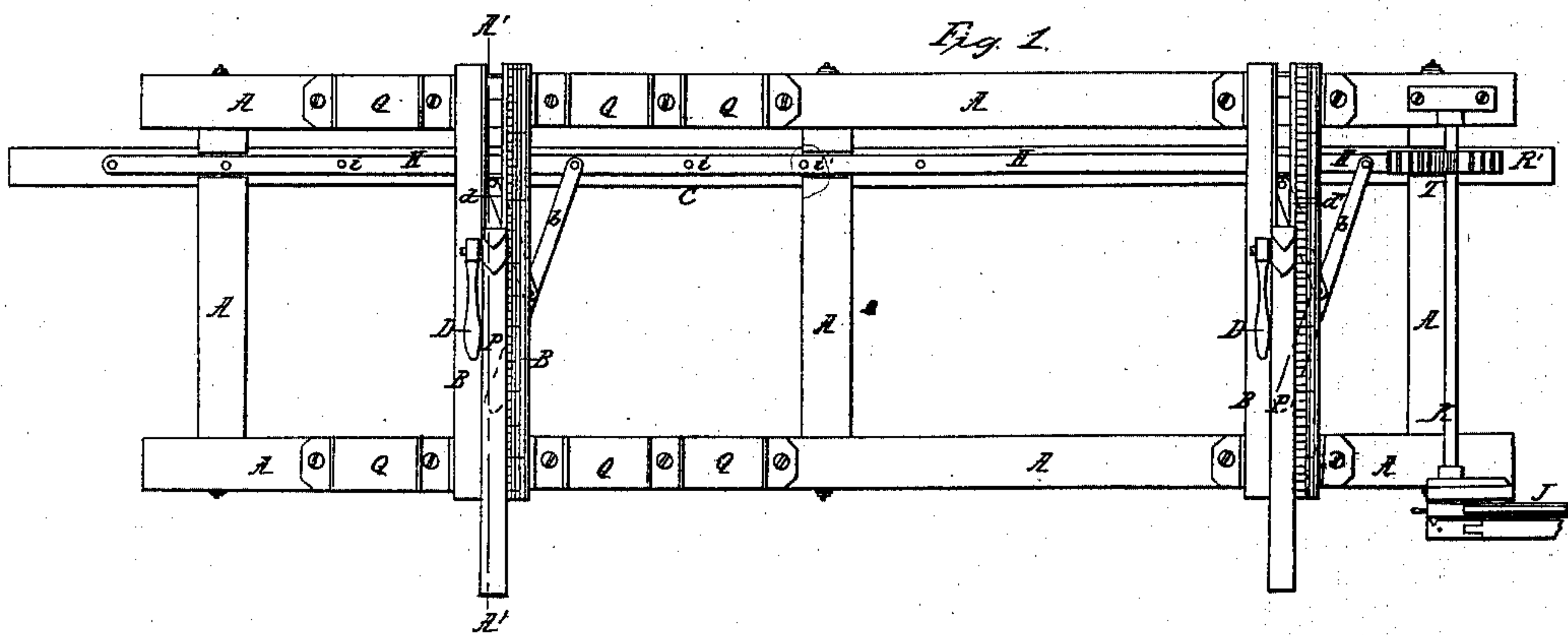
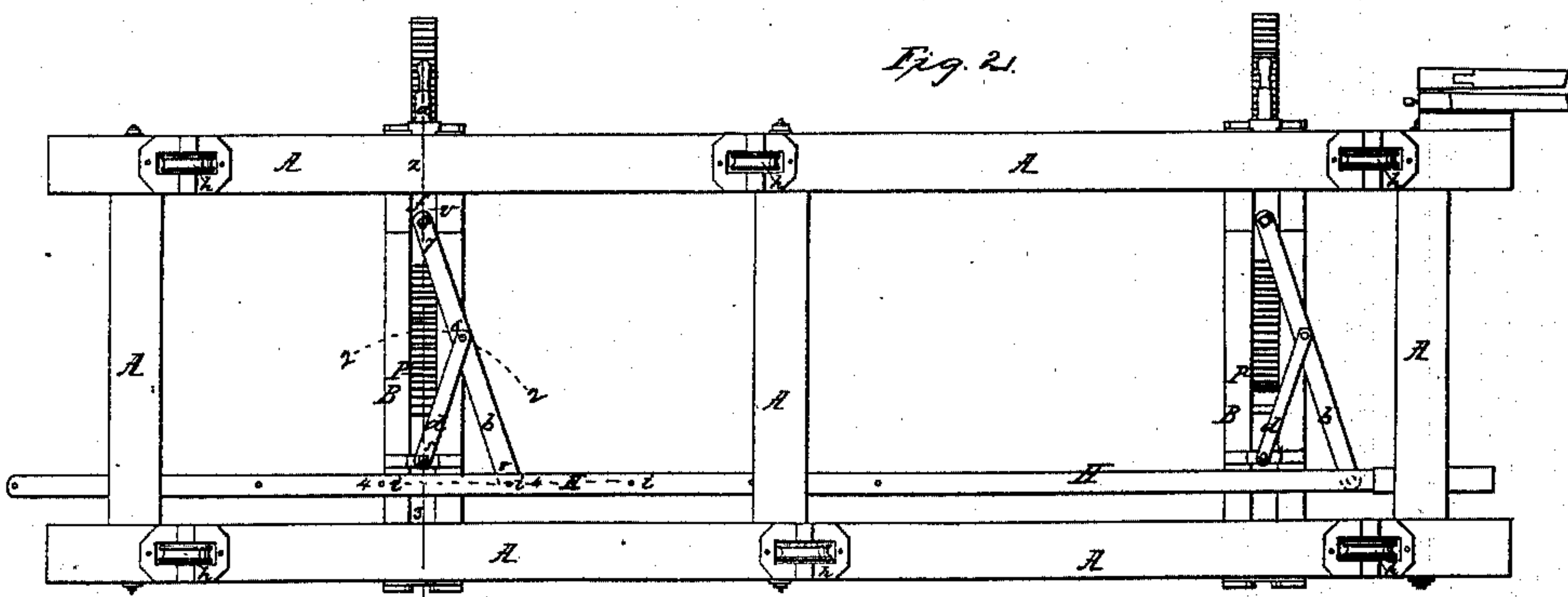
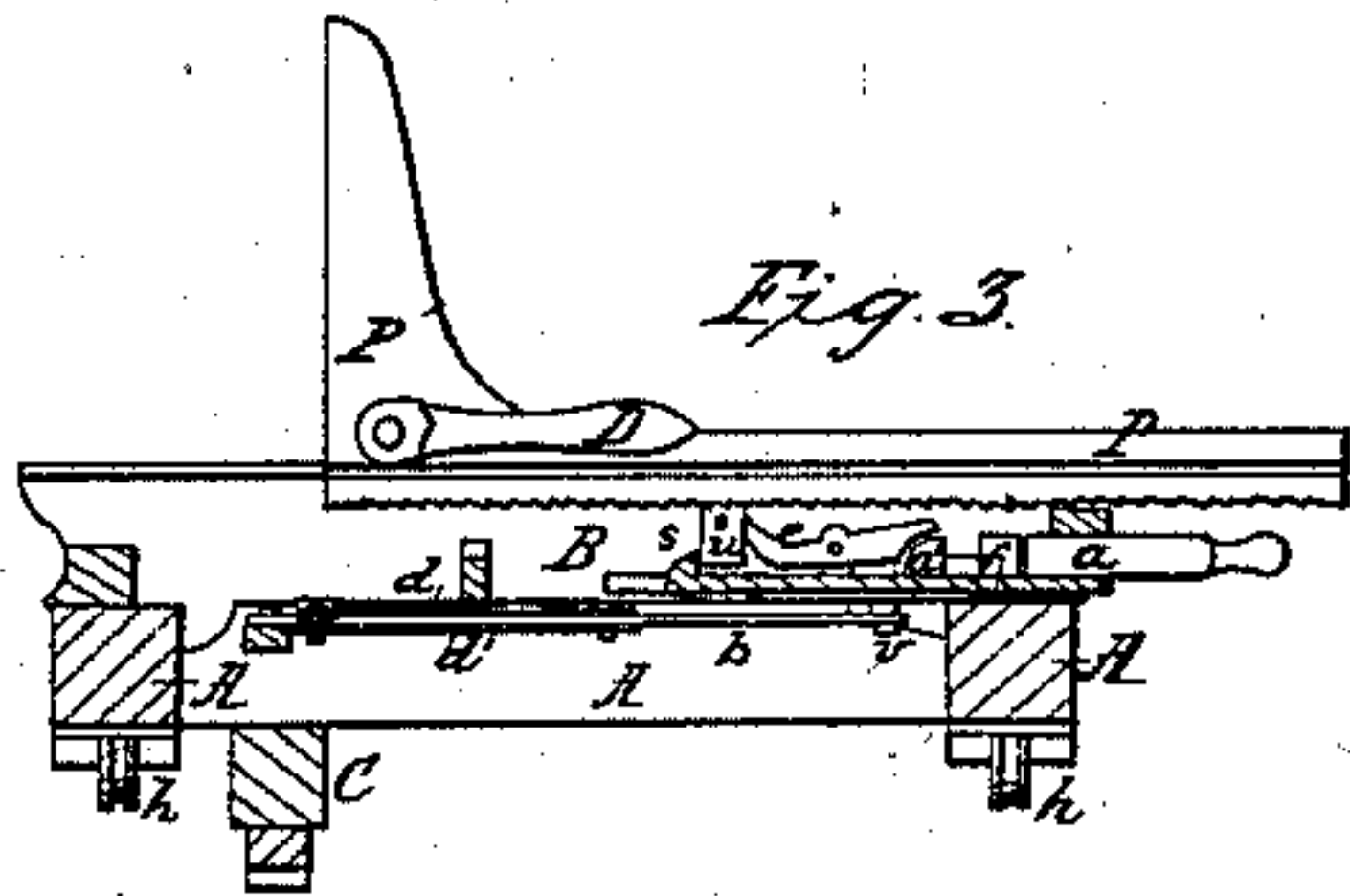


A.B. Norris,

Saw-Mill Head-Block.

N^o 26,609.

Patented Dec. 27, 1859.



Witnesses:
Amos Broadway
W. H. May

Inventor:
A. B. Norris

UNITED STATES PATENT OFFICE.

A. B. NORRIS, OF ST. LOUIS, MISSOURI.

MODE OF OPERATING SAWMILL-BLOCKS.

Specification of Letters Patent No. 26,609, dated December 27, 1859.

To all whom it may concern:

Be it known that I, A. B. NORRIS, of the city and county of St. Louis and State of Missouri, have invented a new and useful
5 Improvement in Sawmills; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawing, making part of this specification, in which—

10 Figure 1 is a top view of the said invention; Fig. 2, an inverted view of the same, and Fig. 3 a transverse section through A' A'.

My invention consists of a novel application of levers with vibrating fulcrums, for
15 advancing and when so advanced, holding steadily the slides, or sliding knees, of saw mill head blocks; whereby both ends of the timber to be sawed may be advanced in
20 front of the saw simultaneously, with greater speed, facility and certainty than that object has hitherto been accomplished.

To enable others skilled in the arts to which my invention appertains to make and
25 use the same, I will proceed to describe the construction and operation thereof.

Similar letters of reference represent corresponding parts of the different figures of the drawing annexed.

30 Upon the drawing, A represents the frame of the machine (a saw mill carriage), and *h* small wheels upon which the said carriage rides, and B B are slide rests fixed across the top of the said carriage in the
35 seats Q Q made to receive them. Upon these slide rests the knees P P are placed, so as to slide freely to and fro across the carriage.

Now to operate these knees with greater
40 speed, facility, and certainty, and to hold them in a fixed position, is the object of my invention; and to effect this object I lay the bar H along the top of the carriage and connect it to the shaft K by means of a
45 rack and pinion R and T (the pinion T being fixed on the shaft K and the rack R on the end of the bar H), and to the shaft K the lever J is fixed, whereby a reciprocating motion is imparted to the bar H, to
50 which is also attached the lever *b*, which has a vibrating fulcrum *d*, and which is also at-

tached to a small reciprocating carriage *f*, which works in the under side of the slide rest B and which carries upon its upper side a small vibrating "dog" *e* and also a sliding
55 cam *a*, which when thrown back allows the "dog" *e* to catch in the rack made in the under side of the knee P, which is thus thrown forward every double stroke of the lever J, the "dog" *e* being detached by
60 throwing the cam *a* forward. In the inside of the rest B there is also a lever *u* (somewhat in the nature of a cam), fixed upon a center, as shown, and which is operated upon by the "boss" *s* upon the carriage *f* when
65 the said carriage moves back, so as to jam the knee P and hold it upon rest when the "dog" *e* is not acting and when the same is inoperative, the weight of the lever J
70 acting as the power to secure the lever *u*, through the agency of the bar H, the lever *b* with the vibrating fulcrum *d*.

The vibrating fulcrum of the lever *b* should be just half the length of the said
75 lever, and should be connected to it in the center thereof, and to the rest B at 5, upon the right line 3 running through the plane upon which the carriage *f* works, so that the fulcrum *d* in vibrating upon the arc 2, will
80 cause the bar H, to move back and forth upon a right line, which is essential in this connection. The fulcrum and lever shown upon the drawing, however, are not made
85 just in this proportion above mentioned, as it is necessary to cause the bar H to pass out side of the point 5 of the fulcrum. But to
90 compensate for this discrepancy which this difference from the proper lengths of the lever and fulcrum would occasion, the center 5 of the fulcrum *d* should be set a little to
95 the left of the right line 3, which will allow and cause the bar H to work upon a right line, at right angles with the line 3.

Now I am aware that various modifications of levers with vibrating fulcrums are
95 and have been long in use in hay, cotton, and printing presses, and other machinery. I do not therefore claim a lever with a vibrating fulcrum as usual, but

What I claim as my invention is 100

1. The use of a lever with a vibrating fulcrum, in combination with the dog, or re-

reciprocatory carriage *f*, or its equivalent, as the means of communicating motion to the slides or knees *P, P*, of saw mill head blocks, substantially as described.

5. 2. And I also claim the combination of the cam lever *u* with the knee *P*, and the manner of operating the same for the pur-

pose of securing the said knees, substantially as described.

St. Louis, Nov. 22, 1857.

A. B. NORRIS.

Witnesses:

ROBERT B. GRAY,
MORRIS Z. ROSSMANN.