My present invention relates to the general art of saw mill equipment and more particularly to a shadow-line indicator for trimming saws.

My invention consists of providing means whereby a shadow line can be projected so as to indicate the kerf to be cut by a circular trimming saw of the type commonly used in shingle mills and the like. My equipment uses a flat filament light source and a shadow producing blade which is capable of adjustment so that it may at all times take care of changes in saws, as to thickness, diameter, and the like. To accomplish this the shadow producing blade is placed between the light source and the work table and is arranged so that it can be adjusted in step with the varying angles that may be assumed by the work table under varying conditions to the end that it will produce a shadow-line that will be exactly the same in position as the kerf of the saw when a cut is made. Then, too, my blade is rotative upon its longitudinal axis so that varying widths of shadows can also be provided to take care of conditions as they are encountered. By this means one margin of the saw kerf can be sharply defined or, by proper adjustment of the blade, the entire extent of the saw kerf can be shown.

The principal object of my present invention is to provide a shadow-line indicator, for saws and the like, which is capable of being adjusted so as to produce a shadow that will give the sawyer an accurate index of the position of the saw which is temporarily obscured by the shingle or material that is to be sawed.

A further object of my invention is to provide a mounting for my shadow producing blade which will be capable of a sufficient range of adjustment so that, as the saws are changed or become smaller in diameter there use, thus necessitating a change in the angle of the pivoted work table, my shadow blade can be similarly adjusted so that accurate marking of the saw kerf can be obtained.

Another object of my present invention is to provide means whereby a saw kerf indicating shadow may be formed of whatever width desired, running from a sharply defined line indicating one edge of the saw kerf, to a width covering the entire saw kerf, or wider if the operator elects.

Another important object of my invention is to provide a shadow producing blade of such a shape as to constitute a guard.

Other and more specific objects will be apparent from the following description taken in connection with the accompanying drawings, wherein:

Figure 1 is a perspective view showing my device as mounted upon a shingle trimming saw.

Figure 2 is a cross-sectional view taken along the line 2-2 of Figure 4.

Figure 3 is a bracketed, exploded view showing the various parts used in my shadow producing blade mount.

Figure 4 is a side elevation showing a portion of a trimming saw together with the pivoted, holding work table and showing my light source and shadow blade in proper relationship to the saw and the work table.

Figure 5 is a top plan view of the left hand end of Figure 4.

Figure 6 is a fragmentary elevation taken from the left hand end of Figure 4.

Referring to the drawings, throughout which like reference characters indicate like parts, 8 designates a circular saw of the type generally used in trimming shingles, and it is with this type of saw equipment that my device is particularly adaptable. However, it is desired to point out that this form of shadow-line equipment may have many uses other than trimming shingles. Normally, when it is used in trimming shingles, a shingle supporting table, or work table, 10 is provided, hinged as at 12 to a pivot that is fixed with respect to the saw supporting frame. The platform of table 10 is held in the desired position by the tension spring 14, one end of which, as 15, is fixedly secured to a portion of the saw guard or frame and, through post 16 which is secured to the frame, the frame is held in its upper position substantially as indicated in Figure 4. As the saw wears, however, it will be apparent that its position will have to be changed so that the space between the under side of the platform, as viewed in Figure 4, and the outer tips of the teeth will be just enough to assure positive clearance.

Table 10 is provided with slots as 18 so that adjustment may be obtained for table 10 with respect to the pivot member 20, when proper adjustment has been obtained the securing screws are tightened so as to hold the adjusted position. The upward swing of the table, under urging of spring 16, is arrested by a tenon member as 22 which may be adjusted and tied as to a washer 19 which in turn is limited in its movement by an anchor pin 19a. In handling shingles it is normally desired to have a stop at 21 provided so that each shingle S can be easily placed in an exact position.

Disposed along the side of table 10 and just
sufficiently far removed from it so that there will be no contact with the same, is the means employed to support one end of the shadow producing blade 22. In order to provide adequate adjustment, for blade 22, the means provided with the pivot arm 24 and pivot 24a, which normally is reasonably close to pivot 12 so that as the angle of table 10 is changed, the entire supporting means for blade 22 may also be pivoted so that blade 22 will at all times be substantially parallel to table 10 when the latter is in its upper position, substantial as shown in Figure 4. Mounted on the pivot member is an upright hinge member 26; this I provide with a longitudinally extending slot 27 to which bracket 28 is secured, preferably by two bolts, so as to assure alignment as well as clamping action. This adjustment permits the operator to have a reasonable vertical adjustment of bracket 28. From a study of bracket 28, it will be noted that it, itself is provided with two parallel slots as 30 and 31 and a transverse slot as 32. The assembly including pivot arm 24, hinged member 25 pivoted therein, and the bracket support unit for fixed attachment to the end of the blade 22. The parallel slots 30 and 31 provide adjustment for the guard securing member 34 in a manner that it is believed will be clear from a study of the various views. Secured to a guard mounting member 34 is the guard backing 36; this in turn is provided with an adjustment slot as 38. The guard proper 40 is secured to backing 36 and, due to the adjustment provided by slots 30, 31 and 38, considerable range or adjustment is possible for guard 48 so that it may be adjusted to suit the saw to give adequate security to the operator as he reaches over the saw and, at the same time, definitely to provide, as adjustment takes place, a reasonable clearance from the teeth of saw 8. Adjustably secured in slot 22 is the upright support member 42. This member in turn has vertically secured to it a blade attaching member 44. This latter member is provided with a hole as 45 which accommodates bolt 46 which also passes through opening 47 of the shadow blade 22. With this arrangement it is believed it will be apparent that the blade, at the left hand end as viewed, may be adjusted laterally and may be rotated about the bolt passing through openings in members 42 and 44 so that as the light comes down past the bar 22 the same may be revolved so as to give the width of shadow desired. When the desired width is obtained all the adjusted positions are clamped to preserve the adjustment.

It will be apparent it is believed that as the left hand end of blade 22 is adjustable, the right hand end also must be adjusted if the blade is to be properly adjusted at all times for varying positions of table 10. This is attained by providing a blade attaching member 50 which is pivotally secured as by bolt 51 to blade 22 and in turn member 50 is pivotally secured to the upright pivot member 53. This pivot member is itself in turn hingedly secured to the hinge plate 54. Hinge plate 54 is provided with a longitudinally disposed slot 55 which is adapted to be secured by a suitable bolt as 56 to support bracket 58. Bolt 56 passes through a transversely disposed slot 59 in bracket 58 so that, at this point, it will be seen that the right hand end of blade 22 may be revolved about its longitudinal axis or may be adjusted about hinge pin 60 which passes through members 53 and 54 and it is also capable of lateral and longitudinal adjustment by virtue of the right angularly disposed slots 55 and 59.

Bracket 58 is in turn secured to the frame bracket 62. This bracket is also provided with a vertically disposed slot at 63 so that bolts 64 may secure member 58 in adjusted clamped position, the range of which adjustment is a function of the length of slot 63. Bracket 62 is secured as by bolt 65 to frame member 66. The assembly including frame bracket 62, support bracket 58 and hinge plate 54, comprises a fixed bracket support unit for the pivot attachment for the end of the blade 22, or whatever that supported by the pivoted bracket unit.

It has been found desirable to guard the sawyer against the possibility of a shingle being carried around by saw 8 and thrown up in the direction of the operator, or against the possibility of a shingle, after being sawn and removed by the operator, falling upon the ascending teeth of the saw. This protection has been provided in the guard flange 70 and guard bracket 72. Guard bracket 72 is secured to bracket 58 by means of bolt 73, passing through slot 75 and bolt hole 76.

This provides a pivoted guard bracket 72 which has the guard shoe portion 71. The other guard flange 70 is adjustably secured to member 72 by means of bolt 80 which passes through the vertically disposed slot 81 of member 72 and the horizontally disposed slot 82 of member 34. It has been found most convenient to employ, as a clamping means, the wing nut as 84 so that frequent adjustments can be easily made of guard 70.

It is particularly recommended, with this form of equipment, that an electric light 86 of the type employed as 88. This provides an electric light 86, which is adjustably positioned, and which may be used. Many forms of this type of light are available, such as that illustrated in Figures 1 and 2—being particularly desirable that the plane of the filament be in the plane of the light beam producing the shadow.

In using my equipment it is normally adjusted in a manner deemed most convenient to the operator using the same. Ordinarily it has been found that if the light is slightly back of the vertical plane of the saw it will be most useful. When so arranged the best lighting is obtained for the sawyer. From the above it will be evident, as the sawyer wants it, and of a width determined by the amount the blade is tilted from the plane parallel to the light beam for effective light adjustments of light 86, I provide the pivoted support member 87 which is disposed for partial revolution about bolt 88.

It will be understood, it is believed, that for the shadow to be most useful to the operator or sawyer, it should be uniform throughout its length. This, then, requires that the light source be substantially in a vertical plane through the axis of the rotation of the saw, and that blade 22 be parallel to table 10 when the same is in its upper position. It therefore follows, as the saw is raised or another saw of different size is used, that after table 10 is adjusted it is then necessary to adjust blade 22 by the means previously described, and whose adjustable features
are best illustrated in Figure 3. It is for this reason that it is very important that the two ends of blade 22 be supported on means capable of limited rotation and lateral, transverse, and vertical adjustment, which my present equipment, as illustrated, fully shows.

The foregoing description and the accompanying drawings are believed to clearly disclose a preferred embodiment of my invention, but it will be understood that this disclosure is merely illustrative and that such changes in the invention may be made as are fairly within the scope and spirit of the following claims.

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

1. A shadow-line indicator for trimming saws employing a pivoted spring-actuated work table for introducing the work to the saw in such a manner that the saw is concealed, said indicator including a pivoted bracket support unit comprising a hinge member, a bracket adjustably secured to said hinge member, and blade attaching means on said bracket; a fixed bracket support unit in opposed relationship to the pivoted bracket unit and comprising a support bracket, a hinge plate pivoted to said support bracket and blade-attaching means on said hinge plate, means for supporting said pivoted and fixed bracket units above the saw of the trimming mechanism and adjacent the work table, a shadow blade having greater width than thickness attached to the pivoted and fixed bracket support unit for rotative movement about its longitudinal axis and light means above said blade cooperable therewith to produce a line shadow on an object placed between the shadow blade and the trimming saw.

2. A shadow-line indicator for trimming saws employing a pivoted spring-actuated work table for introducing the work to the saw in such a manner that the saw is concealed, said indicator including a pivoted bracket support unit comprising a hinge member, a bracket adjustably secured to said hinge member, and blade attaching means on said bracket; a fixed bracket support unit in opposed relationship to the pivoted bracket unit, means for supporting said pivoted and fixed bracket units above the saw of the trimming mechanism and adjacent the work table, a shadow blade having greater width than thickness attached to the pivoted and fixed bracket support unit for rotative movement about its longitudinal axis and light means above said blade cooperable therewith to produce a line shadow on an object placed between the shadow blade and the trimming saw.

3. A shadow-line indicator for trimming saws employing a pivoted spring-actuated work table for introducing work to the saw in such a manner that the saw is concealed, said indicator including a pivoted bracket support unit, a fixed bracket support unit in opposed relationship to the pivoted bracket unit and comprising a support bracket, a hinge plate pivoted to said support bracket, and blade-attaching means on said hinge plate; means for supporting said fixed and pivoted bracket units above the saw of the trimming mechanism and adjacent the work table, a shadow blade having greater width than thickness attached to the pivoted and fixed bracket support unit for rotative movement about its longitudinal axis, and light means above said blade and cooperable therewith to produce a line shadow on an object placed between the shadow blade and the trimming saw.

4. A shadow-line indicator for trimming saws employing a pivoted spring-actuated work table for introducing work to the saw in such a manner that the saw is concealed, said indicator comprising a fixed bracket unit and a pivoted bracket support unit, means for supporting said fixed and pivoted bracket units above the saw of the trimming mechanism and adjacent the work table, a shadow blade having greater width than thickness pivotally attached to the pivoted and fixed bracket support units for rotative movement about its longitudinal axis, and light means above said blade and cooperable therewith to produce a line shadow on an object placed between the shadow blade and the trimming saw.

5. A shadow-line indicator for trimming saws employing a pivoted spring-actuated work table for introducing work to the saw in such a manner that the saw is concealed, said indicator comprising a pivoted bracket support unit, a fixed bracket support unit in opposed relationship to the pivoted bracket unit, means for supporting said fixed and pivoted bracket units above the saw of the trimming mechanism and adjacent the work table, a shadow blade having greater width than thickness attached to the pivoted and fixed bracket support units for rotative movement about its longitudinal axis, and light means above said blade and cooperable therewith to produce a line shadow on an object placed between the shadow blade and the trimming saw.

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