(No Model.) 2 Sheets—Sheet 1.

S. R. SMITH & E. MYERS.

DEVICE FOR OPERATING SAW MILL KNEES.

No. 259,936. Patented June 20, 1882.

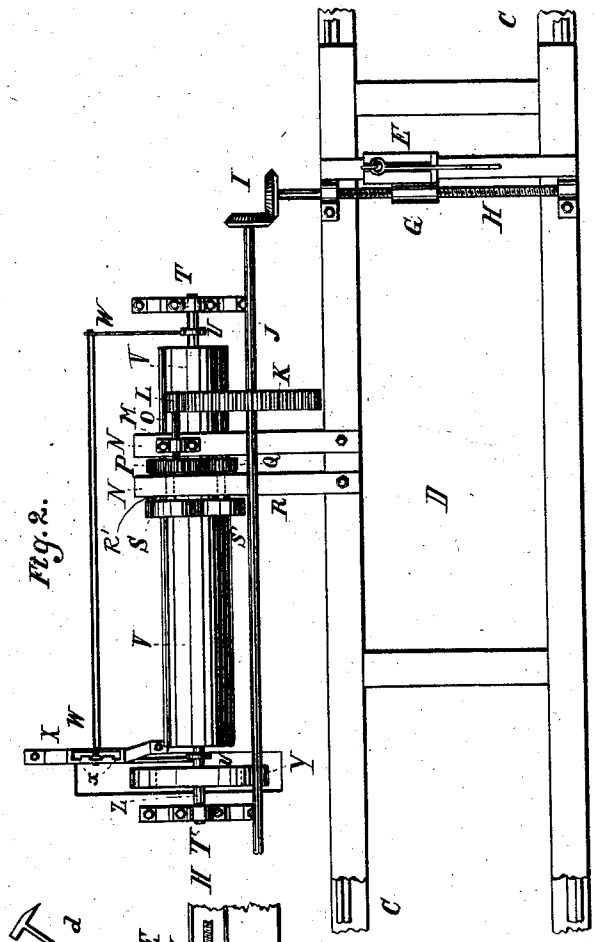


Fig. 2.

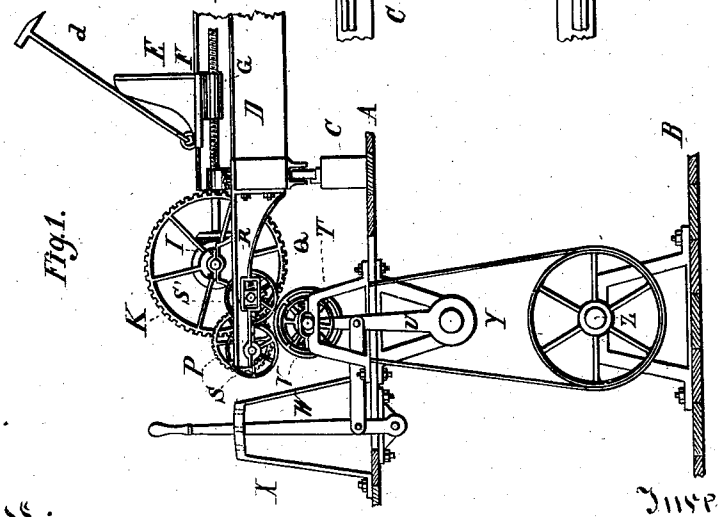


Fig. 1.

Witness:
Carl Spengel.
L. M. Hopkins.

Inventors:
Samuel R. Smith
Edward Myers
By Knight Bros.
Att'y's

N. PETERS. Photo-Lithographer, Washington, D. C.

(No Model.) 2 Sheets—Sheet 2.

S. R. SMITH & E. MYERS.

DEVICE FOR OPERATING SAW MILL KNEES.

No. 259,936. Patented June 20, 1882.

Fig. 4.

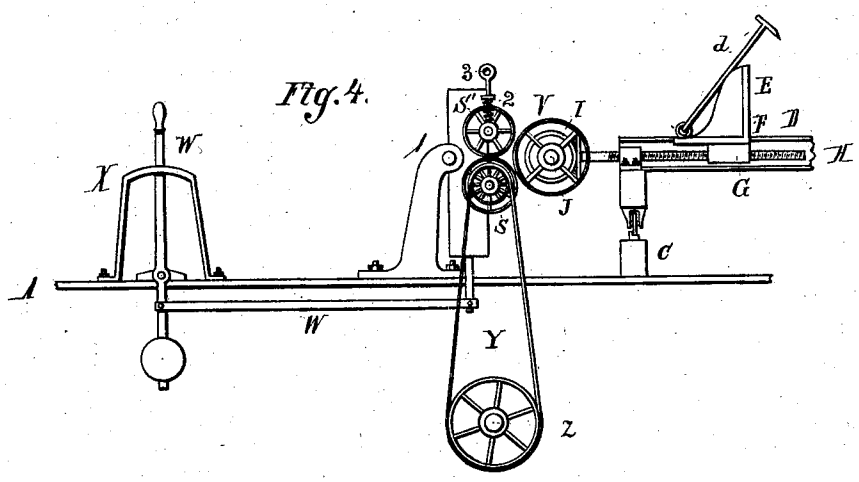
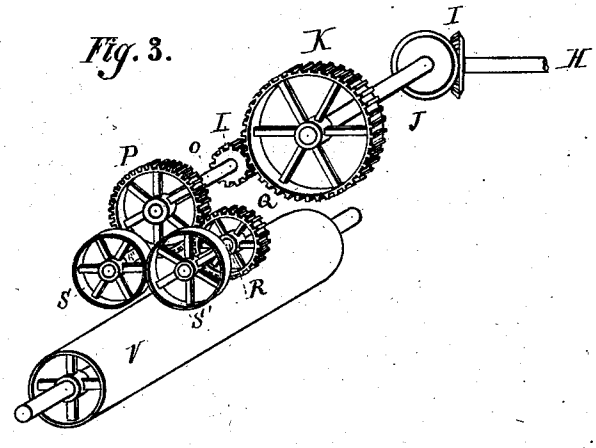


Fig. 3.



Witness:
Carl Spengel
L. M. Hopkins

Inventors
Samuel R. Smith
Edward Myers
By Knight Bros.
Atty's

N. PETERS. Photo-Lithographer. Washington, D. C.

UNITED STATES PATENT OFFICE.

SAMUEL R. SMITH AND EDWARD MYERS, OF CINCINNATI, OHIO, ASSIGNORS TO SMITH, MYERS & SCHNIER, OF SAME PLACE.

DEVICE FOR OPERATING SAW-MILL KNEES.

SPECIFICATION forming part of Letters Patent No. 259,936, dated June 20, 1882.

Application filed February 1, 1882. (No model.)

To all whom it may concern:

Be it known that we, SAMUEL R. SMITH and EDWARD MYERS, both of Cincinnati, Hamilton county, Ohio, have invented a new and useful Device for Operating Saw-Mill Knees, of which the following is a specification.

Our invention relates to an adjunct or appendage to the customary saw-mill for the purpose of enabling the lateral shifting of the log by power under control of the sawyer.

In the accompanying drawings, Figure 1 is an end elevation, and Fig. 2 a top view, of our device, together with contiguous portions of a saw-mill. Fig. 3 is a perspective view of portions of the transmitting mechanism detached. Fig. 4 is a profile view of a modification of our attachment.

A and B may represent respectively portions of the main and basement floors; C, parts of the track; D, a portion of the bed or carriage of a saw-mill. E may represent one of the head-blocks; F, its shiftable knee, having customary nut, G, for the setting-screw H, having the accustomed geared connection I with the shaft J, which may be provided with the usual hand-lever and ratchet movement. (Not here shown.)

All the above-mentioned members may be of any customary or approved construction, and require no specific description.

Keyed upon shaft J is a spur-wheel, K, that meshes in a pinion, L, journaled in bearings M upon one of two projecting jut-beams, N N, which is bolted fast to the carriage. The shaft O of pinion L carries a spur-wheel, P, that meshes in a wheel, Q, whose shaft R carries a friction-wheel, S′, whose periphery impinges against and causes opposite rotation of a like friction-wheel, S, upon shaft R′.

All of the above parts, from E to S′ inclusive, are attached to and travel to and fro with the carriage.

So journaled in slotted bearings T and in rock-arms U as to have its axis parallel with the path of the carriage is a drum, V, which, by means of a lever, W, is capable of being placed either in the intermediate position shown, so as to be clear of both friction-wheels S S′, (in which position the device is of course inoperative,) or of being pressed forward against one or rearward against the other friction-wheel. A segment-yoke, X, serves to guide the lever W, and has notches *x* to retain it in either desired position.

The drum V is driven by belt-and-pulley connection Y with drive-shaft Z.

The drum V is of considerable length, preferably not less than four feet, and is located near the starting or initiatory end of the track. Said drum, being of considerable length and disposed parallel to the path of the carriage, and equally accessible to both forwarding and retracting friction-wheels at any part of its length, permits the carriage to be stopped for operation of our said attachment anywhere within the range of four feet, (or whatever may be the length of the drum,) and set instantly to work either for forwarding or retracting without wasting time in efforts to stop the carriage at a precise spot. But one knee and accompanying head-block are represented; but it will be understood that two or more knees and head-blocks are used, and preferably with any customary means of simultaneous and independent operation of the respective knees.

The operation is as follows: The carriage being stopped at any part of its stroke that will bring the friction-wheels S S′ opposite some part of the drum V, and the hand-lever and ratchet being disengaged from shaft J, the drum is brought in contact with one or other of the friction-wheels, according to whether it be desired to advance or retract the knee. By this means the knees may be retracted for placing the log and the log may be expeditiously shifted to any desired distance with very little labor on the part of the sawyer. The dog *d* being engaged in the log, means is afforded of canting or rolling the log backward, so as to present another face for the slabbing action of the saw. The device is notably useful in presentation of the log in the original instance for slabbing and squaring preparatory to cutting into boards or planks. The purposes of the attachment having been accomplished, the restoration of the lever to its central position disengages the power-setting mechanism, and the ordinary work of the saw-mill may then be accomplished as if the said mechanism were not present.

The above-described preferred form of our invention is susceptible of various modifications. For example, the drum V may be located upon the knee-setting shaft J, as in Fig. 4, and the two friction-wheels, as in said figure, be mounted in a rocking frame, 1, under control of the lever, or the longitudinal prolongation may be that of the friction-wheels, and a simple friction-wheel may take the place of the drum. A set-screw, 3, may be employed to graduate the pressure of the spring and to take up the wear from time to time.

We are aware that frictional drums and long gear-wheels in connection with means for operating saw-mill knees are old.

We claim as new and of our invention—

1. The combination of long power-driven friction-drum V, parallel with the track, forwarding friction-wheel S, and retracting friction-wheel S′, and suitable means, W, for bringing the drum and wheels into frictional contact, substantially as shown and described, for the purpose set forth.

2. The combination of long friction-drum V, forwarding and retracting friction-wheels S S′, rock-arms U U, supporting said drum, and lever W for engaging the drum with either friction-wheel, substantially as set forth.

3. The combination of long friction-drum V, parallel with main shaft, and friction-wheels S S′ and spur-wheel Q on shafts R R′, with spur-wheel P and pinion L on shaft O, located over said drum and forming the means for communicating motion from the drum to the spur-wheel on the main shaft, as set forth.

In testimony of which invention we hereunto set our hand.

SAML. R. SMITH.
EDWARD MYERS.

Attest:
SAML. S. CARPENTER,
GEO. H. KNIGHT.