

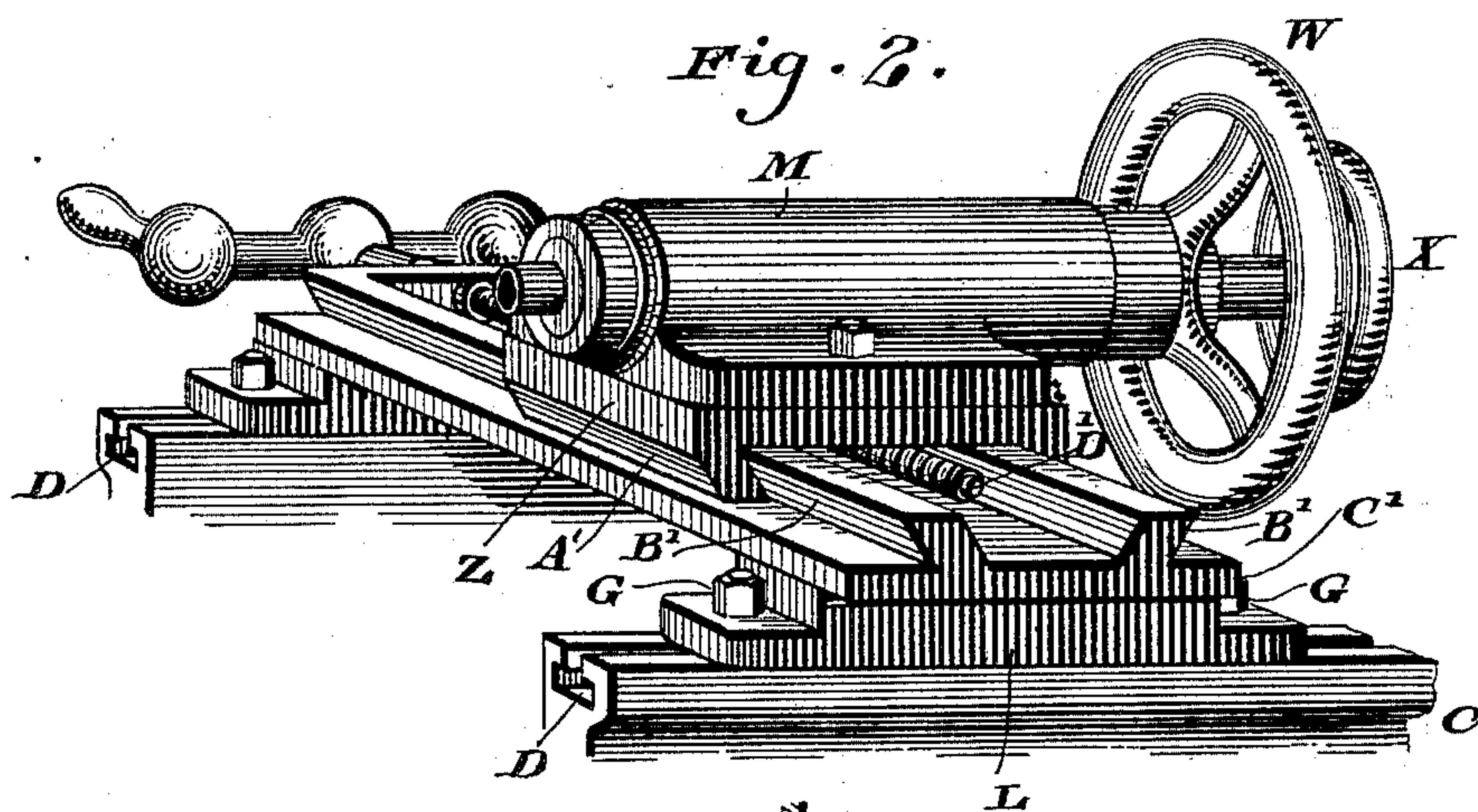
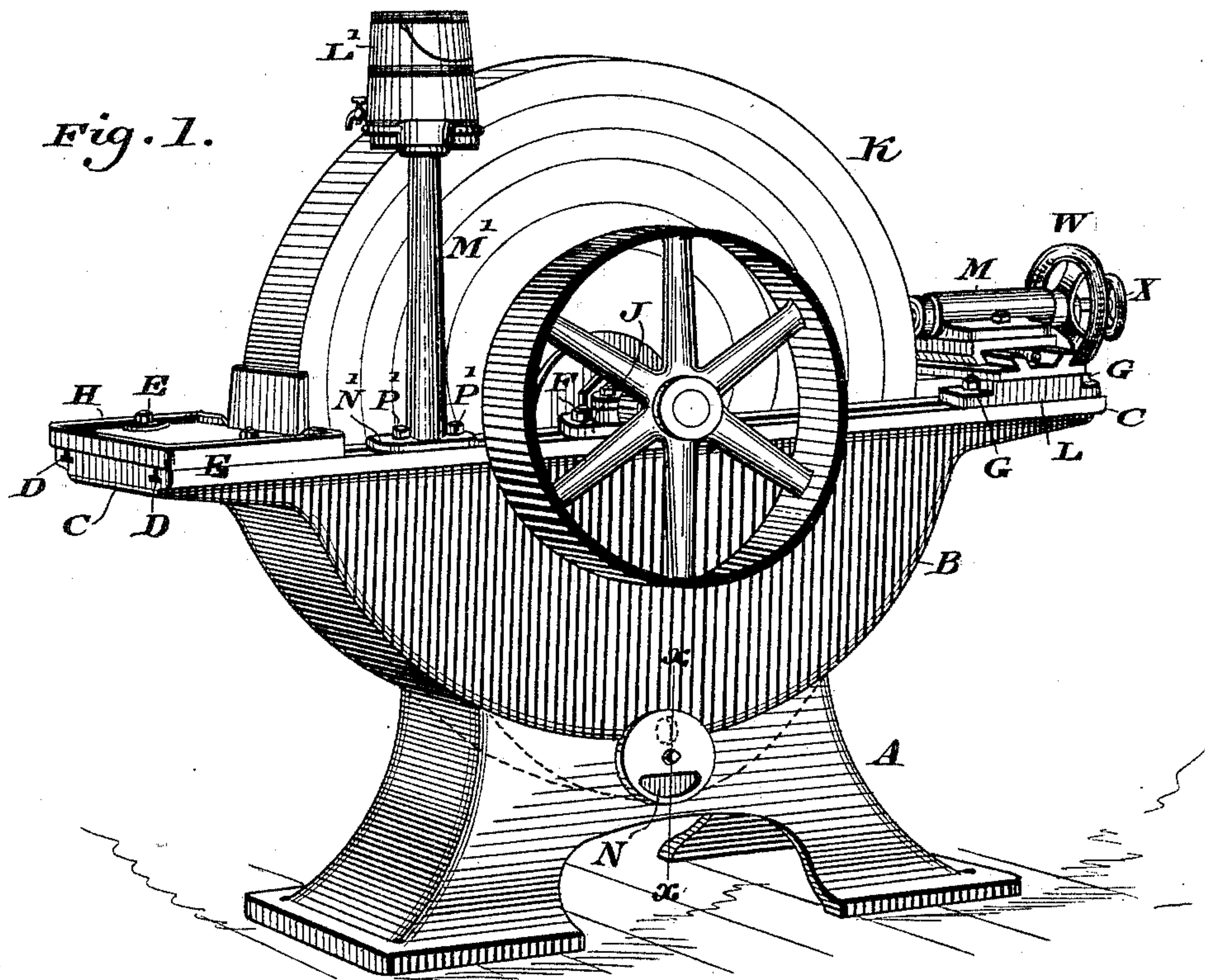
(No Model.)

2 Sheets—Sheet 1.

D. F. WALKER.  
GRINDSTONE, EMERY WHEEL, &c.

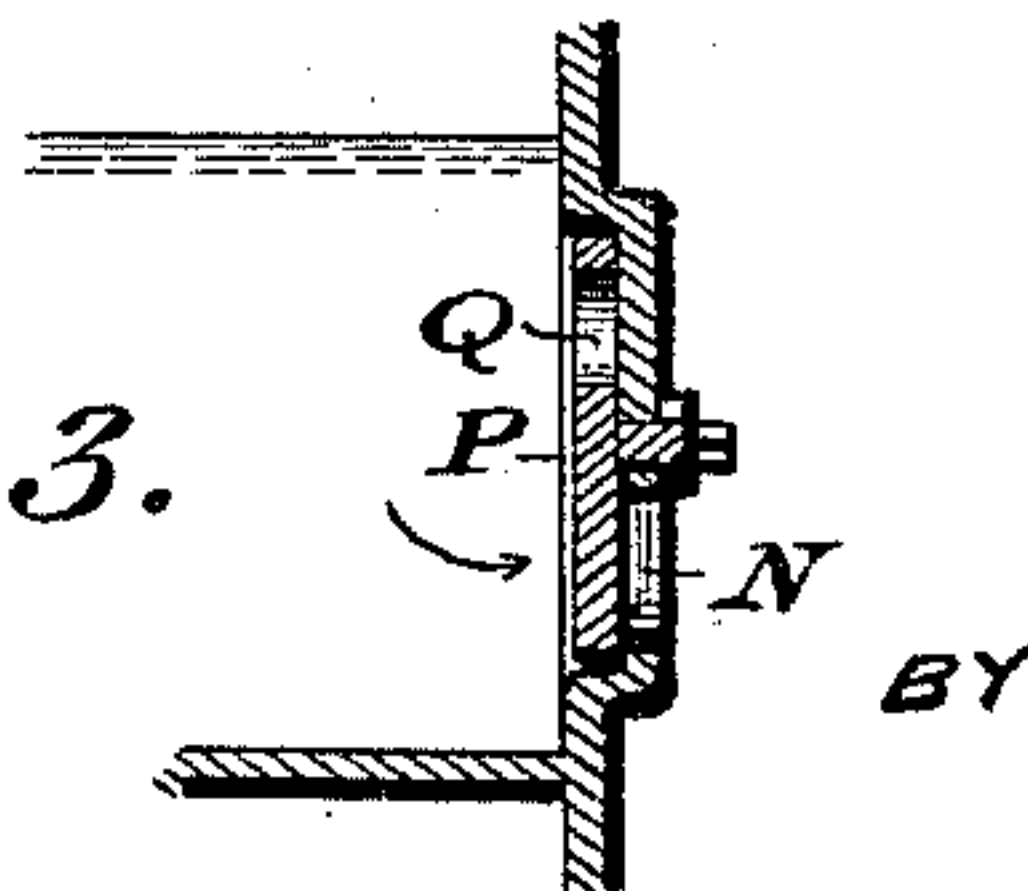
No. 491,789.

Patented Feb. 14, 1893.



Witnesses:  
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*Fig. 3.*



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(No Model.)

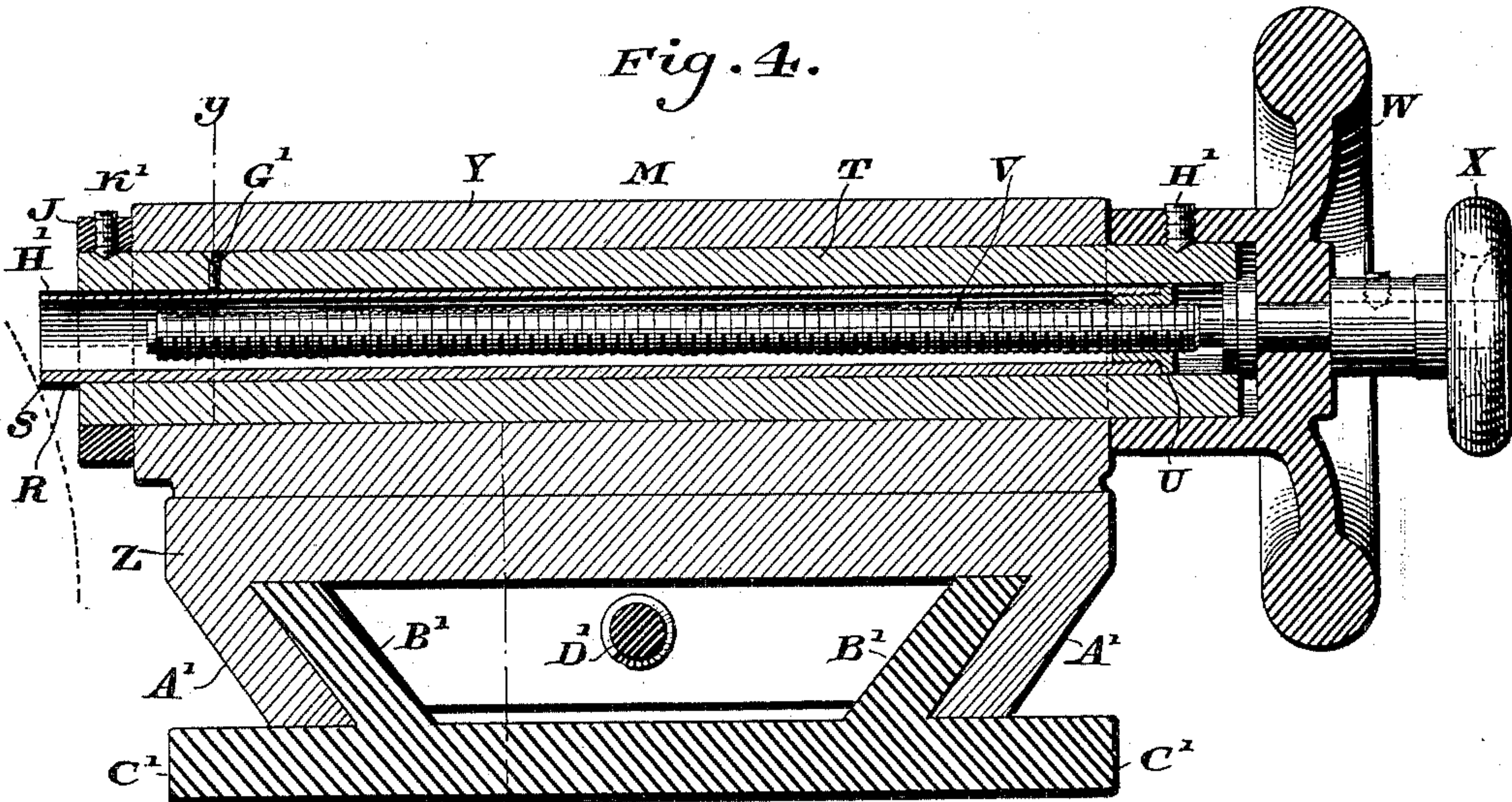
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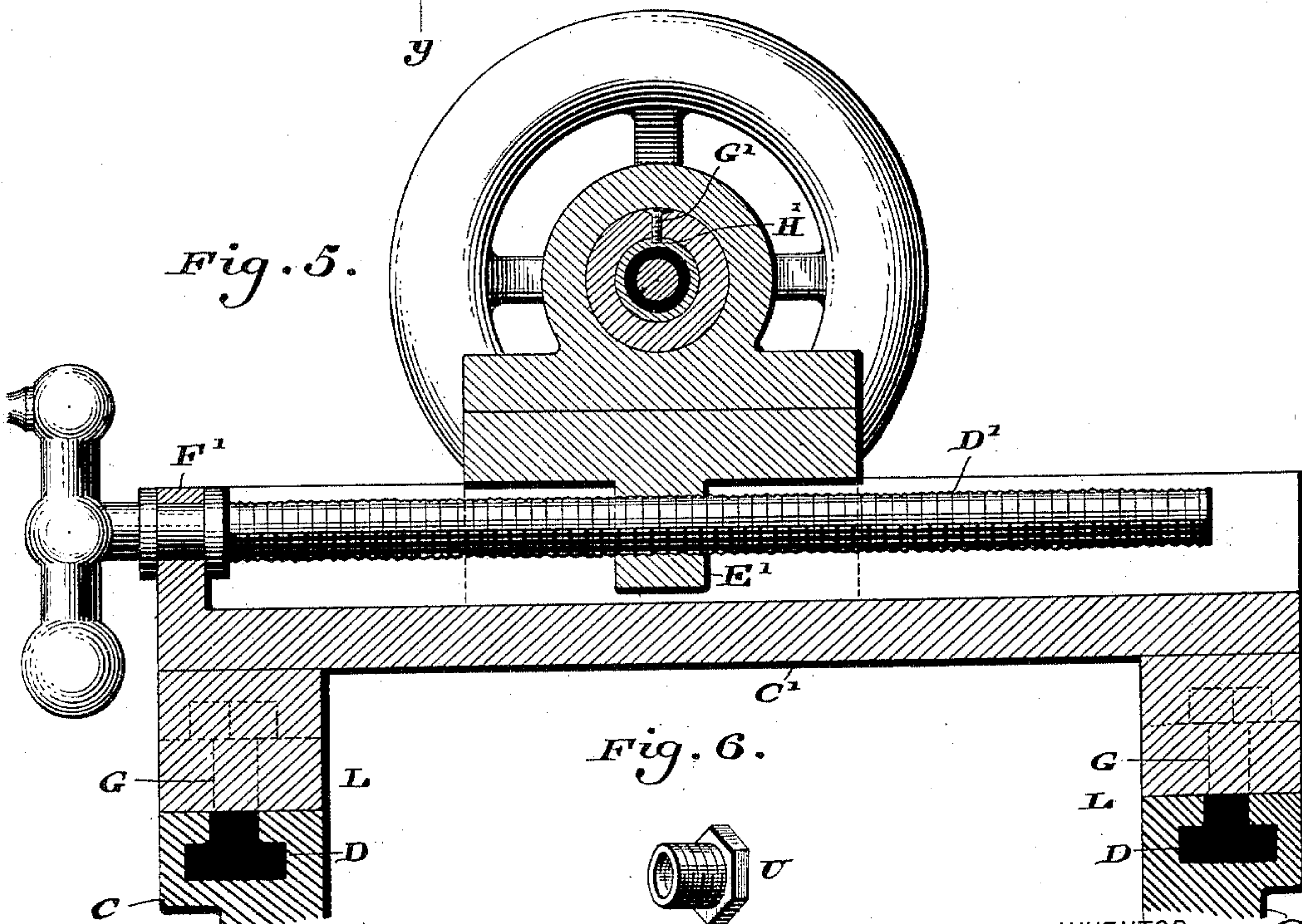
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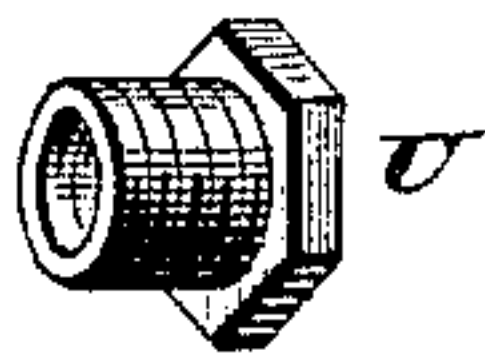
*Fig. 4.*



*Fig. 5.*



*Fig. 6.*



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# UNITED STATES PATENT OFFICE.

DWIGHT F. WALKER, OF PHILADELPHIA, PENNSYLVANIA.

## GRINDSTONE, EMERY-WHEEL, &c.

SPECIFICATION forming part of Letters Patent No. 491,789, dated February 14, 1893.

Application filed February 8, 1892. Serial No. 420,662. (No model.)

*To all whom it may concern:*

Be it known that I, DWIGHT F. WALKER, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Grindstones, Emery-Wheels, &c., which improvement is fully set forth in the following specification and accompanying drawings.

My invention relates to improvements in truing devices for grindstones, emery wheels, &c., and consists of the novel construction and combination of parts as hereinafter set forth.

Figure 1 represents a perspective view of a grindstone embodying my invention. Fig. 2 represents a perspective view of a detached portion thereof, on an enlarged scale. Fig. 3 represents a vertical section of portion on line  $x, x$ , Fig. 1. Fig. 4 represents a longitudinal vertical section of the "truing" device, on an enlarged scale. Fig. 5 represents a transverse section on line  $y, y$ , Fig. 4, and Fig. 6 represents a perspective view of the traveling nut of the device.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings:—A designates a base or support for the trough B, of a grindstone, &c. C designates a ledge or platform on the top of said trough, the same having in its upper face the longitudinally-extending T-shaped slots D, the same being adapted to receive the heads and adjacent portions of the bolts E, F and G, by which the tool-rest H, the bearings J of the axis or shaft of the stone K and bed L of the "truing" device M are respectively connected with said ledge C, it being noticed that the respective bolts pass through the openings in the respective parts H, F and L, and provision is made for moving said parts in longitudinal direction, it being evident that the tool rest and "truing" device may be set nearer to or farther from the stone K, according to requirements of adjustment, after which the nuts of the bolts are tightened, and the parts retain their adjusted position. It will also be seen that owing to the adjustability of the bearings F of the axis or shaft of the stone, the latter may be moved to and from either end of the trough, and if required, entirely removed and

replaced by bearings for a larger or smaller stone or the application of different stones, it being also evident that as the surface of the stone wears away, the tool rest may be moved nearer to said surface, it being also noticed that as the slots D in the ledge C extend the entire length of said ledge, the respective bolts may be readily applied to and removed from said ledge by sliding motions, for the purpose of the application or removal of the parts hereinbefore referred to.

In the lower part of the trough is an opening or port N, and behind the same is a disk or valve P, the same being mounted on the wall of the trough and having an opening or port Q, which when the valve is rotated in one direction, may be placed in communication with the port N, and permit the discharge of water, &c., in the trough. When the valve is rotated in the other direction, the solid part of the same closes the port N, and prevents such discharge.

The "truing" device M, which is adapted for properly cutting, grinding or facing the stone K when the latter is or becomes irregular in use, consists of a tubular cutter R, the edge S of which is adapted to come in contact with the stone K, said cutter R being inclosed in a sleeve T, and connected at one end with a traveling nut U, which is interiorly threaded and engages with a screw V, which enters said cutter R, and is swiveled on a hand wheel W, secured to one end of said sleeve T as more clearly shown in Fig. 4, said screw having also a hand wheel X, on the outer end thereof, for operating purposes.

Y designates a sleeve which is bolted or secured to the longitudinally moving carriage Z, which latter is formed with dove-tailed flanges or lips A' for engagement with the dove-tailed tongues or ways B', which rise from the plate C' on the bed L, said carriage being also capable of transverse motions on said plate, whereby the cutter S may be moved to the right or left or across the face of the stone, as required. The transverse motion of the carriage and consequently of the superimposed parts is effected by a screw D', which engages with an ear E' on the underside of the carriage, and is swiveled or mounted on the plate C', as at F'.

The sleeve T is inclosed by the sleeve Y,



and connected with the wall of the cutter R, by means of a screw G', which passes through said sleeve T, and freely enters a groove H', which extends longitudinally in the outer face 5 of the cutter, so that while the cutter is permitted to move forward and backward, without interference of said screw G', the latter causes the cutter to rotate when rotary motion is imparted to the sleeve T by the wheel 10 W. The hand wheel W is secured to the sleeve T, by means of the screw H', the hub of said wheel freely abutting against the adjacent end of the sleeve Y, while at the opposite end thereof and abutting freely there- 15 against is a collar J, which is secured to said sleeve by means of the screw K', the sleeve T, thus being rotatably mounted within the sleeve Y, and also prevented from longitudinal motions therein.

20 It will be seen that when the screw V is rotated, this being accomplished by the wheel X, without disturbing the wheel W on which part the screw is swiveled or mounted as previously stated, owing to the traveling nut U 25 with which the screw engages, and with which the cutter S is connected, motion is imparted to the cutter so as to adjust the edge thereof to the stone, and causing the proper "truing" or facing of the stone, and subsequently with- 30 drawing the same therefrom. When a fresh cutting edge is to be presented to the stone, the hand wheel W is operated so as to rotate the sleeve T and connected parts, whereby the cutter is turned, the effect of which is evident.

35 The water bucket or pail L' is mounted on the standard M', the latter rising from the plate N', which is connected by the ledge C, by means of the bolts P', whose heads are within the grooves D of said ledge, so that 40 said bucket may be adjusted relatively to the stone, or the supports thereof removed when desired, it being noticed that bolts may be entered and removed through said slots D.

When the cutter R is worn out, it may be

removed and replaced by a new one, it being 45 only necessary to attach the traveling nut to the latter, insert the parts in the sleeve, and the screw V into the nut.

The various bolts are provided with nuts for tightening purposes. 50

In describing the stone K, it is intended to include what is generally known as a grindstone, emery wheel &c.

Having thus described my invention, what I claim as new, and desire to secure by Letters 55 Patent, is—

1. In a truing device for a grindstone, a ledge with slots therein, a bed adjustably secured to said ledge and having a plate with ways therein at a right angle with said slots, 60 a carriage fitted on said ways and having an ear in which works a screw swiveled in said plate, an outer sleeve secured on said carriage, an inner sleeve within said outer sleeve having on one end a wheel abutting against the 65 end of said outer sleeve, and a screw swiveled in the hub of said wheel having a cutter connected therewith within said inner sleeve, said cutter having a longitudinal groove in its exterior to receive a screw passing through an 70 opening in the inner sleeve, said parts being combined substantially as described.

2. In a truing device, a bed plate adjustable longitudinally on the frame of the grindstone, a carriage adjustable transversely of said bed 75 plate, a sleeve on said carriage secured thereto, an inner sleeve with wheel abutting against the end of said outer sleeve, a screw swiveled in said hub and having a nut thereon, and a cutter secured to said nut having a longitudinal 80 groove in its exterior receiving a screw from the inner sleeve, said parts being combined substantially as described.

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