

(No Model.)

W. JONES.

MACHINE FOR PREPARING WOOD FOR PULPING IN THE MANUFACTURE
OF PAPER.

No. 284,433.

Patented Sept. 4, 1883.

Fig. 1.

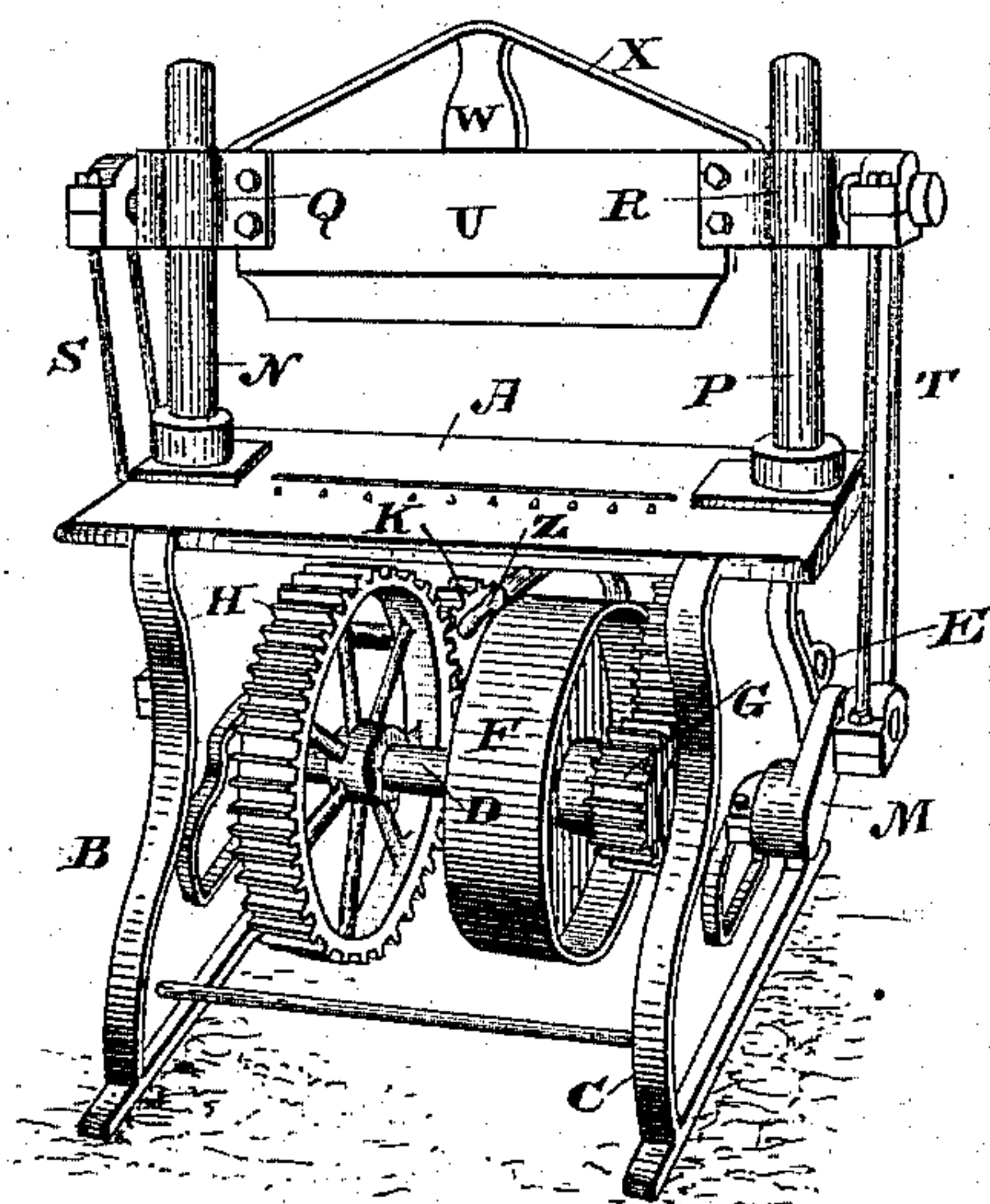


Fig. 2.

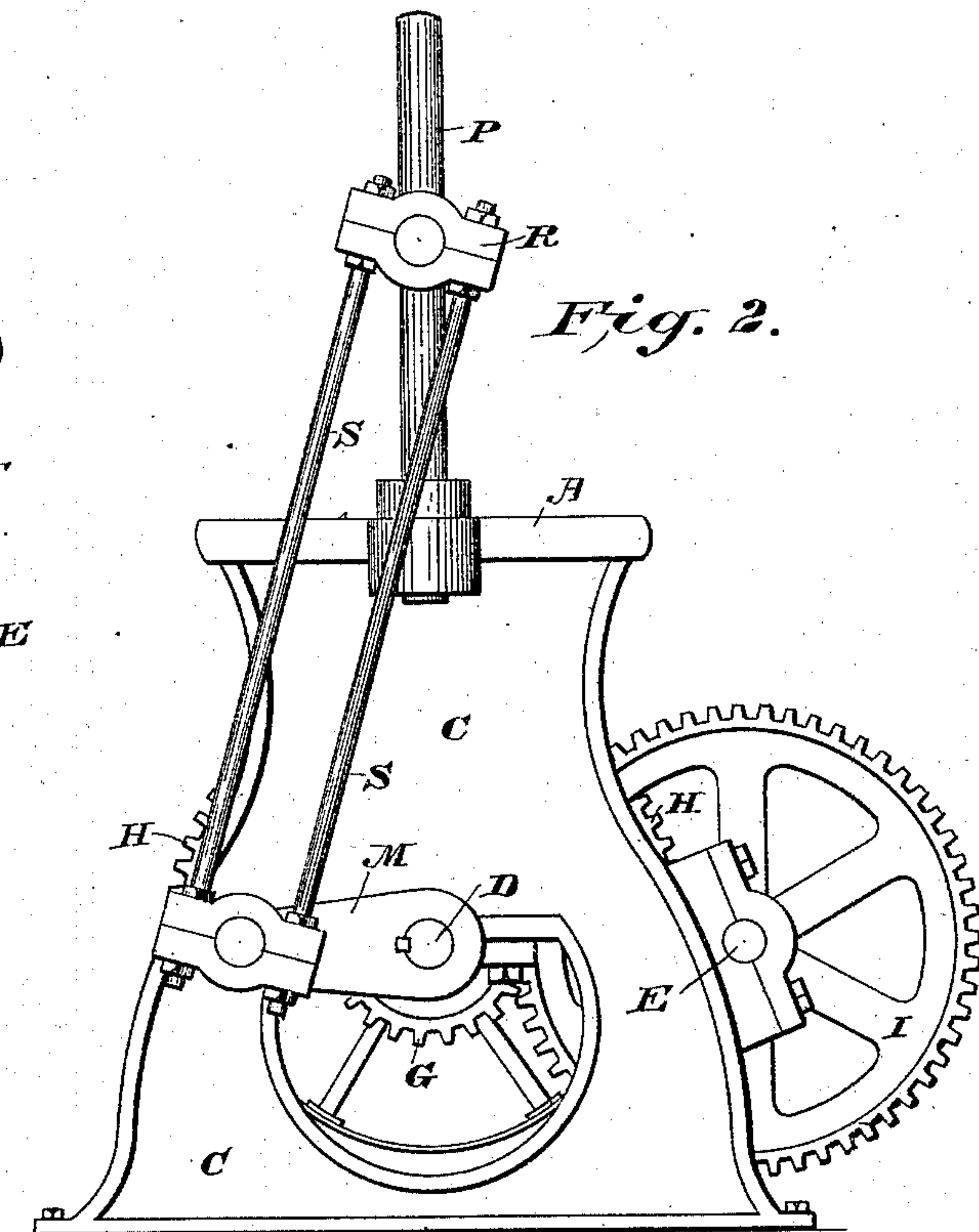


Fig. 3.

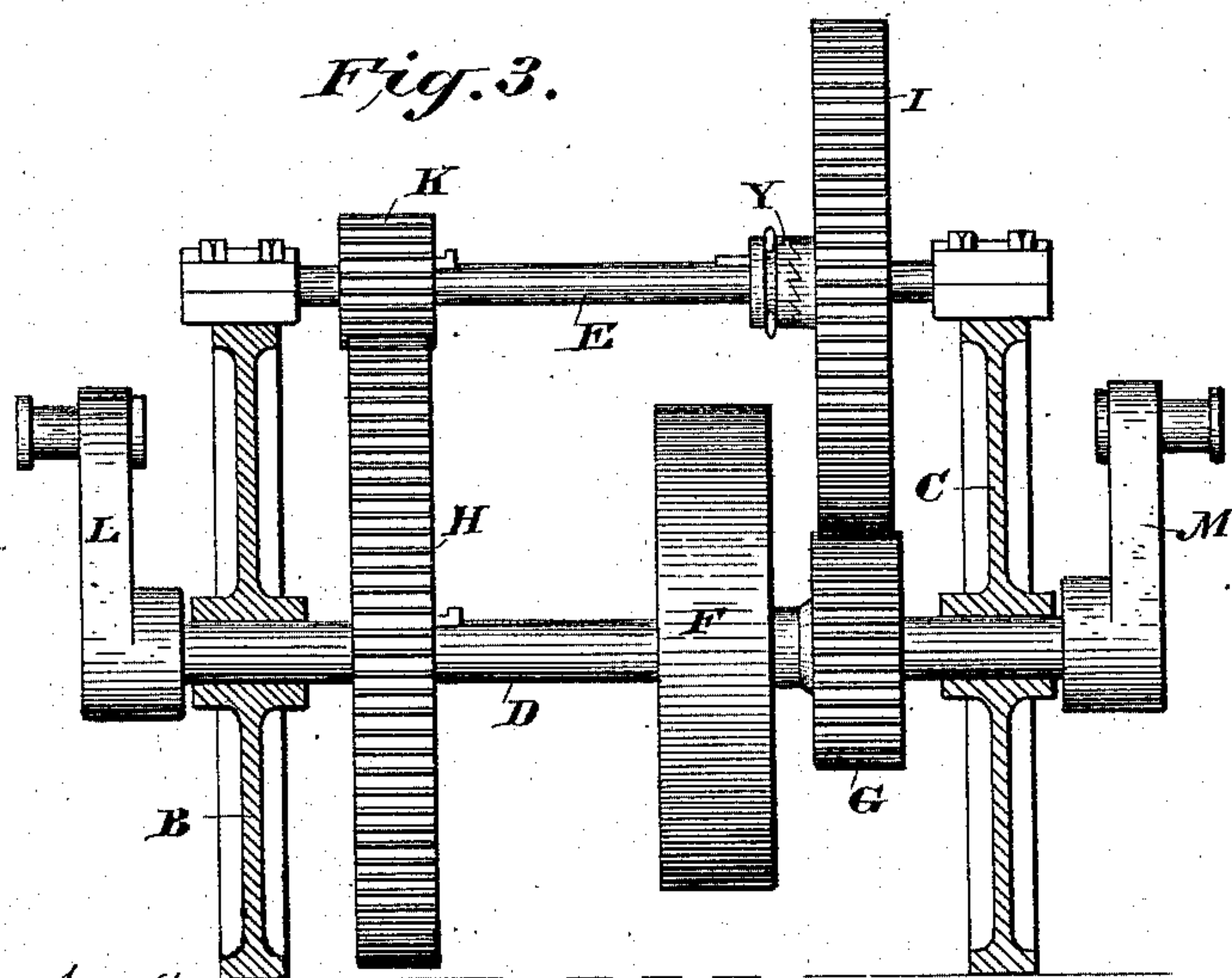
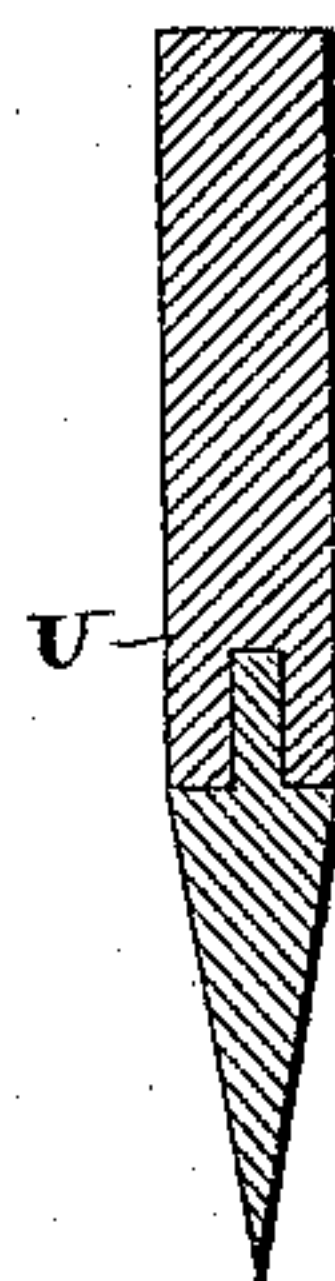


Fig. 4.



Attest:

Geo. T. Smallwood,
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his attorney

UNITED STATES PATENT OFFICE.

WALTER JONES, OF NIAGARA FALLS, NEW YORK.

MACHINE FOR PREPARING WOOD FOR PULPING IN THE MANUFACTURE OF PAPER.

SPECIFICATION forming part of Letters Patent No. 284,433, dated September 4, 1883.

Application filed August 4, 1883. (No model.)

To all whom it may concern:

Be it known that I, WALTER JONES, of Niagara Falls, in the county of Niagara and State of New York, have invented a new and useful Improvement in Machines for Preparing Wood for Pulping in the Manufacture of Paper Therefrom, which improvement is fully set forth in the following specification.

This invention has reference to and consists in a machine for dividing wood into blocks of such size and shape as fits them for reduction to pulp by means of emery-grinders or other suitable pulping apparatus.

Heretofore, so far as I am aware, no machine has been specially designed for this work; but such general wood-working tools and machinery have been employed as may in any particular case be available. By my improvement the wood may be prepared more easily, efficiently, and economically.

The improved machine is represented in the accompanying drawings, Figure 1 being a perspective view; Fig. 2, a side elevation; Fig. 3, a horizontal section and plan, and Fig. 4 a detail view.

The frame of the machine consists of a bed or table, A, and two uprights or supports, B C, united firmly to the bed and to each other. Two shafts, D E, are journaled in bearings on said uprights. Upon the shaft D are supported the driving-pulley F and the pinion G, the former being keyed on an extension of the hub of the latter. The pinion is loose on the shaft, so that it and the pulley may together turn freely thereon. On the shaft D the spur-gear H is keyed or otherwise fixed, so that it revolves with said shaft. Upon the shaft E, opposite the pinion G, is placed the spur-gear I, so that its teeth mesh with those of pinion G. Opposite the gear H is placed the pinion K, which engages with the said gear. The gear I is loose on the shaft E, but is adapted to be connected with it by means of a clutch, Y, of ordinary construction, and the pinion K is keyed or otherwise fixed on said shaft, so that when the clutch Y is engaged motion is conveyed from the pulley F, through the pinion G, gear I, shaft E, pinion K, and gear H, to the shaft D, and by reason of the relative sizes and arrangement of said pinions and gears the motion of the driving-pulley is much re-

duced. Thus the shaft D is revolved slowly and with great power. When the clutch is disengaged, no motion is imparted to shaft E, and none therefore to shaft D. Upon the outer ends of the shaft D, which project beyond their journal-boxes, are keyed the cranks L M. They occupy the same position relatively to the shaft.

Above the bed project the guide-rods N P, fixed at their lower ends in bosses cast integral or in one piece with the bed A. They may be screwed, shrunk in place, or otherwise secured. Upon each rod is a slide, Q R, respectively provided with a journal-pin on the outside and a slotted extension on the inside. The journal-pins are connected with the crank-pins of cranks L M by means of pitmen or connecting-rods S T, respectively, so that the slides are reciprocated at each revolution of the shaft D.

Between the slides Q R is secured the knife U, its ends being inserted in the slots in the inside of said slides, and held therein by bolts. The knife thus connects and moves with the slides. On the back of the knife, in the middle, is an upright projection, W, over which the yoke X passes, the ends of said yoke passing through holes in the slide, and being held down by nuts. The upright projection W acts as a strut, and the yoke X as a pair of ties to brace and strengthen the knife. The cutting-edge is formed by beveling both sides of the knife-blade, as shown in Fig. 4, so that it is in the middle. The back is thinner than the lower part of the blade, and it is this thinner part or web which is secured in the slides Q R. The knife thus formed, while comparatively light, is very strong. The bed under the knife is roughened, and provided with spurs for holding the wood firmly while under the action of the knife. It may also be provided with a slot to receive the cutting-edge. The machine can be stopped or started by shifting the clutch Y by means of the operating-lever Z. The pulley is usually to be driven at about three hundred revolutions a minute.

The blocks to be split or shaped to the dimensions used in the pulping or reducing machine may be placed and held by hand under the knife. The machine may of course be

used for shaping wood for other purposes, and the details may be varied without departing from the spirit of the invention.

I claim the new improvements herein described, to wit:

1. The machine for shaping or preparing wood for reduction in pulp-machines, comprising, in combination, the frame, the knife, and the mechanism for imparting a slow and powerful reciprocation thereto, substantially as described.

2. The combination of the knife, slides, guides, pitmen or connecting-rods, cranks, driving-pulley, and reducing-gear, substantially as described.

3. The separate slides connected by the

knife bolted thereto at the ends, substantially as described.

4. The combination, with the knife, of the upright projection or strut on the back of the knife-blade, and the yoke or ties for bracing the same, substantially as described.

5. The knife provided with the projection on the back thereof, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

WALTER JONES.

Witnesses:

CHAS. E. CROMLEY,
H. C. TUCKER.