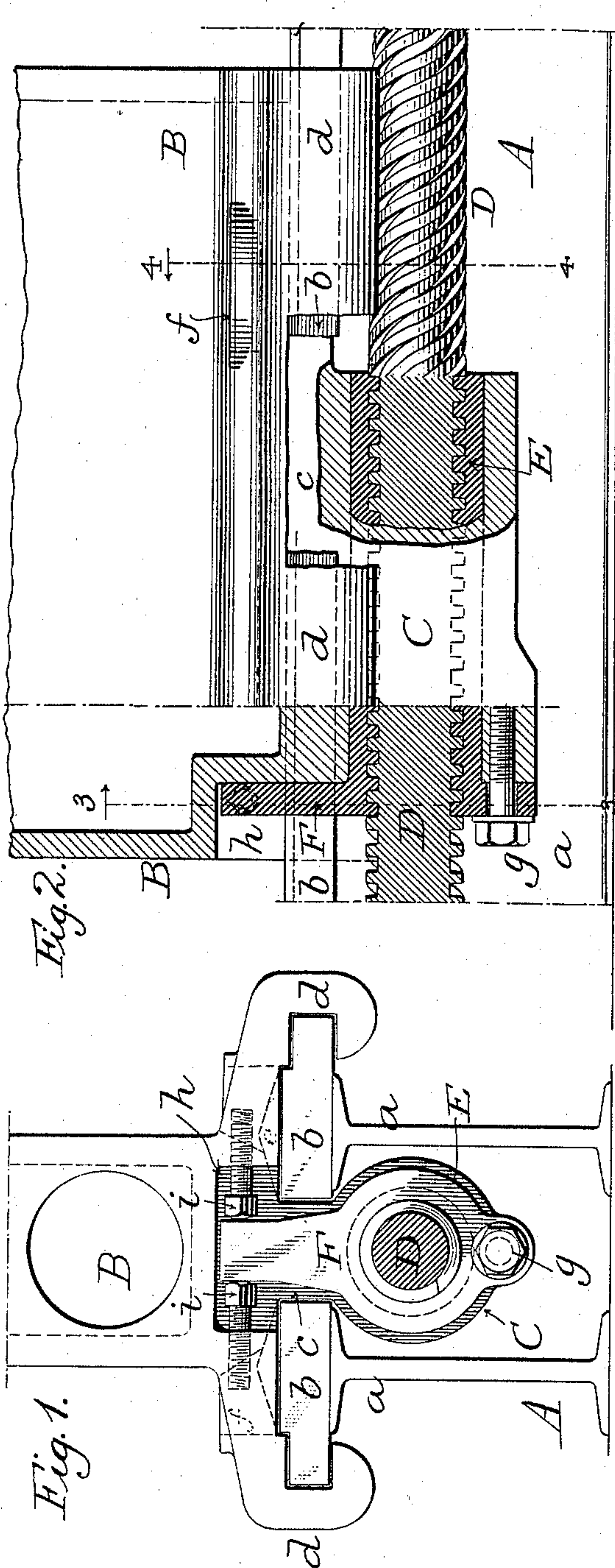


(No Model.)

D. B. HANSON.  
SAWMILL CARRIAGE MECHANISM.

No. 540,357.

Patented June 4, 1895.



Witnesses  
C. C. Burdick  
C. B. Bull.

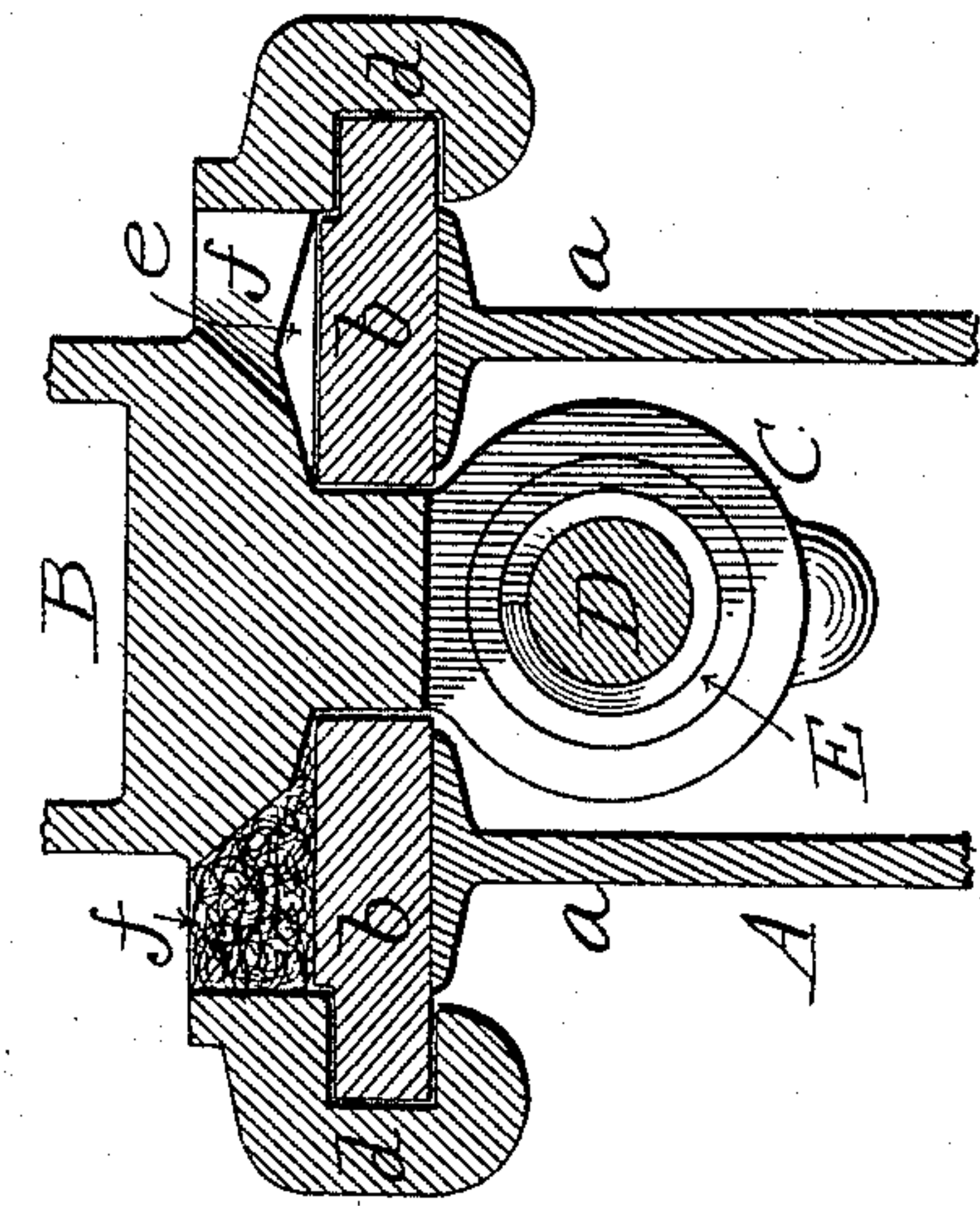


Fig. 4.  
on line 4-4

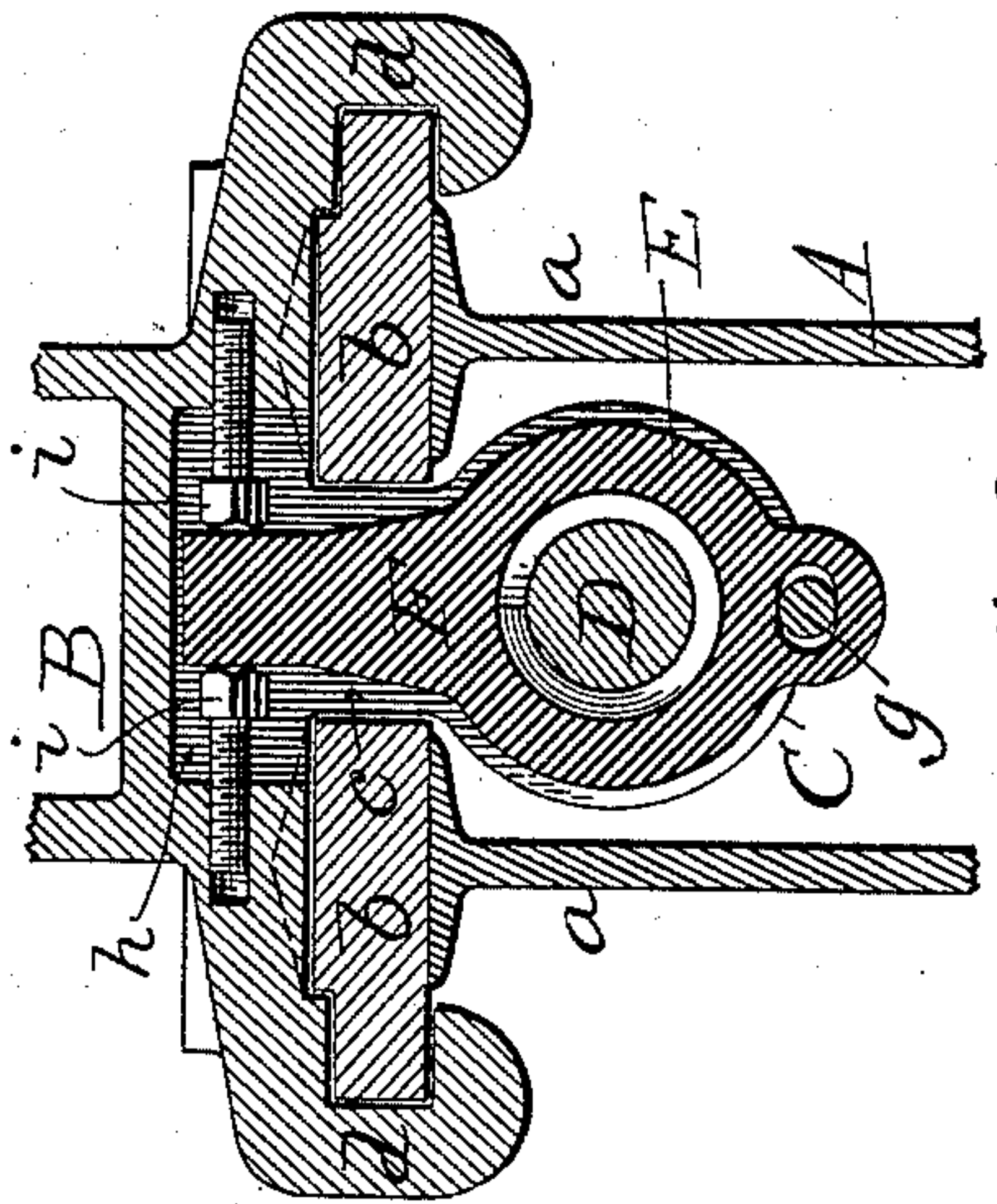


Fig. 3.  
on line 3-3

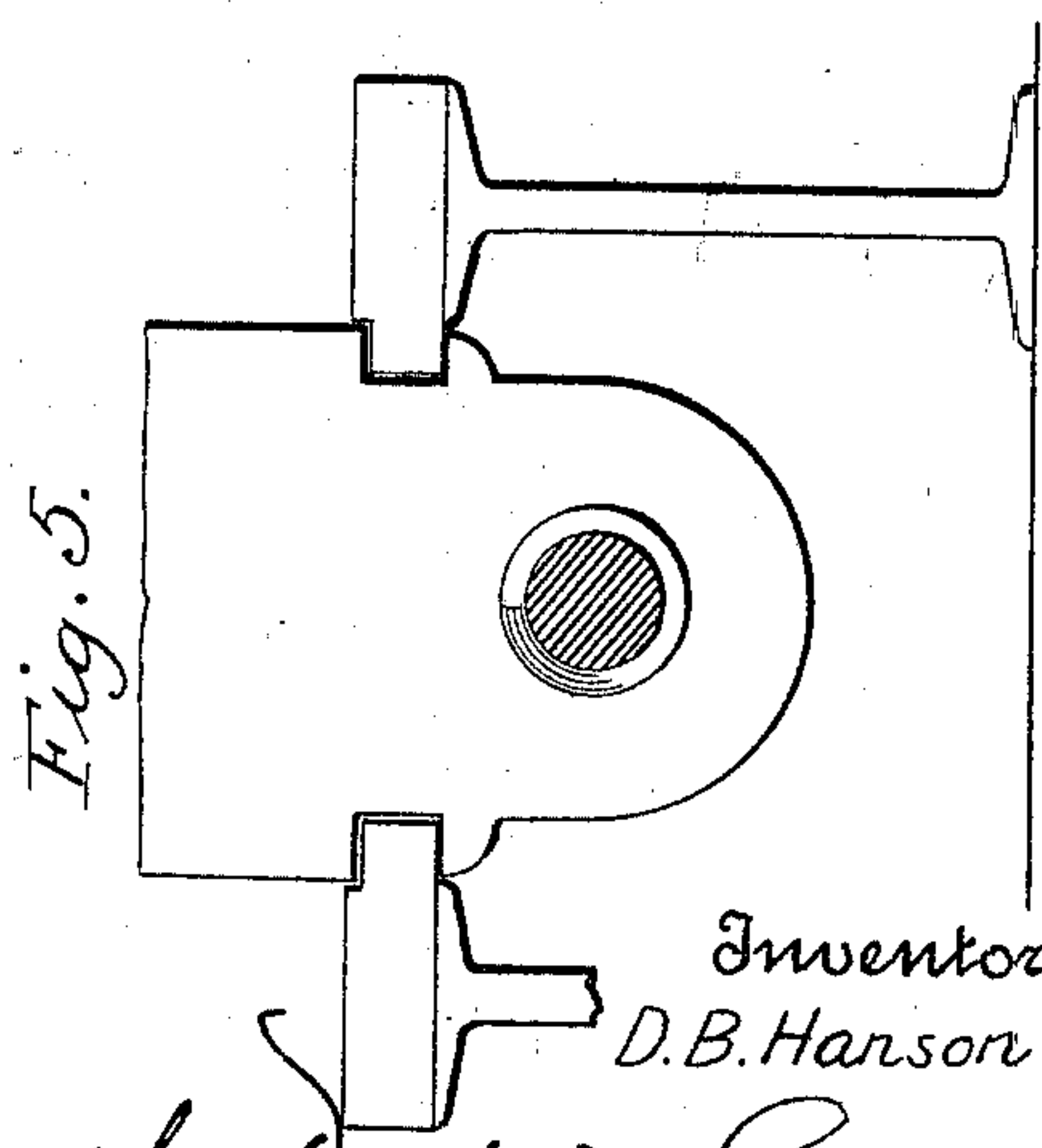


Fig. 5.

Inventor  
D. B. Hanson  
by W. D. Jones  
Attorneys.



# UNITED STATES PATENT OFFICE.

DEMPSEY B. HANSON, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR OF ONE-HALF TO THE EDWARD P. ALLIS COMPANY, OF MILWAUKEE, WISCONSIN.

## SAWMILL-CARRIAGE MECHANISM.

SPECIFICATION forming part of Letters Patent No. 540,357, dated June 4, 1895.

Application filed January 31, 1895. Serial No. 536,812. (No model.)

*To all whom it may concern:*

Be it known that I, DEMPSEY B. HANSON, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Sawmill-Carriage Mechanism, of which the following is a specification.

My invention relates to saw mill carriages, and has reference more particularly to a novel construction of the knees and head blocks thereof.

In saw mill carriages of this style, as commonly constructed, the head block is provided with upright parallel ways, similar to I-beams, capped with steel bars for guides or slides, to receive the sliding knee, the said knee carrying a nut, which receives or fits upon a setting screw, located in the head block between the ways or guides. In the head block in common use, the space between the guides or slides is so wide that in practice the setting screw, located in this open space, is frequently broken or injured by the knots, burls, or projections, on the logs, in turning or rolling the latter onto the head block, thereby occasioning considerable annoyance and expense. This comes from the fact that all knees in common use are grooved on their sides, and slide on the inner edges of the guides or slides, instead of projecting out and around the slides as hereinafter described as a part of my invention. The head blocks in common use are not provided with proper facilities for lubricating the guides and aligning the knees. To obviate these difficulties is the object of the present invention.

In the drawings, Figure 1 is an end elevation of a portion of the head-block and knee embodied in my invention; Fig. 2, a side elevation of the same, partly in section; Fig. 3, a vertical sectional view on the line 3 3 of Fig. 2; Fig. 4, a similar view on the line 4 4 of Fig. 2, and Fig. 5 an end elevation of a portion of the head-block and knee in common use.

A indicates the head block, provided with the parallel ways or guides *a a*, which in the present instance are shown as formed of I-beams, capped with suitably planed slides *b b*, the guides or slides being separated at their

upper edges a distance varying from two and one-half inches to three inches, a distance that would be wholly impracticable as they were heretofore made, and in common use, with the guides of knee between the inner edges of slides, as shown in Fig. 5.

B indicates the knee which is provided with a central depending hub or hollow sleeve C, which extends downward between the ways or guides *a a*, and which is connected with the main body of the knee by a contracted neck *c*, which fits freely between the upper inner edges of the guides or slides. The knee is further provided along its side edges with flanges *d d*, projecting outward over the upper faces of the slides *b b*, and embracing the latter on their outer edges and upper and lower faces, as shown in Figs. 1, 3 and 4, thereby preventing either a lateral movement or a lifting of the knee relative to the head block. In each flange *d d*, there is formed a chamber *e*, Fig. 4, open on its lower side, where the flanges project over the slides *b b*, and provided with a supply hole or opening *f*, at the upper side of the flanges; the said chamber being filled with waste, saturated with oil or other lubricant, thereby enabling me to keep the sliding surfaces for logs and guiding surface of knee constantly lubricated, and avoiding the frequent oiling by hand.

D indicates the setting screw, which is journaled at its ends (not shown) in the head block as usual; said screw engaging a sleeve nut E, carried by the depending hub C of the knee. This screw D is a quick pitch screw, and in order to bring the knees into exact alignment without disturbing the screw, a partial rotation of which would produce an excess of movement, I provide the nut E with an arm F, Figs. 1, 2, and 3, whose upper end extends up between the ways or guides *a a*, and whose lower end is provided with a slot to receive a tap bolt *g*, which passes through the arm and into the depending hub C. The knee is socketed or recessed at one end, as at *h*, to receive the upper end of the arm F, and into the side walls of this socket are tapped threaded holes to receive the tap bolts or adjusting screws *i i*, the heads of said screws or bolts bearing upon the sides of the arm, as shown in Fig. 1.



By loosening the bolt *g*, and by adjusting the screws *i i*, the nut can be turned slightly in one direction or the other, and as the screw *D* remains stationary, the knee can be accurately moved forward or backward slightly, relative to the head block and its screw, thereby securing perfect alignment of the knee. After the desired alignment has been secured, the tap bolt *g* is tightened, and the nut thereby firmly secured to the hub. This tap bolt *g* is not essential, but is used to prevent any possible or accidental derangement of the parts.

By providing the nut with the upwardly extending arm *F*, the nut is rendered accessible for adjustment at any point in its travel on the head block, while the socketing or recessing of the knee to receive the said arm and its adjusting screws protects said parts from injury.

From an examination of Figs. 1 and 3, it will be seen that the setting screw is effectually protected against injury from knots or burls by the overhanging inwardly projecting portions of the ways or guides *a a*.

From the foregoing it will be seen that the narrow space that can be had with this form or style of knee, precludes the entrance of burls or knots, and at the same time does not require any weakening of the knee,—the heavy strain on the knee proper being taken by the guides on the projecting flanges *d d*. This narrow opening which is of the same or less width than the diameter of the setting screw, is used only to receive the neck *c* of the depending hub *C*. The location of the lubricating devices in the flanges *d d* insures not only a lubrication of the sliding members,

but also of that part of the ways *b b* upon which the heavy logs rest.

Having thus described my invention, what I claim is—

1. In combination with a head block provided with a setting screw, and with ways or guides separated a distance equal to or less than the diameter of the screw; a knee mounted on said head block and provided with a nut to receive the screw; and a hub, in which said nut is carried, connected with the knee by a contracted neck or web, substantially as shown and described.

2. In combination with a head block and its setting-screw; a knee provided with a depending hub; a nut mounted within the hub and provided with an upwardly-extending arm; and adjusting screws carried by the knee and acting upon the arm.

3. In combination with a head block and its setting-screw; a knee provided with a depending hub; a nut mounted within the hub; and provided with an upwardly-extending arm; screws carried by the knee to act upon the arm; and a tap-bolt passing through a slot in the lower end of the arm and engaging the hub.

4. In combination with a head block; a knee recessed at one end; a setting screw; a hub carried by the knee; a nut mounted in the hub, and provided with an arm to extend into the recess; and adjusting devices for said arm.

In witness whereof I hereunto set my hand in the presence of two witnesses.

DEMPSEY B. HANSON.

Witnesses:

RALPH SIMON,

JOHN F. BERNARD.