

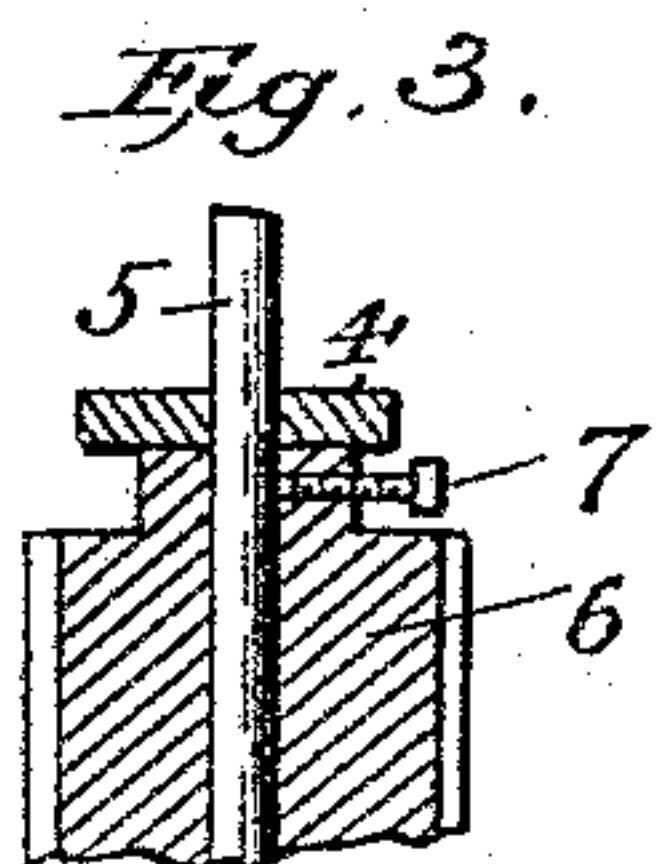
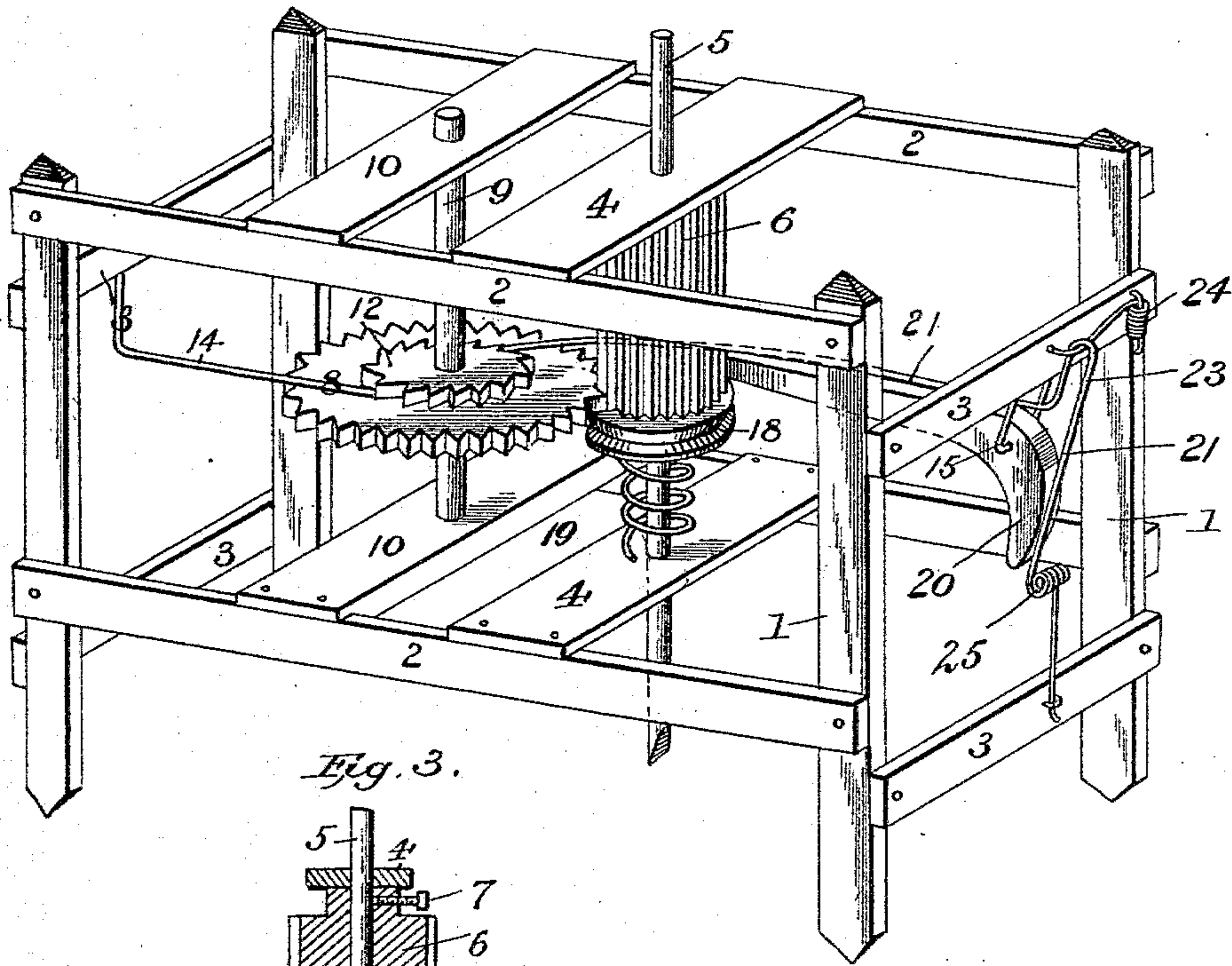
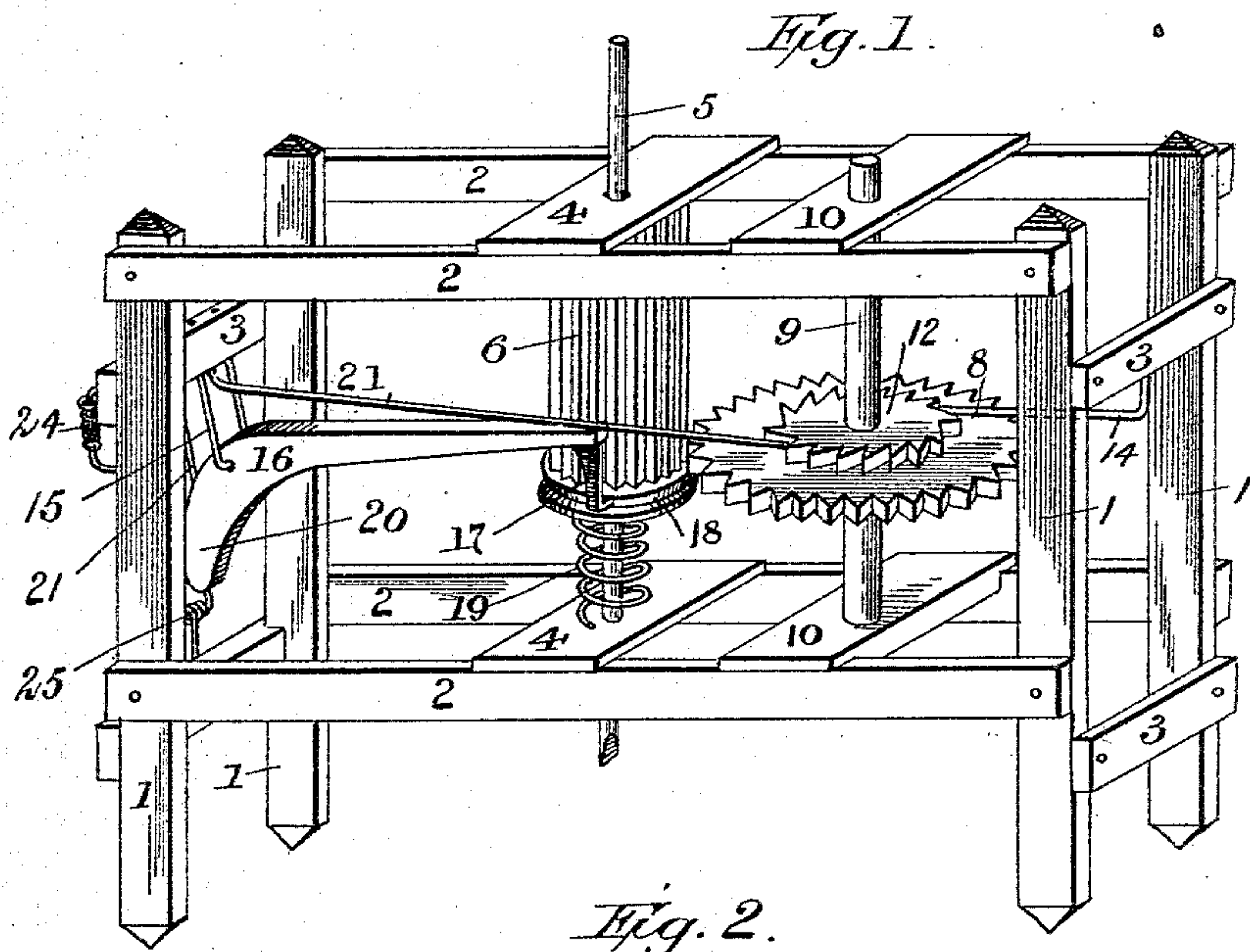
(No Model.)

J. B. PENDERGRASS & K. F. RICE.

AUTOMATIC DRILL HOLDING MACHINE.

No. 516,063.

Patented Mar. 6, 1894.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

JOHN B. PENDERGRASS AND KENESS F. RICE, OF EUREKA SPRINGS, ARKANSAS; SAID RICE ASSIGNOR TO SAID PENDERGRASS; SAID PENDERGRASS ASSIGNOR OF ONE-HALF TO JAMES RICHEY, OF SALEM, IOWA.

## AUTOMATIC DRILL-HOLDING MACHINE.

SPECIFICATION forming part of Letters Patent No. 516,063, dated March 6, 1894.

Application filed April 3, 1893. Serial No. 468,957. (No model.)

*To all whom it may concern:*

Be it known that we, JOHN B. PENDERGRASS and KENESS F. RICE, citizens of the United States, residing at Eureka Springs, in the county of Carroll and State of Arkansas, have invented a new and useful Rock-Drill, of which the following is a specification.

Our invention relates to improvements in rock drilling machines and its object is to provide a novel construction of the same whereby we attain superior advantages with respect to efficiency in use.

The invention consists in the novel construction and combination of parts hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 is a perspective view of a rock drilling machine constructed in accordance with our invention. Fig. 2 is a similar view looking from another direction. Fig. 3 is a detail sectional view.

In the said drawings, the reference numeral 1, designates four posts connected together by horizontal bars 2, and cross bars 3, the whole constituting a frame for supporting the working parts of the machine.

Journaled in plates 4, secured to the horizontal bars 2, is a rotatable drill rod 5, upon which is mounted a cog or fluted wheel 6. This wheel, is elongated, as shown, and is secured to the drill rod by means of a set screw 7, and by loosening said screw it can be adjusted vertically on said rod, as the work progresses. Meshing with this wheel is a driving cog wheel 8, fixed to a shaft 9, journaled in plates 10, secured to the bar 2, and above this wheel is a ratchet wheel 12, with which engages a spring rod 14, one end of which is secured to one of the cross bars 3. This spring rod serves to prevent backward movement of said wheels.

Pivoted to a bail 15, secured to one of the cross bars of the frame, is a lever 16, the inner end of which is connected by means of a rod 17, with a disk 18, upon which the fluted wheel 6 rests. Interposed between this disk and the lower plate 4 is a coiled spring 19, which serves to elevate or return said wheel to normal position after it has been depressed.

The outer end of lever 16, is curved, as shown, forming a short arm 20, which engages with a spring rod 21, the inner end of which is adapted to engage with the ratchet wheel 12. This spring rod intermediate its ends is formed with a bend 23, with which engages the free end of a spring rod 24, the other end of which is secured to the frame of the machine. The spring rod 21 is formed with a coil 25, and its lower end is secured to one of the cross bars 3.

The operation will be readily understood. The machine is adjusted in place with the drill and its rod over the rock to be drilled. The upper end of the drill rod is then hit with a hammer or other implement causing the same and the fluted wheel 6 to be depressed and the drill to strike the rock. The drill rod and wheel are then returned to normal position by means of the coiled spring and during their upward movement the outer end of lever 16, will be moved inward allowing rod 21, to move forwardly, striking one of the teeth of ratchet wheel 12, and partially rotating the same. By means of cog wheel 8, the wheel 6 will be correspondingly rotated as well as the drill rod and drill connected therewith. Upon the drill rod being again depressed rod 21 will be moved outwardly disengaging it from the ratchet wheel. The object of spring 24, is to strengthen spring 21.

Having thus described our invention, what we claim is—

1. In a rock drilling machine, the combination with the drill rod, the elongated fluted wheel adjustably secured thereto, the cog wheel engaging therewith and the ratchet wheel, of the spring rod, the free end of which engages with said ratchet wheel, the pivoted lever with which said rod engages the disk connected with said lever, and the coiled spring supporting said disk, substantially as and for the purpose specified.

2. In a rock drilling machine, the combination with the drill rod, the elongated fluted wheel adjustably secured thereto, the disk for supporting said wheel and the coiled spring on which said disk rests, of the cog wheel



meshing with said wheel the ratchet wheel and spring rod for preventing backward movement thereof, the pivoted lever connected with said disk, the spring rod connected  
5 at one end with the frame of the machine and the other end engaging with said ratchet wheel, and the spring rod engaging with said last mentioned rod, substantially as and for the purpose specified.

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