

(No Model.)

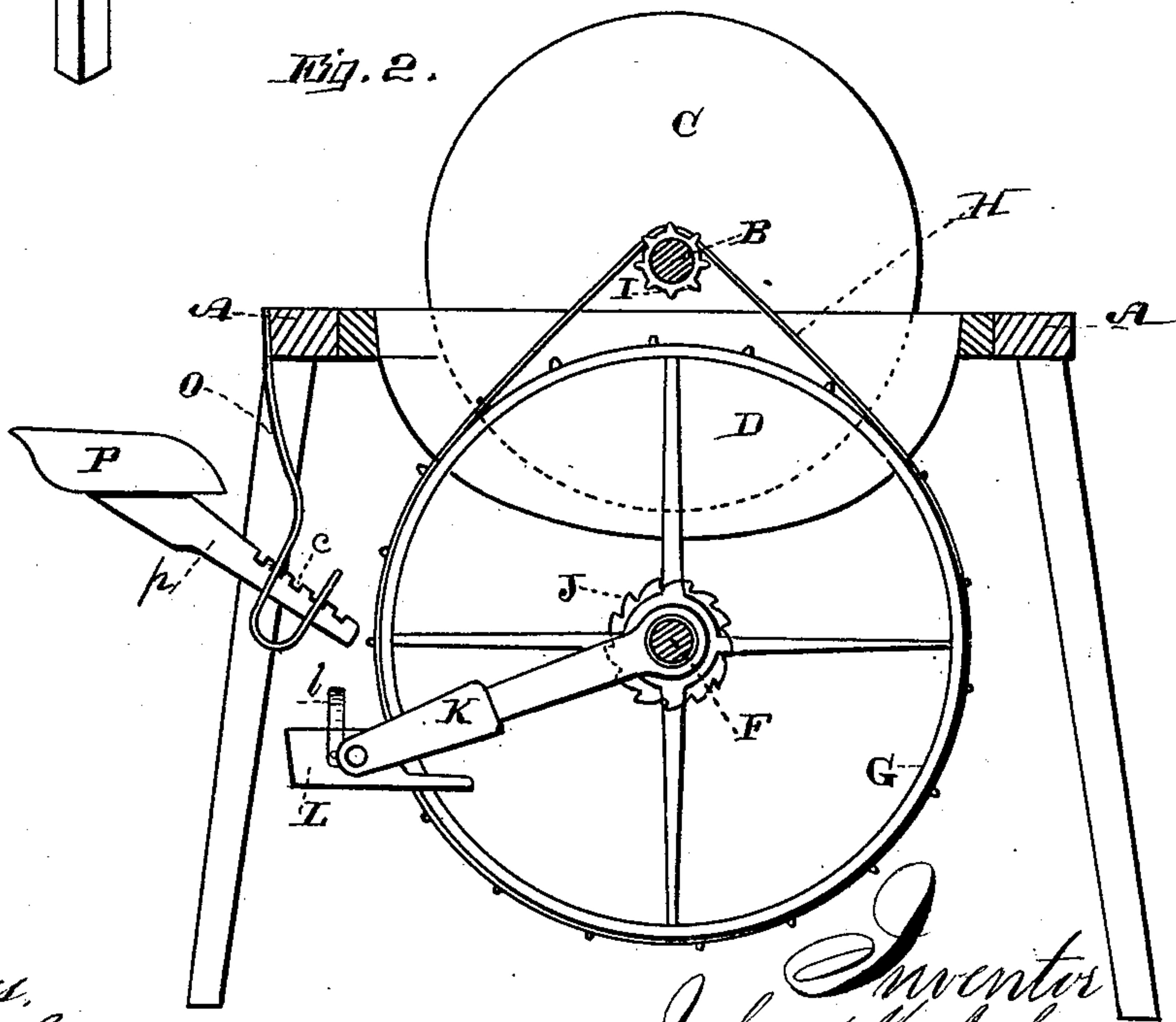
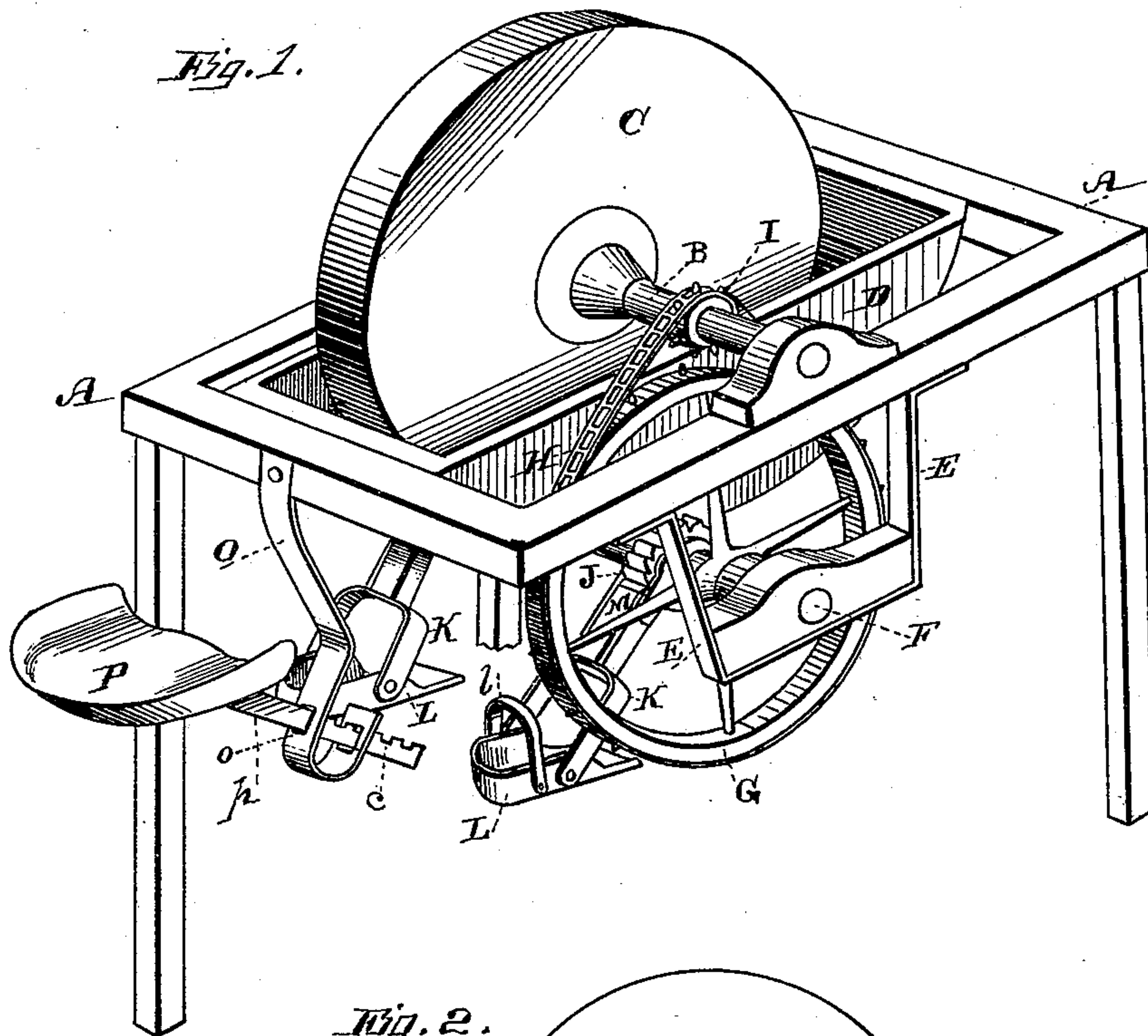
2 Sheets—Sheet 1.

J. M. NELSON.

TREADLE POWER FOR GRINDSTONES.

No. 253,620

Patented Feb. 14, 1882.



Witnesses,
Geo. H. Strong,
Frank A. Brooks

Inventor
Joshua M. Nelson
By Dewey & Co. Attys

(No Model.)

2 Sheets—Sheet 2.

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Fig. 3.

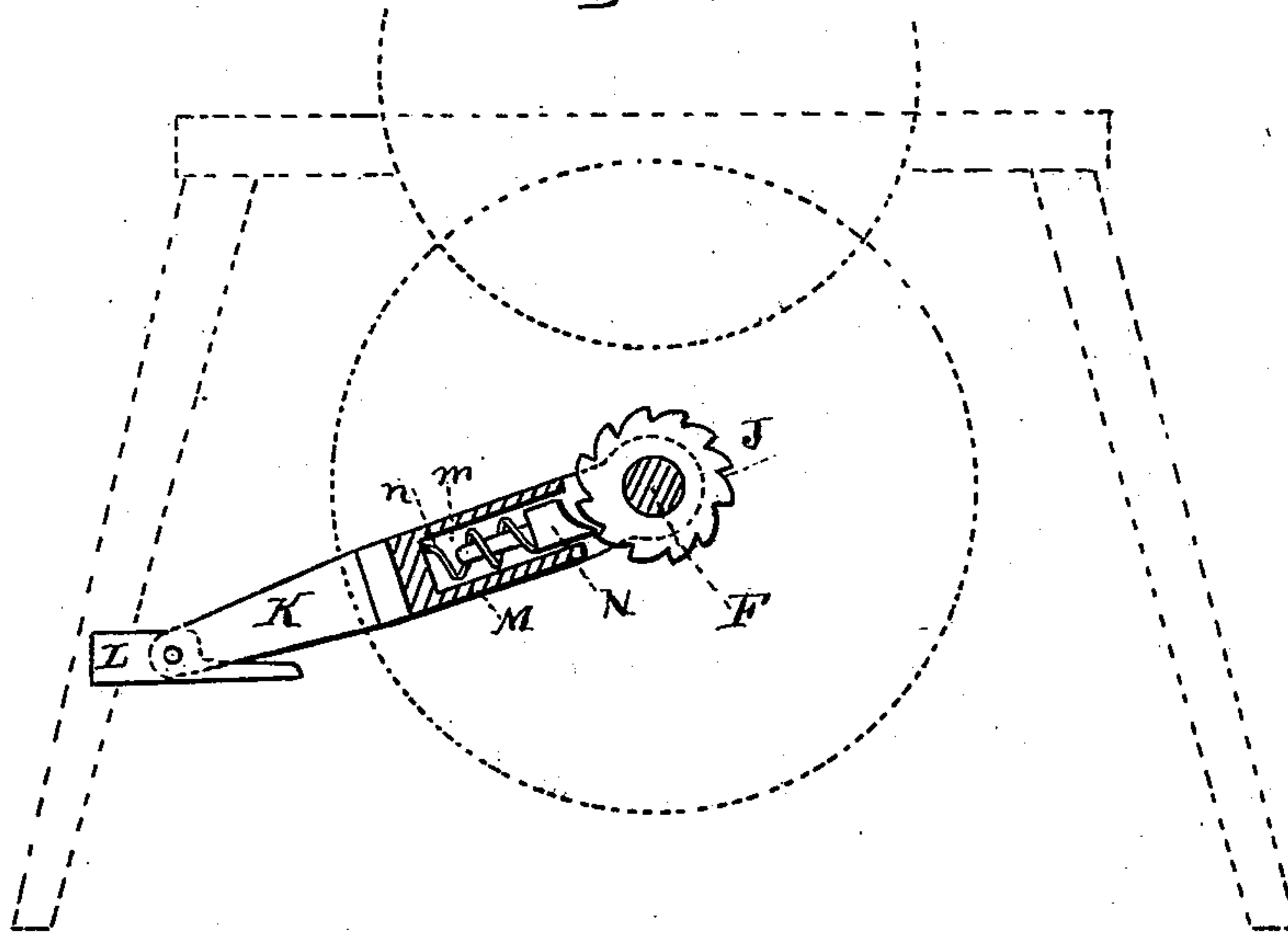
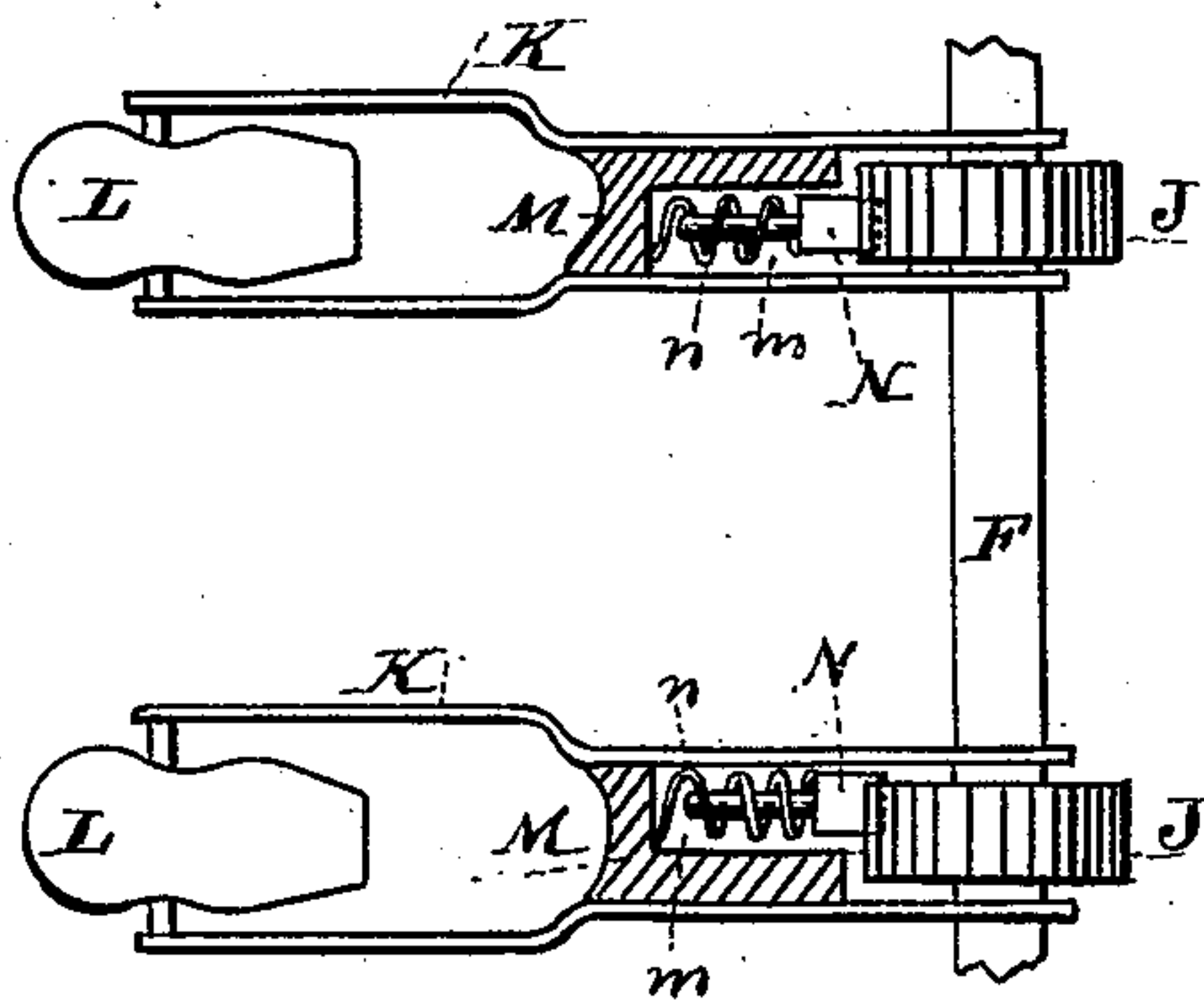


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOSHUA M. NELSON, OF OAKDALE, CALIFORNIA.

TREADLE-POWER FOR GRINDSTONES.

SPECIFICATION forming part of Letters Patent No. 253,620, dated February 14, 1882.

Application filed December 19, 1881. (No model.)

To all whom it may concern:

Be it known that I, JOSHUA M. NELSON, of Oakdale, county of Stanislaus, State of California, have invented a Treadle-Power for Grindstones; and I hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to a treadle-power for grindstones; and it consists in the combination and arrangement of parts, whereby a regular and continuous motion may be imparted to the stone, securing at the same time the comfort of the operator.

More particularly it consists of a suitable frame or stand carrying a grindstone and water-trough, motion being transmitted to said stone from suitable treadle-levers through the intermediate mechanism of sprocket-wheels or other similar devices, the operator being seated in an adjustable seat attached to the stand, all of which will hereinafter more fully appear, reference being made to the accompanying drawings.

Figure 1 is a perspective view. Fig. 2 is a longitudinal vertical section. Figs. 3 and 4 show details of construction.

Let A represent the frame or stand, having journaled in suitable boxes upon its top the shaft B, carrying the grindstone C. Under this is the trough D, secured to the frame, and in which water is kept to moisten the stone. To the sides of the box are secured the stirrups or straps E, which extend downward and form bearings for the shaft F, which is suitably journaled thereon. This shaft extends across the frame parallel to the shaft B and under the trough, as shown. It carries the large sprocket-wheel G, over which a chain-belt, H, passes and transmits motion therefrom to a small sprocket-wheel, I, upon the shaft B, over which it also passes. Secured to the shaft F on each side of the trough are ratchets J.

K K are the levers. These consist of two metal strips bent outward at their outer ends to support between them the swinging treadles L L, and at their inner ends journaled loosely upon the shaft F on each side of the ratchets. Bolted between the inner ends of these strips is a block, M, having in its side a recess or socket, m. A pawl, N, lies in this groove, and is held

out by a spiral spring, n. This pawl has a head beveled on one side, as shown, and is so placed in its socket that when the lever is pressed downward it will engage the straight side of its head with the ratchet J and cause it to revolve, and will, when the treadle is raised, slip back over the ratchet for another stroke.

The treadles L L are pivoted between the outer ends of the levers K, and are provided with straps l to secure the feet within them, so as to raise them upon the return-stroke.

Attached to the end of the frame A is a metal piece or support, O, extending downwardly and bent up again, as shown. Through this support are made holes o to receive the shank or stem p of the seat P. This stem is set at an angle with the seat, and has cut upon it grooves or notches c, which are pressed up against the edges of the hole in the tip or end of the support O by any weight in the seat. The seat is held firmly in this support by the weight of the operator being exerted at an angle with the direction of its stem, and the notches c allow it to be adjusted to different heights. The seat is in such relation to the treadles as to allow the operator to reach them easily.

The operation of the device is as follows: The operator sits in the seat within convenient reach of the stone, and, placing a foot in each treadle and strapping them therein, works them alternately. The pawls engage with the ratchets on the downstroke and cause the shaft F to revolve. From this motion is transmitted through the sprocket-wheels G and I, belt H, and shaft B to the grindstone. The levers are returned by raising the feet. By a proper proportion between the two sprocket-wheels a steady motion may be imparted to the stone and allow the levers to be worked slowly and regularly.

Although I have here shown the motion as being transmitted through the intermediate means of sprocket-wheels and chain-belt, it is obvious that I could use other means. By suitable gearing, if found preferable, the power applied to the treadle-levers and shaft could be transmitted to the stone without materially changing the device or altering the principle.

By such means the stone could be made to turn either way—a point of advantage in some cases.

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

1. The stand A, with its mounted grindstone C, having a shaft, B, in combination with a driving-shaft, F, journaled under said stone and carrying ratchets J, and the levers K K, with their pawls N and treadles L L, and an intermediate means for transmitting the motion of the driving-shaft to the stone, substantially as herein described.

2. The stand A, with its grindstone C, shaft B, and trough D, in combination with the shaft F, journaled in bearings E, ratchets J, levers K K, pawls N, and swinging treadles L L, and the intermediate means for transmitting motion, consisting of the sprocket-wheels G and I and the chain-belt H, substantially as herein described.

3. The combination of the shaft F, ratchets J, and the levers K K, journaled on said shaft, and having the block M, with side sockets, m, containing pawls N and springs n, substantially as herein described.

4. The stand or frame A, having a grindstone, C, operated by the treadle-levers K K through mechanism as shown, in combination with the seat P, having a stem, p, with notches or grooves c, and the support O, having its end bent upward and perforated to receive said stem, substantially as described.

5. The support O, with its upturned end, and having holes o, in combination with the seat P, having a stem, p, with notches or grooves c, arranged substantially as and for the purpose described.

6. The combination and arrangement of the stand A, grindstone C, shaft B, trough D, sprocket-wheels G and I, chain-belt H, side supports or bearings, E, shaft F, with its ratchets J, levers K K, with their pawls N and the treadles L L, and the seat P, with its stem p, supported by the hanging piece O, as and for the purpose herein described.

In witness whereof I hereunto set my hand.

JOSHUA M. NELSON.

Witnesses:

W. L. DUDLEY,
W. M. GIBSON.