T. COATES.

SAW GUARD.

APPLICATION FILED MAR. 3, 1913.

1,099,588.

Patented June 9, 1914.

2 SHEETS—SHEET 1.

FIG. 1

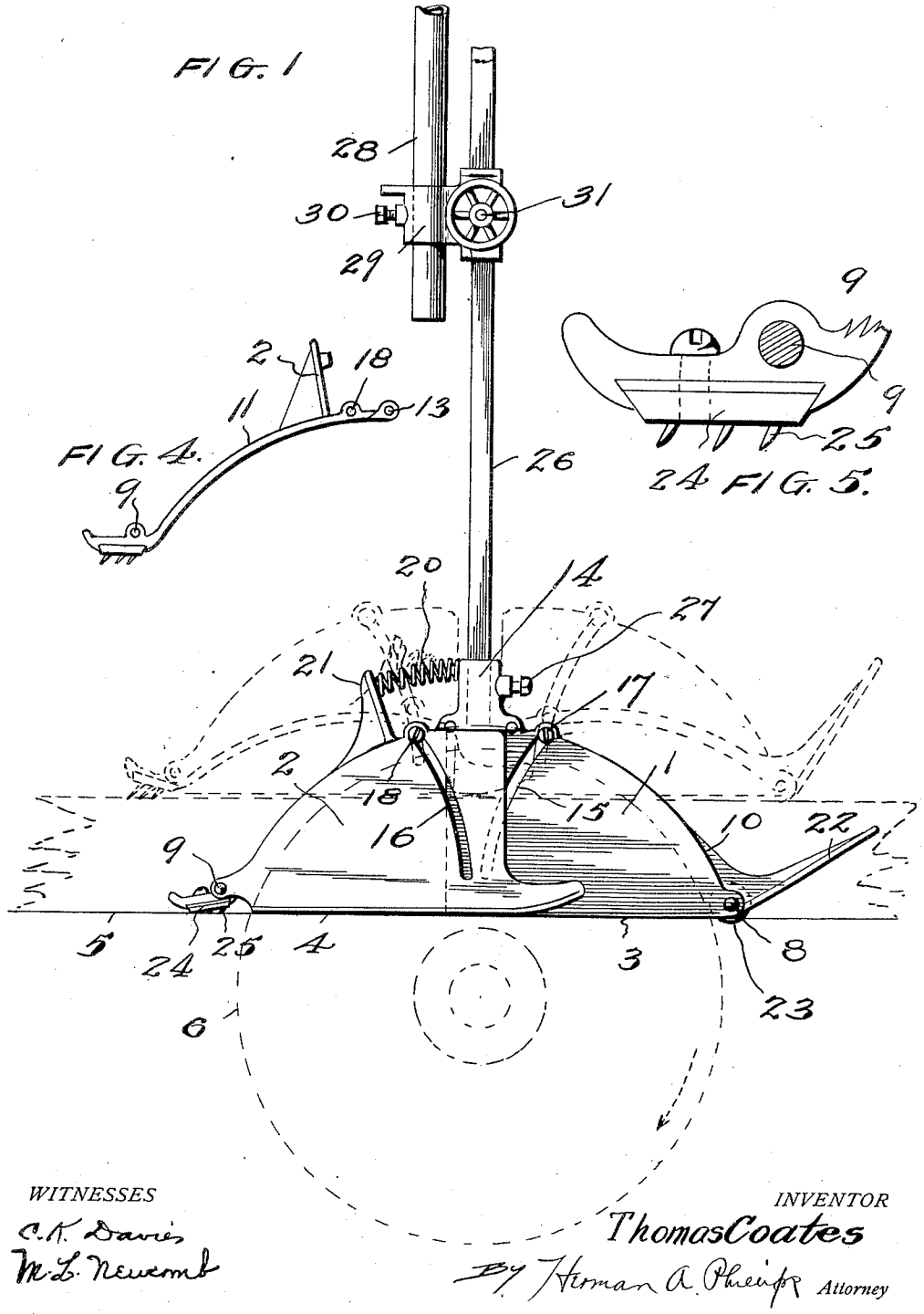


FIG. 4.

24 FIG. 5.

WITNESSES

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2 SHEETS—SHEET 2.

FIG. 2

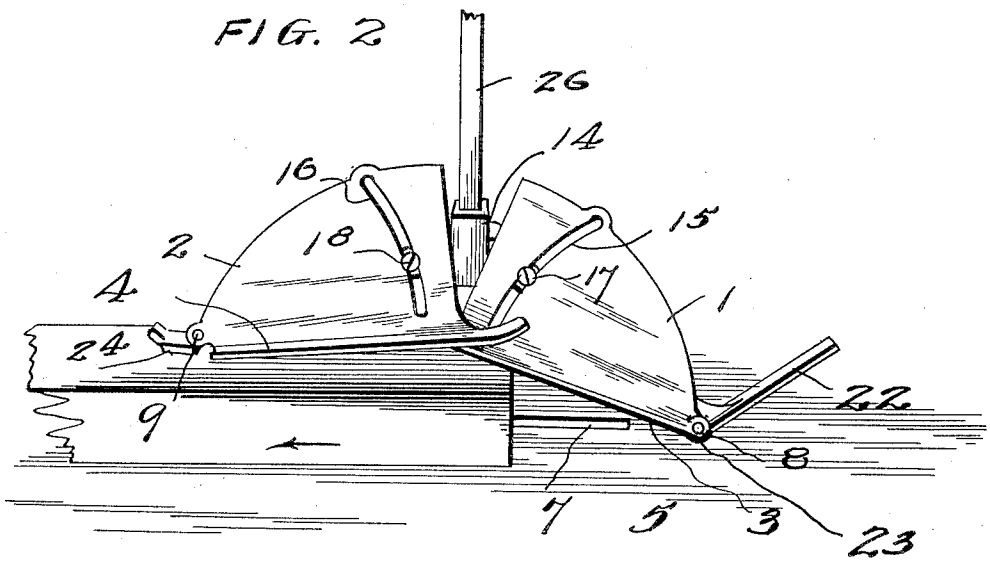
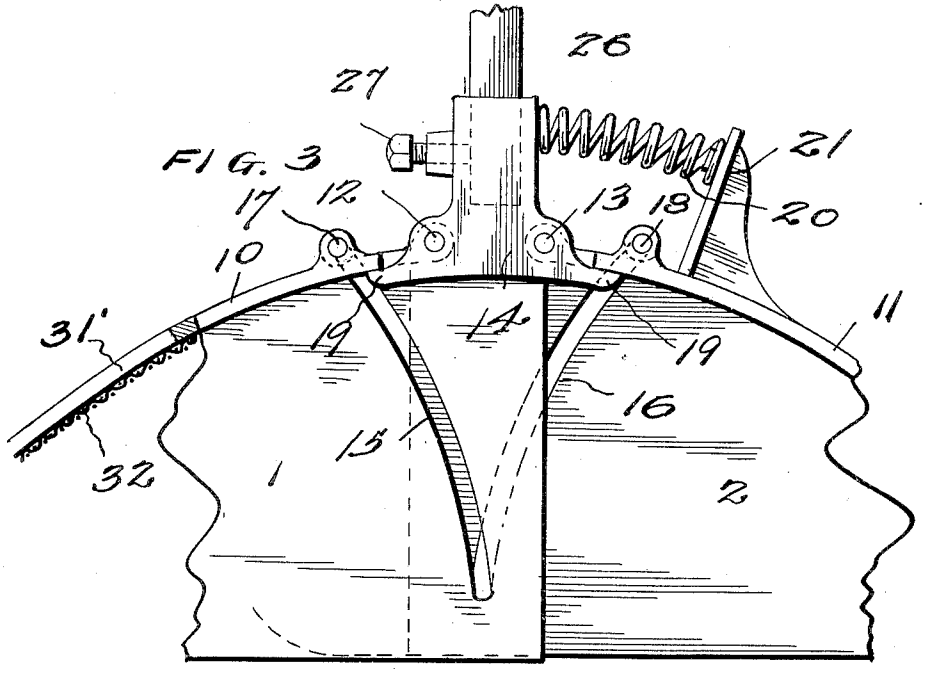


FIG. 3



WITNESSES

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UNITED STATES PATENT OFFICE.

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SAW-GUARD.

1,099,588. Specification of Letters Patent. Patented June 9, 1914.

Application filed March 3, 1913. Serial No. 751,901.

To all whom it may concern:

Be it known that I, THOMAS COATES, a citizen of the United States, residing at St. Paul, in the county of Ramsey and State of Minnesota, have invented certain new and useful Improvements in Saw-Guards, of which the following is a specification.

The invention relates to improvements in saw guards for circular saws and is designed to provide an automatic safety device or cover to be used as a protection for the operator of the saw mill.

The primary object of the invention is the provision of a safety device applicable for use with circular saws that will with facility, adjust itself to any thickness of lumber within limits, that will be facile and efficient in operation, and that is comparatively inexpensive in cost of production.

The invention consists essentially in certain novel combinations and arrangements of the cover and side plates as will be more particularly pointed out hereinafter.

In the accompanying drawings I have illustrated one complete example of the physical embodiment of my invention according to the best mode I have so far devised for the practical application of the principles, and such construction has proven highly satisfactory in actual use.

Figure 1 is a side elevation of the guard and its attachments, showing in dotted lines the position of the guard when lifted by a passing piece of lumber. Fig. 2 is a similar view showing the position of the parts with a piece of lumber passing from under the guard. Fig. 3 is an enlarged detail view of the central portion of the guard, taken from the side opposite that shown in Figs. 1 and 2. Fig. 4 is a detached view of the rear cover. Fig. 5 is an enlarged view of the safety block at the extremity of the rear cover.

In the preferred embodiment of my invention I employ a pair of side plates, the front designated as 1 and the rear one as 2. These plates are preferably of comparatively thin metal, either cast or sheet, and are fashioned at their straight edges with flanges 3 and 4 respectively which are adapted to rest upon the saw table or bench 5, and when in normal position are adapted to overlap, as seen in Figs. 1 and 2. The side plates are curved to conform to the circular saw indicated by dotted lines 6 in Fig. 1 and the saw is adapted to turn in the direction indicated by the arrow, in the slot 7 of the table (Fig. 2). The side plates are pivotally supported at 8 and 9 respectively at the lower ends of the front cover 10 and rear cover 11. The covers 10 and 11 are preferably castings of a suitable width and thickness and are pivotally supported at 12 and 13 from the block 14, and extend in both directions therefrom, over the saw 6. The side plates are movable relative to the covers and are guided, as they swing on their pivots 8 and 9, by the slots 15 and 16 (struck from the centers 8 and 9) and the guide screws or bolts 17 and 18 carried by the covers 10 and 11 respectively. The block 14 is fashioned with lugs 19 upon which the covers 10 and 11 rest, and these lugs prevent the covers falling, but do not interfere with any upward movement that may be imparted to the covers. Thus the covers 10 and 11 are adapted to swing outwardly and upwardly on their pivots 12 and 13, and it will also be seen that the side plates 1 and 2 may swing on their pivots 8 and 9 with relation to the covers and are guided by the slotted construction described. When lifted and released, the front cover may return to lowered position by gravity, but I provide a spring 20 interposed between a bracket 21 on the cover 11 and the block 14, by which the rear cover and side plate are returned to position. The front cover 10 is provided with a forwardly, obliquely inclined, extension 22, and an antifriction roller 23 is journaled in the cover in position to roll on the timber as it passes under the cover. The rear extremity of the rear cover is provided with a safety block 24 dovetailed in the cover, and having secured thereto a number of spikes or pins 25 adapted to engage the lumber or timber passing under the guard to prevent the lumber "throwing back" as this action is termed.

The device is suspended bodily over the saw and when not in use rests upon the table. The device is suspended from a squared post 26 which projects into the socketed block 14 and is there held by a bolt or set screw 27. And the post is adjustably supported from the pipe or bracket 28 by means of the movable block 29 secured to the bracket 28 by a bolt 30 and to the post 26 by a similar device 31. A slot 31′, in the

front cover, permits inspection of the interior of the guard, and a wire mesh 32 is used thereon as a protective agency.

In operation assuming the parts to be in full line position Fig. 1, a piece of lumber is fed to the saw and as it contacts with the extension or horn 22 of the front cover, said cover is lifted on its pivot 12 until it finally assumes the position in dotted lines. The side plate 1 is also lifted, bodily, with the cover and the moving lumber engages the edge 3 of the plate and moves the plate on its pivot 8. The swinging movement imparted to the side plate 1 also lifts the plate 2 on its pivot 9, and as the sawed end of the lumber passes out from under the rear cover that cover also is swung on its pivot 18 until the parts assume the position in dotted lines Fig. 1. As the last end of the timber passes out from the saw guard, the plates and covers return to position after the manner shown in Fig. 2, and the safety block 24 prevents a "throw back" as the timber leaves the saw. When it is desired that the guard be removed to afford access to the saw, for the purpose of changing or for other reason, the bolt 31 is loosened and the post 26 is raised, carrying with it the complete device, which may thus be lifted up to the bottom or lower end of the bracket arm 28. The device may also be adjusted to desired position in this manner and there held by the screw bolt 31, as will be understood.

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

1. The combination in a saw guard with a support, of a pair of oppositely disposed covers each pivoted at one end to the support, side plates pivoted at the free end of each cover and formed with a circular slot, and a bolt in each cover coacting with the side plates to guide the same.

2. The combination in a saw guard with a block having supporting lugs, of a pair of oppositely disposed covers pivoted to said lugs, side plates pivoted at the free end of each cover and formed with a circular slot, and a bolt in each cover co-acting with the side plates to guide the same.

3. The combination in a saw guard with a support, of a pair of oppositely disposed covers each pivoted at one end to the support, side plates pivoted at the free end of each cover and formed with a circular slot, a bolt in each cover co-acting with the side plates to guide the same, and a spiked block on the lower end of the rear cover to prevent reverse movement of a passing timber.

In testimony whereof I affix my signature in presence of two witnesses.

THOMAS COATES.

Witnesses:
THOS. ERNEST NICHOLSON,
JOHN PETER GARDINER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."