

(No Model.)

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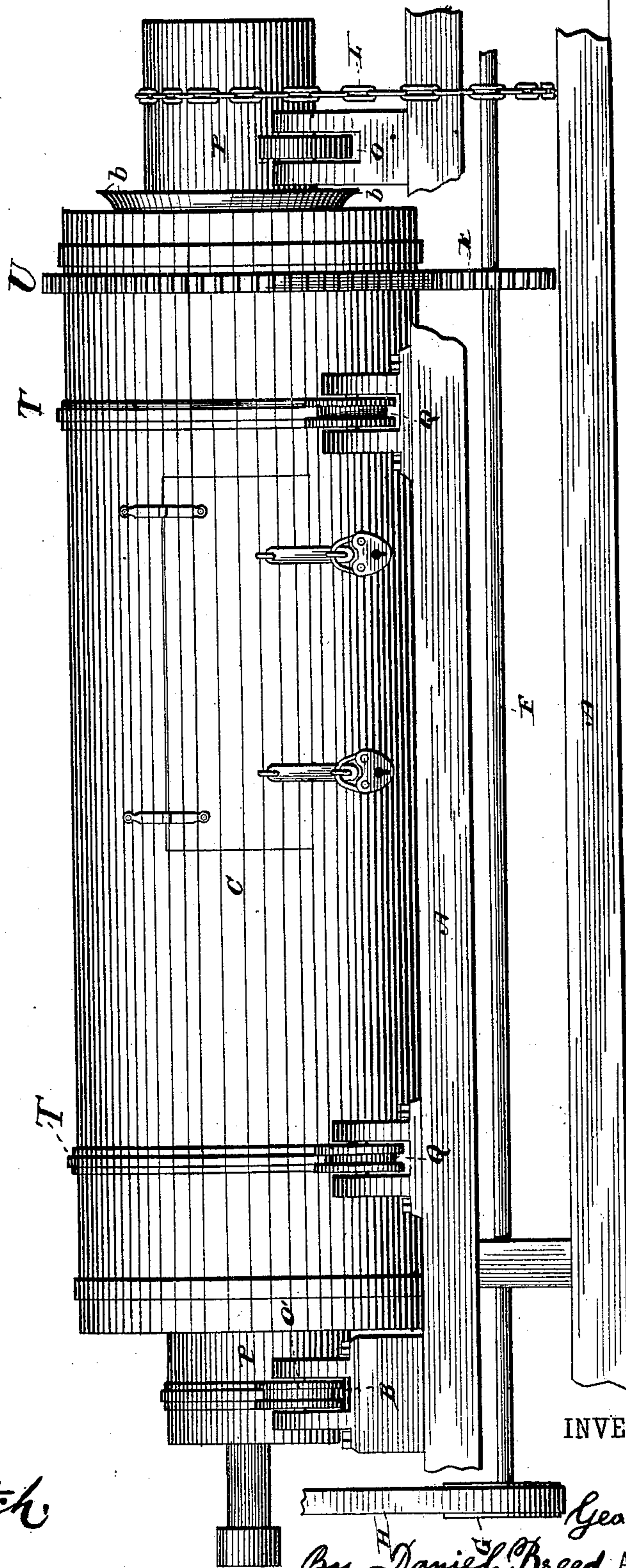
G. W. KIRK.

GOLD WASHER AND AMALGAMATOR.

No. 270,813.

Patented Jan. 16, 1883.

Fig. 1.



WITNESSES:

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(No Model.)

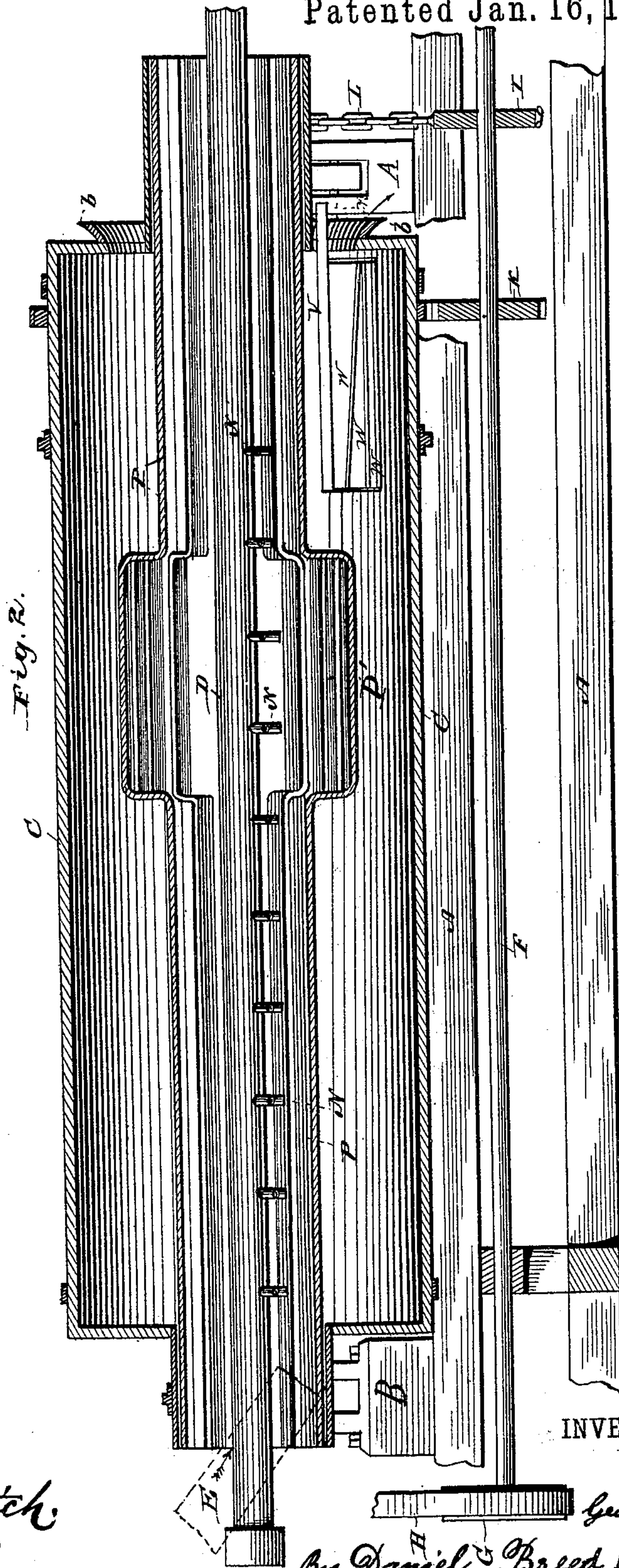
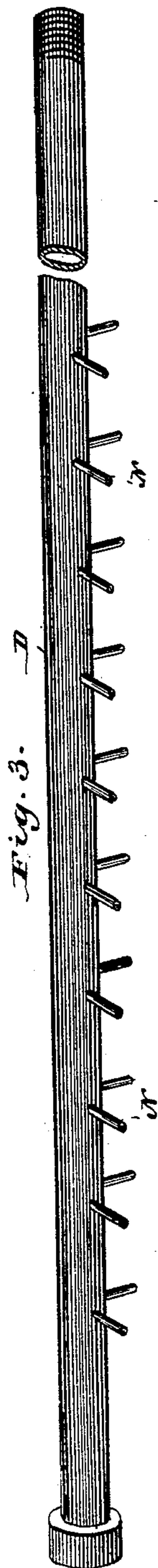
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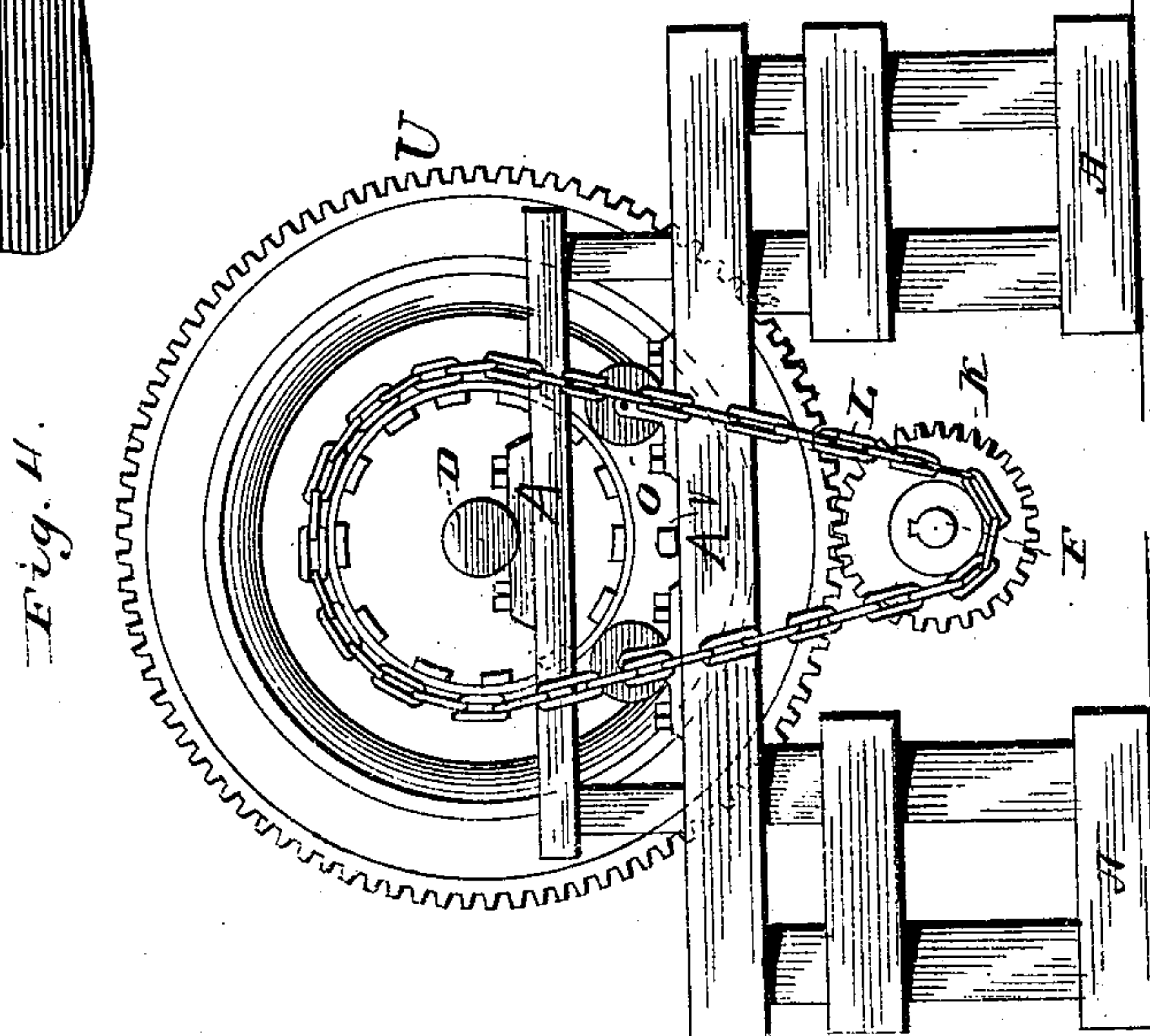
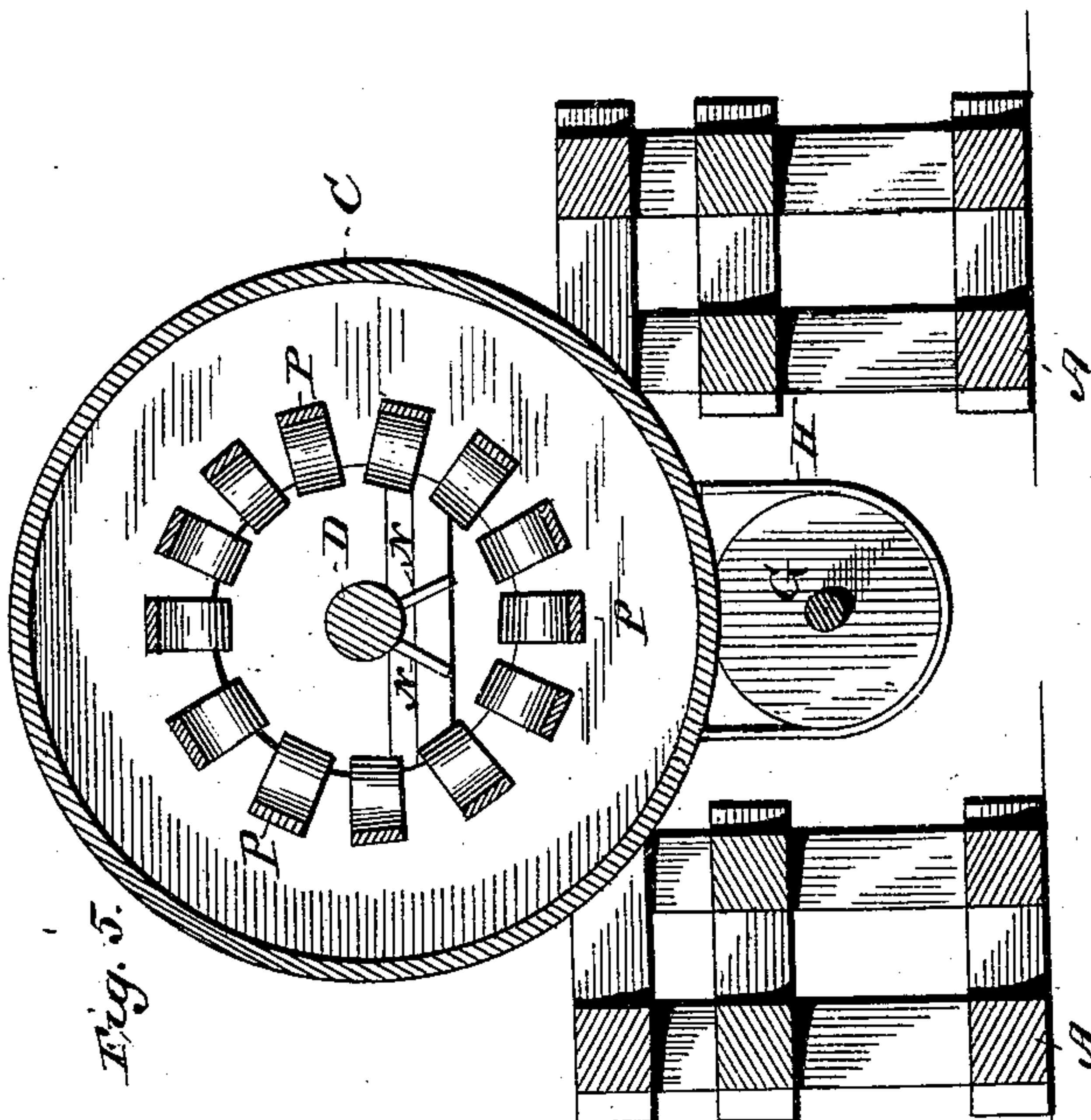
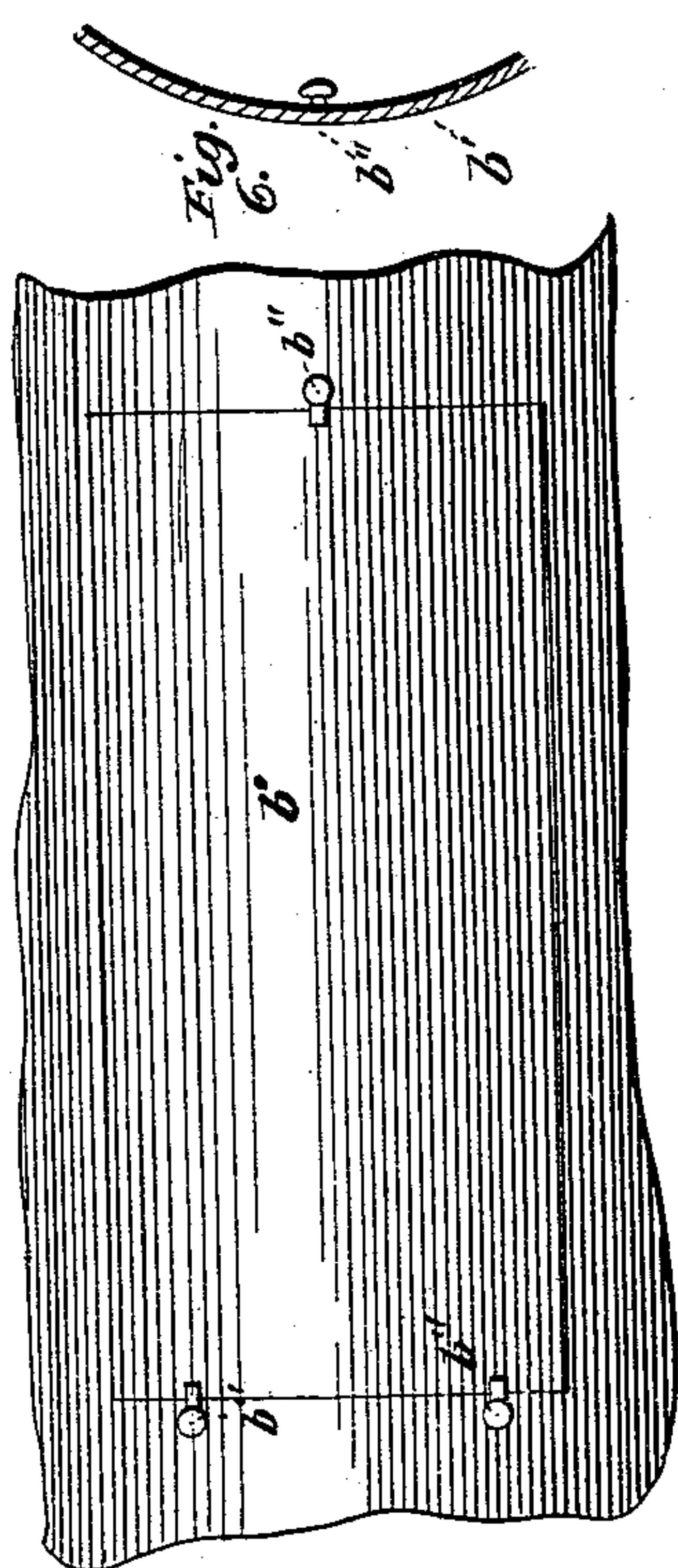
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# UNITED STATES PATENT OFFICE.

GEORGE W. KIRK, OF WASHINGTON, DISTRICT OF COLUMBIA.

## GOLD WASHER AND AMALGAMATOR.

SPECIFICATION forming part of Letters Patent No. 270,813, dated January 16, 1883.

Application filed March 31, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, GEO. W. KIRK, a citizen of the United States, residing at Washington, District of Columbia, have invented certain  
5 new and useful Improvements in Gold Washers and Amalgamators, of which the following is a specification.

My invention consists of a novel construction of revolving slotted cylinder, in combination  
20 with an outer hollow cylinder revolving in the opposite direction and a series of interior nozzles or jets of water directed radially upon the contents of the slotted cylinder.

In the accompanying drawings, Figure 1 is  
15 a side view of my machine. Fig. 2 is a longitudinal vertical section of the same. Fig. 3 is a detached view of the water-pipe and radial nozzles. Fig. 4 is an end view. Fig. 5 is a transverse section. Fig. 6 is an amalgamating-  
20 plate to be placed inside of the outer cylinder.

Upon a suitable frame, A, Fig. 1, is mounted a hollow cylinder, C, provided with hand-bearings T, resting upon grooved rollers Q. Motion may be given to this cylinder by means  
25 of gear-wheel U and pinion K on power-shaft F, as seen in Fig. 4, or by a pulley and band. The lower end of this cylinder is provided with several removable amalgamating-plates, (shown at b', Fig. 6,) secured in place by buttons b'';  
30 also amalgamating-plates are suspended on the arm V within the discharge end of the cylinder, as shown at W, Fig. 2, for the purpose of catching the floating gold. The ends of this  
35 cylinder have large central openings, in which the collars of the slotted interior screen revolve without contact between the inner and outer cylinders, as will be more fully explained hereinafter.

A slotted screen, P, is arranged to revolve  
40 inside of cylinder C. It is supported and travels on rollers O and O', the latter being grooved to receive the band-bearing B, to prevent end-play of said screen. Motion may be given to this slotted screen by means of chain L and  
45 sprocket-wheel F, Fig. 4. This screen has a pocket, P', Fig. 2, from which the gravel will escape, while the nuggets of gold, on account of their greater gravity, will remain in the pocket and may afterward be taken out. The  
50 grains of gold will in like manner be caught in the lower end of the outer cylinder, while

the gravel goes out at the discharge. If desired, the pocket P' may be made close instead of slotted, as described.

A stationary water-pipe, D, extends through  
55 the inside of the interior screen, and is provided with a series of radial nozzles, N, as seen in Fig. 3, for the purpose of directing jets of water upon the clay or earth which is to be fed into the upper end of the screen P. 60

From a sluice-box the earth containing the grain-gold is fed into the slotted screen from spout E, while the two cylinders are slowly revolved in opposite directions, and the nozzles  
65 play strong jets of water upon the mass, cutting even stiff clay to pieces and washing out the gold.

In addition to the amalgamating-plates a quantity of quicksilver is placed in the outer cylinder, C, in order to amalgamate the finer  
70 gold carried forward by the flow of water.

Having described my machine, what I claim is—

1. The combination of a hollow cylinder with an interior tubular slotted screen and the water  
75 pipe D, provided with radial nozzles located within said screen, and means for revolving said screen and cylinder in opposite directions, substantially as and for the purposes set forth.

2. In a gold-washer, the slotted screen provided with the pocket P', for retaining the nuggets of gold, and mechanism for revolving the same, substantially as and for the purposes set forth.

3. In a gold washer and amalgamator, the  
85 combination of a hollow cylinder provided with central openings at its ends for the ingress and egress of the materials, of the frame for supporting the same, a series of amalgamating-plates, and means of supporting them, as described, attached to the frame and projecting  
90 through the opening in the exit end of the cylinder, whereby the said plates are supported within the cylinder in position to catch the floating gold, as set forth.

In testimony whereof I affix my signature in  
95 presence of two witnesses.

GEO. W. KIRK.

Witnesses:

DANIEL BREED,  
JOHN T. ARMS.