

(No Model.)

2 Sheets—Sheet 1.

J. M. MALONE & J. D. PERKINS.
STONE DRESSING MACHINE.

No. 566,596.

Patented Aug. 25, 1896.

Fig. 1.

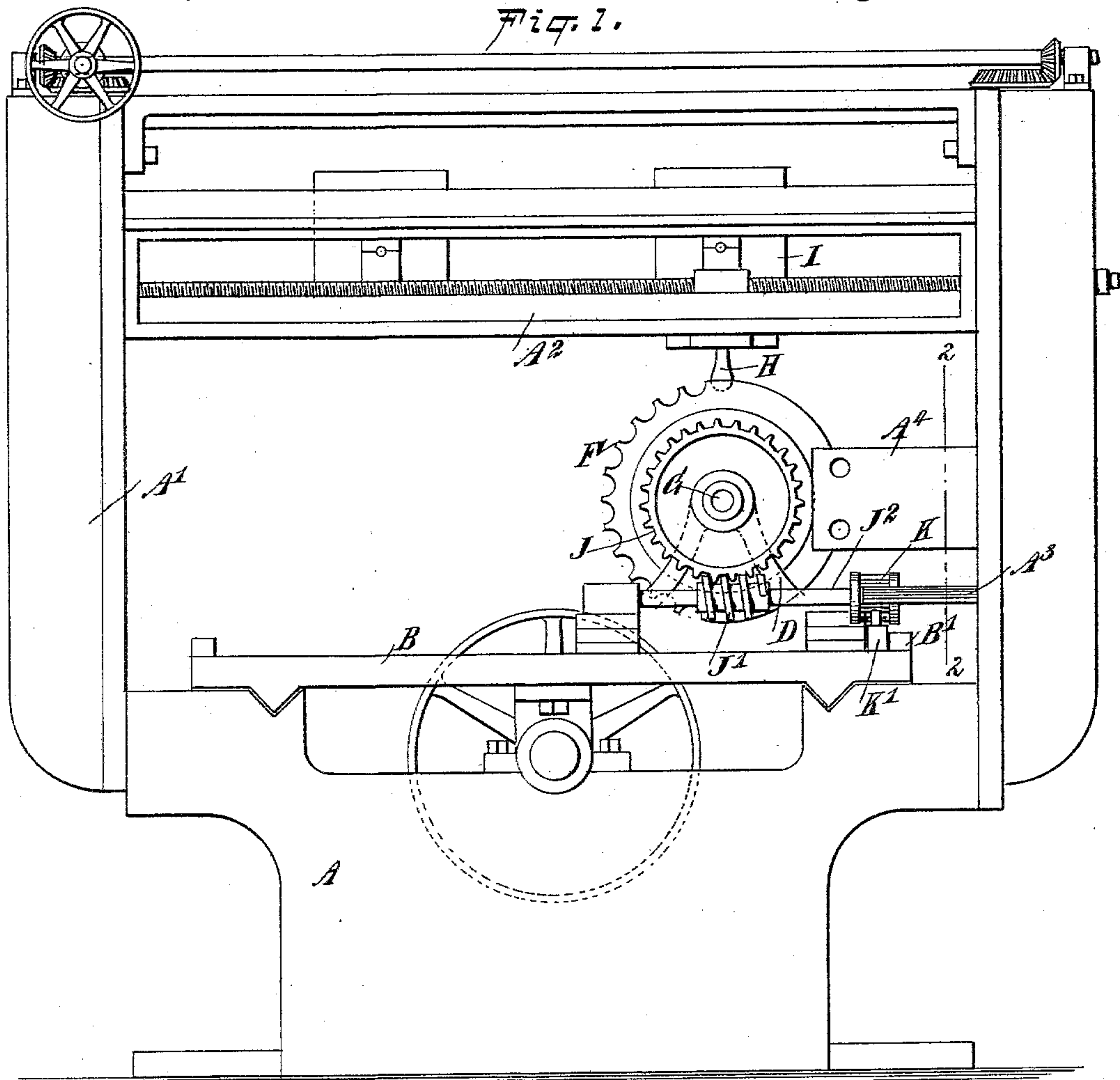
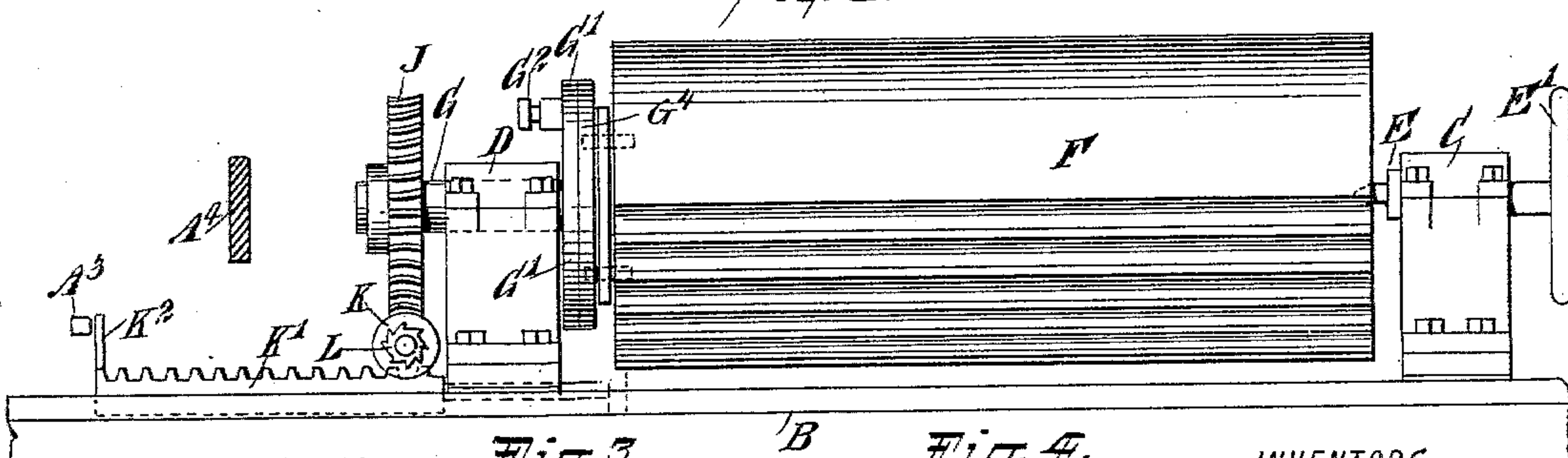


Fig. 2.

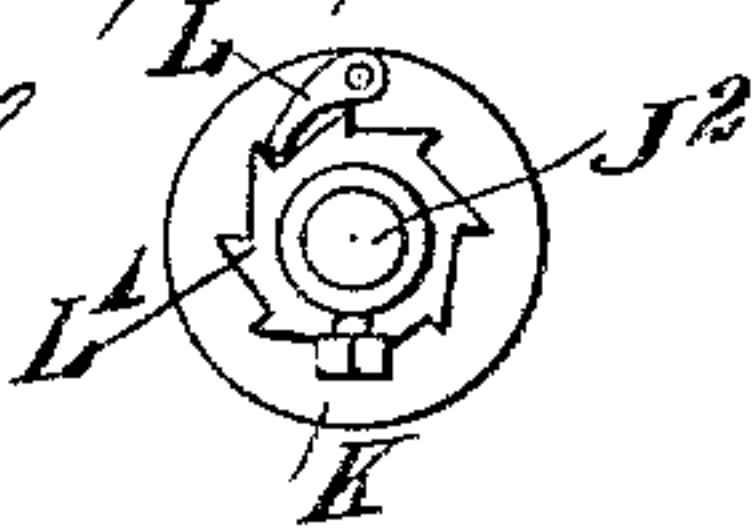


WITNESSES:

William P. Gaebel.

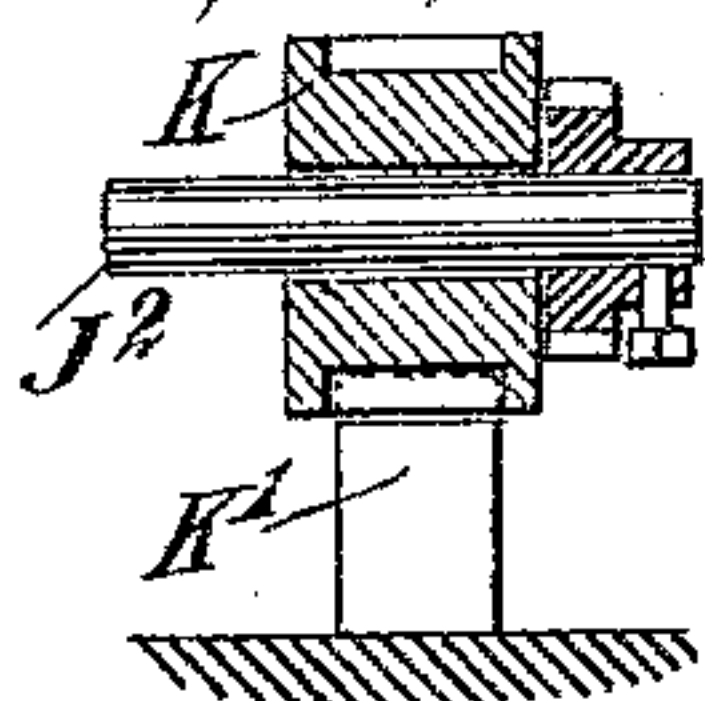
Thos. J. Foster.

Fig. 3.



B

Fig. 4.



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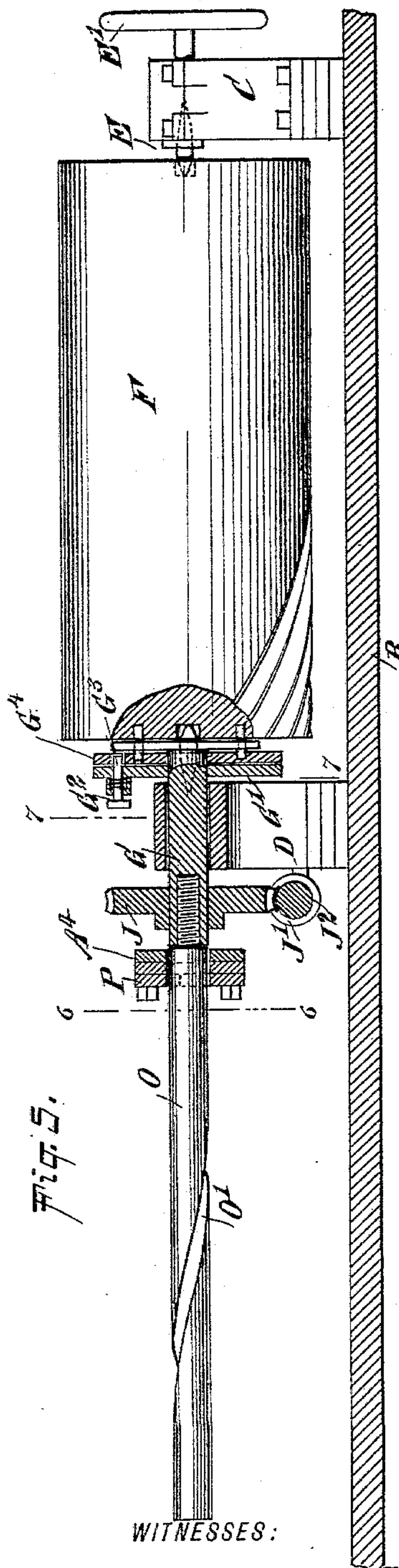
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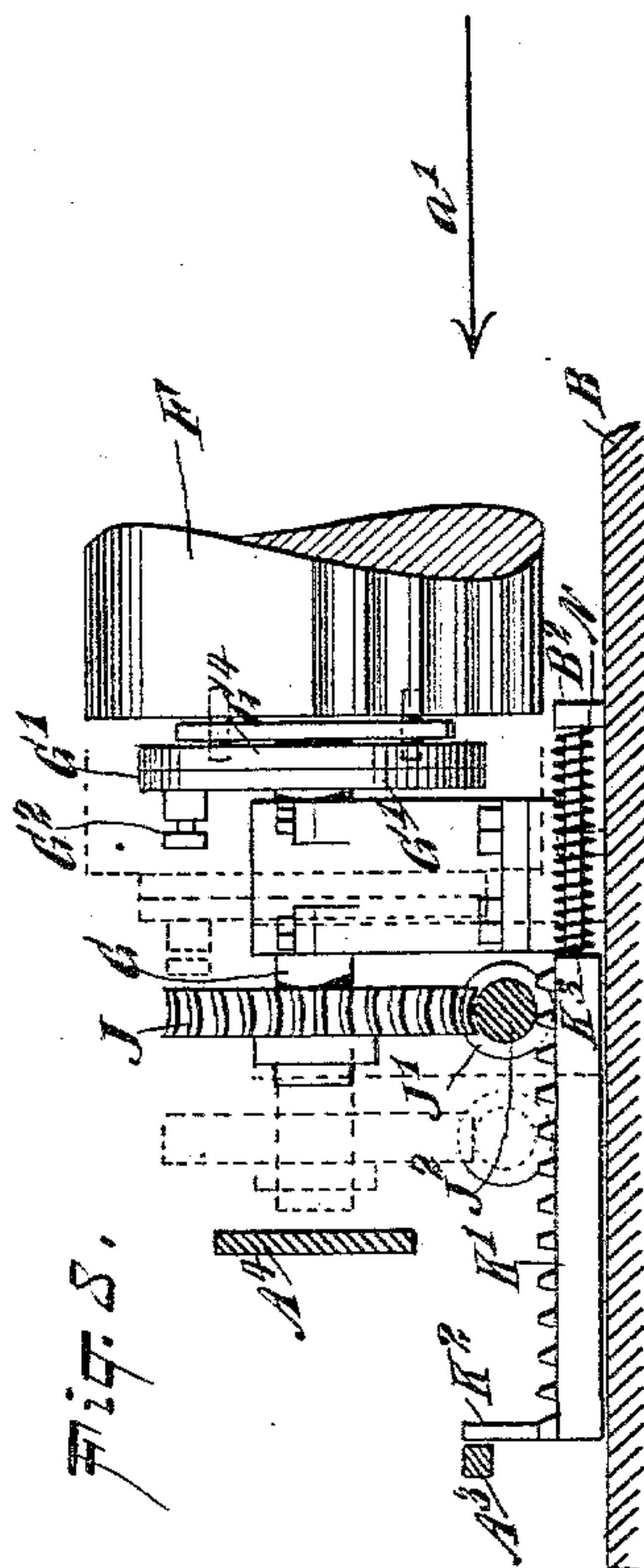
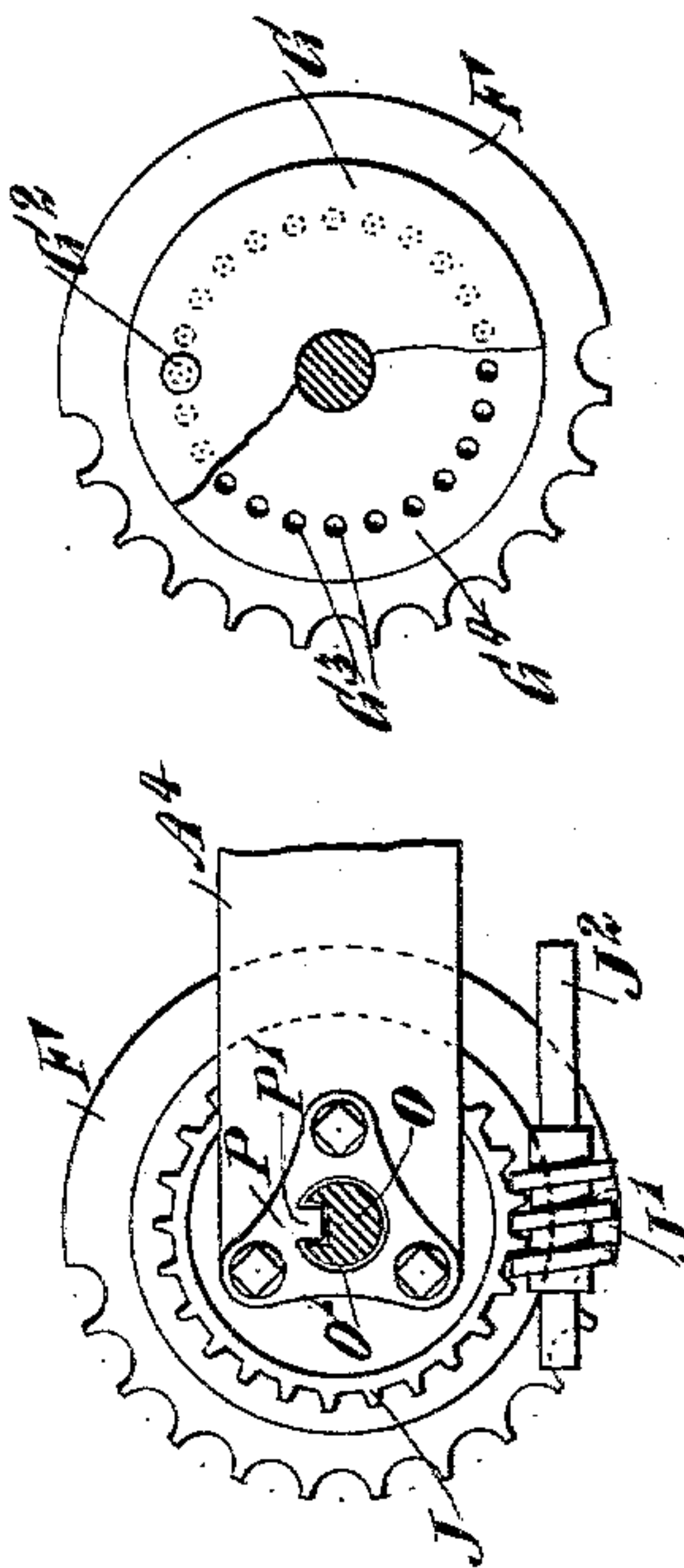
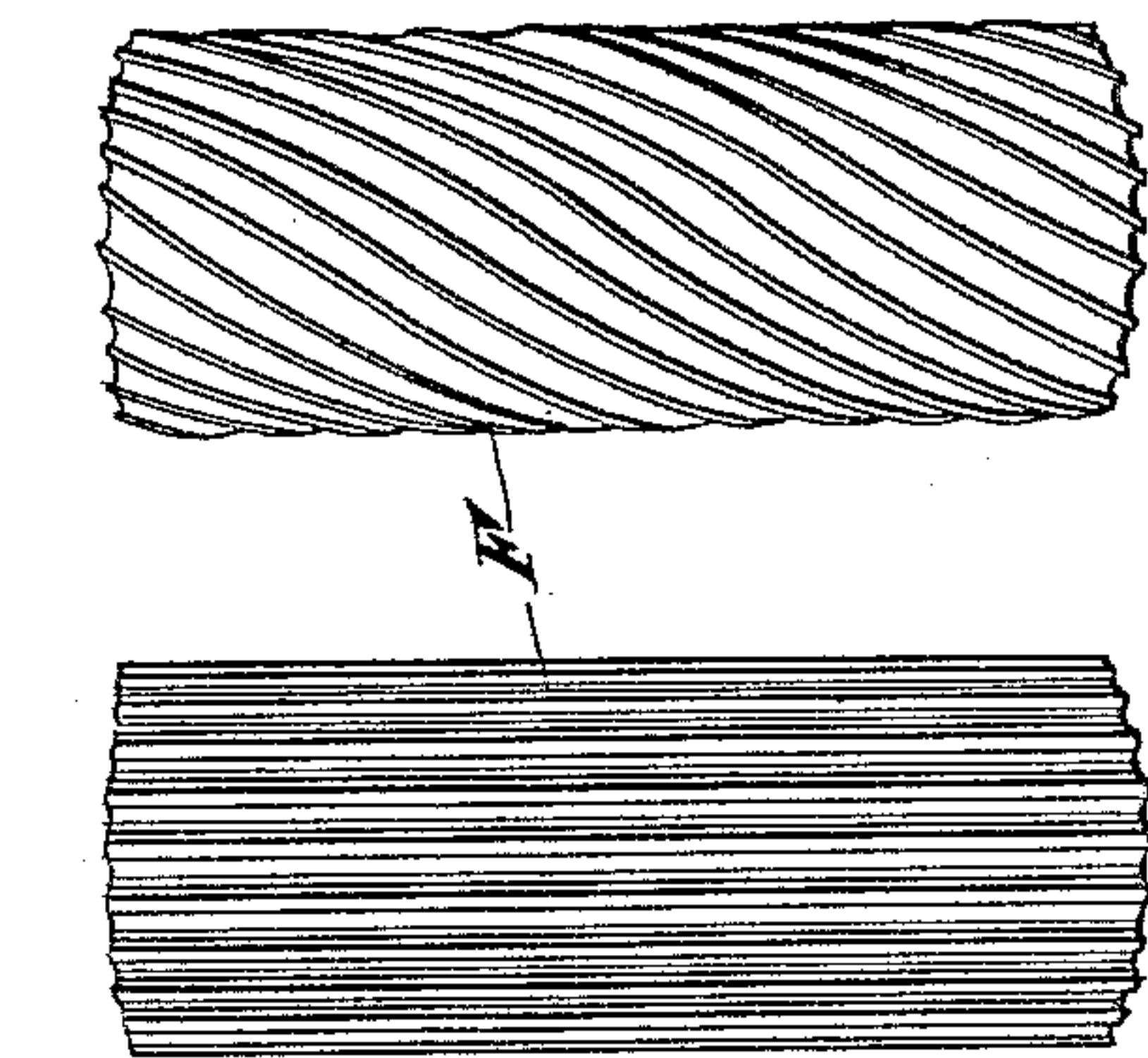


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Fig. 5.

Fig. 7.

Fig. 6.



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UNITED STATES PATENT OFFICE.

JAMES M. MALONE AND JAMES D. PERKINS, OF MARBLE HILL, GEORGIA.

STONE-DRESSING MACHINE.

SPECIFICATION forming part of Letters Patent No. 566,596, dated August 25, 1896.

Application filed November 21, 1895. Serial No. 569,656. (No model.)

To all whom it may concern:

Be it known that we, JAMES M. MALONE and JAMES D. PERKINS, of Marble Hill, in the county of Pickens and State of Georgia, have
5 invented a new and Improved Stone-Dressing Machine, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved stone-dressing machine,
10 which is simple and durable in construction, arranged to dress stone for forming columns, and to provide the same with straight or twisted flutes at their peripheral surfaces.

The invention consists of certain parts and
15 details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification,
20 in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is an end elevation of the improvement. Fig. 2 is a sectional side elevation of part of the same on the line 2 2 of Fig. 1.
25 Fig. 3 is an enlarged side elevation of the ratchet-gear. Fig. 4 is a transverse section of the same. Fig. 5 is a side elevation of the improvement with part in section and arranged for forming spiral flutes. Fig. 6 is a
30 cross-section of the same on the line 6 6 of Fig. 5. Fig. 7 is a similar view of the same on the line 7 7 of Fig. 5. Fig. 8 is a sectional side elevation of the shifting device, and Figs. 9 and 10 are perspective views of the
35 finished articles.

The improved stone-dressing machine is made in its principal parts in the form of a planer having a frame A, on which is mounted to reciprocate a bed B, provided with the
40 usual openings for fastening the bearings C and D in place and in longitudinal alinement on said bed. In the bearing C is journaled a centering-spindle E, adjustable in the usual manner by turning a hand-wheel E', said
45 spindle being adapted to engage the center of one end of the stone to be turned and fluted. In the other bearing D is mounted to turn a spindle G, carrying at its inner end a disk G', supporting a spring-pressed longitudinally-
50 extending pin G², adapted to engage one of a series of apertures G³ arranged in a circle on a disk G⁴, fastened in any suitable manner

to the inner end of the stone. The latter is adapted to be engaged and planed at its top by a tool H, held in a tool-holder I, trans- 55
versely adjustable on a cross-head A², adapted to be conveniently adjusted in the standards A' of the planer-frame A. (See Fig. 1.) Now, it will be seen that when the bed B is reciprocated the stone is cut by the tool H at 60
the top, and the stone is revolved after every stroke of the tool H, so that finally a complete revolution is made and a round column F is formed. When the stone has thus been
65 formed into a column F and it is desired to flute the same, for instance, by forming straight flutes on the peripheral surface of the stone, then the tool H is formed at its cutting end to the shape desired to be given
70 to the flute, as indicated in Fig. 1, the column F being held stationary in its bearings while the bed B reciprocates a number of times and the tool H is fed downward until a flute of desired depth has been made. When this
75 has been done, the pin G² is withdrawn from the corresponding aperture G³, and the stone is turned by hand until the next aperture G³ is in register with the pin G² and engaged by the latter, to present a new surface for the
80 tool H to form the next straight flute. The disk G⁴ is formed with as many apertures G³ as is desired to form flutes on the peripheral surface of the stone.

In order to turn the column F on the return or non-cutting stroke of the bed B, we provide 85
the spindle G with a worm-wheel J, in mesh with a worm J', secured on a transversely-extending shaft J², journaled in suitable bearings on the bed B. On one end of the shaft J² is held loosely a pinion K in mesh with a 90
rack K', fitted in longitudinal guideways B', formed on the top of the bed B. The pinion K is connected by a pawl L and ratchet-wheel L' with the said shaft J², (see Figs. 3 and 4,) so that on the forward movement of the bed 95
B the pinion K is revolved by rolling on the rack K', but its rotary motion is not transmitted to the shaft K², as the pawl L' glides over the teeth of the ratchet-wheel. On the return stroke of the bed B the pinion K is re- 100
volvied in the opposite direction, and its rotary motion is transmitted by the pawl L and ratchet-wheel L' to the shaft J², so that the latter is rotated, and by the worm J', in mesh

with the worm-wheel J causes a turning of the spindle G, and consequently of the column F, so as to present a new surface to the tool H.

The rack K' moves with the bed B only during part of the travel of the latter and is held stationary during part of the stroke, and for this purpose the rack K' is provided at one end with a pin K², adapted to abut against a stop A³ projecting from one of the standards A', as is plainly shown in Figs. 1, 2, and 8. The other end of the rack K' is formed with a reduced portion K³, on which is coiled a spring N, resting with its outer end on the bearing B² for the reduced portion K³ of the rack. Now, it will be seen that when the bed B moves forward in the direction of the arrow a', then the rack K' remains stationary and moves with the bed for a certain length of time; that is, until the pin K² strikes the fixed stop A³, whereby the rack K' is held in position and the pinion K rolls on the rack, as previously explained.

When it is desired to form spiral flutes on the column F, then the following arrangement is made: On the outer end of the spindle G is secured a shaft O, formed with a spiral groove O', engaged by a lug P' formed in a nut P, secured to a bracket A⁴ projecting from one of the standards A'. The length of the spiral groove O' corresponds to the length of the flute to be formed on the stone, so that when the tool H is on the cutting stroke then the column F is turned to cause the tool to make a spiral cut on the peripheral surface of the column. It is understood that when the bed B reciprocates then the fixed lug P', by engaging the spiral groove O', causes a turning of the shaft O, and consequently of the spindle G, column F, both on the forward and backward stroke of the bed B.

Now, it will be seen that by the machine described a comparatively rough stone can be turned to form a column, and in the peripheral surface of this column can be cut straight or peripheral flutes without removing the stone from the bed.

Having thus fully described our invention, we claim as new and desire to secure by Letters Patent—

1. A stone-dressing machine, comprising a reciprocating bed, a tool-carrier carrying a tool and held adjustable above the bed, bearings supported on the bed, spindles in said bearings for supporting the stone, a rack held on said reciprocating bed, mechanism operated from the said rack for revolving one of said spindles, and means whereby said rack is held sta-

tionary during part of the stroke of the bed, substantially as shown and described.

2. A stone-dressing machine, comprising a reciprocating bed, a transversely and vertically adjustable tool-carrier carrying a tool and held above the bed, bearings held adjustable on the bed, a centering-spindle held in one bearing, a revoluble spindle held in the other bearing, the said spindles being adapted to carry the stone, a rack held on said reciprocating bed, mechanism connected with said revoluble spindle and adapted to be operated by the said rack, and a fixed stop adapted to be engaged by the said rack, whereby the rack is held stationary during part of the stroke of the reciprocating bed, substantially as shown and described.

3. A stone-dressing machine, comprising a reciprocating bed, a transversely and vertically adjustable tool-carrier, spindles mounted on bearings supported on said bed for carrying the stone, a feed mechanism for turning said stone intermittently, said feed mechanism comprising a worm-wheel secured on one of the spindles, a worm in mesh with said worm-wheel, a pinion held loosely on a worm-shaft, a pawl-and-ratchet mechanism for connecting said pinion to said worm-shaft, and a rack held on said bed in mesh with said pinion, said rack being adapted to be held stationary during part of the stroke of the bed, substantially as shown and described.

4. A stone-dressing machine, comprising a reciprocating bed, a transversely and vertically adjustable tool-carrier, spindles mounted on bearings supported on said bed for carrying a stone, a feed mechanism for turning said stone intermittently, said feed mechanism comprising a worm-wheel secured on one of the spindles, a worm in mesh with said worm-wheel, a pinion held loosely on a worm-shaft, a pawl-and-ratchet mechanism for connecting said pinion to said worm-shaft, a rack held on said bed in mesh with said pinion, said rack being adapted to be held stationary, and a fixed stop adapted to be engaged by said rack during part of the reciprocating movement of the bed, to hold said rack stationary, substantially as shown and described.

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