2 Sheets--Sheet 1.

G. M. PELTON.

Head-Block for Saw-Mills.

No. 167,194. Patented Aug. 31, 1875.

Fig. 1.

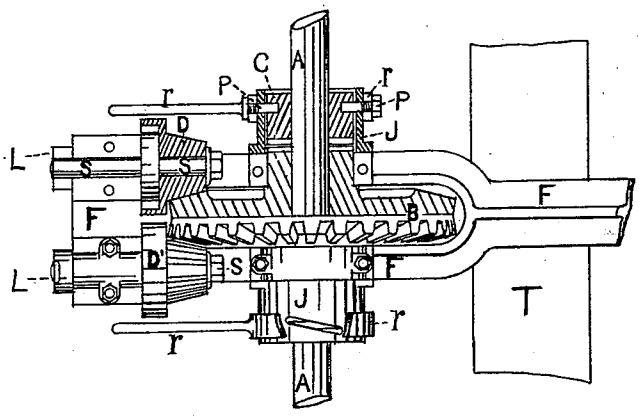


Fig. 3.

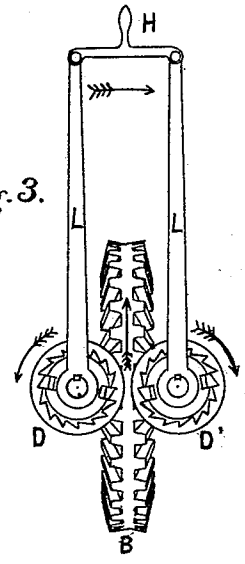
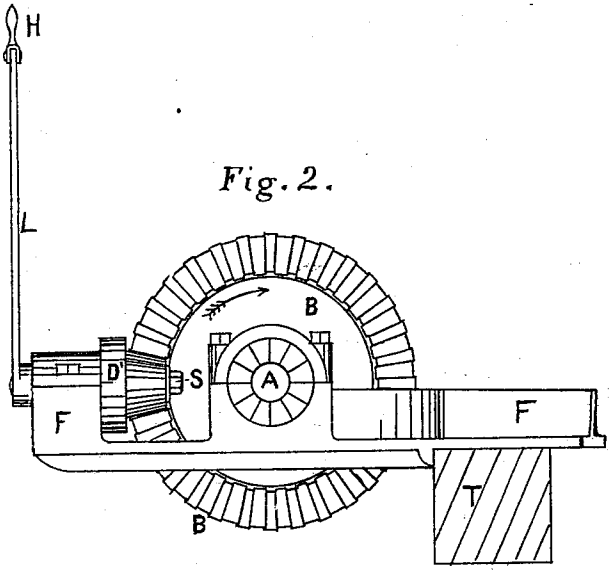


Fig. 2.



Witnesses;
F. B. Rice
Ellis Daniels

Inventor;
George M. Pelton

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

2 Sheets--Sheet 2.

G. M. PELTON.

Head-Block for Saw-Mills.

Patented Aug. 31, 1875.

No. 167,194.

Fig. 4.

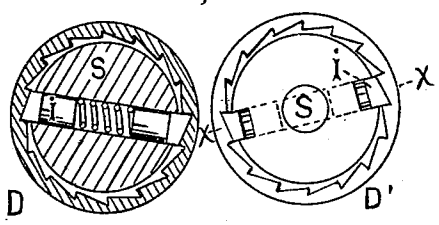


Fig. 5.

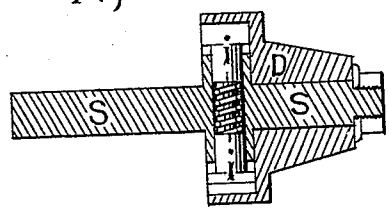


Fig. 6.

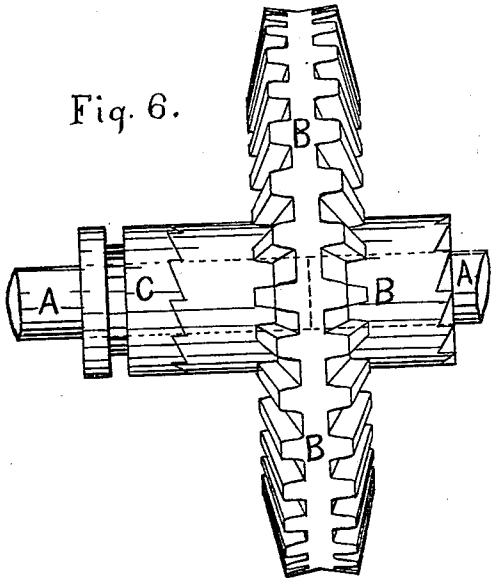


Fig. 7.

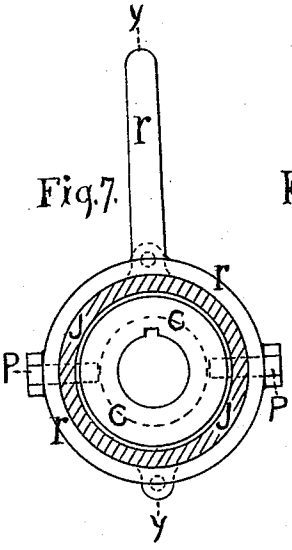
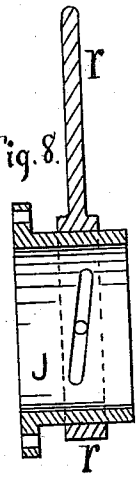


Fig. 8.



Witnesses;

F. B. Rice

Alle Daniels

Inventor;

George M Pelton

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

GEORGE M. PELTON, OF WARREN, PENNSYLVANIA, ASSIGNOR OF ONE-FOURTH HIS RIGHT TO F. B. RICE, OF SAME PLACE.

IMPROVEMENT IN HEAD-BLOCKS FOR SAW-MILLS.

Specification forming part of Letters Patent No. **167,194**, dated August 31, 1875; application filed May 3, 1875.

To all whom it may concern:

Be it known that I, GEORGE M. PELTON, of the village of Warren, county of Warren, State of Pennsylvania, have invented certain Improvements in Head-Blocks for Saw-Mills; and do declare that the following is a full and exact description of the same, reference being had to the accompanying drawings and letters of reference marked thereon.

My invention relates to machinery for setting logs for the saws of circular and other mills. It consists of a double-faced bevel-gear wheel, ratchets, springs, shafts, levers, clutches, and frame, all arranged so as to produce a continuous forward motion of either or both ends of the log for every movement of the levers.

The objects of the invention are to simplify and cheapen a continuous set-works for saw-mill head-blocks; to secure a positive and reliable action, one not liable to get out of order, and that will set any thickness of boards without changing racks.

Figure 1 is a plan (half-section) of the invention. Fig. 2 is an end view of the same. Fig. 3 is a front view, showing the levers, internal ratchets, and double-faced bevel-wheel. Fig. 4 is an enlarged view of pinions, showing internal ratchets, half-section. Fig. 5 is a section of same, through *x x*. Fig. 6 is an enlarged view of bevel-wheel, showing clutches and shafts. Fig. 7 is an end view of clutch and the arrangement for shifting the same. Fig. 8 is a section of cylinder and lever, through *y y*, showing the helical slot.

A A are the setting-shafts, which turn freely in the wheel B. B is a double-faced bevel-gear wheel with hubs projecting from each side to support the device in its bearings, and to receive the ends of the shafts A A. The ends of these hubs are notched to fit the clutches C C. D D′ are pinions which alternately drive the wheel B. They revolve freely on their shafts S S, except when held by the pawls *i i*. The larger end of the pinion is recessed, and the circumference of this recess is made up of ratchet-teeth. The reciprocating shafts S S are enlarged to fill the recess in pinions, and carry the pawls and spring. The levers L L are keyed to the shafts S S, and their upper ends are connected by the handle H. The levers, with their shafts, always move together. When moved one way, one pinion drives, and when reversed the opposite one drives and the first one slips. The clutches C C slide freely on their shafts, but are kept from revolving on them by sliding keys or feathers. They are moved in and out of gear by means of the pins P P, secured to a ring and lever, *r r*, which move around the center about ninety degrees. The pins P P are guided by helical slots in the sides of the cylinder J. J is the cylinder which carries the ring and lever *r r*. The weight of the lever is sufficient to move the clutch in when started. The whole is carried by bearings in the frame F, which is attached to the log-carriage timber T.

The operation of the machine is obvious. By moving the levers as indicated by the arrow, the pinion D′ is engaged and drives the large wheel as indicated by the arrows. When the motion of the levers is reversed, the pinion D drives, and the first one slips. The clicking of the pawls and ratchets tells the setter how far he has set. Thus, by the reciprocations of the levers, a continuous forward motion is given to the set-works and log.

When it is desired to set one end of the log ahead, one of the clutches C C is thrown out of gear, and its shaft ceases to revolve; or when the shafts are turned backward to take another log, both clutches are thrown out of gear by simply raising the levers *r r*. This arrangement can be attached to either a rack and pinion or screw head-block. Its advantages are compactness, durability, convenience in working and reliability of action.

I do not claim to be the inventor of bevel-gear, nor internal ratchets, nor clutches; but

I claim as my invention—

1. The combination of the double-faced bevel-gear wheel B, the pinions D D′, the shafts and ratchets S S, and levers L L, and handle H, substantially as set forth.

2. The combination of the cylinders J J, the pins P P, rings and handles *r r*, and clutches C C, with the wheel B, and frame F, substantially as and for the purposes hereinbefore set forth.

GEORGE M. PELTON.

Witnesses:
F. B. RICE,
C. MCDANIELS.