

[54] SAFETY GUARD FOR A SCRIBE SAW

[75] Inventor: Joseph E. Peter, Cincinnati, Ohio

[73] Assignee: Best & Donovan, Cincinnati, Ohio

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[51] Int. Cl. B27b 9/02

[58] Field of Search 30/371, 377, 391, 293,
30/292; 83/8

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Primary Examiner—Othell M. Simpson

Assistant Examiner—J. C. Peters

Attorney, Agent, or Firm—Wood, Herron & Evans

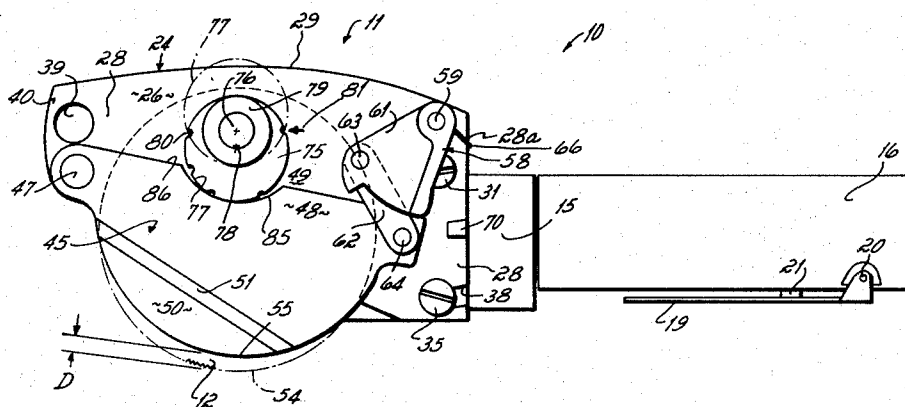
[57] ABSTRACT

A safety guard for a scribe saw that protects the entire periphery of the saw's circular blade when the saw is not in use, and that retracts to a preset depth for regulating the depth of cut desired when the saw is in use.

The safety guard structure includes a fixed cover mounted to the saw for protecting one segment of the circular blade, and a movable cover pivotally mounted to the fixed cover for protecting the other segment. The movable cover is adapted to pivot between a closed position and an open position, the movable cover overlying the circular blade's periphery for protecting against inadvertent contact when in the closed position and exposing the circular blade's periphery for cutting when in the open position. A trigger is interconnected by latch linkage with the movable cover; the trigger is spring loaded toward a position at which the linkage is disposed over center so as to restrain the movable cover in the closed position against inadvertent contact, and is manually actuatable out of the over center position so as to allow the movable cover to retract into the open position as the circular blade is engaged in a cutting attitude.

The depth of cut is regulated by limiting retraction of the movable cover. The depth of retraction of the movable cover is adjusted by rotating a depth disc that is eccentrically mounted on the fixed cover. The disc's periphery is in the nature of an adjustable abutment adapted to cooperate with a fixed abutment on the movable cover, the two abutments engaging or contacting one another to define the maximum limit of the movable cover's retracting or opening movement.

5 Claims, 5 Drawing Figures



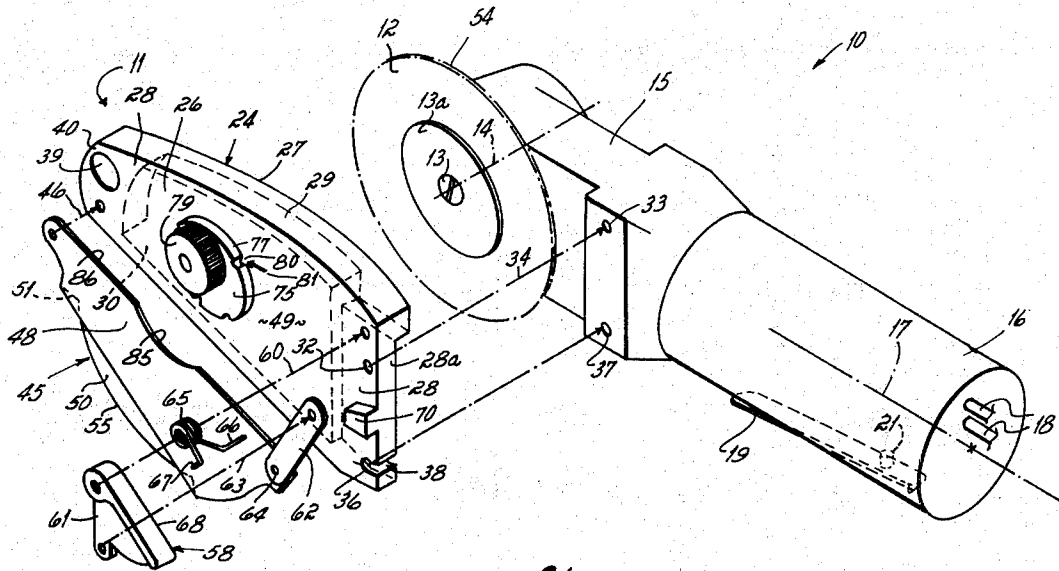


Fig. 1

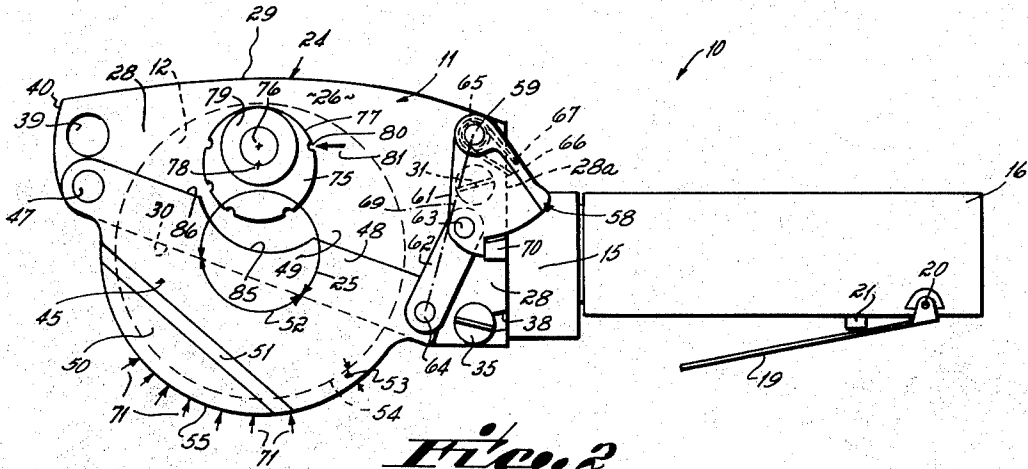


Fig. 2

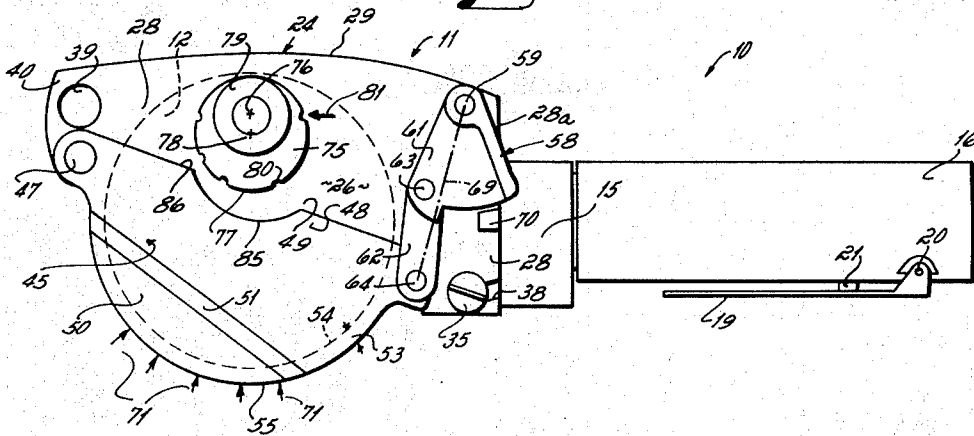


Fig. 3

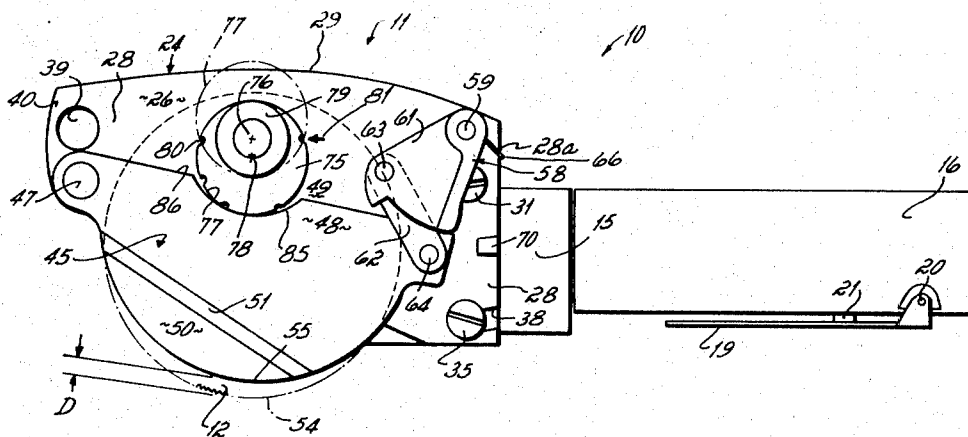


Fig. 4

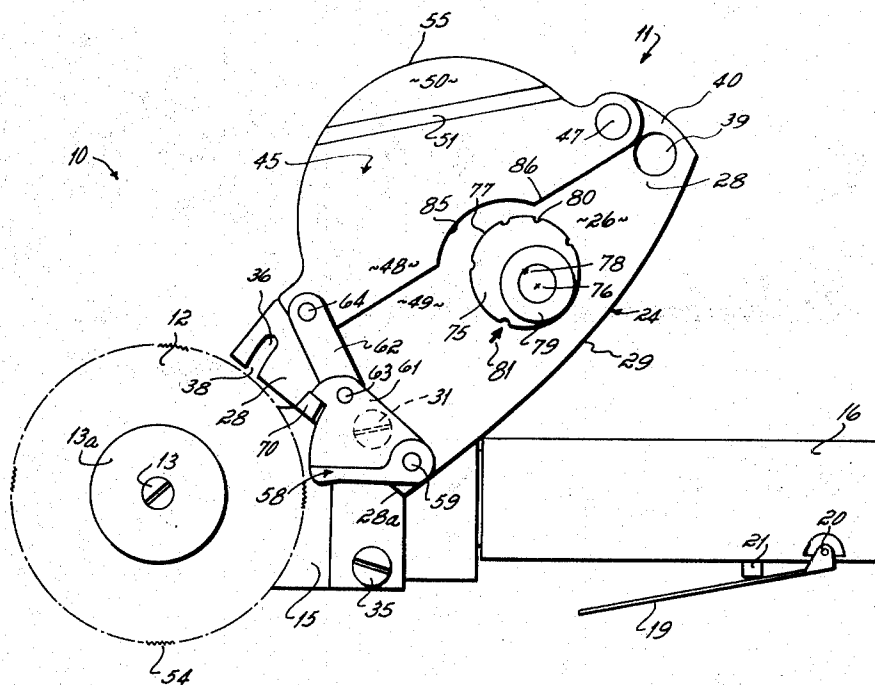


Fig. 5

SAFETY GUARD FOR A SCRIBE SAW

This invention relates to meat cutting machines and, more particularly, this invention relates to a meat cutting machine of the scribe saw type.

The use of meat cutting machines in the meat processing industry has become quite commonplace over the years in an effort to upgrade the economic efficiency of that industry. One basic class of meat cutting machine is that which makes use of a circular saw blade, the circular saw blade being rotated at a relatively high rpm to cut bone and/or meat in processing of the meat from carcass form to commercial meat cuts.

One particular type of meat cutting machine which makes use of a circular saw blade is known in the meat processing industry as a scribe saw. A scribe saw is mainly characterized by the structural combination of a circular saw blade, drive means for rotating the blade, and a handle for holding the saw during use. This structural combination is of relatively light weight such that it can be manipulated in use by an operator while, e.g., being held in one hand.

A scribe saw is mainly used for marking or scribing beef and/or pork carcasses. By marking or scribing is meant the cutting or sawing through of the rib bones in a carcass to enable an operator to pull the loin or bacon off the back of the carcass. Use of a high speed circular saw blade, in the form of a scribe saw, to perform this operation allows the number of carcasses processed per man hour to be greatly increased over manual sawing methods. This for the reason that marking or scribing of the carcass' rib bones allows the loin or bacon meat to be readily pulled off the rib bones through use of a loin pulling knife. Further, the high speed circular saw blade eliminates ragged edges and/or splinters in the rib bones that might arise in manual sawing methods. Such marking or scribing of the rib bones on a beef or pork carcass may be accomplished while the carcass is passing an operator's station on a moving conveyor, or may be accomplished while it is lying stationary on a table in front of an operator. The marking or scribing of a carcass also may be accomplished while the carcass is hanging from a hook on an overhead rail.

In use, a scribe saw of the prior art is usually stored in one of two different ways when not actually being grasped or held by an operator. First, the scribe saw may be provided with means which allows it to be hung on a wall hook during periods of nonuse. Second, the scribe saw may be hung from an overhead counterbalance mechanism, the scribe saw simply being pushed upwardly during periods of nonuse.

When processing beef and/or pork carcasses with a scribe saw, it is highly desirable to limit the depth of cut through the rib bones. This for the reason that it is undesirable to cut into the loin or bacon area of the beef or pork carcass when scribing the rib bones because such would adversely affect the commercial desirability of the meat cuts to be later cut from the bacon or loin removed from the rib bones. Toward this end, it is known to the prior art to provide a scribe saw with a depth gauge structure. The depth of cut is regulated by contact of the gauge's leading edge with the bones or meat to be cut.

such a depth gauge for a scribe saw may, for example, be in the nature of a plate-like section adapted to be preset as desired in a fixed position relative to the cir-

cular saw blade's periphery. That is, the gauge's plate-like section is adapted to be manually placed at differing locations relative to the cutting segment of the circular saw blade's periphery so as to allow different depth cuts to be accomplished by the scribe saw. In use, the plate-like section is preset in a fixed position at the desired location and is held immobile both before, during, and after the cutting operation. During the cutting operation the leading edge of the plate-like section engages the meat or bones when the saw blade reaches the preset cutting depth, thereby preventing the saw blade from cutting further into the meat or bones of the carcass. Various different depth gauge structures for a scribe saw are known to the prior art, one of which is illustrated in U.S. Pat. No. 2,987,084. The depth gauge structure disclosed in this particular patent includes a plate-like section mounted to the scribe saw's housing. The plate-like section is provided with a thumb actuable adjustment by which the operator may preset the plate-like section to that position desired relative to the periphery of the circular saw blade prior to use of the saw.

However, there is one serious drawback with depth gauges of the type known to the prior art for use in combination with scribe saws. While the depth gauge structure is, in fact, adjustable so as to allow a number of different cutting depths, the periphery or cutting edge of the circular saw blade is at all times exposed no matter what the depth gauge's setting. This for the reason that, of course, the circular saw blade's periphery must be exposed at least in part to the rib bones or meat on the carcass to permit the marking or scribing operation to proceed. Since the scribe saw's depth gauge provides only one function, namely, regulation of the depth of cut achievable by the scribe saw, it will be apparent that such cannot function as a safety guard structure for the exposed segment of the circular saw blade while the saw blade is disengaged from cutting contact with a carcass. This drawback will, of course, be readily apparent when reviewing the depth gauge structure for a scribe saw shown in U.S. Pat. No. 2,987,084 referred to above.

As mentioned, it is the non-guarded exposed segment of the circular saw blade that is presented in cutting contact with the meat carcass as the saw is used in the scribing operation. Thus, a scribe saw of the circular saw blade type presently known to the art may well provide potential safety hazards to the operator, and especially to the new or unskilled operator, since a relatively large segment of the saw blade's periphery is exposed at all times (even when a depth gauge is used in combination therewith). This may be especially the case as the saw is engaged with or disengaged from a cutting attitude with the meat carcass, i.e., just prior to or immediately after the cutting step. This because a large segment of the saw blade's periphery is exposed not only during cutting of the meat carcass, but also when the saw is not in cutting use. Such potential safety hazards are present, of course, even when the saw is being used by the most skilled operator with a great deal of care in the correct operational manner.

A typical example of such a potential safety hazard that may arise occurs where the scribe saw is hung from an overhead counterbalance mechanism. If an operator is making use of a scribe saw so hung, and if, for example, he is marking or scribing rib bones of carcasses on a table in front of him, it may very well prove desirable

to the operator to reorient or reposition the carcass so as to make the scribing operation a little easier for himself. To accomplish this, the operator may release the scribe saw while he rearranges or reorients the meat carcass on the table. (the scribe saw being retained at the set height level by the counterbalance mechanism from which it is hung). When the operator releases the scribe saw, and if same is not in a relatively plumb or vertical position, the saw will tend to swing back and forth in a pendulum-like arc. Even though most scribe saws have an automatic cut-off switch which turns off power to the saw when the off/on switch is released, it still requires a few seconds for the circular saw blade to coast to a complete stop. While the saw blade is coasting to a stop, and if the scribe saw is allowed to swing in a pendulum-like arc, the cutting segment of the circular saw blade's periphery may very well come into contact with an operator at an adjacent work station, or may, indeed, swing back into the operator making use of the scribe saw. Of course, because of the relatively high rpm at which the circular saw blade operates, contact of an operator's arm or hand with the cutting edge of the scribe saw would be dangerous indeed and obviously may provide a severe cut or worse. A depth gauge of the type known to the prior art does not overcome such a potential safety hazard for the reason that the depth gauge never totally encloses or protects the saw blade's cutting periphery since that is not its function.

Therefore, it has been one objective of this invention to provide a safety guard for a hand-held power saw of the circular saw blade type (e.g., a scribe saw commonly used in the meat processing industry), that safety guard being adapted to move between a closed position where the blade is substantially fully enclosed and an open position where cutting can be accomplished.

It has been a further objective of this invention to provide a safety guard for a hand-held power saw of the circular saw blade type (e.g., a scribe saw commonly used in the meat processing industry), that safety guard requiring manual activation by an operator before the saw can be used and being failsafe in structure so that same will always be closed except when the saw is engaged in a cutting attitude.

It has been still a further objective of this invention to provide a safety guard for a hand-held power saw of the circular saw blade type (e.g., a scribe saw commonly used in the meat processing industry), that safety guard cooperating with depth regulation means so as to function also as a depth gauge which allows an operator to make different depth cuts as desired.

It has been another objective of this invention to provide a safety guard for a hand-held power saw of the circular blade type (e.g., a scribe saw commonly used in the meat processing industry), that safety guard being easily movable as a unit from an operation or cutting attitude to a blade replacement attitude so as to permit simple replacement of the circular saw blade when desired by an operator.

It has been still another objective of this invention to provide a safety guard especially structured for a scribe saw of the type commonly used in the meat processing industry, that guard functioning to protect the circular saw blade's periphery during non-use, and functioning as a depth gauge during cutting use. In accomplishing the objectives of this invention there is provided a

novel safety guard especially structured for a scribe saw that protects the entire periphery of the saw's circular blade when the saw is not in use, and that retracts to a preset depth for regulating the depth of cut desired when the saw is in use.

The safety guard structure of this invention includes a fixed cover mounted to the saw for protecting one segment of the circular blade, and a movable cover pivotally mounted to the fixed cover for protecting the other segment. The movable cover is adapted to pivot between a closed position and an open position, the movable cover overlying the circular blade's periphery for protecting against inadvertent contact when in the closed position and exposing the circular blade's periphery for cutting when in the open position. A trigger is interconnected by latch linkage with the movable cover; the trigger is spring loaded toward a position at which the linkage is disposed over center so as to restrain the movable cover in the closed position against inadvertent contact, and is manually actuatable out of the over-center position so as to allow the movable cover to retract into the open position as the circular blade is engaged in a cutting attitude.

The depth of cut is regulated by limiting retraction of the movable cover. The depth of retraction of the movable cover is adjusted by rotating a depth disc that is eccentrically mounted on the fixed cover. The disc's periphery is in the nature of an adjustable abutment adapted to cooperate with a fixed abutment on the movable cover, the two abutments engaging or contacting one another to define the maximum limit of the movable cover's retracting or opening movement.

The movable cover, trigger, latch linkage, and depth disc are all directly connected with the fixed cover. The fixed cover is pivotally mounted to the saw's housing, although it is maintained in fixed relation thereto by a single thumb screw when the saw is in use. To change the circular saw blade, the thumb screw is simply released and the entire safety guard structure pivoted relative to the saw's housing so as to expose the circular blade.

Other objectives and advantages of this invention will be more apparent from the following detailed description taken in conjunction with the drawings in which:

FIG. 1 is an exploded perspective view illustrating the safety guard of this invention in combination with a scribe saw of the type commonly used in the meat processing industry;

FIG. 2 is a side elevational view of the combined safety guard structure illustrating the safety guard in the closed position with the saw's circular blade being completely protected against inadvertent contact by an operator;

FIG. 3 is a view similar to FIG. 2 but showing the trigger of the safety guard in the activated position (at which position the safety guard is retractable when the saw is in a meat cutting attitude);

FIG. 4 is a view similar to FIGS. 2 and 3 illustrating the safety guard in an open attitude and functioning as a depth gauge; and

FIG. 5 is a view similar to FIG. 2 but illustrating the safety guard in an opened attitude for replacing the saw blade.

GENERAL STRUCTURE AND OPERATION OF A SCRIBE SAW

A scribe saw 10 (i.e., a hand-held power saw) commonly used in the meat processing industry is shown in FIG. 1. The safety guard 11 of this invention is particularly adapted for use with the scribe saw 10.

As shown in FIG. 1, the scribe saw 10 includes a circular saw blade 12 fixed by a screw 13 to a drive shaft (not shown) on rotational axis 14. The circular blade 12 is connected to drive means (not shown) within housing 15. Handle 16 of the scribe saw is fixed to the housing 15, the cylindrical handle being substantially radially oriented relative to the circular blade 12 and having an axis 17 substantially perpendicular to the rotational axis 14 of the circular blade. The motor means (not shown), e.g., a pneumatic or hydraulic or electric motor, that provides the motive power for the drive means (not shown), may be located within the scribe saw's handle 16 if desired. Assuming a pneumatic motor is used (such are commonly used to power scribe saws), same is connected with a suitable air pressure source by air line 18. An off/on switch arm 19 is pivotally connected to the underside of the handle 16 at pin 20. The off/on switch arm 19 is adapted to cooperate with plunger 21 which, in effect, activates a valve (not shown) that controls the air supply to the pneumatic motor (not shown) inside the handle 16. Thus, off/on switch arm 19 controls rotation of the circular blade 12. The weight and size of the scribe saw 10 is such that it can be easily handled and used by an operator in one hand.

In use, it will be apparent that an operator can grip the scribe saw's handle 16 with one hand and, with the fingers of that hand, operate the switch arm 19 simply by alternately squeezing and releasing the switch arm. The 'off' attitude of the switch arm 19 is illustrated in FIG. 2, and the 'on' attitude of the switch arm is illustrated in FIGS. 3 and 4. Of course, in the 'off' attitude the circular blade 12 is stationary, and in the 'on' attitude the circular blade is rotating at a relatively high rpm. When the circular blade is rotating, the scribe saw 10 may be used by the operator to mark or scribe the rib bones of a beef or pork carcass.

Safety Guard Structure

The basic structural components of the safety guard 11 structure of this invention are particularly illustrated in FIG. 1. The basic structural components include a fixed cover 24 adapted to enclose (in combination with the housing 15) a segment 25 of the circular blade 12 equal to about one-half thereof. The fixed cover 24 is provided with a partially hollowed out interior as defined by full front wall 26, partial rear wall 27, side walls 28, and top wall 29, but is open at the bottom 30. In essence, the fixed cover 24 is particularly configured to enclose the top segment 25 of circular blade 12 when the cover 24 is fixed to the housing 15. Note that the fixed cover 24 has a hole 39 defined in the nose 40 thereof. The hole 39 is adapted for cooperative use with a wall hook (not shown) so that the scribe saw 10 may be hung up, if desired, when not in use since the fixed cover 24 is mounted to the saw's housing 15.

The fixed cover 24 is directly connected to the housing 15 at a permanent pivotal connection 31 by being bolted through hole 32 into tapped hole 33 defined in the housing, the fixed cover 25 being pivotable on axis

34. The fixed cover 24 is held in fixed relation with the housing 15 (when the safety guard 11 is in the operational attitude as shown in FIGS. 2-4) by means of thumb screw 35 being received through the cover's cut out hole 36 and into the housing's tapped hole 37. The throat 38 defined by the cut out hole 36 allows the fixed cover 24 to be pivoted about axis 34 when desired by the operator simply upon loosening of the thumb screw 35.

It will be seen from FIG. 5 that pivoting of the fixed cover 24 from that attitude illustrated in FIGS. 2-4 to that attitude illustrated in FIG. 5 allows the circular blade 12 to be easily changed. This for the reason that all other structural components of the safety guard 11 are directly connected to the guard's fixed cover 24. Thus, when the fixed cover 24 is pivoted from the 'in use' operational attitude illustrated in FIGS. 2-4 to the 'blade change' attitude illustrated in FIG. 5, all other safety guard 11 components are pivoted therewith and this, of course, makes changing of the circular blade 12 by the operator relatively easy (i.e., removal of screw 13 and a washer 13a) since all components of the safety guard 11 have been pivoted out of the way to totally expose the circular blade free of the safety guard 11 structure.

The safety guard's basic structural components also include a movable cover 45 directly and pivotally connected by pin 47 to the nose 40 of the fixed cover 15, see FIGS. 1-5. The movable cover 45 is adapted to pivot about axis 46 of its connection between a closed position (FIG. 2) and an open position (FIG. 4), the movable cover overlying the circular blade's periphery for protecting against inadvertent contact when in the closed position and exposing the circular blade's periphery for cutting when in the open position. The cover 45 is configured so that section 48 overlies the outside face 49 of the fixed cover 24 and so that section 50 lies closely adjacent the surface of the circular blade 12; note that a transition section 51 interconnects those two sections 49, 50 since the sections 49, 50 are in different planes that are parallel one to the other.

As illustrated in FIG. 2, the movable cover 45 is particularly configured to protect the bottom segment 52 of the circular blade 12 when the movable cover is in the closed position. That is, the movable cover 45 is sized and configured to provide an arcuate segment 53 adapted to overlie and extend beyond the circular blade's periphery 54 when the movable cover is in the closed position. It is, of course, a major portion of the circular blade's segment 52 that is presented to the meat carcass during cutting use of the scribe saw 10, as can be seen in FIG. 4.

Note that the leading edge 55 of the movable cover 45, i.e., the outermost edge of the cover's arcuate segment 53, is substantially concentric with the circular blade 12 but is of a slightly greater radius. The extent of which the movable cover 45 overlaps the circular blade's periphery 54, i.e., the width of the movable cover's peripheral segment 53, is such that an operator's hand inadvertently contacting the leading edge 55 of the movable cover 45 would not contact the periphery 54 of the circular blade 12. Thus, the movable cover 45 is adapted to protect about one-half of the circular blade's periphery 54, and the fixed cover 24 (in combination with housing 15) is adapted to enclose the other half of the circular blade's periphery, when the safety guard is closed as shown in FIG. 2.

A trigger mechanism interconnects the fixed cover 24 with the movable cover 45. The trigger mechanism particularly includes a trigger 58 pivotally mounted by pin 59 to the blade's fixed cover 24, the trigger being adapted to pivot about axis 60. The trigger 58 is formed integral with a first latch link 61. A second latch link 62 is pivotally connected at one end, as at 63 to the first latch link 61 and at the other end as at 64 to the movable cover 45.

The latch linkage 61, 62 is continually urged toward an over-center position illustrated in FIG. 2, i.e., the trigger 58 is continuously urged counterclockwise as illustrated in FIG. 2, to restrain or latch the movable cover 45 in the closed position when the scribe saw 10 is not in use. Such is accomplished by means of a coil spring 65 axially located on pin 59. Foot 66 of the spring 65 engages the outside end surface 28a of the fixed cover 24, and foot 67 of the spring engages a hole (not shown) on the inside surface 68 of the trigger 58. Since the spring 65 is loaded so that foot 67 tends to move counterclockwise of foot 66, the trigger 58 is spring loaded counterclockwise, too.

The links 61, 62 are stopped at the over-center position (where the movable cover 45 is in the closed position), i.e., the links are stopped in the FIG. 2 position once they have passed centerline 69 connecting the free ends of the links, by link end 61 abutting stop 70. The stop 70 is formed integral with the fixed cover 24, and when the latch linkage abuts the stop the movable cover 45 is effectively located in the closed position. Force along lines 71 exerted on peripheral edge 55 of the movable cover 45 will tend to collapse or force the linkage 61, 62 against stop 70 since the linkage is in the over-center position. This, of course, prevents the movable cover 45 from opening or retracting when the linkage is over center.

Thus, when the scribe saw 10 is disengaged from a cutting attitude with a meat carcass, and when the operator's thumb is disengaged from the trigger 58, the movable cover 45 will always return to that closed attitude illustrated in FIG. 2 since it is continuously biased theretoward by spring 65. When in the closed or link 61, 62 over-center position, it is not possible to retract the movable cover 45 because link 61 is forced against stop 70 if force is exerted on the movable cover along force lines 71. Further, note particularly that the trigger 58 is positioned closely adjacent the scribe saw's handle 16. This enables an operator to easily actuate the trigger 58 with the thumb, while activating the off/on switch arm 19 with the fingers of that hand holding the scribe saw 10. Thus, when it is desired to make use of the scribe saw 10, the trigger is depressed out of the over center-position, i.e., to the left of link centerline 69, so as to allow the movable cover 45 to retract into the open position as the circular blade 12 is engaged in the cutting attitude, see FIG. 4. This for the reason that the linkage 61, 62 will readily collapse when force is applied to the movable cover along lines 71 as long as the linkage point 63 is free to move up as is the case when trigger 58 locates it to the left of link centerline 69, i.e., out of the over center-position.

The safety guard 11 of this invention is also adapted to function as a depth gauge. The depth of cut is regulated by limiting retraction of the movable cover. The depth of retraction of the movable cover 45 is adjusted by rotating a depth disc 75 that is mounted on the fixed cover 24.

The depth disc 75 is adapted to rotate about axis 76, is circular in configuration (i.e., possesses a circular periphery 77), and is of a discrete thickness, see FIG. 1. It will be noted that the depth disc 75 is eccentrically mounted to the fixed cover 24 since rotational axis 76 is substantially removed from geometric center 78 of the circular disc, see FIG. 2. A knurled knob 79 is fixed in place on the depth disc 75 in a concentric fashion about rotational axis 76, thereby permitting easy manual rotation of the depth disc by an operator. The depth disc 75 is also provided with a series of detents or markings 80 about its periphery, these markings being adapted to cooperate with a locator mark 81 formed in the outside surface of the fixed cover 24, for establishing easy reference points to different cutting depths. Thus, the depth disc's periphery 77 is in the nature of an adjustable abutment adapted to cooperate with the movable cover 45 as explained below.

The movable cover 45 presents an abutment, in the nature of a disc-shaped notch 85, that is fixed relative to the movable cover since it is defined from top edge 86 thereof. Note that the movable cover's upper section 48 has a discrete thickness and is in the same plane as the depth disc 75, the two abutments 77, 85 thereby being adapted to engage or contact one another to define the maximum limit of the movable cover's retracting or opening movement, see FIG. 4. Although a disc-shaped notch 85 is shown as the movable cover's abutment, it will be understood that any abutment means fixed to the movable section 45 could be used.

Thus, the depth of cut D available from the scribe saw 10 is regulated by the orientation of the depth disc 75. When the eccentrically mounted disc 75 is in the solid line position illustrated in FIG. 4 the minimum depth of cut is available, and when the depth disc is in the phantom line position illustrated in FIG. 4 the maximum depth of cut is achieved. This for the reason that the depth disc's peripheral edge 77 is oriented to abut the movable cover 45 (within disc-shaped notch 85 defined in the movable section's top edge 86) as the movable cover 45 is retracted from the closed position to the open position. That is, the depth disc 75 provides an adjustable abutment that is movable relative to that segment of the circular blade's periphery 54 which is exposed during cutting. Because the depth disc's periphery 77 is so movable, and because same cooperates with an abutment fixed to the movable cover 45, it will be seen that the pivotal movement of the movable cover 45 about axis 46 is limited. Therefore, the movable cover 45 can never retract beyond a preset depth as regulated by the depth disc's cooperative engagement with the movable cover's notch 83. This provides a plurality of different cutting depths D available to the operator, as desired.

In use, the depth disc 75 is first adjusted to provide that depth of cut D desired by the operator. The depth disc 75 is simply rotated about axis 76 until the desired depth is indicated by notch 80 on the disc registering with pointer 81 on the fixed cover 24. The operator then grips the handle 16 and, simultaneously, actuates the off/on switch arm 19 so as to start rotation of the circular blade 12. The thumb on that hand of the operator gripping the handle 16 then depresses the trigger 58 in a clockwise attitude, as shown in the Figures, until linkage point 63 passes linkage centerline 69. This releases the latch linkage 61, 62 from the over-center or

locking attitude in which the movable cover 45 cannot retract in response to force lines 71.

Once the linkage pivot point 63 has passed to the left of the critical centerline 69 as indicated in FIG. 3, force exerted long lines 71 on arcuate edge 55 of the movable cover 45 will cause the movable cover to pivot about axis 46 and the linkage 61, 62 to further collapse. Force along lines 71 is generally exerted on the movable cover 45 by virtue of the circular blade 12 being pressed into a cutting attitude on the rib bones of a meat carcass which are to be cut. As the operator depresses the circular blade 12 into cutting contact with the meat carcass' rib bones, the movable section is pivoted counterclockwise as illustrated in the Figures until the full depth of cut D is established as illustrated in FIG. 4. The depth of cut D is limited, as before explained, by abutment of the depth disc 75 against the notch 85 defined in the upper edge 86 of the movable cover 45 since both the disc and the top section 48 of the movable cover are in the same plane.

When the desired cut has been made in the rib bone structure of the meat carcass, the scribe saw 10 is simply withdrawn from cutting engagement with the carcass and the trigger 58 released by the operator if the operator is still depressing the trigger in the counterclockwise direction. At this point, and because of the continual clockwise bias induced on the trigger and link 61 by spring 65, the linkage 61, 62 is erected back from the collapsed attitude shown in FIG. 4 into the over center attitude illustrated in FIG. 2. Once the connection point 63 of the latch links 61, 62 passes to the right of critical centerline 69, as illustrated in FIG. 2, it is no longer possible to open or retract the movable cover 45 from the closed position by exerting force along lines 71 on edge 55. This for the reason that the link 61 integral with the trigger 58 has engaged stop 70 integral with the fixed cover 24 to prevent further counterclockwise rotation of the trigger.

Having described in detail the preferred embodiment of my invention, what I desire to claim and protect by Letters patent is:

1. A safety guard for a hand held power saw, said saw including a circular blade, comprising
 - a fixed cover mounted to the saw to overlie one segment of the circular blade's periphery,
 - a movable cover pivotally mounted to the saw, said movable cover being adapted to pivot between a closed position where same overlies the other segment of the circular blade's periphery for protecting against inadvertent contact with that other segment, and an open position where same exposes the other segment of the circular blade's periphery for cutting,
 - over-center type latch linkage comprising a first latch link pivotally mounted at one end to said fixed cover and a second latch link pivotally mounted at one end to said movable cover, said links being pivotally connected together at their other ends, and said links being in an over-center position to one side of an imaginary center line that connects the pivot mounting points of said two links with their respective covers when said movable cover is in the closed position,
 - a spring connected with said latch linkage, said spring being disposed to continuously bias said latch linkage toward the over-center position,

a stop mounted to the saw, said latch linkage being adapted to abut against said stop to prevent collapse of said latch linkage when said latch linkage is in the over-center position and an opening force is applied against said movable cover, thereby preventing retraction of said movable cover into the open position when said movable cover is closed, and

a trigger integral with said first latch link and positioned adjacent the saw's handle, said trigger allowing said latch linkage to be manually actuated out of the over-center position to the other side of the imaginary center line that connects the pivot mounting points of said two links with their respective covers to permit collapse of said linkage when an opening force is applied against said movable cover, thereby allowing retraction of said movable cover into the open position from the closed position.

2. A safety guard as set forth in claim 1, said movable cover, trigger, latch linkage and stop being directly connected to said fixed cover, and said fixed cover being pivotally mounted to the saw's housing in a manner that allows the entire safety guard to pivot relative to the saw's housing to expose fully the saw's circular blade, thereby allowing the circular blade to be easily changed when desired.

3. A safety guard for a hand held power saw, said saw including a circular blade, comprising

- a fixed cover mounted to the saw to overlie one segment of the circular blade's periphery,
- a movable cover pivotally mounted to the saw, said movable cover being adapted to pivot between a closed position where same overlies the other segment of the circular blade's periphery for protecting against inadvertent contact with that other segment and an open position where same exposes that other segment of the circular blade's periphery for cutting,

latch linkage interconnected with said movable cover, said linkage being operable to restrain said movable cover in the closed position when said saw is not in use, and to allow said movable cover to retract into the open position when use of said saw is desired,

an adjustable abutment in the form of a disc eccentrically mounted to one of said saw and said movable cover, said adjustable abutment being adapted to limit retraction of said movable cover to a preset depth of cut, and

a fixed abutment mounted to the other of said saw and said movable cover, said depth disc's periphery being adapted to cooperate with said fixed abutment to define the maximum limit of said movable cover's open position.

4. A safety guard as set forth in claim 3, said depth disc being mounted to said fixed cover and positioned in the same plane as the upper section of said movable cover, said movable cover's fixed abutment being the upper edge of said movable cover.

5. A safety guard as set forth in claim 3, said movable cover, latch linkage and adjustable abutment being all directly connected to said fixed cover, and

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said fixed cover being pivotally mounted to the saw's housing, said fixed cover being maintained in fixed relation to the saw's housing in a manner that allows the entire safety guard to pivot relative to the

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saw's housing to expose fully the saw's circular blade, thereby allowing the circular blade to be easily changed when desired.

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