G. H. Clemens,

Saw-Mill Head-Block.

No. 50,455. Patented Oct. 17, 1865.

Fig 1

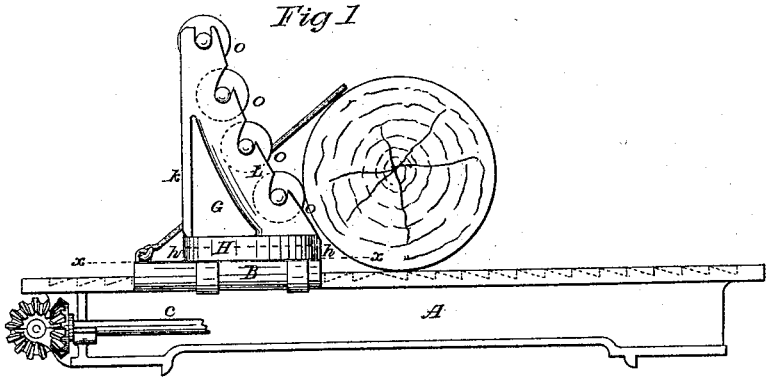

Fig 3

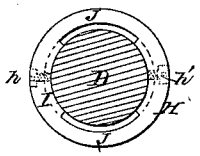

Fig 4

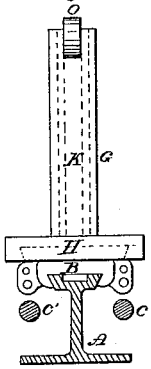

Fig 2

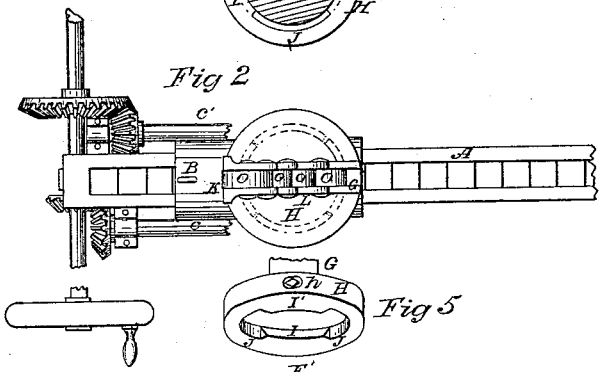

Fig 5

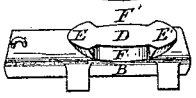

Fig 6

Witnesses:
F. Millward
James H. Layman.

Inventor:
Geo. H. Clemens
By Knight Bros
Attys

UNITED STATES PATENT OFFICE.

GILBERT H. CLEMENS, (U. S. A.,) OF CINCINNATI, OHIO.

IMPROVEMENT IN SAW-MILLS.

Specification forming part of Letters Patent No. **50,455**, dated October 17, 1865.

To all whom it may concern:

Be it known that I, GILBERT H. CLEMENS, (U. S. A.,) of Cincinnati, Hamilton county, Ohio, have invented certain new and useful Improvements in Saw-Mills; 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 rotary shifting knee adapted to be set in either of two positions, according as a round or square log is to be sawed, and also in providing the knee with a friction roller or rollers, so as to enable a heavy log to be turned on the head-block with the greatest facility.

Figure 1 is a side elevation of my rotary-shifting-knee attached to a head-block. Fig. 2 is a plan of the same. Fig. 3 is a transverse section at the line *x x* of Fig 1, looking upward. Fig. 4 is an end elevation of the knee, and Figs. 5 and 6 are perspective views of the knee and dovetailed boss detached.

A represents a head-block of any approved construction; and B is the base-plate of the knee, capable of being advanced or retracted by any suitable setting-screws, C C′.

D is a circular dovetailed boss, which may be cast solid with the base-plate B. The boss D is provided with lips E E′ and intervals F F′, said lips and intervals being of nearly equal length, or about one-fourth of a circle each.

G is my rotary shifting-knee, having a circular dovetailed base, H, which surrounds the boss D in such a manner as to turn freely on it as on a pivot. The base H has lips I I′ and intervals J J′, which correspond with the lips and intervals of the boss D.

h h′ are countersunk set-screws, by which the base H is secured to the boss D in any desired position.

The rotary shifting-knee G has one vertical face, K, and one receding concave face, L, and the latter is provided with a series of journal-bearings to receive one or more friction-rollers, O. The object of this friction-roller is to enable the log to be rolled or turned around with very little labor, and without any injurious strain on the knee or head-block.

When the log is small in diameter the roller O may rest in the lower bearing; but the roller is shifted to one of the upper bearings when a large log is to be sawed; or a series of rollers may be used, if preferred. The log having been "slabbed" off, the knee is made to perform a half-revolution, which brings the vertical face K to bear against the square side of the log.

The knee can be lifted bodily from the boss D by bringing the lips I I′ of the knee to correspond with the intervals F F′ of the boss.

Disclaiming a reversible connection, broadly, such devices being seen in various connections, such as tool parts of lathes,

I claim herein as new and of my invention—

1. The rotary shifting-knee G, having lips I I′ and intervals J J′, in combination with the circular dovetailed boss D on the base-plate B.

2. The construction of a saw-mill knee with a receding concave face, L, having one or more friction-rollers, O.

In testimony of which invention I hereunto set my hand.

GILBERT H. CLEMENS.

Witnesses:

GEO. H. KNIGHT,

JAMES H. LAYMAN.