

(Model.)

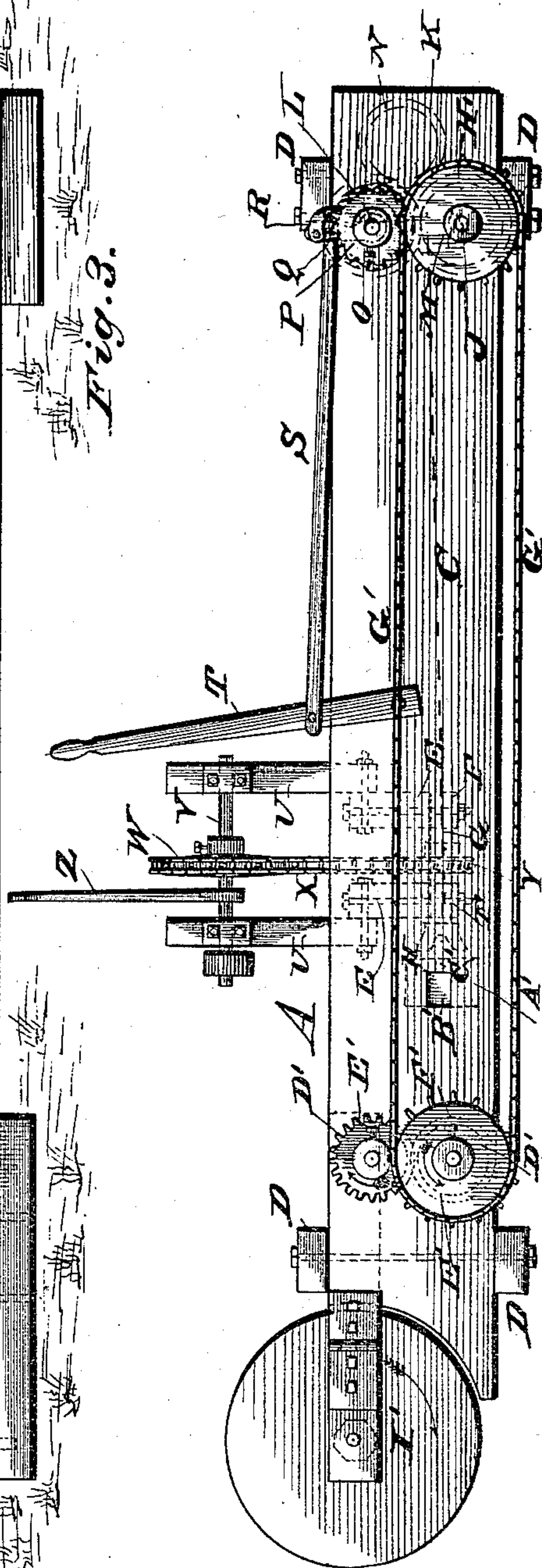
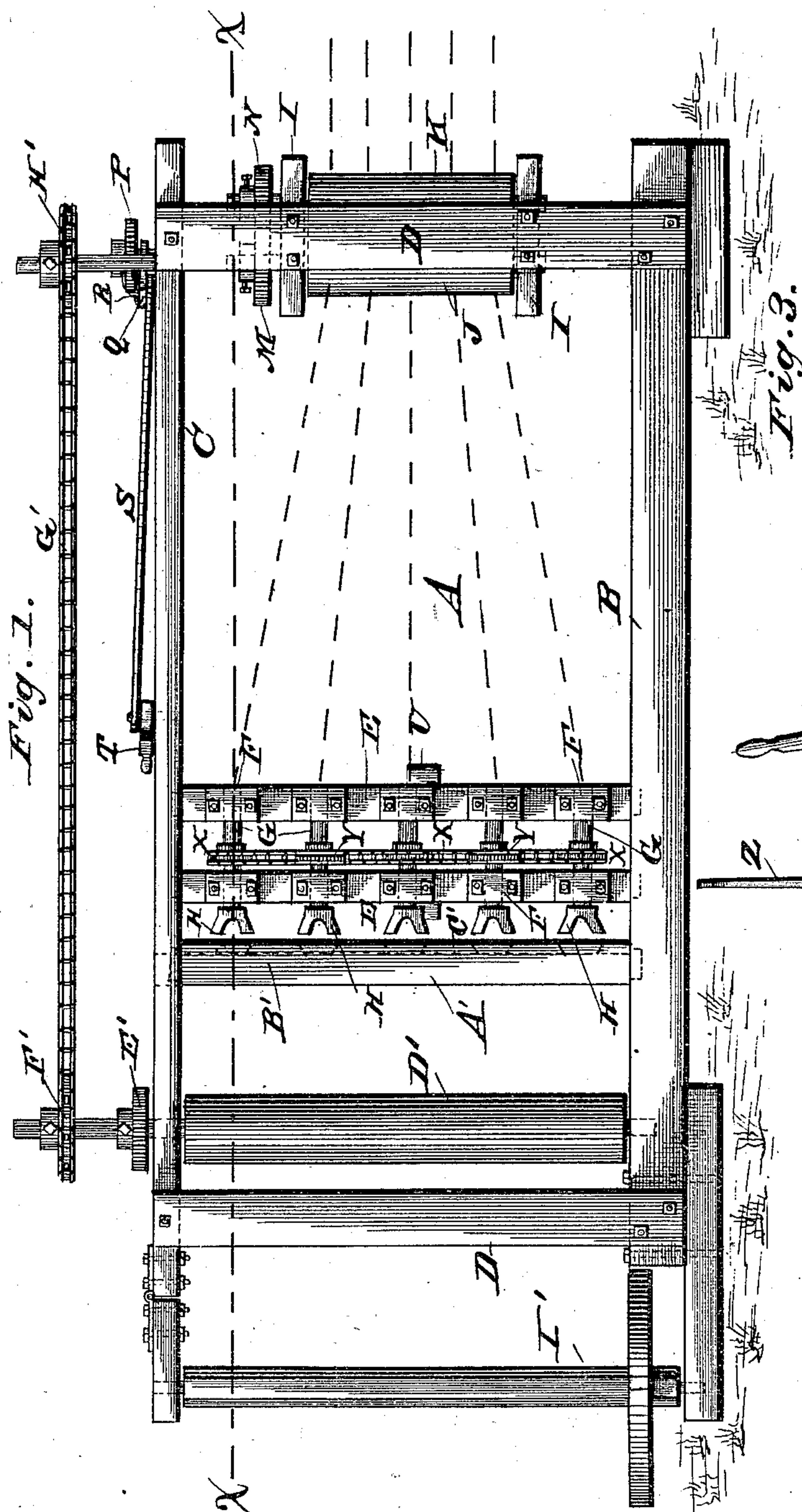
2 Sheets—Sheet 1.

J. B. THIES.

MACHINE FOR MANUFACTURING PICKET FENCES.

No. 316,849.

Patented Apr. 28, 1885.



WITNESSES:

Fred. G. Dietrich,
 Wm. Bagger.

INVENTOR.

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John B. Thies,
by: Louis Ragger & Co.
ATTORNEYS.

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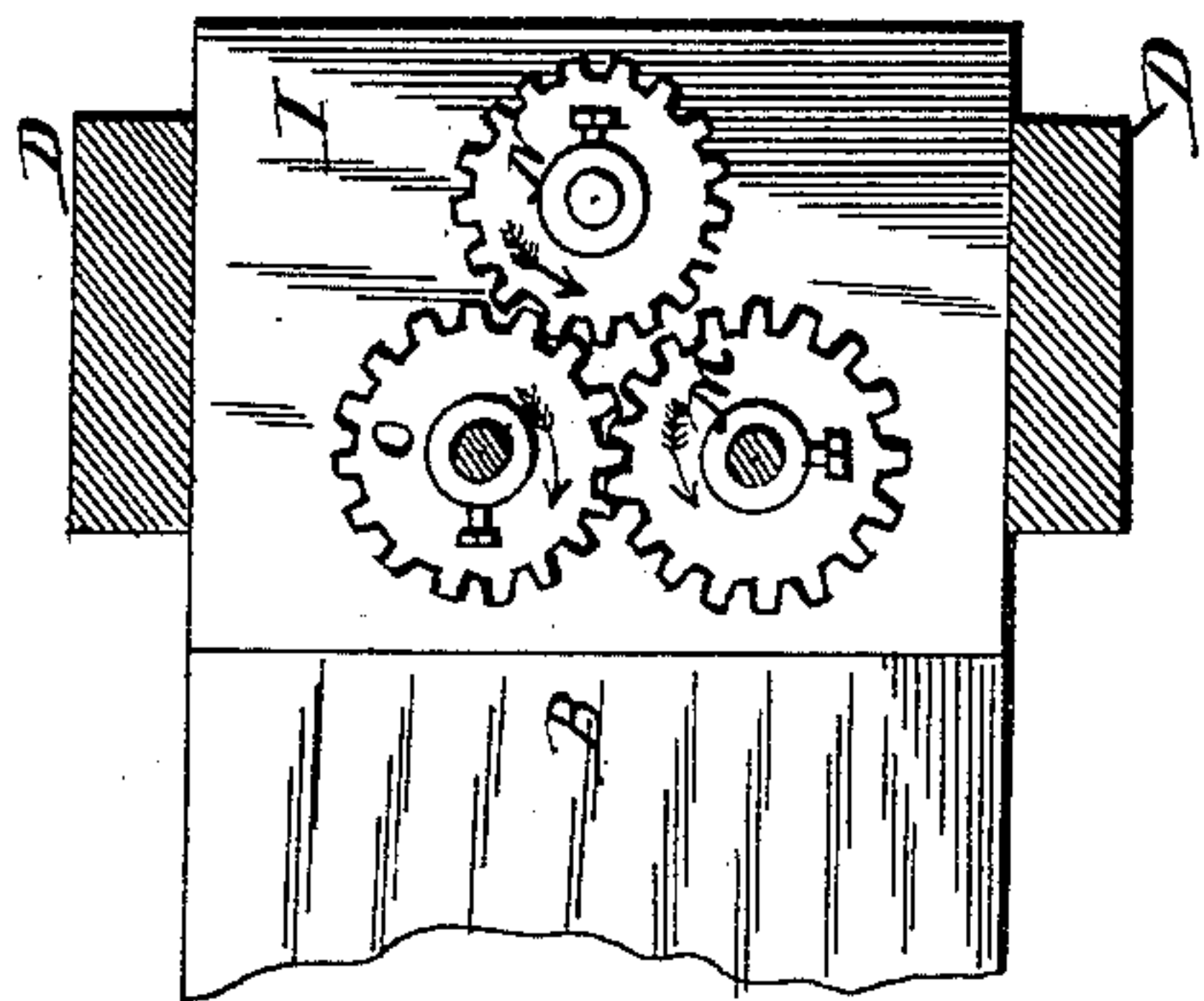


Fig. 5

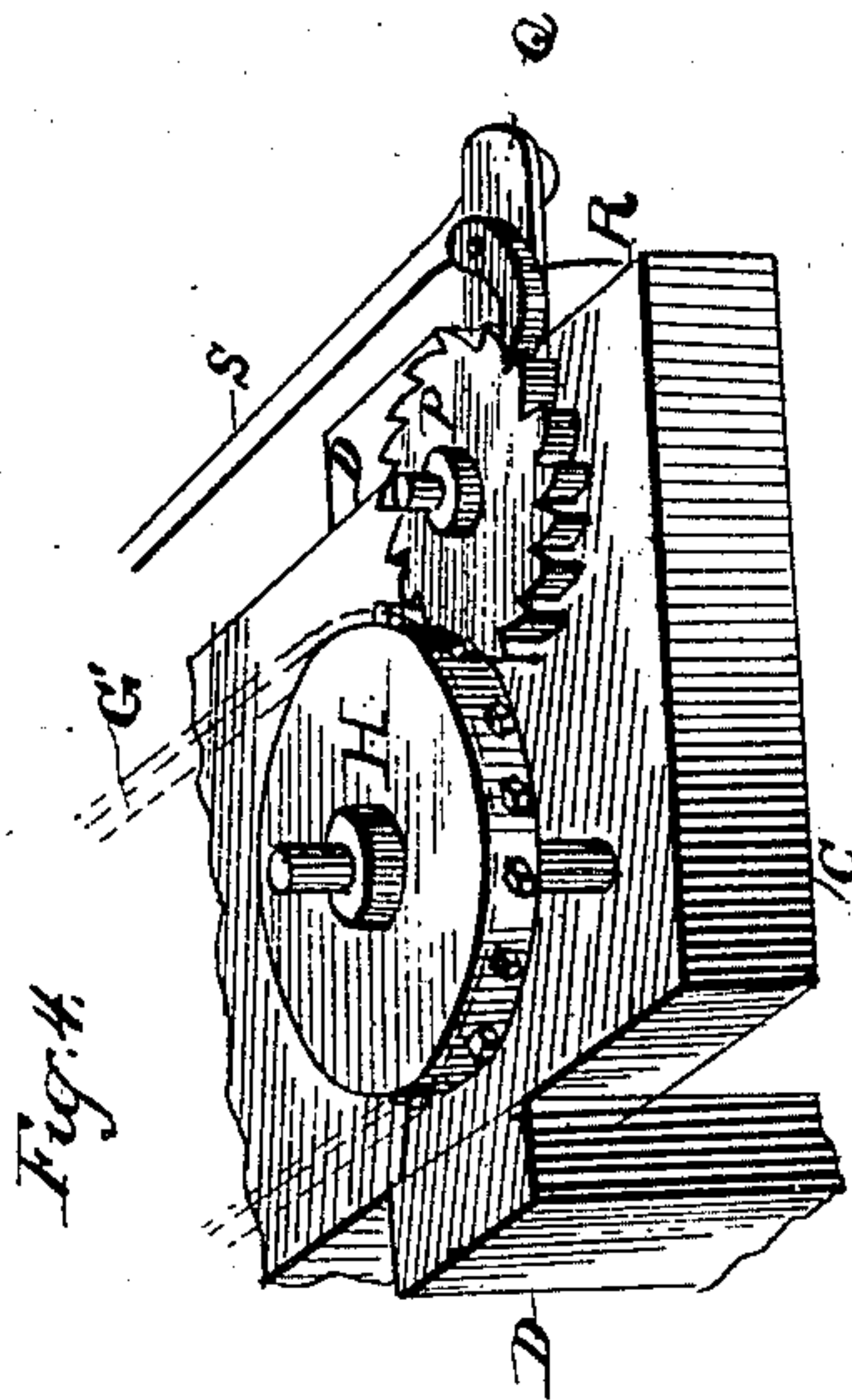
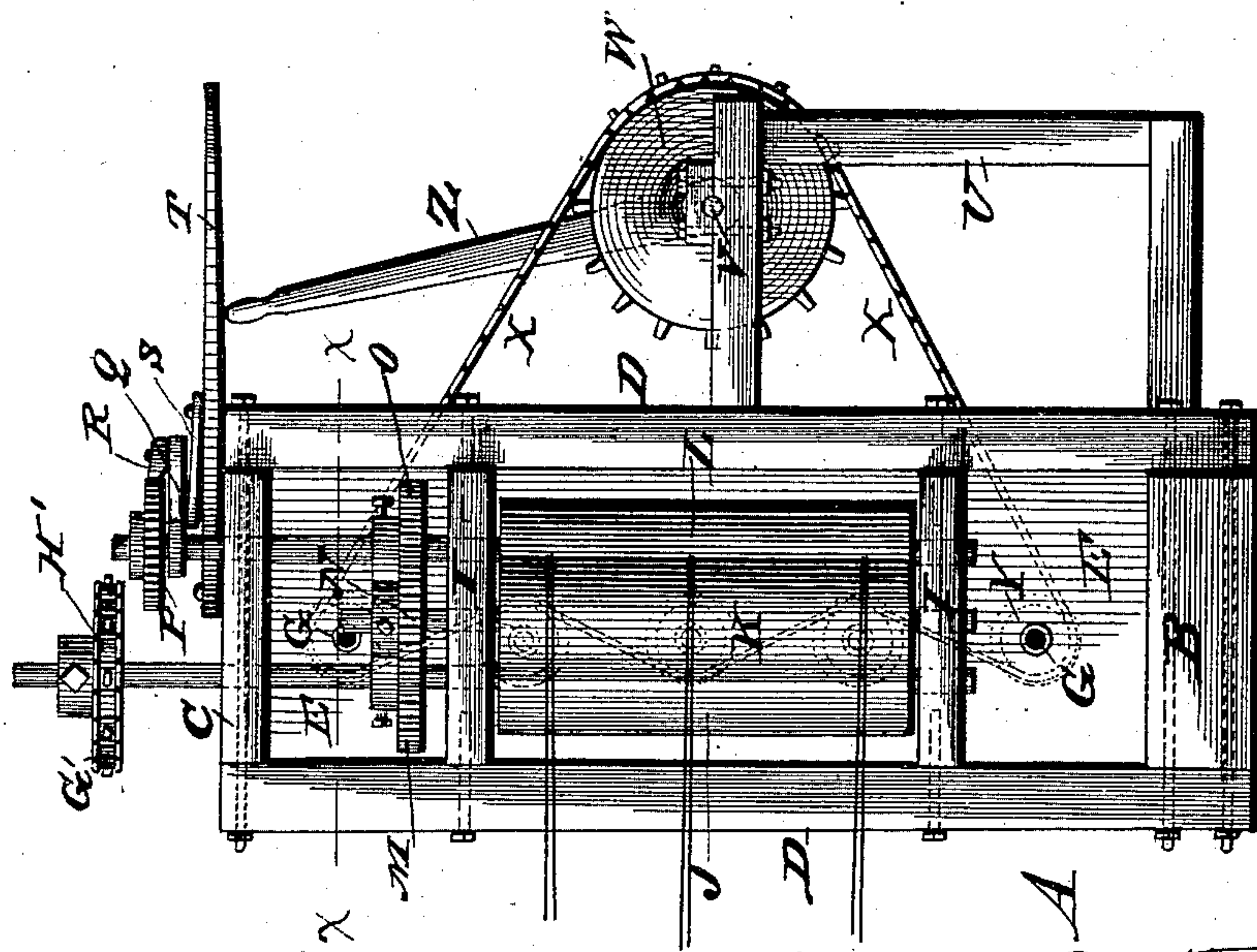


Fig. 4

Fig. 2.



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UNITED STATES PATENT OFFICE.

JOHN B. THIES, OF DAYTON, OHIO, ASSIGNOR OF ONE-HALF TO C. WIGHT
& SON, OF SAME PLACE.

MACHINE FOR MANUFACTURING PICKET FENCES.

SPECIFICATION forming part of Letters Patent No. 316,849, dated April 28, 1885.

Application filed December 6, 1884. (Model.)

To all whom it may concern:

Be it known that I, JOHN B. THIES, of Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Machines for Manufacturing Picket Fences; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a front view of my improved machine for manufacturing picket fences. Fig. 2 is an end view of the same. Fig. 3 is a top view. Fig. 4 is a perspective detail view of the ratchet-wheel and pawl-arm for the wire-feeding roller, and Fig. 5 is a horizontal sectional detail view, showing the cog-wheels upon the shafts of the wire-feeding rollers, taken on line *xx*, Figs. 1 and 2.

The same letters refer to the same parts in all the figures.

This invention relates to machines for manufacturing fencing material for that class of picket fences which consist of pickets connected by strands of twisted wires; and it has for its object to produce a machine of this class which shall possess superior advantages in point of simplicity, durability, and general efficiency.

With these ends in view the invention consists in the improved construction and arrangement of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings hereto annexed, A designates the frame of the machine, which consists, essentially, of a base-board or platform, B, and a deck or cover, C, suitably connected by posts or uprights D D.

E E are two upright posts mounted between the base B and top-piece C, and equipped with the boxes F F, in which are journaled the horizontal tubular shafts G G, the rear ends of which are provided with Y-shaped branches or extensions H H.

The uprights D D at the front end of the frame of the machine are connected by transverse horizontal braces I I, affording bearings for the rollers or cylinders J, K, and L, the

upper ends of the shafts of which are provided with spur-wheels or pinions M, N, and O, of which the pinions M and O of the cylinders J and L are geared together, while the pinions N and O of the cylinders K and L are likewise intermeshed, thus causing the cylinders, when power is applied, as will be hereinafter described, to revolve in the directions indicated by the arrows in Fig. 3 of the drawings. The wire, of which two strands are used for each of the twisting-tubes G, is wound from spools over the cylinder K, whence it passes round between the two cylinders J and L to the twisting-tubes G, each of which receives two strands of wire, which pass through the branches of the forks H, by which they are twisted or woven around the pickets, as will be presently described.

The upper end of the shaft of the cylinder L is provided with a fixed ratchet-wheel, P, and a loose arm, Q, to the outer end of which is pivoted a pawl or dog, R, engaging the said ratchet-wheel, and a rod, S, whereby it is connected with an operating-lever, T, which is suitably pivoted to the frame of the machine in a position convenient to the operator. It will be seen that by operating the said lever the several cylinders may be rotated in the direction indicated by the arrows.

The side of the frame of the machine is provided with a laterally-extending bracket or supplemental frame, U, having bearings for a short longitudinal shaft, V, on which is mounted a chain-wheel or sprocket-wheel, W, having a chain, X, which passes in a zigzag course over smaller chain-wheels, Y Y, upon the twisting-tubes G G. The end of the shaft V is provided with a lever or handle, Z, by means of which it may be conveniently manipulated. It will be seen that by operating the lever Z the said twisting-tubes may be revolved alternately in opposite directions, so as to twist or weave the wires around the pickets, as will be presently more fully set forth.

The frame of the machine is provided directly in front of the twisters with a vertical brace, A', mortised into the base and cap of the frame, and provided with a vertical groove, B', of proper size to accommodate a single picket, and the bottom of which is provided

with a slot or opening, C', to admit the wires. In rear of this brace or receiving-socket are a pair of vertical rollers or cylinders, D' D', the shafts of which have pinions E', meshing together, and the shaft of one of which is provided with a chain-wheel, F', connected by a chain, G', with a similar chain-wheel, H', upon the upper end of the shaft of the cylinder J, to which reference has been made above. It will be seen that when the said cylinder J is revolved a rotary motion is imparted to the rollers D' D' in the direction indicated by the darts.

The rear end of the frame has bearings for a reel, I', upon which the finished fencing material may be spooled or wound.

The operation of this invention will be readily understood when reference is had to the foregoing description, taken in connection with the drawings hereto annexed. The wire passes in the direction shown over the cylinder K and between cylinders J and L, which serve to straighten the said wire, and also to push or feed it forward. From these cylinders the wire passes through the twisting-tubes G, and through the branches H of the latter to the groove or socket B', into which, after a preliminary twist of the wires, a picket is dropped from the top of the frame, which is provided with an opening for this purpose. The lever or handle Z is now operated so as to revolve the shaft V in one direction, such rotary motion being communicated through the intermediate mechanism to the twisting-tubes, which are revolved so as to form several twists upon the series of wires. The lever T is now operated so as to revolve the series of cylinders J K and L to feed the wire forward a sufficient distance, and push the first picket out of its groove or socket, into which another picket is then dropped. The lever Z is now operated in the opposite direction to that in which it was first moved, thereby revolving the twisting-cylinders, also in an opposite direction, the effect of which is, first, to form the necessary twists upon the wires; secondly, to take up any slack upon the wires, and, thirdly, to untwist the feed ends of the wires which were twisted by the operation of forming the first twist. The lever T is then again operated, and another picket dropped into place, after which the operation goes on as before. When a few pickets have thus been woven into place, they are grasped by the cylinders D' D', which will now assist in the feeding process, and the fencing material is eventually wound upon the reel or spool I'.

This machine, as will be seen, is simple in its construction, and it is easily manipulated and not liable to get out of order. The fencing material manufactured by it is convenient, durable, and attractive in appearance. It will be understood that the machine is subject to various changes with regard to the construction of details; and I would therefore have it understood that I do not limit myself to the precise construction herein shown, but reserve to myself the right to all such modifications as may be resorted to without departing from the spirit of my invention.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. In a machine for manufacturing wire picket fencing, the combination, with a central wire-feeding cylinder, K, of two feeding-cylinders, J and L, the shafts of which are provided with intermeshing pinions, one of which meshes with a pinion upon the shaft of the central feeding-cylinder, K, the wire passing over the said cylinder and between the cylinders J and L, as and for the purpose shown and set forth.

2. The combination, with the wire-feeding cylinders having intermeshing pinions, as described, of the feed-cylinders connected by gearing at the discharge end of the machine, one of which is provided with a chain-wheel mounted upon its shaft, and connected by a drive-chain with a chain-wheel upon the shaft of the wire-feeding cylinder, and operating mechanism, substantially as and for the purpose set forth.

3. The combination of the frame, the twist-ers having Y-shaped arms or branches, mechanism for rotating the said twist-ers intermittently and alternately in opposite directions, the picket-holding socket, the wire-feeding cylinders, the shafts of which have intermeshing pinions, as described, the feed-cylinders at the discharge end of the machine, mechanism for conveying motion to the latter from one of the wire-feeding cylinders, mechanism for operating the latter, and a spooling-reel at the discharge end of the machine, all constructed and operating substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

JOHN B. THIES.

Witnesses:

WILLIAM H. LIENESCH,
FRANK A. WEST.