

No. 709,627.

Patented Sept. 23, 1902.

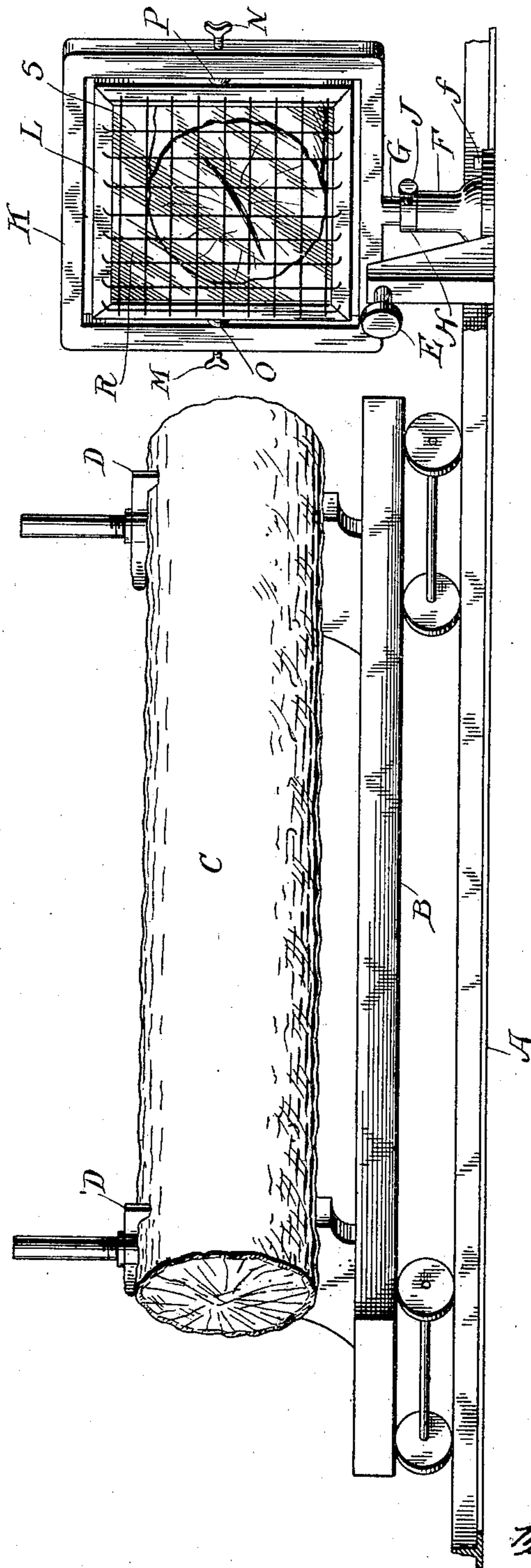
W. T. S. DIGGINS.
SAWMILL LOG REFLECTOR.

(Application filed Mar. 29, 1902.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1



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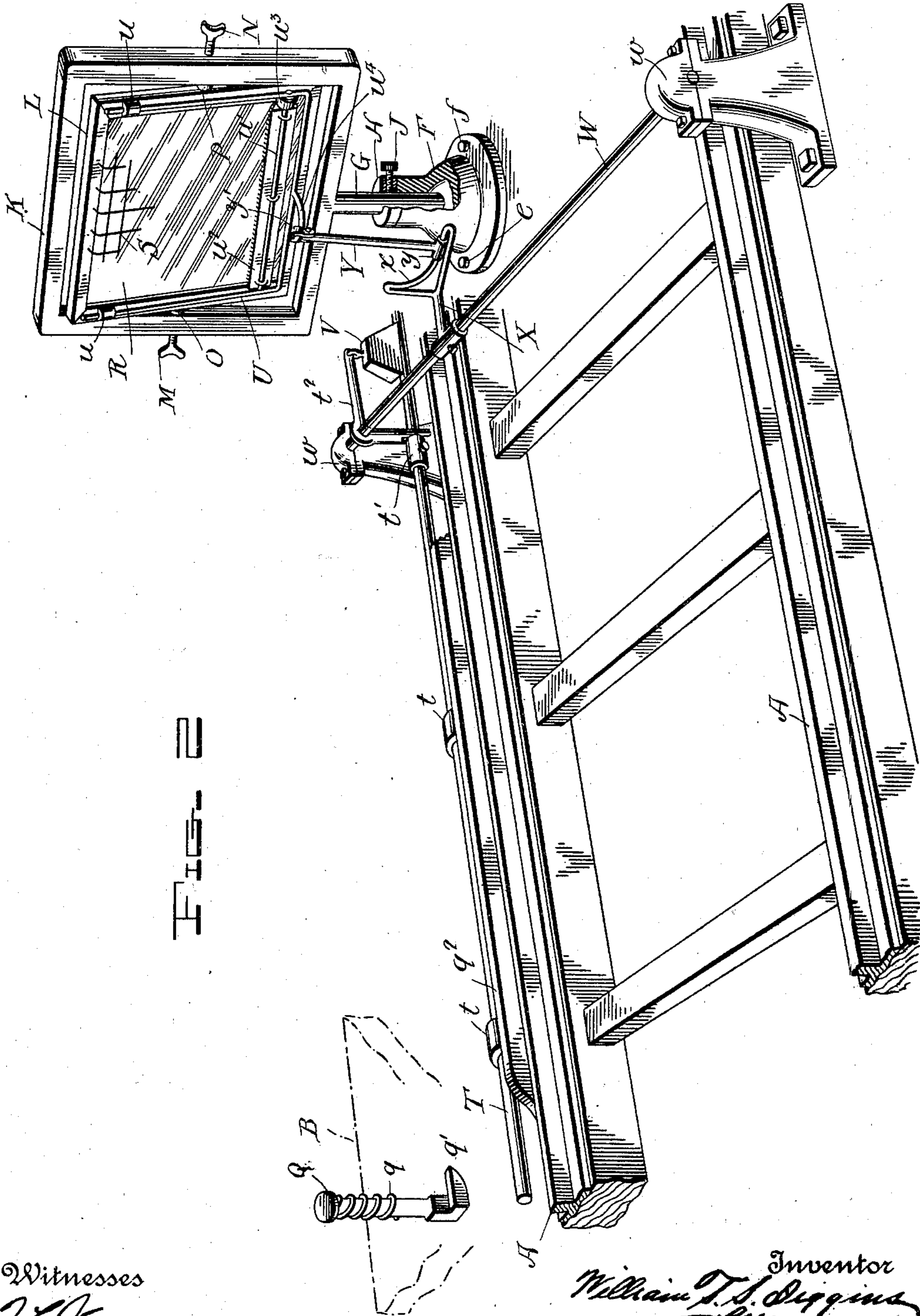
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2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

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SAWMILL LOG-REFLECTOR.

SPECIFICATION forming part of Letters Patent No. 709,627, dated September 23, 1902.

Application filed March 29, 1902. Serial No. 100,598. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM T. S. DIGGINS, a citizen of the United States, residing at Centralia, in the county of Braxton and State of West Virginia, have invented certain new and useful Improvements in Sawmill Log-Reflectors; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to sawmill log-reflectors, and is of the nature of an adjunct to the carriage or carriage-track of a sawmill, having as its object the production of an adjustable reflector suitably placed to reflect the farther end of a log to be sawed.

In the operation of a sawmill the sawyer customarily takes his stand near the saw, from which position he is able conveniently and quickly to reach all the levers or other means provided for controlling the advancement or withdrawal of the carriage, the speed thereof, and the application of the driving power to the saw, as well as the adjustment of the various parts relating to the sawing mechanism and to the carriage which serves the log to the saw. It is of the highest importance that the sawyer should know certainly and with the least possible loss of time and labor whether or not there are splits or cracks or other peculiarities in the portion of the log farthest from his station. Part of the value of a skilful mill-sawyer lies in his ability to judge the logs under his hand with reference to cutting them to the best practicable advantage. He must carefully inspect each log for splits or imperfections and turn it upon the carriage and serve it to the saw properly in order to save loss of material. It is essential, therefore, that he should scrutinize both ends of the log before the sawing begins, and, according to present practice he must walk the length of the log and return in order to proceed with certainty in cutting up the log. By the use of my invention he adjusts the reflector by simple mechanism in such manner that the rear end of the log on

the carriage is plainly shown to him, and he may then turn the log into the most advantageous position upon the carriage without leaving his place at the head or along the side of the log and without loss of time.

Each constituent element of my invention is described in detail and its individual office, together with the mode of operation of the whole, fully explained hereinbelow.

I accomplish the objects stated by means of the mechanism illustrated in the accompanying drawings, in which—

Figure 1 represents a perspective view of the track and carriage of a sawmill having my invention applied thereto; and Fig. 2 is a side view of the reflector, showing, partly in section, one form of mechanism by which it can be adjusted and devices for cleaning it.

Like letters designate like parts throughout.

Considering the drawings, letter A marks the carriage-track; letter B, the carriage; C, a log on the carriage, and D the gripping devices to hold the log in position. These parts may be of any desired and known construction and arrangement, as my invention is applicable to many forms of sawmill beds and carriages constructed at the present day.

Letter E designates a buffer or stop located at the far end of the carriage and between the carriage and the reflector-stand. The office of the buffer is to prevent the carriage from being backed into and destroying the reflector and stand.

Letter F designates the hollow tubular reflector-stand, erected upon the sawmill-bed or adjacent thereto. A vertical spindle G, provided at the top of the stand F with a collar H and set-screw J, passes through the stand and supports the reflector-yoke K. It will be understood that the yoke K can therefore be adjusted higher or lower or in a circular direction horizontally, as desired. Within the yoke K is situated the reflector-frame L. It is pivotally supported upon the screws M and N, passing through the middle points of the upright sides of the yoke and engaging the cup-bearings O and P, secured to the upright sides of the reflector-frame L.

Letter R refers to the reflector itself. This is usually a piece of looking-glass and may

he of any selected size or quality. The screws M and N in addition to affording pivotal supports for the reflector may be used to fix the reflector in an inclined position, as shown in Fig. 2, by screwing them up tightly into the cup-bearings O and P. In practice it is sometimes best to cover the reflector with a wire screen S to prevent its accidental breakage; but this is not always needed.

In operation the reflector-stand is set up in a position determined by the average length of the logs to be sawed. Together with the buffer E the stand may be erected at any convenient point of the mill-bed and fixed thereat by means of the bolts *e* and *f*. It is adjusted to reflect to the sawyer in his accustomed place the end of a log of average length. It will reflect also logs of odd length if the carriage of the mill bearing the log be moved slightly forward or backward to bring the end of the log in appropriate focal position, to be clearly shown.

Owing to the great amount of dust and steam continually in the air and unavoidable in the operation of every sawmill, it is necessary that some ready and efficient means should be provided for cleansing the reflector. It is also important that this cleaning operation should be brought about as nearly as possible automatically, and it should not be ordinarily necessary for either the sawyer or his helper to leave their customary positions. For the purpose of cleaning the reflector I provide the carriage of the mill with a spring-supported foot-rod Q, the spring being marked *q*. Normally the foot-rod Q is in its highest position. If, however, the man upon the carriage depresses the rod with his foot, which he can readily do without leaving his place, the lower end of the rod will be brought by the movement of the carriage into contact with the slide-rod T, suitably supported in bearings *t t* at the side of the track. The slide-rod runs from its meeting-point with the foot-rod to any required distance along the track, and wherever the reflector-stand is set up the slide-rod T can be caused to operate the cleaning devices. At the proper point with reference to the position of the reflector-stand a connection *t'* is clamped upon the rod T and moves with the rod. It will be noted that the foot-rod Q cannot be caused to move the slide-rod and the connection *t'* beyond a certain distance. As the carriage moves along, the shoe *q'* at the lower end of the foot-rod Q meets the upwardly-inclined block *q*², and even if the man upon the carriage should forget to remove his foot from the head of the rod the incline of the block would throw the rod upwardly and prevent further contact with the slide-rod T. The slide-rod is moved, therefore, throughout a predetermined distance and no farther by contact with the foot-rod. Toward the farther extremity of the slide-rod the connection *t'* is movably connected with a bell-crank lever *t*², the office of which is to reciprocate vertically the brush-

frame U. The brush-frame is guided up and down by the tubular guides *u u*, secured to the frame of the reflector at the sides, as shown. Supported upon the brush-frame is a transverse revoluble brush-shaft *u'*, and attached to this shaft is a semicylindrical brush *u*², (see Fig. 2,) and it is my custom to interpose a flat coil-spring *u*³ between the brush-shaft *u'* and the brush-frame and attached to both in order that as the brush-frame is driven upwardly the brush may turn and present its upper part to the reflector, and when the brush is lowered by the agency of the weight V on the bell-crank the brush turns downwardly as it is rubbed against the reflector and its lower part is brought into action. Thus the entire brush is used against the reflector. The office of the weight is to return the slide-rod and brush-frame, with their attachments, to the position from which they are adapted to be moved by contact of the foot-rod and slide-rod. It is not always necessary to clean the reflector at every trip of the carriage, but it is important that it be frequently brushed in order to clearly reflect the far end of the log, as stated hereinabove. The mechanism directly actuating brush-frame U consists of a shaft W, usually extending across the track and supported in bearings *w w*. A crank X is attached to the shaft, and it has a transverse arc-form termination *x*, which is usually a round rod bent into such form as will permit the movement in a circumferential direction of the connecting-bar Y when the reflector is turned about the axis of its spindle G. A sleeve or eye *y* at the lower end of bar Y encircles the arc *x*, and it will be understood that if the reflector be turned on its spindle from the observer the sleeve *y* may be correspondingly adjusted at a point of the arc appropriately situated for raising the connecting-bar Y and brush-frame U by means of the upper eye *y'*, encircling the curved finger *u*⁴ projecting from the brush-frame. An additional office of finger *u*⁴ is to permit inclination of the reflector and brush-frame together without interfering with the operation described.

I do not confine myself to the particular form of brush and brush-operating mechanism and may modify the fashion and arrangement of those elements under differing conditions.

Having now described my invention, what I claim, and seek to secure by Letters Patent of the United States, is—

1. In a sawmill log-reflector, the combination of a track, a carriage movable upon the track, a reflector located adjacent to the said track and in the rear of the carriage, adjustable devices adapted for securing the said reflector in inclined positions, mechanism constructed and arranged to support the said reflector rotatively about a vertical axis, and releasable means for securing the reflector-supporting mechanism in different rotational positions.

2. In a sawmill log-reflector, the combination of a track, a carriage movable upon the track, a reflector, reflector-supports adjustable vertically and rotatively about a vertical axis, releasable means for securing the said reflector-supports in different rotational positions, adjustable devices adapted for securing the reflector in inclined positions, a reflector-cleaner, mechanism adapted to actuate the said reflector-cleaner, and attachments borne by the carriage and constructed and arranged to operate the said cleaner mechanism.

3. In a sawmill log-reflector, the combination of the carriage-track, a movable carriage, an adjustable reflector, devices for adjusting the reflector with respect to the end of a log

borne by the carriage, a reflector-cleaner, mechanism constructed and arranged to actuate the said reflector-cleaner, the said mechanism including a slide-rod, a spring-supported foot-rod borne by the carriage and adapted when depressed to be brought into contact with the slide-rod by movement of the carriage, and means for returning the slide-rod after its displacement by the foot-rod, substantially as described.

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

WILLIAM T. S. DIGGINS.

Witnesses:

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A. F. HOLDEN.