The primary purpose and object of my new and improved device is for use upon trimmer saws for use in saw mills, planing mills and any and all industrial plants where a plurality of saws are arranged in spaced relationship with each other and adapted for selective manual manipulation for the cutting of materials passing over a table to predetermined lengths.

A further object of my new and improved device consists in providing a set of trimmer saws that are normally held in an inoperative position but that may be manually positioned for cutting materials passing over a table from a central station location.

Means are further provided for the placing of the same in operative position with a minimum of manual effort.

Further objects of my new and improved device consist in providing means for the vertical raising and lowering of the arbor and the multiplying of the movement so that a minimum amount of movement of the lever system is required at the central station control.

A still further object of my device consists in providing a balanced support for the arbor element in registerable alignment with the central drive therefor, so that the belt or driving element is automatically maintained in a taut operating condition.

And still further object of my new and improved device, consist in providing a mounting for the saw arbor and pulley wherein frictionless bearings, as roller bearings, may be used and wherein means is provided for the lubricating of the bearing in the assembly that prevents the escape of the lubricant from the bearing housing.

A still further object of my new and improved device consists in providing means for the maintaining of the saw arbor housing in alignment with the primary driving shaft, thus maintaining the driving element in alignment upon the driving and driven pulleys.

With these and incidental objects in view, the invention consists in certain novel features of construction and combination of parts, the essential elements of which are set forth in the appended claims, and a preferred form of embodiment of which is hereinafter shown with reference to the drawings which accompany and form a part of this specification.

In the drawings:

Fig. 1 is a sectional, side elevation of the assembled device.

Fig. 2 is a sectional, end view, taken on line 2—2 of Fig. 1, looking in the direction indicated.

Fig. 3 is a sectional, top, plan view, taken on line 3—3 of Fig. 1, looking in the direction indicated.

Fig. 4 is a sectional, top, plan view, taken on line 4—4 of Fig. 1, looking in the direction indicated.

Fig. 5 is a perspective view of a saw arbor, frame support shown removed from the assembly to illustrate a preferred embodiment for maintaining the arbor in alignment with the primary drive shaft.

Fig. 6 is a diagrammatical layout of the assembly and is made to illustrate the same in relation to the central control station.

Like reference characters refer to like parts throughout the several views.

I have here shown my device in position relative to the transfer chains and platform, over which the materials to be trimmed or cut to length is made to pass. A frame structure consisting of posts 2 and 3, is suspended from the mill structure, the same being maintained in alignment by a cross brace 4. Mounted upon the post 2, and maintained within suitable journal bearings is the primary driving shaft 5 and mounted upon the oppositely disposed side of the post 2, is a journal bearing block 6, which is adapted to an up and down adjustment through the means of a set screw 7.

The bearing block 6 carries a shaft or axle 9, which in turn pivotally carries a combination belt-tightener and saw frame device, or
hanger. This comprises a sleeve 31A, riding shaft 3, which sleeve has two downwardly directed arms 34 and 34' each provided with a bore 30. The arm 34 has a horizontal extension 10 to which is attached the lever or bar 11, carrying a positionable weight 12.

A saw carrying frame indicated in its entirety by the numeral 6 is pivoted to a shaft 31 which in turn has its ends carried in the bores 30. Set screws 22 and 23 hold shaft 31 against movement. Frame 6 consists of two frame members 13 and 14 which are in the form of arms, provided with housings 17 and 18 respectively. The arms and housings are held together by means of the bolts 15 and 16. The housings have inwardly projecting annular faces 19 and 20 and a pulley 21 is mounted within the same and between the hub of which and the annular faces 19 and 20 are disposed frictionless bearings 22. Running transversely of the pulley 21 is a saw arbor 23, and a closure plate 24 is disposed upon one end of the arbor and collars 25 are disposed upon the oppositely disposed end with a saw 26A disposed therebetween. The pulley 21 has a central rib 28 against which the inner ends of the annular faces are made to engage. A groove 27 is disposed upon the inner face edge of each annular face, which may be filled with any suitable material, as felt, to maintain lubricants within the frictionless bearings. The pulley 21 is in alignment with the pulley 28 disposed upon the primary shaft 5, and a driving element 29 passes about the pulleys 21 and 28.

It will be seen that the saw frame is mounted at one end on rocker arms, the members 34 and 34', which when rocked in one direction move the pulley 21 toward pulley 28, and when rocked in the opposite direction move pulley 21 away from pulley 28. The normal tendency of arms 34 and 34' is to rock away from pulley 28 and therefore move pulley 21 away also, by reason of the gravitational pull on lever 11 and weight 12. This movement is limited by the belt 29, which will at all times be tightened sufficiently to drive the pulley 21. The tightness imposed upon the driving element 29 is dependent upon the position of the weight 12. The normal position of the saw 26 disposed upon the arbor 23, is that of being raised or elevated and out of contact with the material passing thereunder upon the table, and when it is desired to actuate any one of the cut-off saws to cut the material at any specified position, the particular saw to be actuated is lowered. This is accomplished in the following manner:

Each of the heads carrying a cut-off saw is depending from a link motion or lazy tongs, as illustrated in Fig. 1, at 34A, the lower end of which is secured to the cross supporting rod 35, the same being adjustably positioned through the adjustment of the turnbuckle 39 or by any other suitable adjusting means. The upper end of the link motion is depending from the link 37. The upper end of the link 37 is secured to a bell crank 38 rockably supported upon the cross shaft 38. Also to the bell crank 38 is fastened a connecting bar 40 secured to the hand operated lever 41. The hand operated lever 41 is carried upon a key board 42 conveniently located in advance of the seat 43, suspended from the superstructure of the mill, by any suitable supporting element, as a fabricated frame work 43. The position of the operator is conveniently located to permit of an inspection of the material passing over the table and it is highly desirable that the raising and lowering of the saws into and out of engagement be done by the least expenditure of muscular energy; this is greatly facilitated by the counterbalancing of the outer end of the saw head through the link 44, the lower end of which is secured to the saw arbor 23, and the upper end of which is secured to a counterbalanced arm 45. The counterbalanced arm 45 has a knife edge balance 46 resting upon a suitable bearing 47. The arm 45 carries an extension arm 49 provided with a counterbalance 48 which may be adjustably positioned to elevate or depress the arm 49.

A small movement imparted to the hand manipulating lever 41 is multiplied in the link motion 34A so that a small movement imparted to the hand lever is multiplied in the movement in raising and lowering the saw arbor and head with a minimum of expenditure of muscular effort.

While the form of mechanism herein shown and described, is admirably adapted to fulfill the objects primarily stated, it is to be understood that it is not intended to confine the invention to the one form of embodiment herein shown and described, as it is susceptible of embodiment in various forms, all coming within the scope of the claims which follow:

What I claim is:

1. In a device of the class described, in combination with a lumber trimmer, a saw arbor frame comprising two complementary arm members, extending forward and rearward respectively, a support bracket comprising a sleeve having a downwardly and rearwardly directed elbow provided with a bore in parallel alignment with the sleeve, the sleeve being pivotally connected with a journal bearing block by a supporting shaft, the rearwardly extending arm member, having a weighted element adjustably positioned thereupon being removably secured to elbow of the support bracket, the forwardly extending arm member being pivotally connected to the support bracket by a secondary shaft extending through bores of the support bracket, the forwardly extending arm being split and having housings with inwardly
projecting annular faces, a pulley positioned within annular faces and round saw arbor maintained in alignment with driving shaft pulley.

2. In a device of the class described, in combination with a lumber trimmer structure of a saw arbor frame, comprising two complementary arm members extending forward and rearward respectively, the rearwardly extending arm member movably connected with a journal bearing block by a supporting shaft, said journal bearing block removably secured to the structure and means for adjusting the same on said structure, a weighted element adjustably positioned on the rearwardly extending arm member, the forwardly extending arm member movably connected with the rearwardly extending arm member by a secondary shaft passing through bores of the support bracket secured to rearwardly extending arm member, adjusting means on support bracket to maintain said secondary shaft parallel to a primary drive shaft, said forwardly extending arm member being split and having housings with inwardly projecting annular faces, a saw arbor, a pulley upon said arbor, the hub of which being positioned within said annular faces and the rim of which being positioned exteriorly thereto, and frictionless bearings disposed between the annular faces and hubs of said pulley.

3. In a device of the class described, in combination with a lumber trimmer structure of a saw frame comprising two complementary arm members extending forward and rearward respectively and movably joined to a journal bearing block by a supporting shaft, the rearwardly extending arm member having a weighted element adjustably positioned thereon, the forwardly extending arm member being split, having housings with inwardly projecting annular faces, a pulley positioned within said annular faces and around saw arbor substantially as described.

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