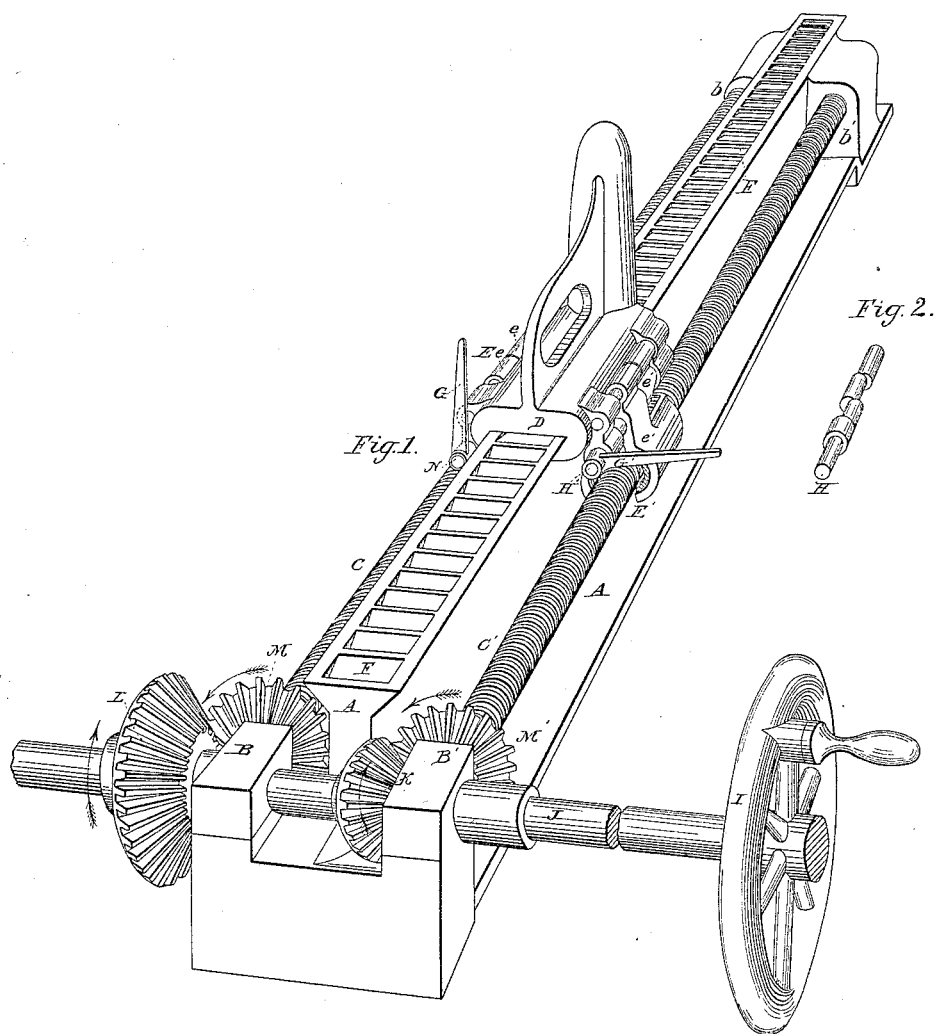


*G. H. Clemens,*  
*Saw-Mill Head-Block,*  
*N<sup>o</sup> 49,721.                      Patented Sep. 5, 1865.*



*Witnesses.*  
*G. H. Clemens*  
*James H. Layman*

*Inventor.*  
*G. H. Clemens*  
*By Hugh Bros*  
*Atty.*

# UNITED STATES PATENT OFFICE.

GILBERT H. CLEMENS, OF UNITED STATES ARMY.

## IMPROVEMENT IN SAW-MILLS.

Specification forming part of Letters Patent No. **49,721**, dated September 5, 1865.

*To all whom it may concern:*

Be it known that I, GILBERT H. CLEMENS, (United States Army,) of Cincinnati, Hamilton county, Ohio, have invented a new and useful Improvement in Saw-Mill Head-Blocks; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

My invention relates to a provision of two sets of setting apparatus on a saw-mill head-block, whereby the knee is enabled to set forward or backward with greater or less speed or power by a given movement of the hand-wheel, according to the weight of the log, and whereby each knee may be set forward faster or slower than the other for the manufacture of tapering lumber.

Figure 1 represents a saw-mill head-block formed on my plan. Fig. 2 shows my cam-shaft for spreading and closing the jaws of the nut.

A is my head-block, which may be cast in one solid piece, and may have the represented indentations F F' in its top or upper surface.

B b B' b' are side bearings for two precisely similar setting-screws, C and C', occupying nuts E and E', each of which is composed of two jaws, e e', operated by lever G and double cam-shaft H, which occupies slots within the jaws e e'. This arrangement of expansible nut may be substantially the same as that described in my patent of July 10, 1860. The nuts E and E' are hinged to opposite sides of the knee D.

I and J are respectively the master hand-wheel and shaft, the latter being provided with two bevel-wheels, K and L, of unequal size, which wheels gear with pinions M M' on the respective setting-screws C and C'. Where the log is a light one, and it is desired to set it forward quickly, the nut E is closed upon the screw C and the nut E' is released, while, on the other hand, for a heavy log the screw C' and nut E' are brought into service and the others released.

When it is desired to advance one knee more than the other with a given motion of the wheel I, that knee has its fast screw C connected with its nut, to work in conjunction with the slow screw on the other knee, and this arrangement being reversed for the next cut, and so on alternately, will enable a log to be cut up into tapering lumber.

If preferred, the speed of the respective nuts may be varied by the use of screws of different pitch.

I claim herein as new and of my invention—

The provision upon each head-block of the two sets of setting apparatus C E e e' M, C' E' e e' M', operated alternatively, and with unequal speeds, from a single hand-wheel, substantially as set forth.

In testimony of which invention I hereunto set my hand.

GILBERT H. CLEMENS.

Witnesses:

A. G. GARRETT,  
L. B. PILLS.