

W. E. HILL.
Log-Turners.

No. 148,365.

Patented March 10, 1874.

Fig. 1.

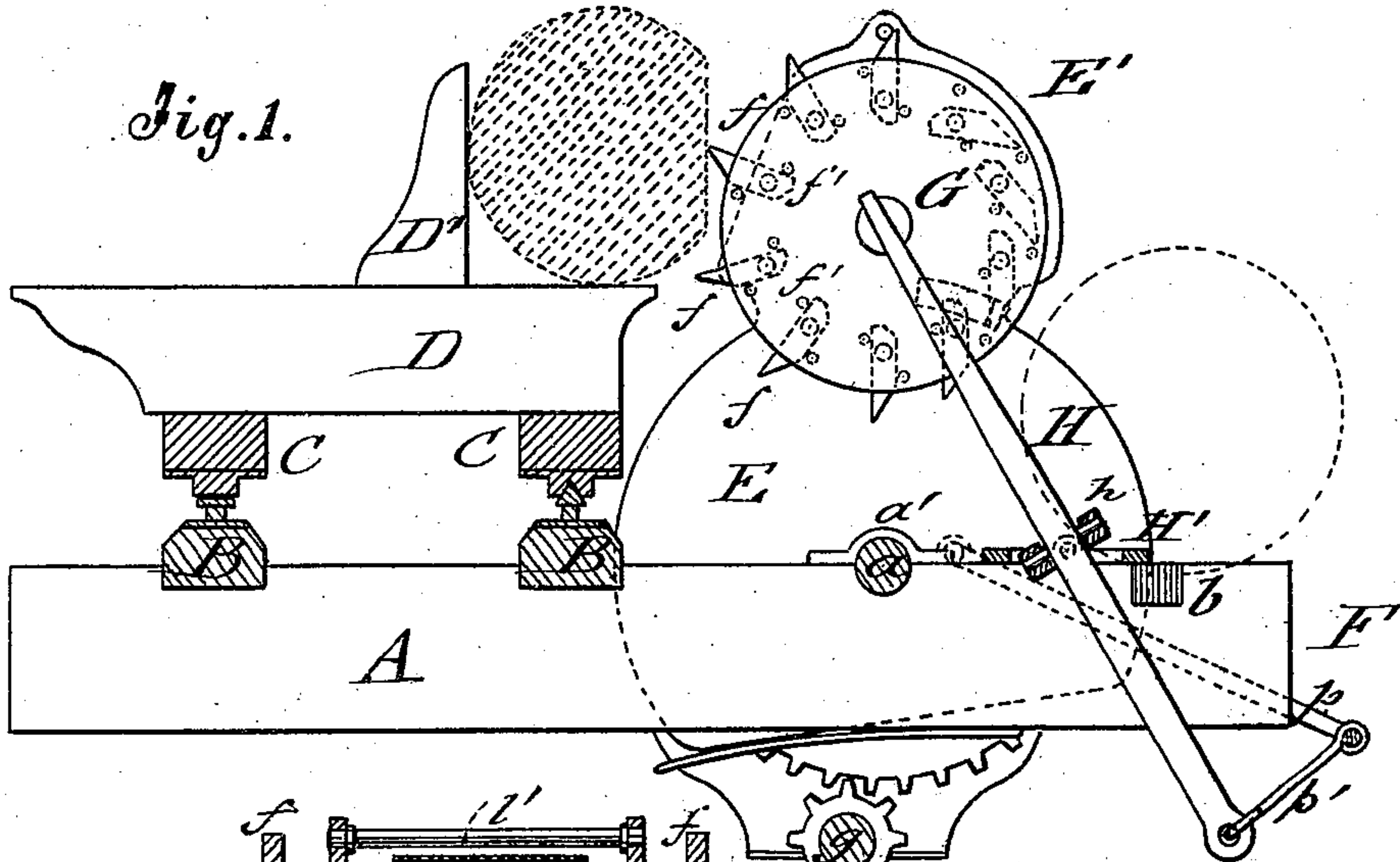


Fig. 2.

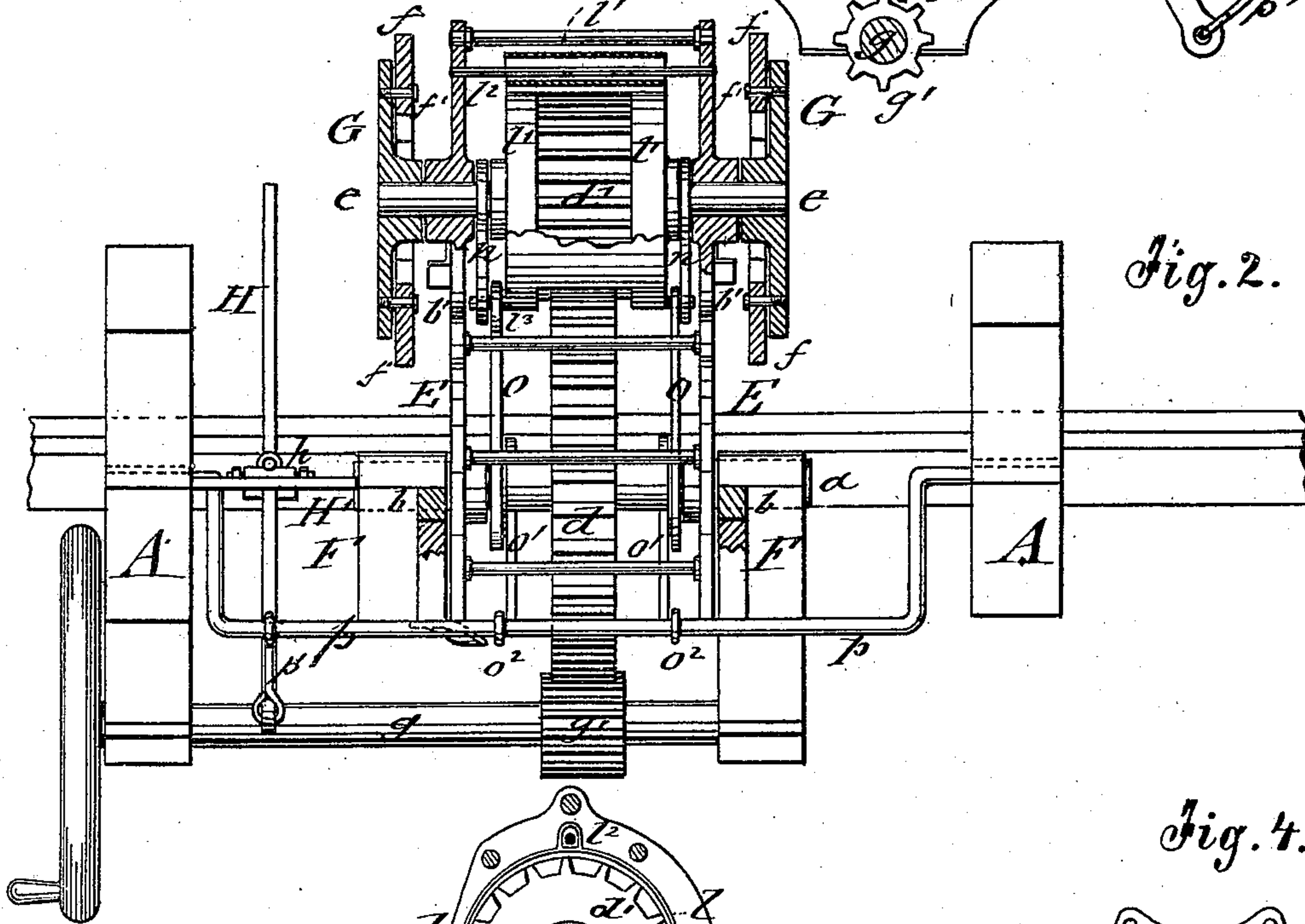


Fig. 3.

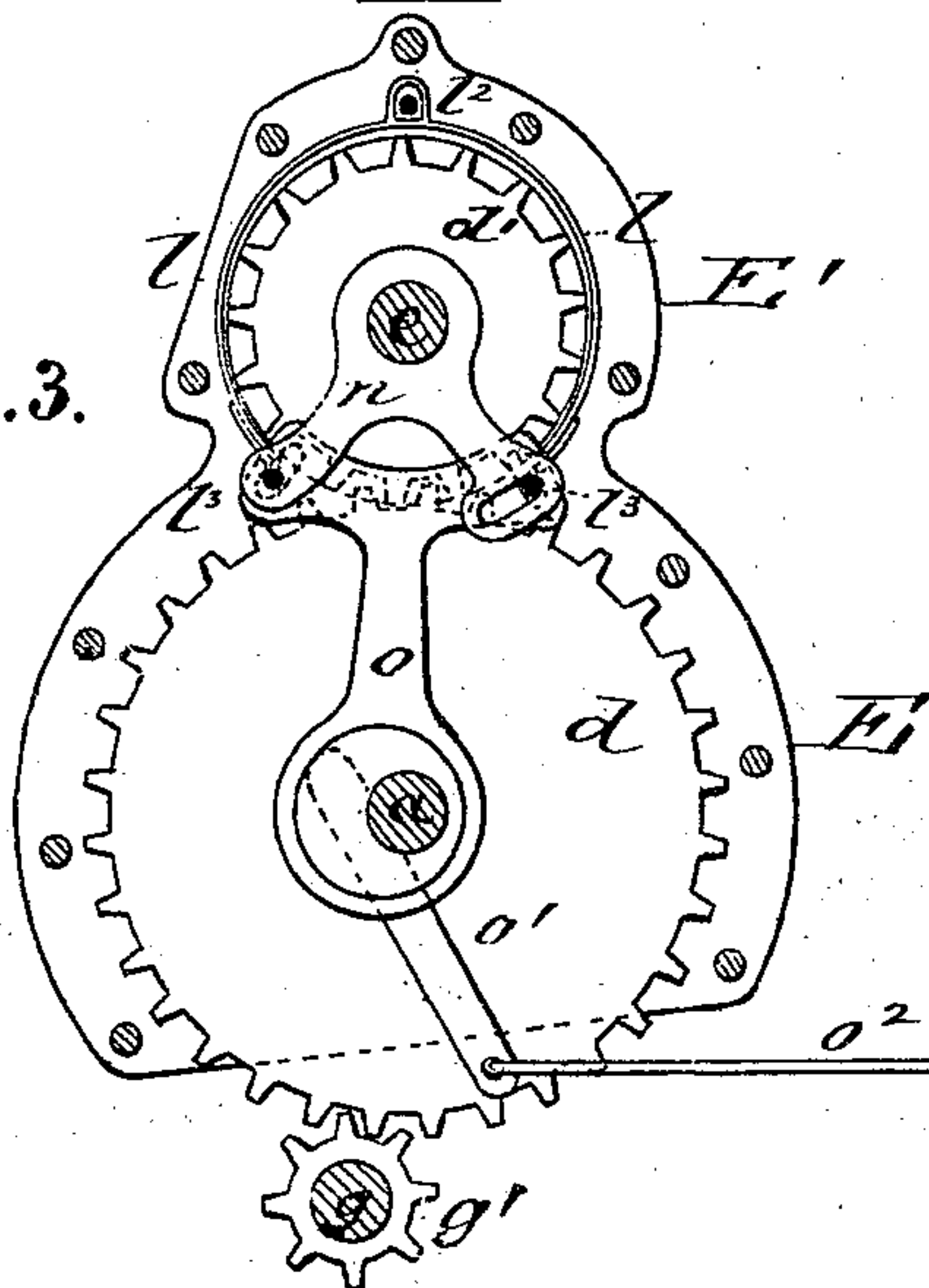
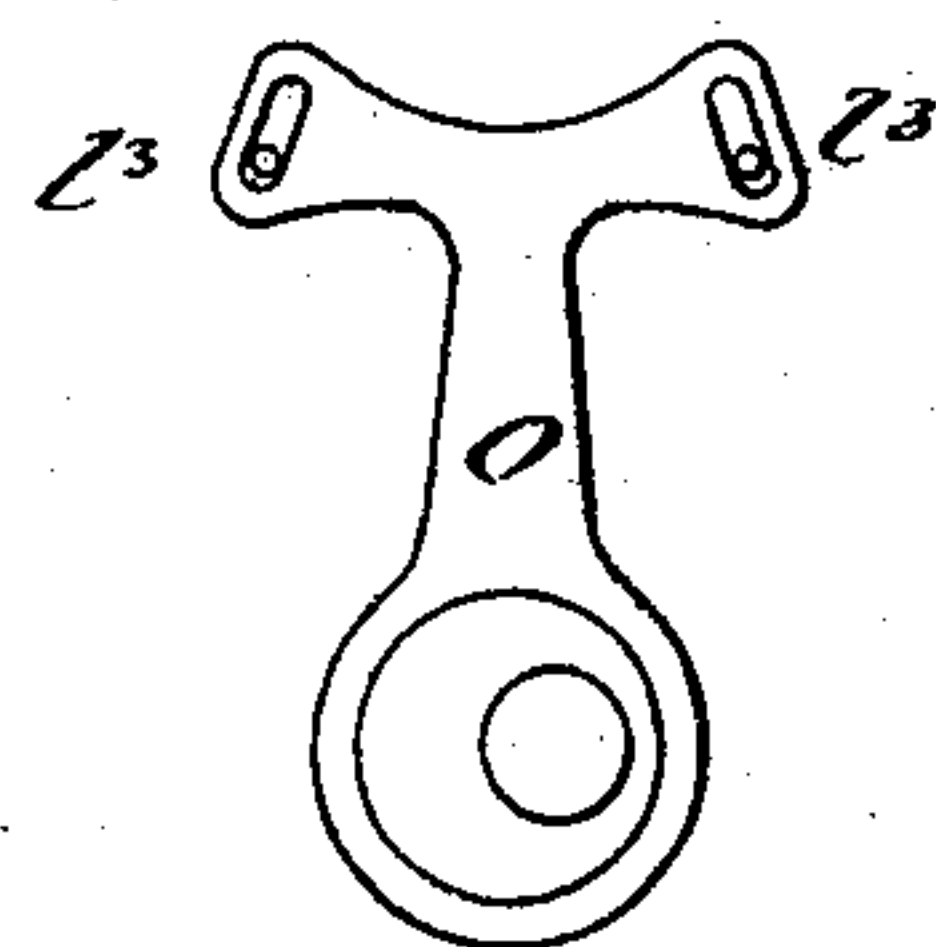


Fig. 4.



WITNESSES:

A. Bonnenkendorf.
H. J. Quirk

INVENTOR:

W. E. Hill

BY

M. M. L.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLIAM E. HILL, OF ERIE, PENNSYLVANIA.

IMPROVEMENT IN LOG-TURNERS.

Specification forming part of Letters Patent No. **148,365**, dated March 10, 1874; application filed January 24, 1874.

To all whom it may concern:

Be it known that I, WILLIAM E. HILL, of Erie, in the county of Erie and State of Pennsylvania, have invented a new and Improved Log-Turner, of which the following is a specification:

In the accompanying drawing, Figure 1 represents, in part, a vertical transverse section of my improved log-turner; Fig. 2, a sectional end view of the same; and Figs. 3 and 4, respectively, detail side views of the friction-brake and its eccentric yoke.

Similar letters of reference indicate corresponding parts.

The object of my invention is to construct an improved log-turner, which is applied to the log, and the rolling motion of the same produced by the continuous motion of the spur-wheels without tearing or injuring the same, while allowing at the same time the immediate interruption of the rolling, and the placing in position of the log for sawing; then carrying the rolling mechanism back to rest on the supporting-frame out of the way of the saw. My invention consists of one or more wheels with pivoted spurs or teeth for simultaneously raising and rolling the log, which wheels are keyed fast to a shaft turning in bearings of a shield-like frame or casing, which incloses the gear-wheels and brake mechanism of the log-turner. The casing, with its spurred wheels, is supported on a supplementary cushioned frame and thrown into gear with the driving power by suitable lever mechanism, which carries the wheels up toward the log. The brake is applied by a yoke with eccentric, band, and lever connection to the upper wheel, its lever serving the twofold purpose of operating the brake and forcing the log into exact position for the saw on the carriage, and throwing the log-turner into gear.

In the drawing, A represents the floor-timbers of a saw-mill; B the ways, C the carriage, and D the head-block with knee D', of the same. The shield-shaped frame or casing E is placed on a shaft, *a*, turning in bearings *a'*, and is intended for the double purpose of holding the gearing and preventing bark, sawdust, and other stuff from getting into the mechanism. It also keeps the opening through the

mill-floor closed. The bearings *a'* of the casing E are placed on a separate frame, F, which is provided on its rear-extending beams with cushions *b*, of rubber or similar material, on which casing E rests by its sidewise-projecting lugs or shoulders *b'* when in downward position out of use. The gear-wheel *d* is keyed on shaft *a*, and meshes with the cog-wheel *d'*, keyed to shaft *e*, which turns in side bearings of the extension E' of casing E. To the outer ends of shaft *e* are keyed one or more wheels, G, which are provided with pivoted spurs or teeth *f* along their circumference. Teeth *f* project in radial direction by the rotation of wheels G, and are retained by pins *f'*, so as to take hold of the log from below and turn the same by a lifting motion, and not enter the same, and produce the tearing or otherwise injuring the face parts thereof. To accomplish this object more completely, I may arrange the spurred wheels G eccentrically on the shaft, which throws the teeth still farther under the log, and allows them, after they have rolled it, to pass on without tearing the same. The teeth are pointed with a taper at the lower side, on which the log touches during rolling and throws the spur toward the inside of the wheel. Motion is imparted from the driving-shaft *g* and pinion *g'*, which are thrown into gear by lever H and suitable connecting mechanism. Lever H is pivoted to a rectangular frame, *h*, which swings again in a horizontal standard, H', attached to floor-timber, A, the side motion of the lever in frame *h* throwing the machine in and out of gear, while the forward and return motion of the same operates the brake mechanism and allows the full power of the spurred wheels to be brought to bear on the log so that it is pushed against the knee-piece of the head-block D at the instant when the log is rolled into the position required. The brake is constructed of friction-bands *l*, which bear on parts *l'* at both sides of cog-wheel *d'*, and are fastened to a cross-bolt, *l''*, of the upper part of casing E'. At the lower ends of bands *l* are pins *l'''*, which are held in position by two swinging slotted arms, *n*, of upper shaft *e*, and also engaged by the slotted ends of yokes *o*, which are placed eccentrically on the lower

shaft a , and connected by lever-arms o^1 and rods o^2 with the curved bar or rod p , to which the lever H is connected by an intermediate link, p' . After throwing the driving-shaft into gear the casing E is swung by the action of the gear-wheels into upward position, rotating then the spurred wheels, and turning the log or loading it on the carriage. The lever H is held back to produce the rapid and easy performance of this motion, and carried forward instantly when the log is in position to apply the brake, thereby stopping the spurred wheels and carrying the log into position against the knee-piece. After the log is passed for the saw the log-turner is, by reversing the action of the brake, set back to rest on the supporting-frame ready for instant use, as required, forming thereby a very powerful and easily operated turner for rolling logs in saw-mills.

I do not claim a spur-wheel arranged for turning logs; but

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The log-turning wheels G , provided with pivoted tapering spurs or teeth, which act on the log from below, and prevent, thereby, the tearing of the same, as set forth.

2. The shield-like casing E , provided with projecting side lugs b' , in combination with supporting-frame F , having cushions b , in the manner and for the purpose described.

3. The combination of the spurred wheels G with the brake mechanism described, and pivoted lever H for interrupting the rotary motion of the spurred wheels, and throwing the log into exact position on the head-block, as set forth.

4. In log-turning machines, the combination of one double-pivoted lever swinging in either direction, with the driving-shaft and the brake mechanism of the spurred wheels, for serving the twofold purpose of throwing the machine in and out of gear and applying the brake, in the manner and for the purpose set forth.

WILLIAM E. HILL.

Witnesses:

PAUL GOEPEL,
ALEX. F. ROBERTS.