

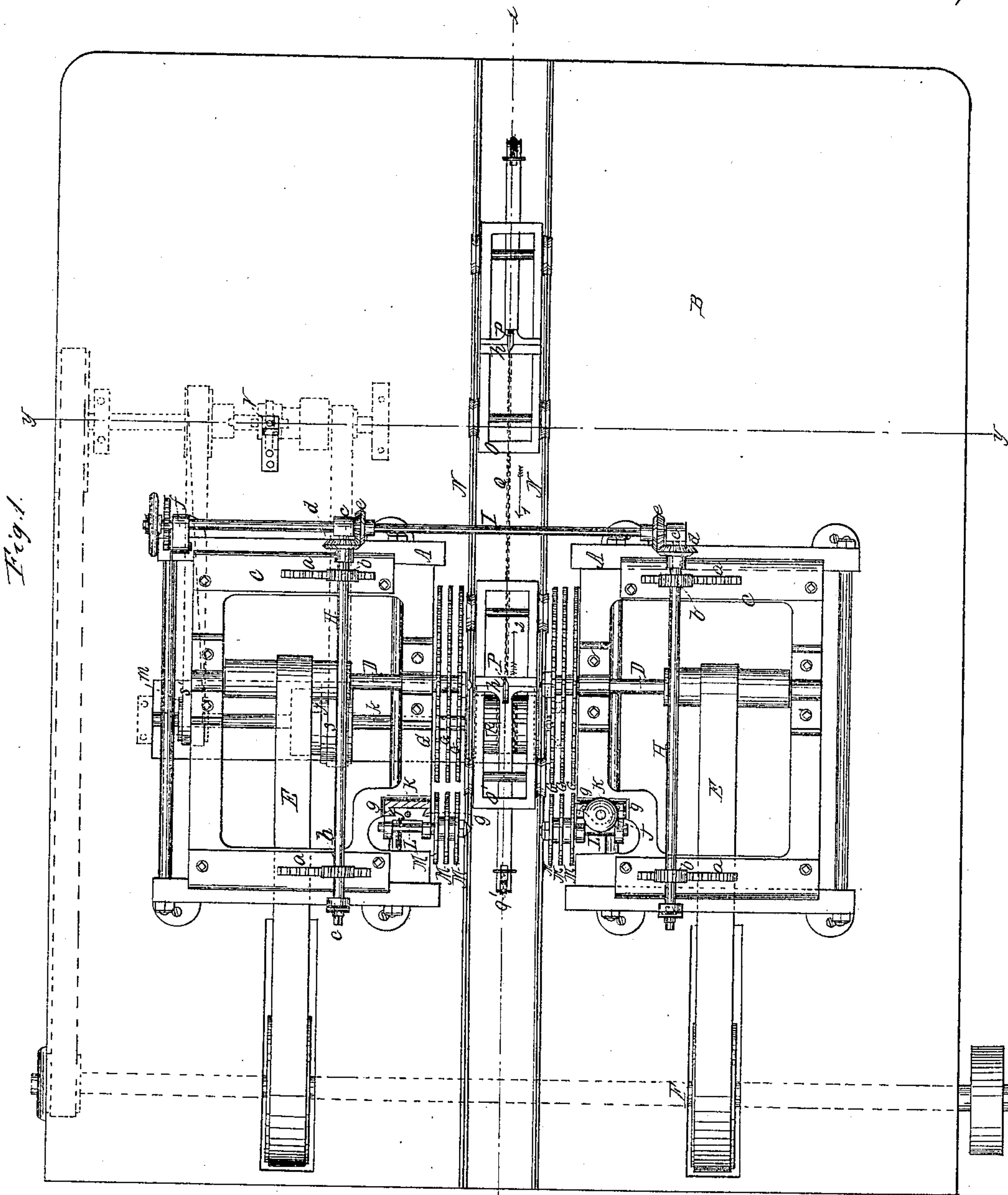
J. Davis,

2 Sheets-Sheet 1.

Circular Saw Mill.

N<sup>o</sup> 60,485.

Patented Dec. 18, 1866.



Witnesses.

J. C. Jackson  
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Inventor  
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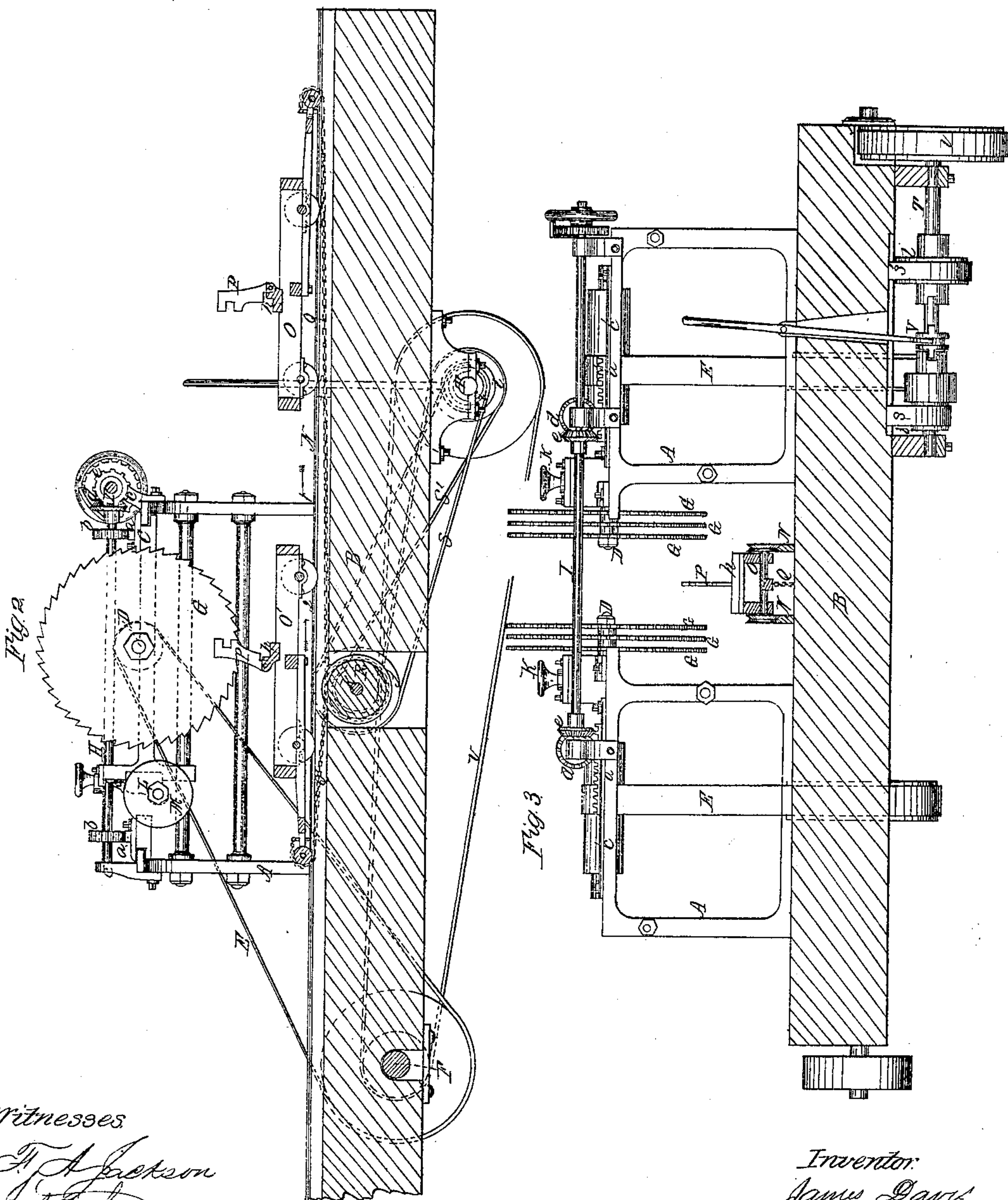
J. Davis,

2 Sheets-Sheet 2.

Circular Saw Mill.

N<sup>o</sup> 60,485.

Patented Dec. 18, 1866.



Witnesses

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# United States Patent Office.

## IMPROVEMENT IN SAW MILLS.

JAMES DAVIS, OF BUFFALO, NEW YORK.

*Letters Patent No. 60,485, dated December 18, 1866.*

*The Schedule referred to in these Letters Patent and making part of the same.*

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, JAMES DAVIS, of Buffalo, Erie county, and State of New York, have invented a new and useful improved Machine for Slabbing Logs; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification, in which—

Figure 1, sheet No. 1, is a plan or top view of my invention.

Figure 2, sheet No. 2, a side sectional view of the same, taken in the line *x x*, fig. 1.

Figure 3, a transverse vertical section of the same, taken in the line *y y*, fig. 1.

Similar letters of reference indicate like parts.

This invention relates to a new and improved machine for slabbing logs by means of circular saws, and it consists in a novel manner of arranging two series or gangs of circular saws whereby said series or gangs of saws may be moved simultaneously in a direction towards and from each other by the turning of a single shaft, and adjusted to opposite sides of the log in an accurate or perfect manner and with the greatest facility.

The invention also consists of adjustable circular plates arranged in connection with the saws in such a manner as to prevent the latter from binding in the kerfs, and thereby avoid much friction and the heating of the saws.

The invention further consists in a novel and improved means for feeding the log to the saws, as herein-after fully shown and described, whereby the saws are made to cut the log principally in the direction of the grain of the wood, thereby effecting a great saving in power.

This feeding arrangement also includes the manner of moving or operating the log carriages, by which the latter may be adjusted to suit the length of the log and the carriages moved forward and gigged back by a very simple mechanism.

A A represent two frames, which are firmly secured to a bed or flooring, B, at a suitable distance apart. On each of these frames A there is fitted a sliding-frame, C, said frames being allowed to slide in a direction towards and from each other, and having saw-arbors D in them, one in each, in line with each other, as shown in fig. 1. These saw-arbors are driven by belts E E, or by suitable gearing, from one and the same driving-shaft, F. On the inner ends of the saw-arbors D D there are secured at a suitable distance apart three circular saws, G, of ordinary or any proper construction. On each saw-frame C there are two racks, *a a*, one at each side, having pinions *b b* gearing into them. These pinions are keyed on shafts H H, the bearings *c* of which are on the frames A A, a shaft, H, extending over each frame A, (see fig. 1,) and both shafts having a bevel-wheel, *d*, at one end which gear into corresponding wheels *e e* on a shaft I, the bearings of which are on the frames A A.

From the above description it will be seen that by turning the shaft I the saws of the two arbors D D may be moved towards and from each other, as the saw-frames C C are moved through the medium of the gearing and racks, and the saws adjusted to opposite sides of a log with the greatest accuracy and facility.

In each frame A, at the rear of the saws, there is fitted between suitable guides, *g*, a vertical slide, J. These slides are adjusted, raised or lowered, by means of screws K. Each slide J has a horizontal shaft, L, fitted in and moving with it; and these shafts extend beyond the outer sides of the slides and have each three adjustable circular plates, M, upon them, the number of plates corresponding to the number of saws, and the former being in line with the latter, as shown clearly in fig. 1. The shaft L, and, consequently, the plates M, are allowed to turn freely. The plates M are placed on the shaft L in such a manner as to be easily adjusted by means of nuts upon said shaft to any required thickness of the boards to be sawed. N N represent two parallel ways, on which two carriages, O O', are placed and allowed to move freely. On each carriage O there is a transverse bar, *h*, and on these bars the ends of the log to be operated upon rest. To each bar *h* a dog, P, is pivoted, and these dogs are driven into the ends of the log and secure it in position, as will be fully understood by referring to fig. 2. To the carriages O O' there are attached chains Q Q', and these chains are secured to a drum, R, fitted in or underneath the bed or flooring B, the chains winding upon drum R in opposite directions, so that as one is moved upon the drum the other will be unmoved from it, and *vice versa*. The log, it will be seen, forms a connection between the two carriages, and when the log is fed to the saws the carriage O is moved in the direction indicated by arrow 1 by the chain Q, the chain Q' being unwound from the drum R as the chain Q is wound



upon it, and the log causing the carriage O' to move with carriage O. In gigging back, the motion of the drum R is reversed and the carriage O' is moved in the direction indicated by arrow 2 in consequence of the chain Q' being wound upon the drum and the chain Q of carriage O being unwound from it. This feeding and gigging back operation will be fully understood by referring to fig. 2. The drum R is rotated by two belts, S S', from a shaft, T, which is driven from the shaft F by means of a belt, V. The belts S S' operate alternately in driving the drum R, the belt S being used in feeding the log to the saw and the belt S' used in gigging back the log. The belt S works over a small pulley, *i*, on the shaft T and over a large pulley, *j*, on the shaft *k* of the drum R, and the belt S', which is a cross-belt, works over a larger pulley, *l*, on shaft T, and over a small pulley, *m*, on shaft *k*. By this arrangement the log is fed to the saws with a slower movement than it is gigged back, and the pulleys *i l* are placed loosely on shaft T, and either connected with said shaft by means of a clutch, V, (see fig. 3.) The log, it will be seen, is fed to the saws G below the arbors D, and the saws consequently cut in a direction with the grain of the wood, thereby effecting a considerable saving in power. One slab and two boards are cut from each side of the log in consequence of three saws being placed on each arbor D, and the saws are prevented from heating and binding in the kerfs by the circular plates M, which may be adjusted higher or lower in the kerfs by raising or lowering the slides J through the medium of the screws K.

I claim as new, and desire to secure by Letters Patent—

1. The placing of the saw-arbors D in sliding-frames C C, arranged with gearing and racks, substantially as shown and described, to admit of the saws G on the two arbors D D being adjusted simultaneously toward and from each other by the turning of a single shaft, I, as and for the purpose specified.
2. Adjusting the plates M upon shaft L by the means substantially as described, in combination with the adjustable slide J, as and for the purpose set forth.
3. The two carriages O O' provided with the dogs P P, and operated through the medium of the drum R, and chains Q Q, all constructed and operating substantially as shown and described.

The above specification of my invention signed by me this eighteenth day of June, 1866.

JAMES DAVIS.

Witnesses:

WM. F. McNAMARA,  
ALEX. F. ROBERTS.