferably have a pivotal connection, as shown at 30, with the guide-plate and have on their outer faces longitudinal ribs 31, which slidably engage in the channels 21 of the supporting-arms. They also are provided with outwardly-extending ears 32, which pass through the inner slots 20 of the guide-arms and are engaged by adjusting-screws 33, said adjusting-screws being journaled in the openings 23 of the lugs 22 and having collars 34, which hold them against longitudinal displacement. Holding-screws 35 are passed through the other slots 20 of the holding-arms and are threaded into the guide-arms 26, suitable washers 36 being located over said slots, as shown in Fig. 3.

An outer guide element in the form of a plate 37 is located in line with the inner guide-plate 25, said outer element being provided in its inner face with sockets 38, bearing-blocks 39 and keys 40, constructed in all respects similar to those of the inner element. This outer element is held in place by means of tie-bolts 41, which bolts are employed for clamping the yokes 14 upon the standards 15. To this end the bolts 41 project beyond the yokes, and one end of the outer element 37 is provided with an opening 42, which receives one of said bolts. The other end is in the form of a hook 43, arranged to detachably engage the other projecting bolt, adjusting-nuts 44 being threaded on the projecting ends, constituting means for adjusting the outer element toward and from the inner one and also constituting means for clamping said element rigidly in place.

The operation of the device will be readily apparent. The saw is placed between the outer and inner guiding elements, which are so adjusted that the bearing-blocks will rest against the opposite sides of said saw. The inner guide member may be readily adjusted to any desired position by loosening the holding-bolts 35 and turning the adjusting-screws 33. Furthermore, either guide-arm can be moved independently, so as to throw the inner guide-plate at an inclination, if desired or necessary. The outer member may likewise be adjusted to correspond to the position of the inner member by moving the necessary nuts upon the holding-bolts. It will be observed, furthermore, that the

guides are held rigidly at their opposite ends, the outer one being supported upon the bolts 41 and the inner one by the ribs of the arms fitting in the grooves of the supports.

From the foregoing it is thought that the construction, operation, and many advantages of the herein-described invention will be apparent to those skilled in the art without further description, and it will be understood that various changes in the size, shape, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

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

1. In a saw-guide, the combination with the saw, of spaced substantially horizontally disposed supports located in angular relation to the saw, and a guide element mounted on the spaced supports and movable longitudinally thereon, said guide elements being movable toward and from the saw.

2. In a saw-guide, the combination with the saw, of spaced substantially horizontally disposed supports located in angular relation to the saw, an arm slidably mounted on each support, and a guide element secured to and movable with the arms.

3. In a saw-guide, the combination with spaced substantially horizontally disposed supports, of arms slidably mounted on the opposing inner faces of the supports, and a guide element secured to and movable with the arms, said element extending across the space between the supports.

4. In a saw-guide, the combination with spaced supports, of guiding elements arranged to engage opposite sides of the saw, adjustable connections between the inner sides of the spaced supports and one of the guide elements, and adjustable connections between the other guide element and the outer sides of the supports.

5. In a saw-guide, the combination with spaced substantially horizontally disposed supports, of arms slidably mounted on the opposing inner faces of the supports, a guide element secured to and movable with the arms, said element extending across the space between the supports, and operating mechanism for the arms arranged on the exterior faces of the supports and engaging the same.

6. In a saw-guide, the combination with spaced parallel supports having longitudinally-disposed slots, of an arm slidably mounted on each of said supports and having a lug slidably located in the slot thereof, operating mechanism for the arms engaging the lugs, and a guide element attached to the ends of the arms and movable therewith.

7. In a saw-guide, the combination with spaced substantially parallel supports having longitudinally-disposed slots, of an arm slidably mounted on each of said supports

and having a lug disposed in the slot thereof, operating mechanism for the arms engaging the lugs, and a guide element pivotally attached at its ends to the ends of the arms and movable therewith.

8. In a saw-guide, the combination with spaced standards, of supports having clamps secured to the standards, an inner guide member secured to and slidable between the supports, and an outer guide member also secured to the supports and movable thereon toward and from the inner member.

9. In a saw-guide, the combination with spaced supports, of an arm adjustably engaging each support, and a guide element having pivotal connections with the arms.

10. In a saw-guide, the combination with spaced supports, of an arm slidably mounted upon each support, means for holding the arms against independent movement upon their respective supports, and a guide element having pivotal connections with the arms.

11. In a saw-guide, the combination with spaced supports, of a guide element pivoted at one end to one of the supports and having a hook at the other end that detachably engages the other support.

12. In a saw-guide, the combination with spaced supports, of a guide element, a pivot connection between one end of the guide element and one of the supports, the other end of said element having a hook, a bolt located upon the other support and arranged to be engaged by the hook, said bolt and pivotal

connection being adjustable upon their respective supports.

13. In a saw-guide, the combination with spaced supports, of an inner guide element having adjustable connections at its opposite ends with the supports, and an outer guide element having adjustable connections at its opposite ends with the supports.

14. In a saw-guide, the combination with spaced standards, of supports having yokes which embrace the standards, an inner guide element having slidable connections at its opposite ends with the supports, means for holding said guide element against movement, an outer guide element, and adjustable means connecting said outer guide element and the supports.

15. In a saw-guide, the combination with spaced standards, of supports at their outer ends which embrace the standards, braces connected to the inner ends of the supports, an inner guide element having slidable connections at its opposite ends with the supports, means for holding said element against movement, and an outer guide element having adjustable connections at its opposite ends with the supports.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

CHARLES R. VAN HORN.

Witnesses:

JNO. E. MCPARLAN,

C. W. COLEY.