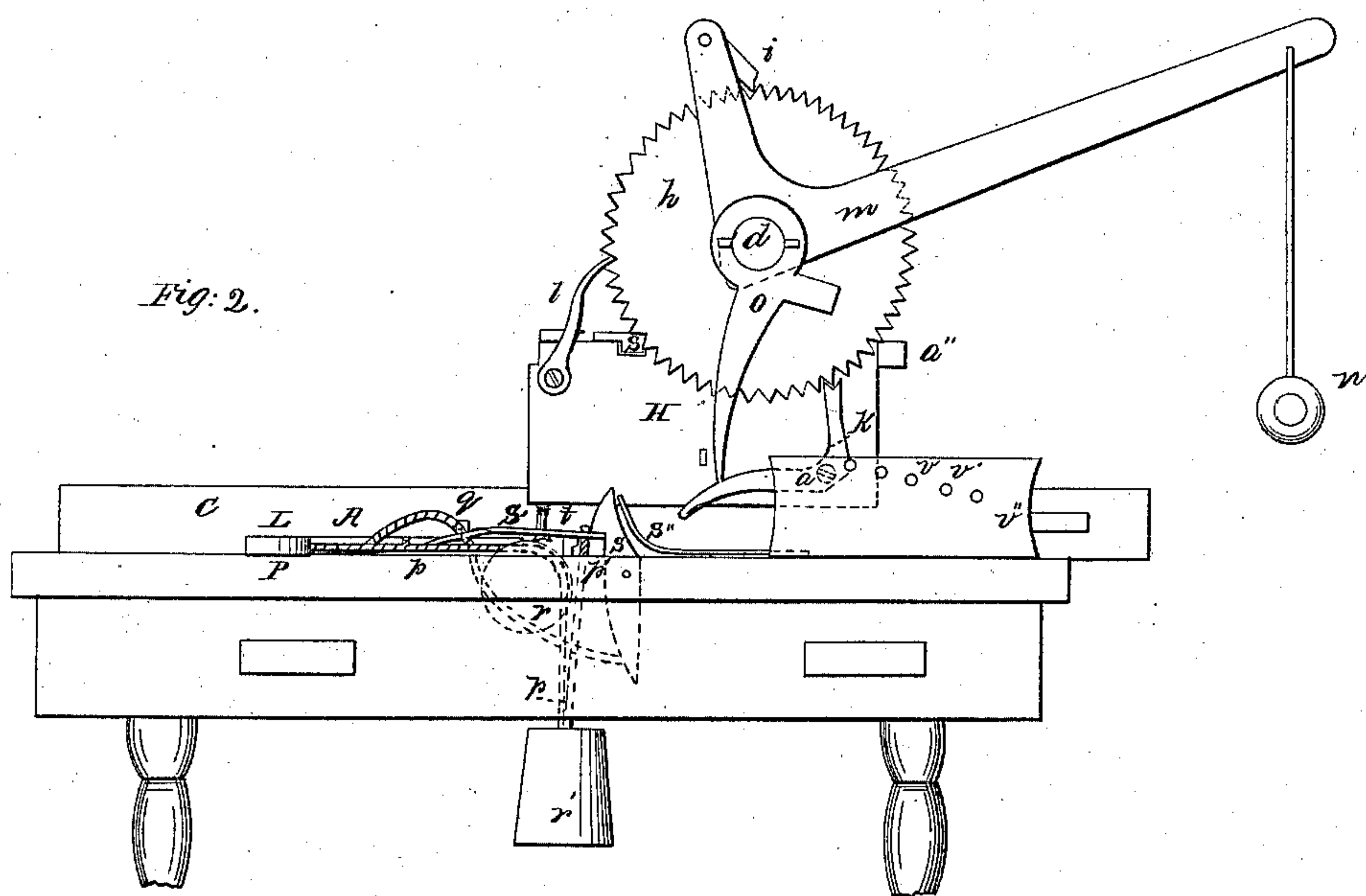
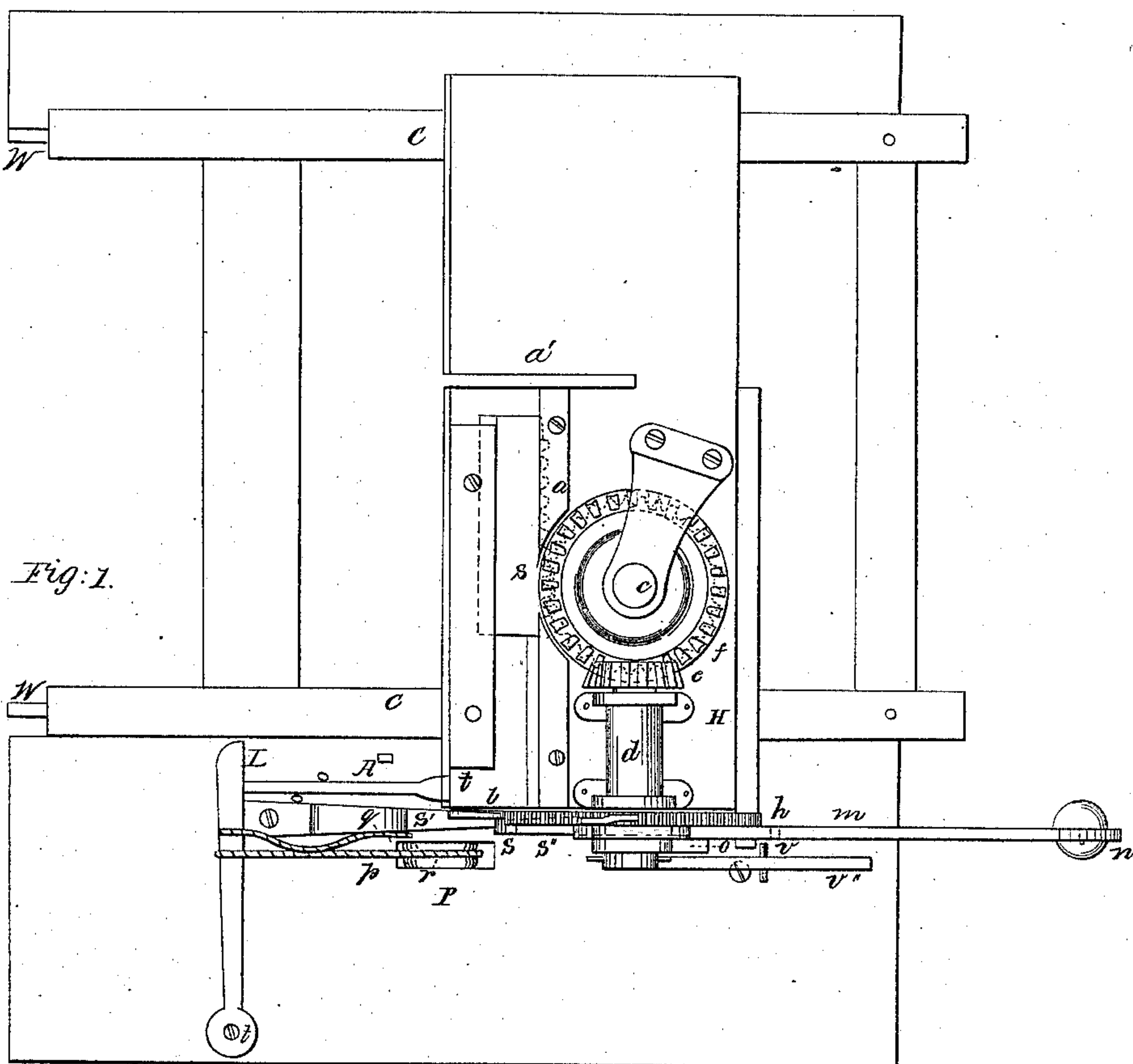


*I. Robbins,*  
*Saw-Mill Head-Block.*

*No 17,170.*

*Patented Apr. 28, 1857.*





# UNITED STATES PATENT OFFICE.

IRA ROBBINS, OF UNITYVILLE, PENNSYLVANIA.

## METHOD OF SETTING HEAD-BLOCKS OF SAWMILLS.

Specification of Letters Patent No. 17,170, dated April 28, 1857.

*To all whom it may concern:*

Be it known that I, IRA ROBBINS, of Unityville, in the county of Lycoming and State of Pennsylvania, have invented a new and useful Improvement in Sawmills; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing, forming part of this specification, in which—

Figure 1 is a top view of head block and setting mechanism. Fig. 2 is a side view of same.

Similar characters of reference in the several figures denote the same part.

The object of my invention is to effect the set of the end of the log, which is secured to the head block slide, with greater celerity than is accomplished by the usual methods, the nature of the invention consisting in the peculiar combination of devices hereinafter to be set forth, for the aforesaid purpose.

In the drawing C is the carriage movable along the ways W W in the usual manner.

H is the head block, having the slide S to which the dogs are attached. This slide is moved by the rack *a* and pinion *b* (shown in drawing in red ink). The pinion *b* is upon the shaft *c* turned from the movement of shaft *d* through the gear wheels *e* and *f*. Upon the shaft *d* is a ratchet wheel *h*, in the teeth of which the several pawls *i*, *k*, *l*, act as will be hereinafter set forth. Upon the aforesaid shaft *d*, and outside of ratchet wheel *h*, is the bent lever *m*, so attached as to be capable of turning loosely upon the shaft, except when connected therewith through pawl *i* and teeth of ratchet wheel *h*. A weight *n* is attached to the extremity of the long arm of this lever.

Hanging loosely upon the shaft *d*, is the lever *o*, whose short arm has a projection which passes under the long arm of lever *m*, so that by pressure against the long arm of lever *o* lever *m* will be turned about the shaft *d*, and its pawl *i* be made to engage the teeth of ratchet *h*, at a distance proportional to the duration of pressure against lever *o*.

On the platform P of the frame is a lever L, from which run two cords *p* and *q*, the former passing over a roller *r*, and carrying a weight *r'*, and the latter running to the long arm of a lever catch *s* passing through the platform P. The weight *r'* is also attached to a spring *s'* by a cord *p'*. The lever L has an arm A, against which the stud *t* of the head block acts to move the lever L about its fulcrum *t'*. Behind the lever catch *s* is a spring *s''*, to keep the catch upon the end of spring *s'* when it is drawn down by weight *r'*.

The pawl *k* is a lever attached to the head block at *u*, and so constructed that its long arm shall maintain the connection of the short arm with the ratchet teeth. The lifting of this long arm producing the disengagement of the teeth and pawl.

The operation of my improvement is as follows: As the carriage is near the termination of its gidding back, the long arm of lever *o*, encounters a pin *v* in one of the holes *v'* of frame *v''*, causing the long arm of lever *m* to be lifted, and the pawl *i*, consequently to engage the ratchet *h*, at a distance on its periphery proportional to the pressure exerted on lever *o*; which is determined by the position of pin *v*. Pawl *l* prevents the ratchet from turning during this operation. Lever pawl *k* prevents the weight of lever *m* turning the ratchet in the opposite direction. The pawl *i* has by this operation obtained such a position that when lever pawl *k* is removed weight *n* will instantly bring lever *m* down upon its seat *a''*, and the shaft *d* be turned the requisite distance for effecting the desired set. As the carriage arrives at the end of its backward movement, and the saw is completely within slot *a'*, stud *t* by pressing against arm A of lever L, moves that lever, causing weight *r'* to be lifted so as to slacken cord *p'*. Cord *q* is tightened, and draws upon lever catch *s*, so as to release spring *s'* at the instant long arm of lever K is over said spring, causing the spring to lift long arm of said lever and effect the release of the ratchet *h*. The set is thus given to the end of the log, at the proper time, with the utmost celerity. Weight *r'*



and spring  $s''$  readjust the spring  $s'$  for the next setting.

I claim the combination of the lever catch  $s$ , spring  $s'$ , cords  $p$   $p'$  and  $q$ , weight  $r'$   
5 stud  $t$  and lever  $L$ , in connection with the lever  $k$ , operating as, and for the purposes described.

In testimony whereof, I have hereunto signed my name before two subscribing witnesses.

IRA ROBBINS.

Witnesses:

JOHN RICHART,  
ELI MENDENHALL.