(No Model.)

W. A. CAMPBELL.

SAW MILL SET WORKS.

No. 401,876. Patented Apr. 23, 1889.

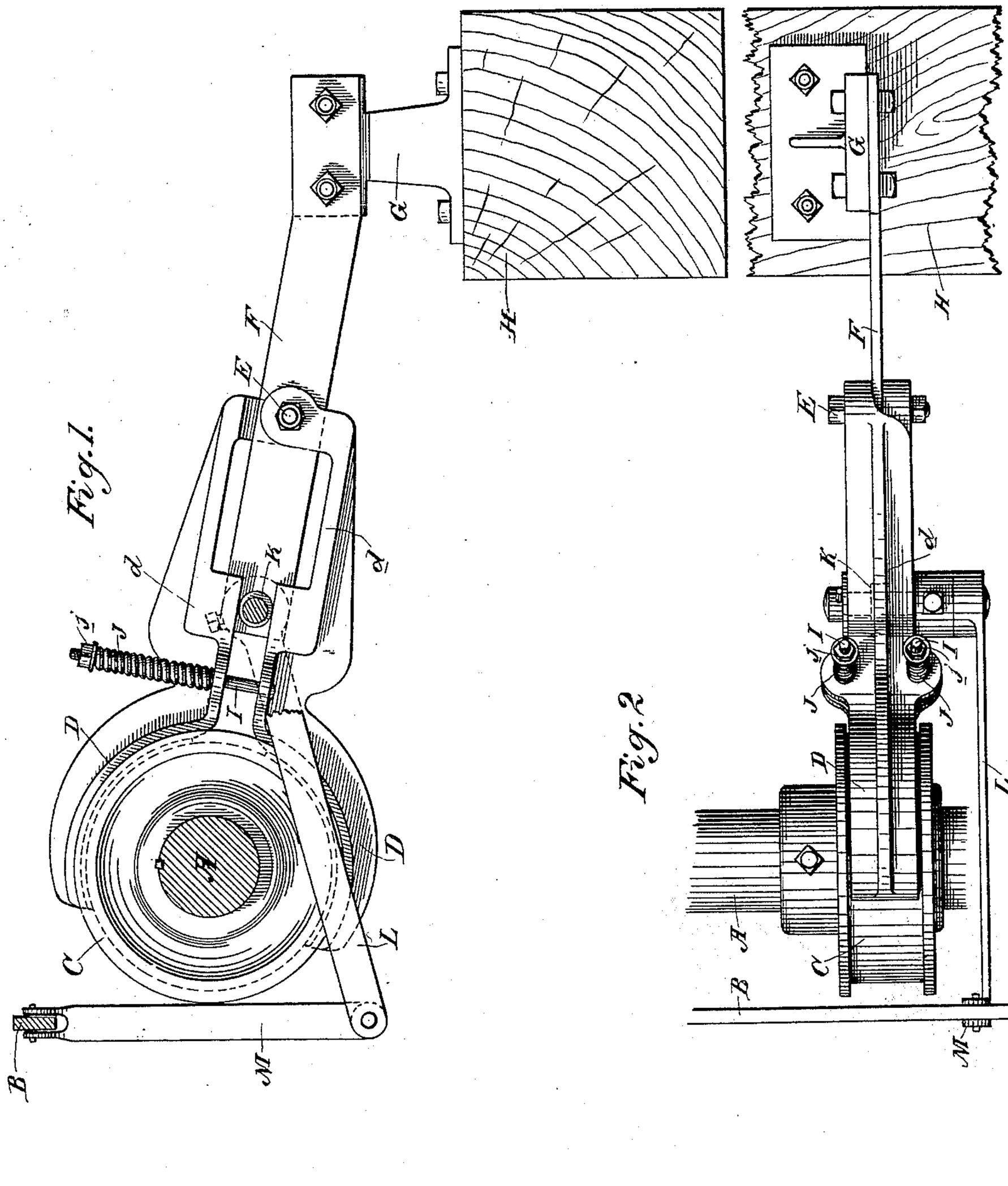

Fig. 1.

Fig. 2.

Witnesses,
J. L. Bowie.
H. C. Lee

Inventor,
Wm A. Campbell
By Dewey & Co
Attys

UNITED STATES PATENT OFFICE.

WILLIAM A. CAMPBELL, OF PORTLAND, OREGON.

SAW-MILL SET-WORKS.

SPECIFICATION forming part of Letters Patent No. 401,876, dated April 23, 1889.

Application filed September 11, 1888. Serial No. 285,129. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. CAMPBELL, of the city of Portland, in the county of Multnomah and State of Oregon, have invented an Improvement in Saw-Mill Set-Works; and I hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to the class of saw-mill machinery, and especially to the set-works of the saw-mill carriage; and my invention consists in a retarding-clamp or friction-brake applied to the set-shaft or head-block set-screw, and in the novel construction and arrangement of the same and the means for relieving it.

The object of my invention is to prevent any overthrow which might take place while rapidly setting the blocks.

Referring to the accompanying drawings, Figure 1 is an end view of my clamp or brake. Fig. 2 is a plan of same.

I have not herein deemed it necessary to illustrate the ordinary parts of saw-mill set-works, as they are well known, and my invention can be readily understood by those skilled in the art without complicating the drawings by views of the entire works. If, however, further assistance is needed, I will refer to the class of set-works illustrated by my patent, No. 375,800, dated January 3, 1888, and in which the feed-screw which operates the knees is actuated by a lever which operates pawls to rotate a ratchet-wheel keyed on the feed-screw. This lever, its pawls, and the ratchet-wheel are at one end of the saw-mill carriage, and the motion of the ratchet-wheel is transmitted to the other end of the carriage to operate the feed-screw at that end by means of gearing and what is known as a "set-shaft," which extends parallel with the side timber or rail of the carriage. The pawls are thrown from their engagement with the ratchet-wheel when it is desired to run the knees back rapidly by means of arms working under projections on said pawls and a lever operating said arms.

For my present application it will be sufficient to illustrate only the set-shaft and the last-named lever. The former I have here designated by A, and the latter by B.

On the set-shaft A, I key a wheel, C, and to the face of this wheel I fit the two-part brake or clamp D, which consists of two opposing leather-faced jaws having shanks *d*, which project outwardly and are pivoted on a common center to a bolt, E, which passes through an arm, F, bolted to a bracket, G, which is itself bolted to the side rail, H, of the saw-mill carriage.

Through the necks of the shanks of the clamp-jaws pass bolts I, headed in the lower neck and passing freely through the upper neck. Around these bolts are placed springs J, which hold the jaws together and cause them to normally clamp and brake the wheel C, thereby retarding the set-shaft A.

In operating set-works of this general type it is found that the momentum of the rotating parts—such as the hand-wheel, the set-shaft, and gears—carries them beyond where the pawls would naturally move them in setting quickly or even moderately so; but by having the normally-applied clamp or friction-brake acting on the wheel C on the set-shaft any overthrow of the set-shaft may be prevented. The springs J may be so regulated by nuts *j* on bolts I as to apply any degree of tension desired, which should be just enough to be nicely detected when handling the set-lever; but, in order to run the knees back or forward quickly, I provide for throwing the clamp or brake out of action by a connection with the lever B, heretofore mentioned, and which is the lever by which the main operating-pawls are thrown out of engagement with the ratchet which operates the feed-screw. The shanks *d* of the clamp-jaws are formed to come close together at one point and make a bearing in which is seated a rock-cam or eccentric, K. With this cam or eccentric is connected a lever, L, the other end of which is connected by a link, M, with the lever B. Now this lever B, when at rest, is dropped down, so that the lever L is also dropped, and this turns the cam or eccentric K into a position to relieve the jaws of the clamp, whereby it normally binds on the wheel C; but when the lever B is thrown up in order to disengage the main actuating-pawls from the ratchet, thus freeing the feed-screw, so that the knees may be quickly set, the lever L is raised and the cam or eccentric is turned so as to spread the jaws of the clamp, thus relieving the set-shaft.

Though I have described and illustrated

the retarding-clamp or friction-brake as applied to the set-shaft, it is obvious that it may be applied, instead, to the head-block set-screw itself, in which location it would effect the same result, and may be desirable in other forms of set-works, especially in single blocks; and, further, I may, to relieve the friction-brake, employ a separate lever, instead of the lever B, as illustrated. In both these cases it will be seen that my invention is not affected, as the set-shaft and the lever B find their equivalents in the set-screw and the separate lever.

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

In saw-mill set-works and in combination with the set-shaft, a wheel fast on said shaft, the spring-controlled clamp or brake applied thereto and consisting of opposing hinged jaws with shanks, and the means for relieving the clamp or brake, consisting of the rock-cam or eccentric seated between the jaw-shanks, the lever connected with the cam or eccentric, and a connection of the lever with the disengaging-lever of the set-works, substantially as described.

In witness whereof I have hereunto set my hand.

WILLIAM A. CAMPBELL.

Witnesses:
C. B. BELLINGER,
VICTOR C. BELLINGER.