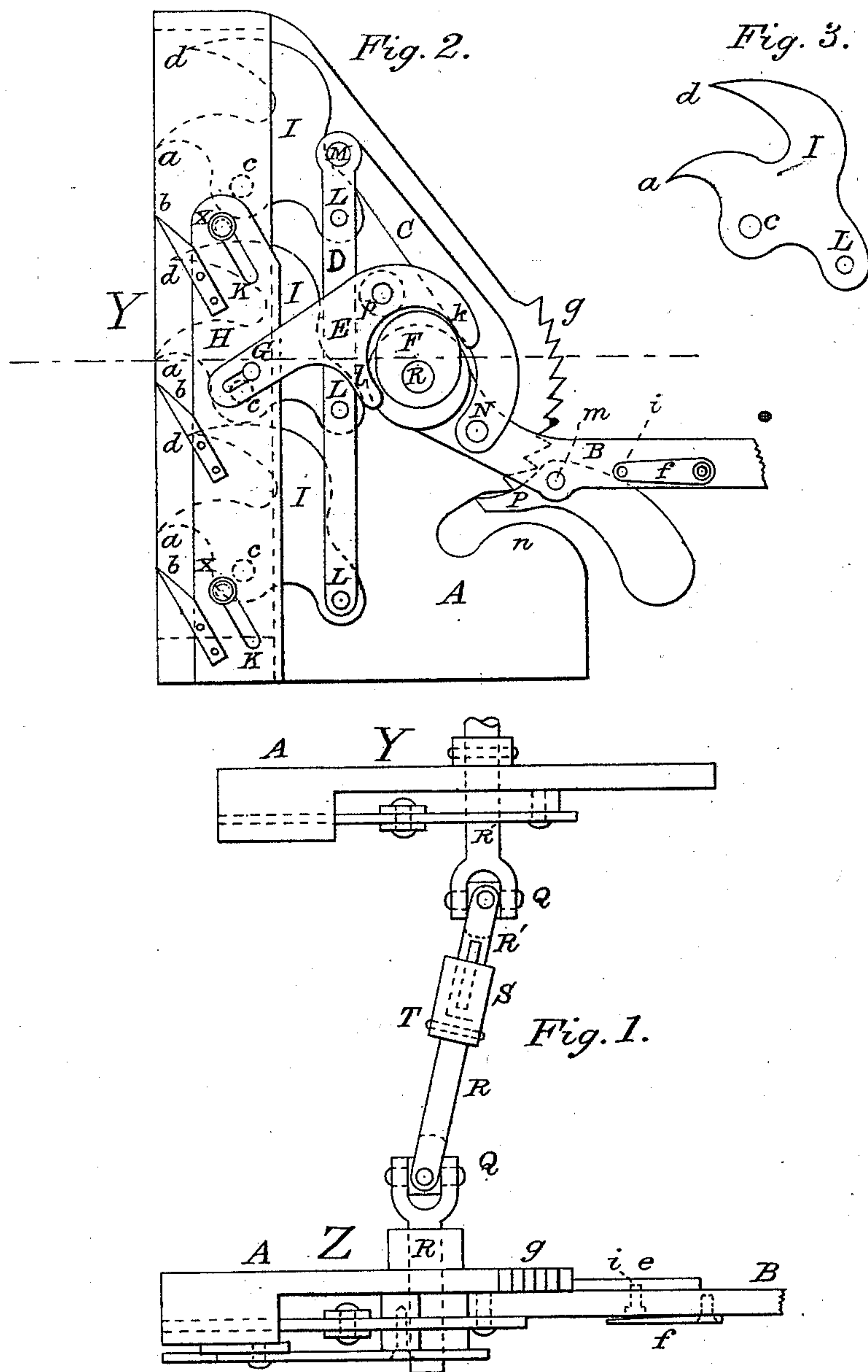


A. CUNNINGHAM.  
SAW MILL DOGS.

No. 175,855.

Patented April 11, 1876.



Witnesses,  
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# UNITED STATES PATENT OFFICE.

ALBERT CUNNINGHAM, OF MILWAUKEE, WISCONSIN, ASSIGNOR TO JOHN M. STOWELL, OF SAME PLACE.

## IMPROVEMENT IN SAW-MILL DOGS.

Specification forming part of Letters Patent No. 175,855, dated April 11, 1876; application filed September 5, 1874.

*To all whom it may concern :*

Be it known that I, ALBERT CUNNINGHAM, of the city of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Saw-Mill Dogs; and I do hereby 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 pertains to make and use it, reference being had to the accompanying drawings, which form a part of this specification.

My invention consists of an improved device for firmly attaching a stick of timber to the head-block or carriage of a saw-mill while it is being sawed.

Figure 1 is a view of the whole device as it appears when detached from the standards. Y and Z are two separate sets of dogs, suitably attached to the ordinary standards used on the head-block or carriage of a saw-mill, and which are similar in construction. They are connected together by the shaft R R' in such a manner that both move together. The shaft R R' is formed of two separate pieces, connected by the feathered sleeve S, permitting it to be slightly shortened and extended, and also provided with a universal joint, Q Q, near each extremity. Instead of sleeve S, a slot in the end of the shaft, at one or both the universal joints, may be used; but I prefer the feathered sleeve. The shaft R R' works in bearings in the bed-plates A A of the standards Y Z.

Fig. 2 is a representation of one of the sets of dogs, in which A A is the bed-plate. I I I are double-toothed dogs, pivoted to the bed-plate A at c c c, and connected by the bar D, which is, at M, connected with the lever B, at N, by means of the connecting-rod C. The lever B is keyed upon the shaft R R'. H is a plate, to which are attached the straight teeth b b b. It is formed with the oblique slots K K, through which bolts extend into the bed-plate A A, and which serve to guide the plate H in its motion. E is an arm, pivoted to the bed-plate at p, and having the two projections l and k, between which the cam F, attached to the shaft

R R', works. At G the arm E is attached to the plate H by means of a pin working in a slot. P is a weighted pawl, pivoted to lever B at m, and working into the ratchet g. On the side of the lever opposite the pawl is fastened the spring f, which crowds the flat-headed pin i through the lever, so that its point slightly projects.

Fig. 3 shows the form of the dog I. It is formed with two curved teeth or hooks, whose outline corresponds, allowing a slight clearance with the arc of a circle struck from c as a center, and the dog should be so placed on the bed-plate as to make point a strike a flat surface placed close to the standard at an approximate angle of thirty degrees. The point d is made a suitable distance, usually about an inch and a half farther from the center than the point a. In operation the point a protrudes only about one-half of an inch from the standard, and is useful chiefly for dogging a flat surface, as a log already slabbed. When rough uneven surfaces are dogged, the secondary hook or tooth d is brought into use.

The operation of my improved dog is as follows: When the log is placed in proper position and the standards are adjusted to it, an upward movement of the lever B forces the points a a a of the dogs I I I downward and into the log; or, if the surface of the log be rough or uneven, the points a a a, slipping by the points d d d, are brought down and forced into the log. At the same time the plate H is forced upward and outward in an oblique line, and drives the straight dogs b b b into the log. In this position all parts may be locked by the pawl P. When the pawl P is raised to release the lever its edge strikes the point of pin i, forces it in, and is held by it until the parts are all returned to their former position, when it is hit by the projection of the bed-plate and released.

On account of the jointed connecting-shaft R R', the sets of the dogs Y and Z may be advanced or drawn back independently without affecting their simultaneous projection by means of lever B. Instead of attaching the bed-plates A A to the standards, they may be



attached to the head-blocks and serve as standards. The relative position of the straight and curved dogs may also be changed.

I am aware that a curved dog working on a pivot has been heretofore used, and I do not claim such a one, broadly. I am also aware that a shaft has been used to connect two sets of saw-mill dogs, and I do not claim such a shaft, broadly; but

I claim as my invention—

1. In combination with two sets of dogs attached to a saw-mill carriage, the shaft R R', provided with the universal joints Q Q, and with the extension feathered coupling-sleeve S.

2. The dog I, having two teeth or hooks, substantially as and for the purposes set forth.

3. The combination of lever B, pawl P, spring *f*, and pin *i*, substantially as and for the purposes set forth.

4. The combination of lever B, cam F, arm E, and plate H, substantially as and for the purposes set forth.

5. The combination of lever B, pawl P, and ratchet *g*, substantially as and for the purposes described.

In testimony that I claim the foregoing I have hereunto set my hand this 26th day of August, 1874.

ALBERT CUNNINGHAM.

Witnesses:

E. H. BOTTUM,

G. P. MARTIN.