

No. 611,725.

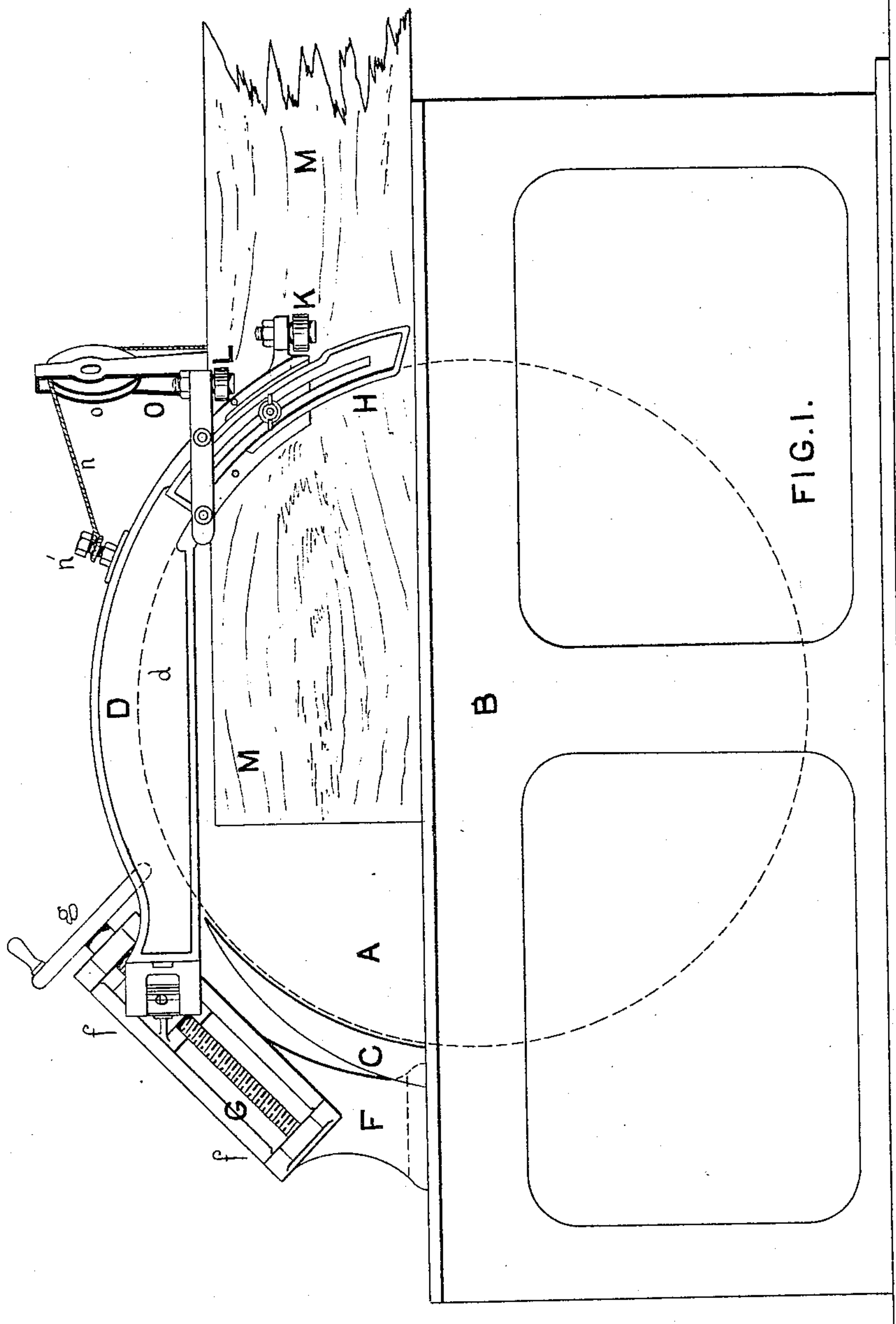
Patented Oct. 4, 1898.

E. WILLIAMS.
GUARD FOR CIRCULAR SAWS.

(Application filed Dec. 21, 1897.)

(No Model.)

4 Sheets—Sheet 1.



WITNESSES

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Harry Barnfather.

INVENTOR

Edward Williams
J. D. Owsen, atty.

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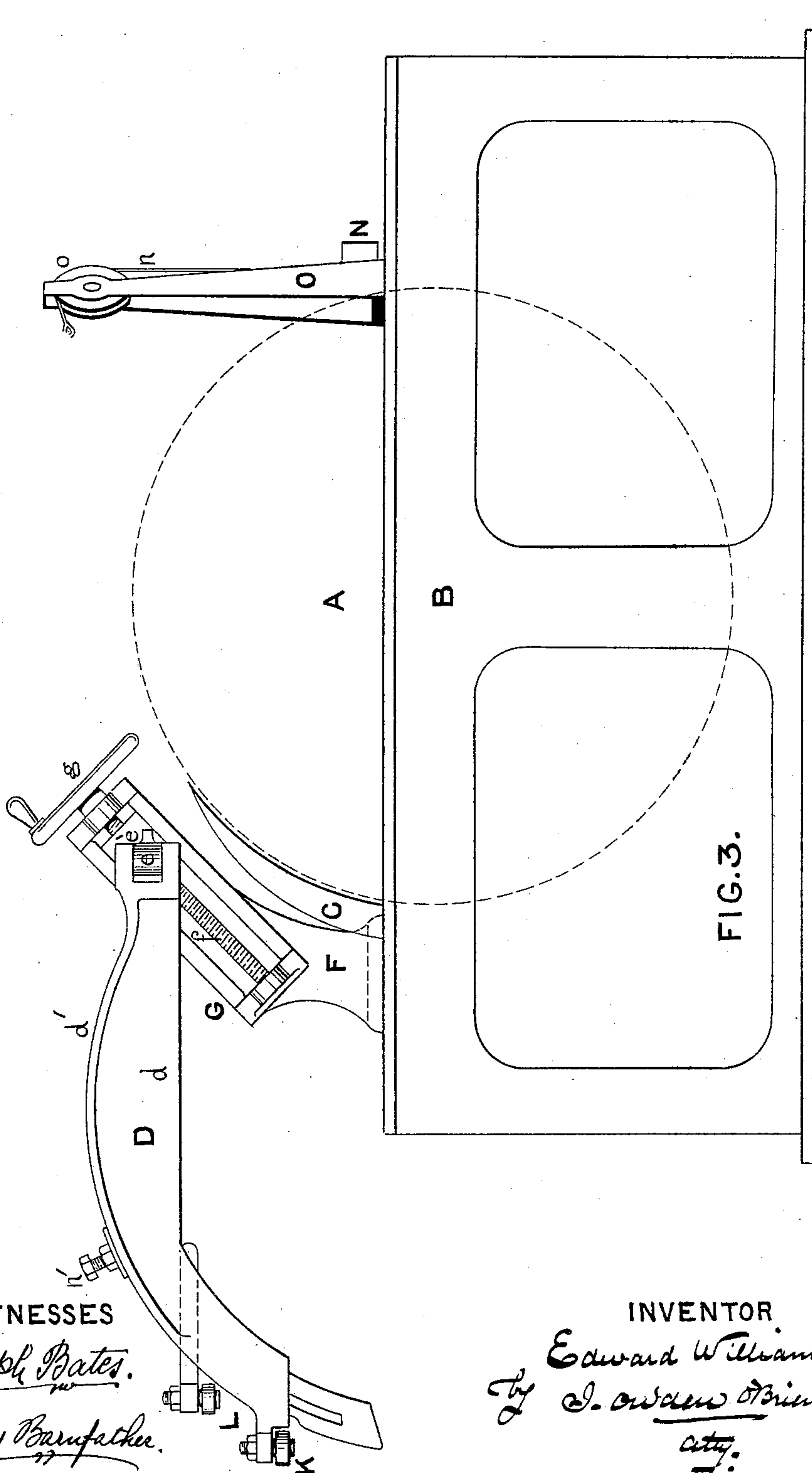
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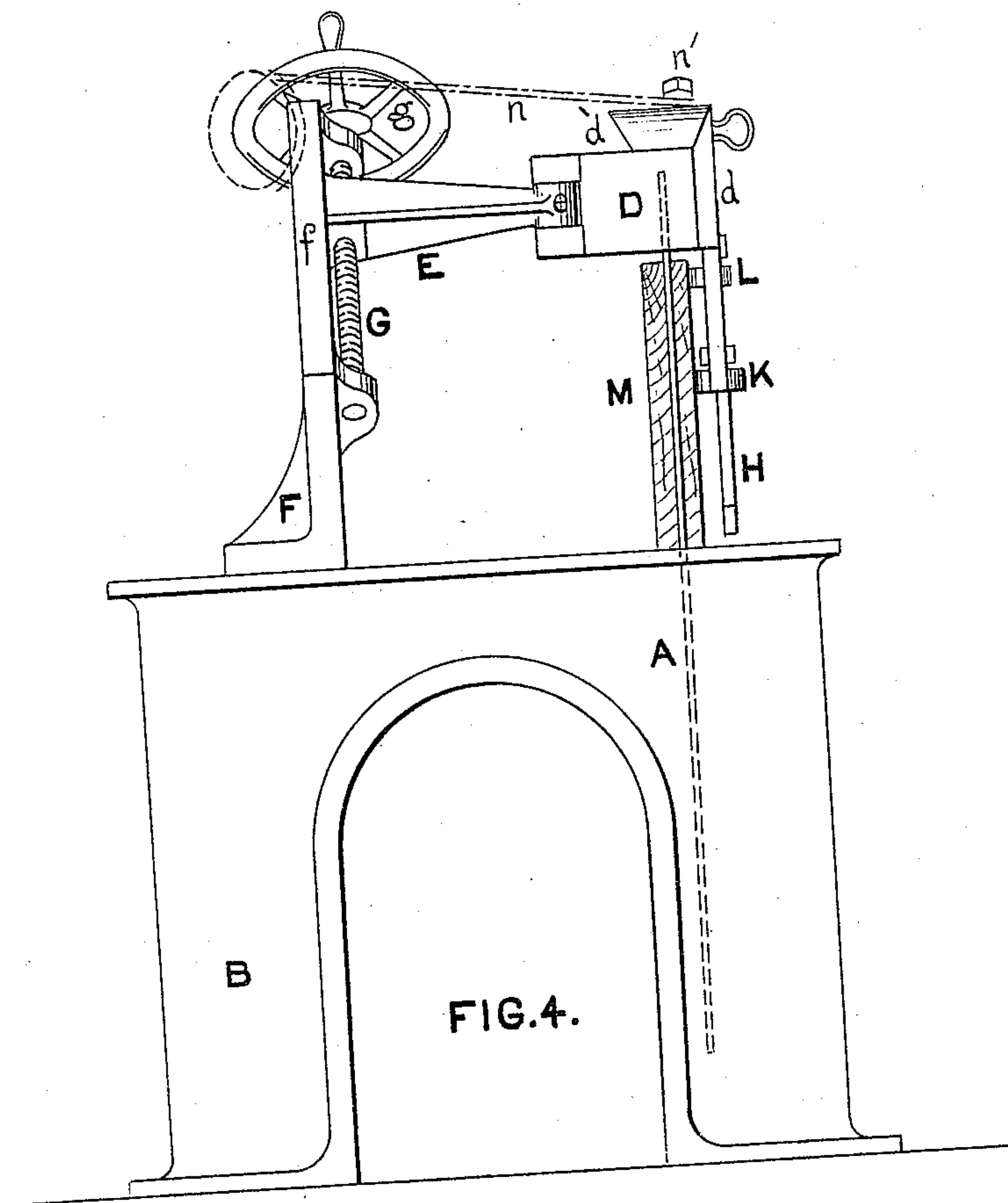
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4 Sheets—Sheet 4.

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UNITED STATES PATENT OFFICE.

EDWARD WILLIAMS, OF CHESTER, ENGLAND.

GUARD FOR CIRCULAR SAWS.

SPECIFICATION forming part of Letters Patent No. 611,725, dated October 4, 1898.

Application filed December 21, 1897. Serial No. 662,949. (No model.)

To all whom it may concern:

Be it known that I, EDWARD WILLIAMS, a subject of the Queen of Great Britain, residing at Chester, in the county of Chester, England, have invented certain new and useful Improvements in Guards for Circular Saws, of which the following is a specification.

This invention relates to an improved guard for circular saws or analogous tools to prevent accident to sawyers and others and is designed to provide a guard which shall possess all of the following characteristics: It entirely covers the part of the saw above the bench; can be adjusted to any size of saw; can be swung around out of the way for changing saws or sharpening; prevents pieces of timber, knots, or sawdust being thrown over from the back by the saw when running, and is automatic in its action.

It consists, essentially, of a guard constructed with a hood which covers the teeth at front and on top pivoted to a radial arm which is supported at one end upon a screw set in an inclined position, whereby the turning of the screw raises the hood and at the same time draws it forward, or vice versa; also, in a sliding extension for the front edge of the hood and one or more rollers to press against the timber as it travels forward to the saw.

It will be fully described with reference to the accompanying drawings, in which it is shown in position applied to a circular saw.

Figure 1 is a front elevation; Fig. 2, a plan; Fig. 3, a front elevation showing guard turned back and saw clear; Fig. 4, an end elevation.

The circular saw A, the saw-bench B, and the protecting knife or blade C, placed behind the saw, are of any ordinary construction.

In front of and extending over the top of the saw I place a swinging hood D with a front plate *d* and top curved plate *d'*. The hood D is pivoted to an arm E, so as to be capable of swinging or opening in a horizontal plane to allow timber to enter between it and the saw A at the front and to come out under it at back of saw, and also to permit of it being turned into the position shown in Fig. 3, (and by dotted lines in Fig. 2,) leaving the saw clear to be removed or sharpened. The pivot *e*, upon which the hood D swings, is placed behind the plane of the saw, so that but lit-

tle force is required to move or open the hood to allow of the timber to enter and so that the movement to one side for this purpose shall not be sufficient to uncover the saw.

The arm E is mounted in a slide *f* in a bracket F, in which it is raised and lowered by a screw G, from which it stands out at right angles. The bracket F is affixed to the saw-bench, and the screw G extends from one end to the other of the slide *f* and is inclined to the vertical, (at an angle of about forty-five degrees,) so that the movement of the screw to raise the arm E and with it the hood D also advances the arm and hood toward the front of the saw. This movement prevents the front edge of the hood coming into contact with the saw when a large saw is introduced and also prevents it standing out too far from a small saw. The screw G is turned by a hand-wheel *g*.

The length of the arm E is such that the bracket F can be set a considerable distance behind the saw, and thus be completely out of the way when the saw is in action and not interfere with the free passage of the timber past the saw.

To the front end of the hood D, I bolt a sliding extension-piece H, by which the hood can be extended to any desired length, so that as it is raised up to accommodate a larger saw the extension-piece H can be lowered to a level with the bench B to cover the front of the saw.

In flat cutting of wide timber the extension-piece H is lifted sufficiently high to allow the timber to pass under it, and the hood D then remains stationary.

At the front end of the hood I fix a small roller K, against which the end of the timber M comes in contact as it is pressed forward to the saw. The roller mounting it causes the hood D to swing back on its pivot *e* sufficiently far to admit the timber.

Above the roller K is placed a second roller L, fixed to the hood D, which presses against the timber and holds up and guides the last corner of the timber in lieu of the hand at the most dangerous and critical part of the operation.

The hood D is held in position when in operation by a weight N, connected to the hood by a cord *n*, passing over a pulley *o*, sup-

ported by a bracket O, fixed to the saw-bench. The cord *n* is connected to the hood D by a set-screw *n'*. The hood is provided with a stop *e'* to prevent it being drawn too far forward by the weight N and with a stop *e''* to prevent it swinging too far back in the reverse direction.

What I claim as my invention, and desire to protect by Letters Patent, is--

10 1. The combination with a pivoted hood mounted to swing horizontally, of a fixed bracket provided with inclined slides, a sliding arm that may be moved up and down therein by which the hood is supported, a
15 screw journaled in the bracket to raise and lower the arm and a vertical pivot *e* upon which the hood swings in a horizontal plane placed behind the plane of the saw, substantially as described.

20 2. The combination with a pivoted hood mounted to swing horizontally of a roller K by which it is pressed open, a roller L for guiding the timber and a weight N and cord *n* for holding the guard in position substantially as
25 described.

3. The combination with a circular saw A

and saw-bench B of a bracket F with inclined slides a screw rotating therein a horizontal arm sliding therein and raised and lowered by the screw and a swinging hood pivoted to the arm and covering the saw substantially as described. 30

4. A guard for circular saws comprising a pivoted hood swinging in a horizontal plane, a vertically-adjustable arm to which the hood
35 is pivoted, a fixed bracket with inclined slides between which the arm slides up and down, a screw for raising and lowering the arm, an extension-piece H at the front end of the hood, rollers affixed to the hood to press
40 against and guide the timber, a weight to draw the hood toward the saw, a cord for connecting the weight and a pulley over which the cord passes substantially as described.

In testimony whereof I have signed my
45 name to this specification in the presence of two subscribing witnesses.

EDWARD WILLIAMS.

Witnesses:

J. OWDEN O'BRIEN,

R. OVENDALE.