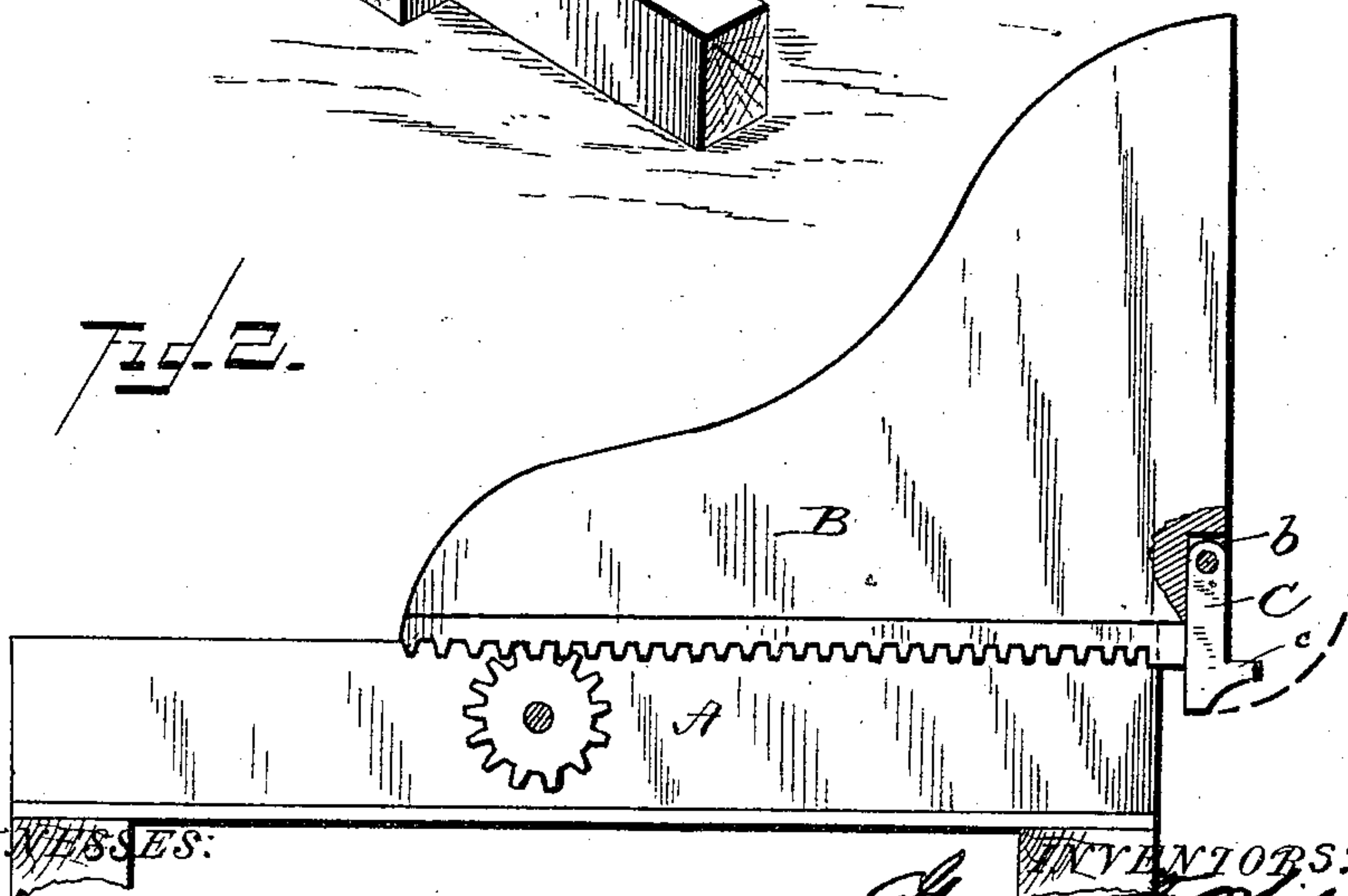
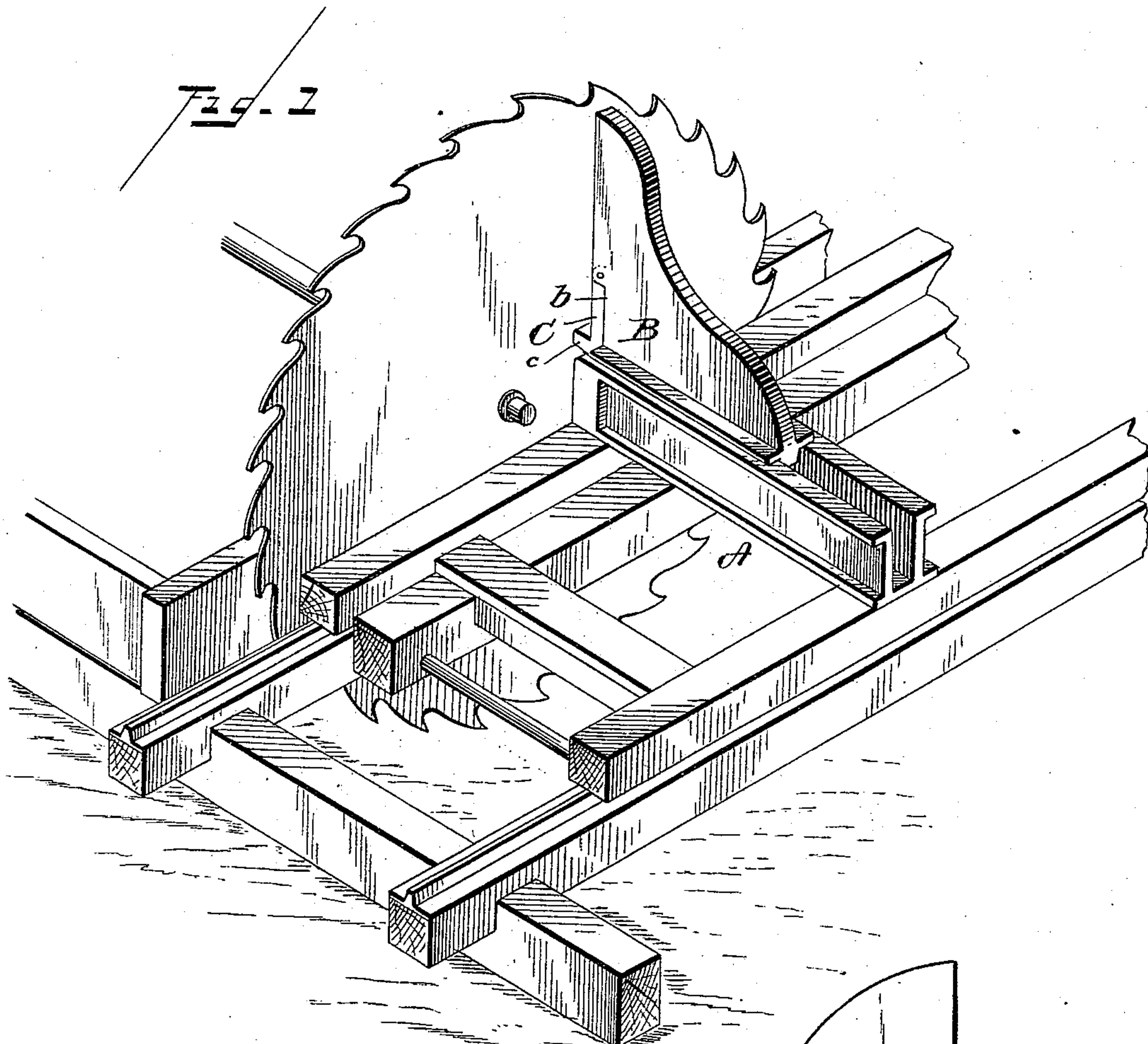


(No Model.)

G. F. WILLIS & J. F. KEITH.
KNEE AND HEAD BLOCK FOR SAW MILLS.

No. 426,895.

Patented Apr. 29, 1890.



WITNESSES:

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UNITED STATES PATENT OFFICE.

GEORGE F. WILLIS AND JEHU F. KEITH, OF VILLAGE MILLS, TEXAS.

KNEE AND HEAD-BLOCK FOR SAW-MILLS.

SPECIFICATION forming part of Letters Patent No. 426,895, dated April 29, 1890.

Application filed November 4, 1889. Serial No. 329,150. (No model.)

To all whom it may concern:

Be it known that we, GEORGE F. WILLIS and JEHU F. KEITH, both residents of Village Mills, in the county of Hardin and State of Texas, have invented certain new and useful Improvements in Knees and Head-Blocks for Saw-Mills; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

Our invention has relation to improvements in knees and head-blocks for saw-mills; and it consists in the improved construction and combination of parts, as hereinafter more fully pointed out and described.

In saw-mills as now constructed the head-block is so located upon the carriage that the projecting nose or point of the same passes within half an inch (more or less) of the saw in feeding a log by, and this projection is often broken off by being struck by the "log-turner," saw, and saw-guide, and other projecting parts, and being so struck is damaged and made useless, besides endangering other parts of the machinery.

The object of our improvement is to overcome the above-described disadvantage, and to accomplish this we provide the construction hereinafter described, and shown by the accompanying drawings, in which—

Figure 1 is a perspective view of the ways of an ordinary saw-mill, showing our improved knee and head-block applied thereto. Fig. 2 is a longitudinal vertical section through the head-block and knee, showing the supporting-block of the knee as pivoted within the recess thereof, the dotted lines indicating said supporting-block as swung forward, so as to pass over the pinion within the head-block when it is desired to remove the knee.

Like letters of reference are used to denote corresponding parts throughout the entire specification and both views of the drawings.

Referring to the drawings, the letter A represents the head-block provided with the usual groove or way in which the knee is adjusted. This groove extends the entire length of the head-block, so as to leave an open end, and thus permit the knee to travel beyond the same. It will be seen on reference to the

drawings that the head-block does not project beyond the edge of the ways, but is of such length as to be flush therewith, so as not to present the exposed ends against which projecting portions of the frame of the saw-mill proper are likely to strike.

Our improved knee is represented by the letter B, and is of the usual and well-known construction, with the exception of being provided upon its vertical face with a recess *b*, into which fits a log-supporter C. This supporter may be pivoted within the recess, so as to have a free swinging motion, or, in some cases it will perhaps be found more desirable to secure the same permanently therein by means of screws or equivalents. (Not shown.) The log-supporter is flush with the vertical front line of the knee, excepting the lower portion of the supporter, which is formed or provided with a laterally-extending lug *c*, projecting out beyond the head-block and adapted to support the log when the knee is adjusted so as to cut a very thin board. The knee can be arranged with the ordinary mechanism for advancing the same, preferably the rack-and-pinion movement.

The advantages of our improvement are obvious. As is well known, the head-block in present use is provided with a nose or projection which extends out beyond the carriage, and therefore constantly exposed and liable to be broken off by being struck by the projecting parts of the saw, saw-guide, &c., and thus rendered useless. By our improvement, however, it is not at all necessary to extend the head-block so as to be flush with the side pieces or ways of the carriage-frame, and consequently the only thing which is at any time exposed is the lug or projection of the log-supporter, and this only when the log has been cut away considerably, so as to make it necessary to advance the same laterally a sufficient distance to engage with the teeth of the saw. It is also apparent that instead of employing a separate piece provided at its lower end with a projecting lug, the head-block may simply be formed with a projecting lip cast integral therewith. This will of course effect the same function as a separate log-supporter, although the latter is preferable, inasmuch as should the knee be formed with the project-

ing lug or lip just described, in case of damage thereto the entire knee would be practically worthless and would necessitate the substitution of another in place thereof. For
5 this reason the employment of a separate piece is much more desirable, inasmuch as should any damage ensue the knee proper may still be employed and the substitution of a new supporter only be rendered necessary.

10 The object of pivoting the supporter within the recess in the knee is that as the knees of head-blocks are generally moved backward and forward by rack and pinion in some constructions of block and knees it would be difficult to use a lug without its projecting below
15 the top of the pinion, and if screwed on, in such case it would consume too much time in removing the knee from the block. By hinging the piece, however, as shown in Fig. 2 of
20 the drawings, said piece is enabled to swing forward (indicated by dotted lines) and pass over the pinion, thus facilitating to a great extent the removal of this part of the device, which of course can be replaced in the same way.

25 Having thus described our invention, we claim and desire to secure by Letters Patent of the United States—

1. The combination, with a saw-mill carriage, of a head-block extending flush with

the outer edges of the tracks of said carriage 30 and provided with the usual groove or recess extending the entire length of said head-block, a knee sliding in said groove and provided on its front vertical edge with a recess, and a log-supporter pivoted at its upper end within said
35 recess and provided at its lower edge with a forwardly-extending lug or projection c, substantially as set forth.

2. The combination, with a saw-mill carriage, of a head-block extending flush with
40 the outer edges of the tracks of said carriage and provided with the usual groove or recess extending the entire length of said head-block, a knee sliding in said groove and provided on its front vertical edge with a recess, and a log-
45 supporter fitting flush within said recess and provided at its lower end with a forwardly-extending lug or projection, substantially as set forth.

In testimony that we claim the foregoing 50 as our own we have hereunto affixed our signatures in presence of two witnesses.

GEORGE F. WILLIS.
JEHU F. KEITH.

Witnesses:

HENRY MILLER,
GEO. C. O'BRIEN.