No. 738,296. PATENTED SEPT. 8, 1903.

F. W. COOK.

SAW SHIFTER FOR GANG EDGERS.

APPLICATION FILED MAY 14, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

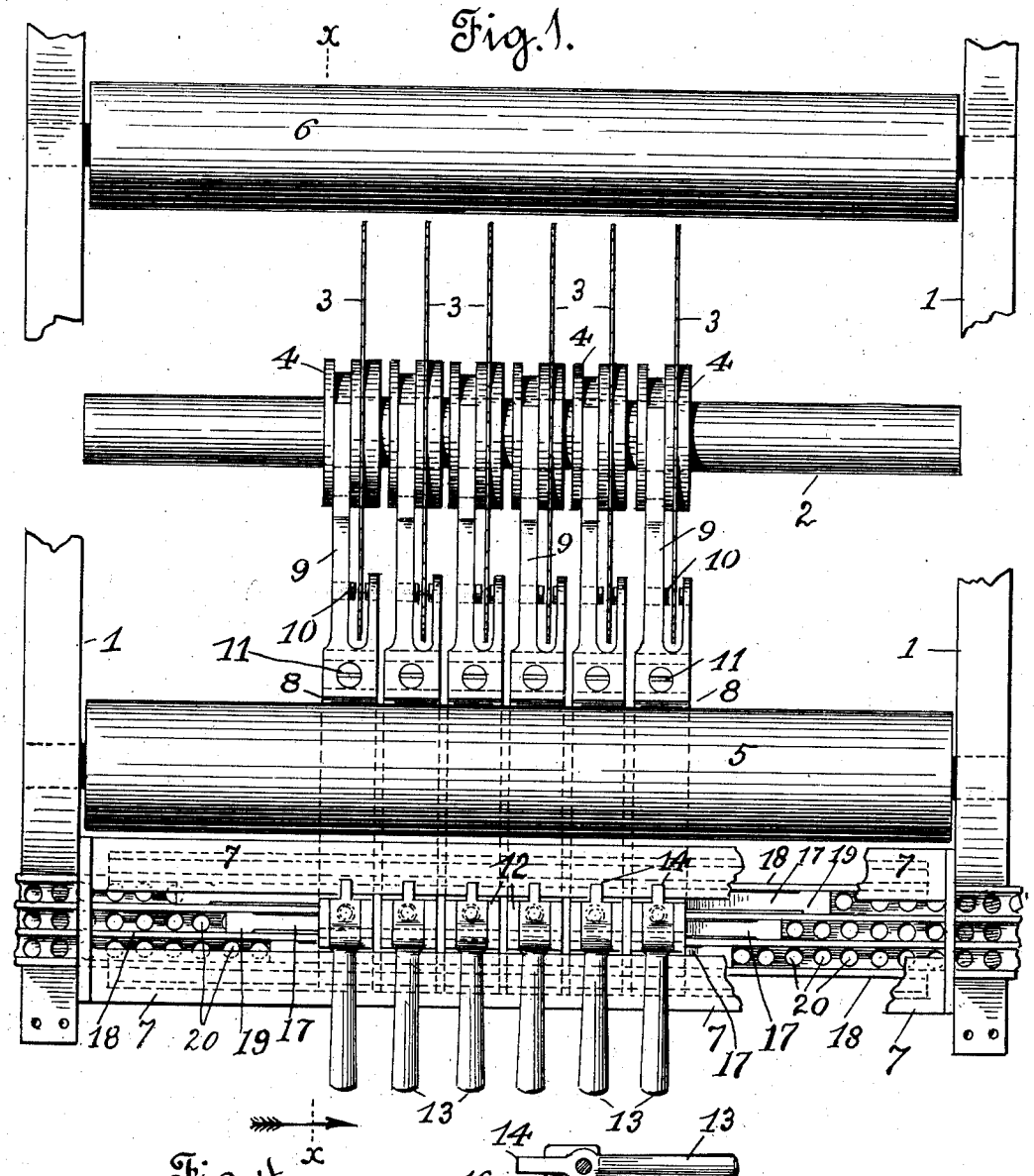


Fig. 4.

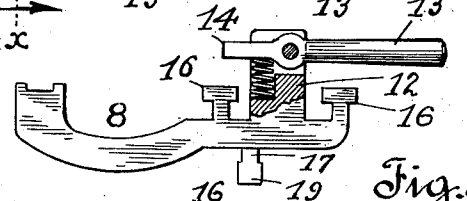
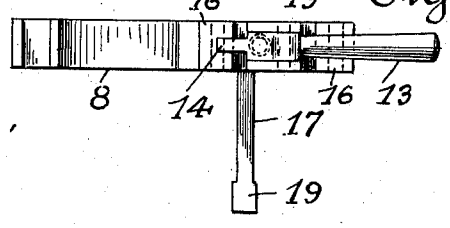


Fig. 5.



Witnesses.

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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SAW SHIFTER FOR GANG EDGERS.

APPLICATION FILED MAY 14, 1903.

NO MODEL. 2 SHEETS—SHEET 2.

Fig. 2.

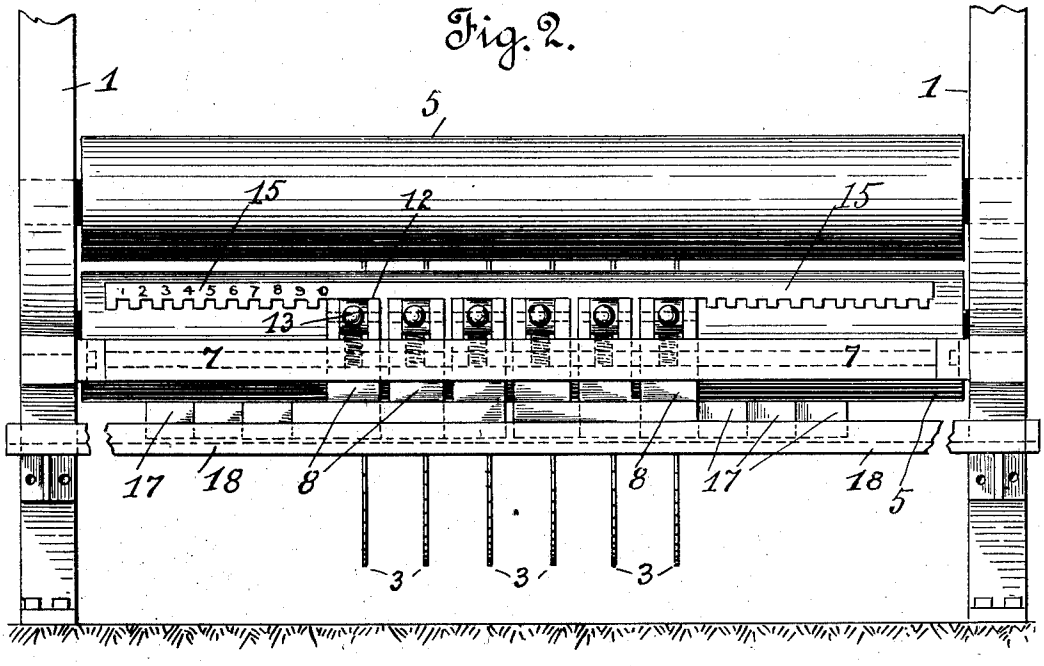
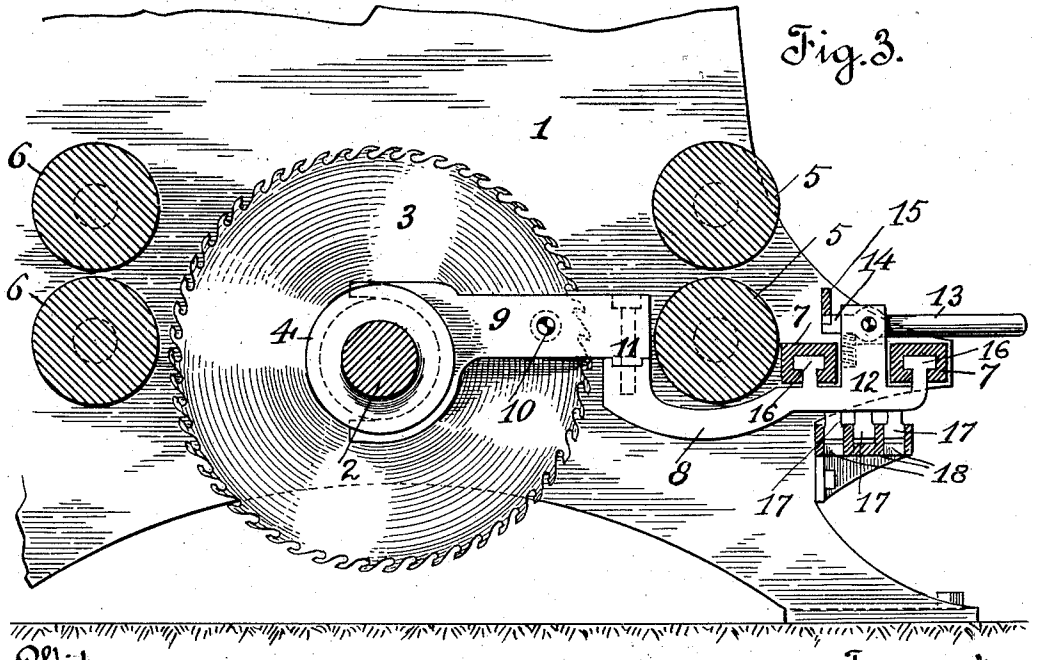


Fig. 3.



Witnesses.

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No. 738,296. Patented September 8, 1903.

UNITED STATES PATENT OFFICE.

FREDERICK W. COOK, OF SEATTLE, WASHINGTON.

SAW-SHIFTER FOR GANG-EDGERS.

SPECIFICATION forming part of Letters Patent No. 738,296, dated September 8, 1903.

Application filed May 14, 1903. Serial No. 157,066. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK W. COOK, a citizen of the United States, residing at Seattle, King county, State of Washington, have invented certain new and useful Improvements in Saw-Shifters for Gang-Edgers; and I do hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to the class of gang-edgers, and particularly to the means for moving and adjusting the several saws on the arbor relatively to each other to suit the lumber to be cut, devices for this purpose being termed "shifters" or "shifting mechanism."

The objects of my invention are to provide "dust-proof" bearings between the shifters and their guides, to secure effective means for avoiding cramping of the shifters in moving, and generally to provide a simple, accurately and easily operating and effective saw-shifting mechanism for machines of this class.

To these ends my invention consists in the novel construction, arrangement, and combinations of parts, which I shall hereinafter fully describe and claim, by reference to the accompanying drawings, in which—

Figure 1 is a plan view, partly broken, of my device shown in connection with such portion of the gang-edger as will be sufficient to illustrate its application. Fig. 2 is a front elevation of same. Fig. 3 is a section on line *x x* of Fig. 1. Fig. 4 is a detail elevation of one of the shifters. Fig. 5 is a top view of same.

1 is the frame of the edger.

2 is the saw-arbor.

3 represents the saws, here shown as six in number, each saw being mounted upon the arbor by its grooved hub 4 in the manner usual in these machines, enabling the saws to be adjusted or shifted to or from each other to vary the width of lumber cut.

5 represents the front feed-rolls, and 6 represents the back rolls, by which the material is passed through the machine.

The shifting mechanism of edgers comprise, as a rule, shifter-bars the inner end connection of which engages the saw-hubs in such manner that while not interfering with the rotation of the saws said bars are adapted to move any or all of said saws sidewise—that is, along the arbor. As these bars must be held steady when not in use and as their movement when being operated must be true and accurate, there are fixed guides on the front of the frame, with which guides the outer ends of the shifter-bars have a sliding engagement, said outer ends having handles convenient for grasping and adapted to engage a notched scale-bar, by which the movement of the shifters is properly defined and limited. The sliding engagements of the shifters and the guides are of various constructions, but in all of which I am aware the engaging surfaces, which form the sliding bearings, are exposed to the sawdust and sap which fly from the saws—that is to say, they are of such a nature and are so disposed that the sawdust and sap reach them—and as these bearings or sliding surfaces have to be kept lubricated to reduce friction the sawdust and sap stick to them and gum them up, necessitating frequent cleaning.

The object of my invention is, as I have before stated, to make the bearings of the shifters "dust-proof," which term I use to mean, broadly, protection from all foreign materials of any nature, such as sawdust or sap or dirt of any kind, likely to reach them. This result I secure by suspending the shifters from their guides in contradistinction to supporting them upon said guides. By suspending them I get the bearings over the shifter, leaving the upper side of the guide free from moving parts, thus permitting the guide to be covered up or closed on top, and thereby protected from flying matter, or dust-proof. The construction here shown will now be understood.

7 represents the fixed guides. They are secured to frame 1 and extend along its front. They are parallel, are separated by a space, and they lie in the same horizontal plane, being thus directly opposite each other.

8 represents the shifters. These are connected at their inner ends with yoke-arms 9, having a long arm and a short arm embracing the saw-periphery, Fig. 1, and bearing upon the opposite faces of the saws by buttons 10 when moving said saw, the long arm engaging the grooved hub of the saw, Figs. 1 and 3. The shifters 8 are secured to the

hub yoke-arms 9 at 11, as shown in Figs. 1 and 3. The shifters are dropped down under the lower front feed-roll, as shown in Fig. 3, and thence pass under the two guides 7, with an extension 12 rising in the space between said guides and above them. In the top of this extension is pivoted the spring-controlled handle 13, which has a lug 14 at its inner end adapted to engage the notched scale-bar 15, Fig. 2, on the front of the frame, whereby the shifters are securely held and the amount of their movements determined as required. From each shifter 8 rise short studs 16, by which the whole shifter is slidably suspended from below from the guides 7, the bearing in the case shown being in the form of the T-shaped stud 16, engaging a corresponding groove in the guide, entrance to said groove being from below, thus permitting the guides to be solid above and on the sides, thereby presenting covered bearings protected from all debris and rendering the sliding bearings dust-proof. The shifter being suspended from the guides instead of resting upon them, permits the guides being closely covered up, whether by the solid tops here shown or by removable covers, if preferred. The upper sides or tops of the guides being thus closed, the flying sawdust and sap are prevented from reaching the contact-surfaces or bearings of the shifters and guides. This dust-proof shifter greatly facilitates the operation of the work of shifting the saws and effects a saving in the oil used for lubricating purposes. It also increases the capacity of the edger by relieving the operator of the necessity of waiting to clean and lubricate the guides at critical moments.

For the purpose of preventing the shifter from cramping when being moved I extend an arm 17 from the lower side of the shifter from a point between its suspending sliding bearings laterally at right angles to the shifter. The best disposition of these lower or steadying arms in a six-saw edger, such as here shown, is three to the left and three to the right, as shown in Fig. 1, the three shifters to the left being left-hand and the three to the right being right-hand shifters. These lower arms 17 are of some length and overlap each other in parallel planes, there being ample room between the perpendicular planes of the dust-proof bearings above for three to the left and three to the right.

Secured to the front of frame 1 are the lower guides 18, which consist of three parallel grooves or channels extending along the face of the machine. Into these guides the lower or steadying arms 17 extend, but without touching their bottoms. The bearing for each steadying-arm 17 is formed by a slightly-widened end 19 on the free extremity of each arm, which bears only on the sides of the grooves or guides 18 against the direction of the force applied to move the shifter, as shown in Fig. 3. These third bearings so constructed and thus relatively disposed to the two above effectively prevent any cramping of the shifters in moving. In the right and left arrangement of the number of shifters here shown there are only three lower guides, as one pair of steadying-arms, right and left, are in one groove, a second pair in a second groove, and the third in the last groove. The bottoms of these lower guides or grooves are perforated, as shown by the holes 20, or they are left open to allow the sawdust to fall through and not accumulate in the grooves and clog the bearings.

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

1. In a gang-edger, a saw-shifter slidably suspended from a covered bearing in the under side of its guide.

2. In a gang-edger, a saw-shifter passing transversely under its guide and slidably suspended therefrom by a covered bearing.

3. In a gang-edger, a saw-shifter passing transversely under its guide and slidably suspended therefrom by a covered bearing in the under side of said guide.

4. In a gang-edger, the combination of a fixed guide having a covered groove, opening from its under side, and a saw-shifter slidably suspended by a connection engaging said groove.

5. In a gang-edger, the combination of a fixed guide having a covered groove, opening from its under side, and a saw-shifter extending transversely under said guide and having a connection engaging its groove and slidably suspending it from the guide.

6. In a gang-edger, the combination of a fixed guide having a covered groove opening out on its under side, and a saw-shifter passing beneath the guide and having a stud seated in the groove and slidably suspending the shifter from said guide.

7. In a gang-edger, the combination of a fixed guide having a covered T-shaped groove opening out on its under side, and a saw-shifter passing beneath the guide and having a T-shaped stud seated in the groove and slidably suspending the shifter from the guide.

8. In a gang-edger, the combination of a pair of parallel, spaced, fixed guides, a saw-shifter passing under said guides and having a handle extension rising between the guides, and a covered bearing slidably suspending the shifter from said guides.

9. In a gang-edger, the combination of a pair of parallel, spaced, fixed guides each having a covered groove opening out from its under side, a saw-shifter passing under said guides and having a handle extension rising between the guides, and studs on said shifter seated in the grooves of the guides and slidably suspending the shifter.

10. In a gang-edger, the combination of a pair of parallel, spaced, fixed guides, a saw-shifter having a sliding bearing with each of said guides, a steadying-arm extending laterally from said shifter in a plane between its

bearings with said guides, and a fixed guide for said steadying-arm.

11. In a gang-edger, the combination of a pair of parallel, spaced, fixed guides, a saw-shifter having a sliding bearing with said guides, a steadying-arm extending laterally from said shifter in a plane between its bearings with said guides, said arm having at its extremity a bearing-head, and a fixed guide in which said head bears with its sides only.

12. In a gang-edger, the combination of a pair of parallel, spaced, fixed guides, a saw-shifter slidably suspended by covered bearings from said guides, a steadying-arm extending laterally from said shifter in a plane between the covered bearings, and an underlying fixed guide in which said steadying-arm is seated.

13. In a gang-edger, the combination of a pair of parallel, spaced, fixed guides, a saw-shifter slidably suspended by covered bearings from said guides, a steadying-arm extending laterally from said shifter in a plane between the covered bearings, said arm having at its extremity a bearing-head, and an underlying fixed guide in which said head bears with its sides only.

14. In a gang-edger, the combination of a pair of parallel, spaced, fixed guides, each having a covered groove opening out from its under side, a saw-shifter passing under the guides and having a handle extension rising between them, studs on the shifter seated in the grooves and slidably suspending the shifter from the guides, a steadying-arm extending laterally from said shifter in a plane between the bearings with the overlying guides, said arm having at its extremity a bearing-head, and an underlying fixed guide in which said head bears with its sides only.

15. In a gang-edger, the combination of a pair of parallel, spaced, fixed guides, a saw-shifter slidably suspended by covered bearings from said guides, a steadying-arm extending laterally from said shifter in a plane between the covered bearings and an underlying fixed guide in which said steadying-arm is seated, said guide having openings in its bottom.

16. In a gang-edger, the combination of a pair of parallel, spaced, fixed guides, a plurality of saw-shifters slidably engaging said guides, a laterally-extending arm on each shifter in a plane between the shifter-bearings, said arms being disposed in alined pairs one arm of each pair extending to the right and the other to the left of its shifter and a fixed guide in which said arms are seated, one pair in each guide.

In witness whereof I have hereunto set my hand.

FREDERICK W. COOK.

Witnesses:
H. J. RAMSEY,
PHILIP ROWE.