

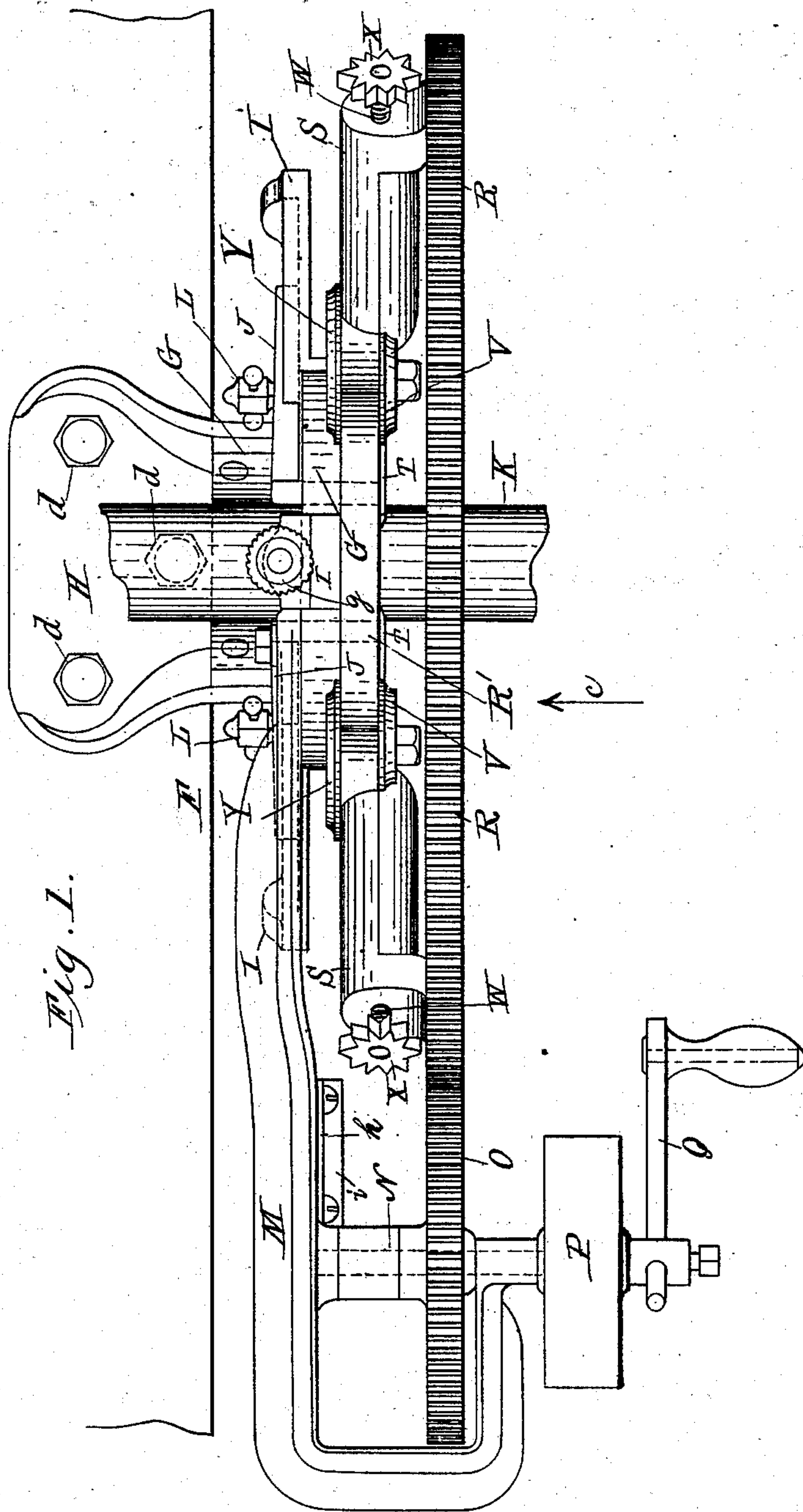
(No Model.)

4 Sheets—Sheet 1.

J. L. TRUAX.  
MACHINE FOR CUTTING PIPE.

No. 282,473.

Patented July 31, 1883.



Witnesses;  
Henry L. Miller  
John C. Dewey

Inventor;  
John L. Truax

(No Model.)

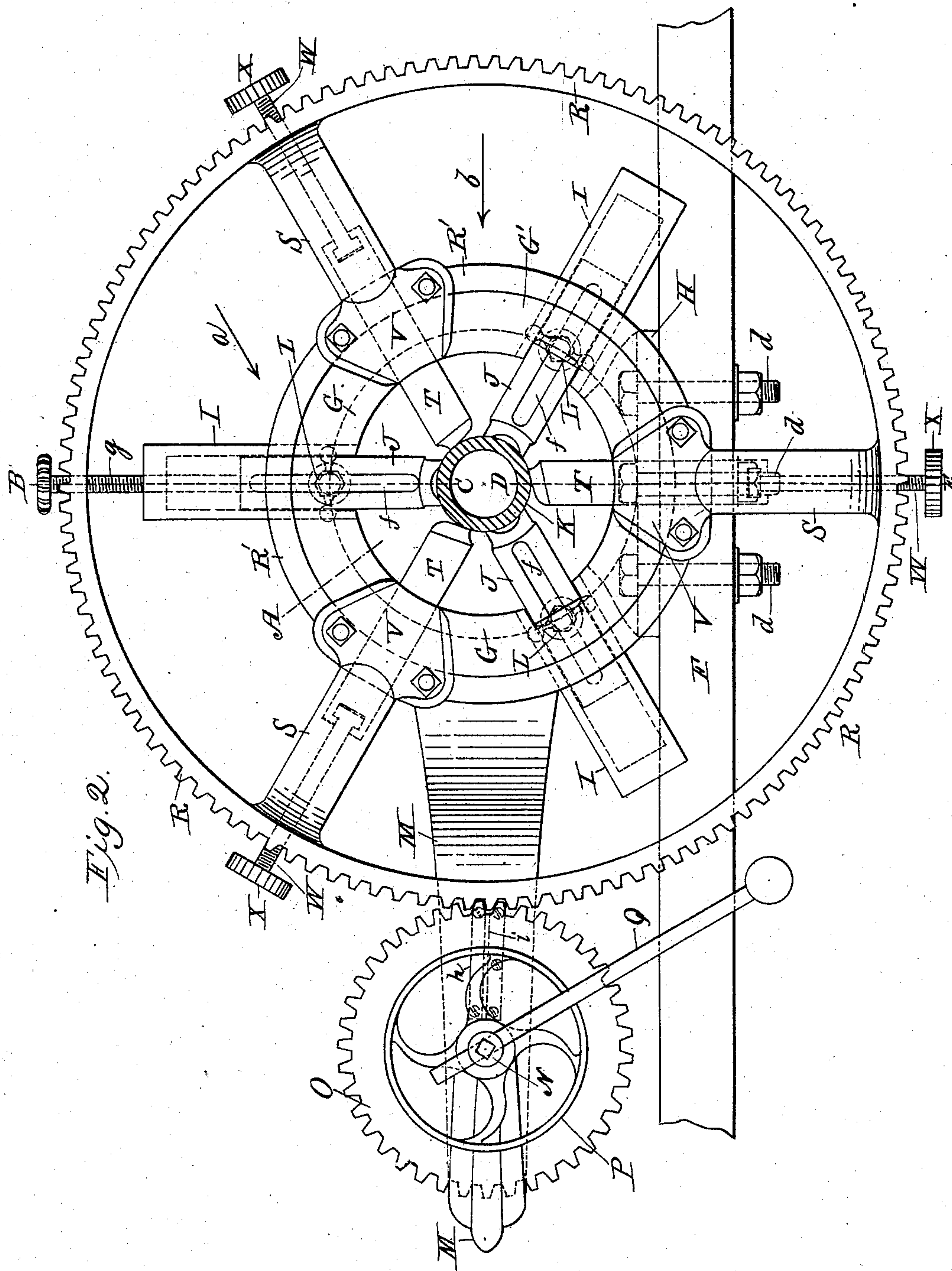
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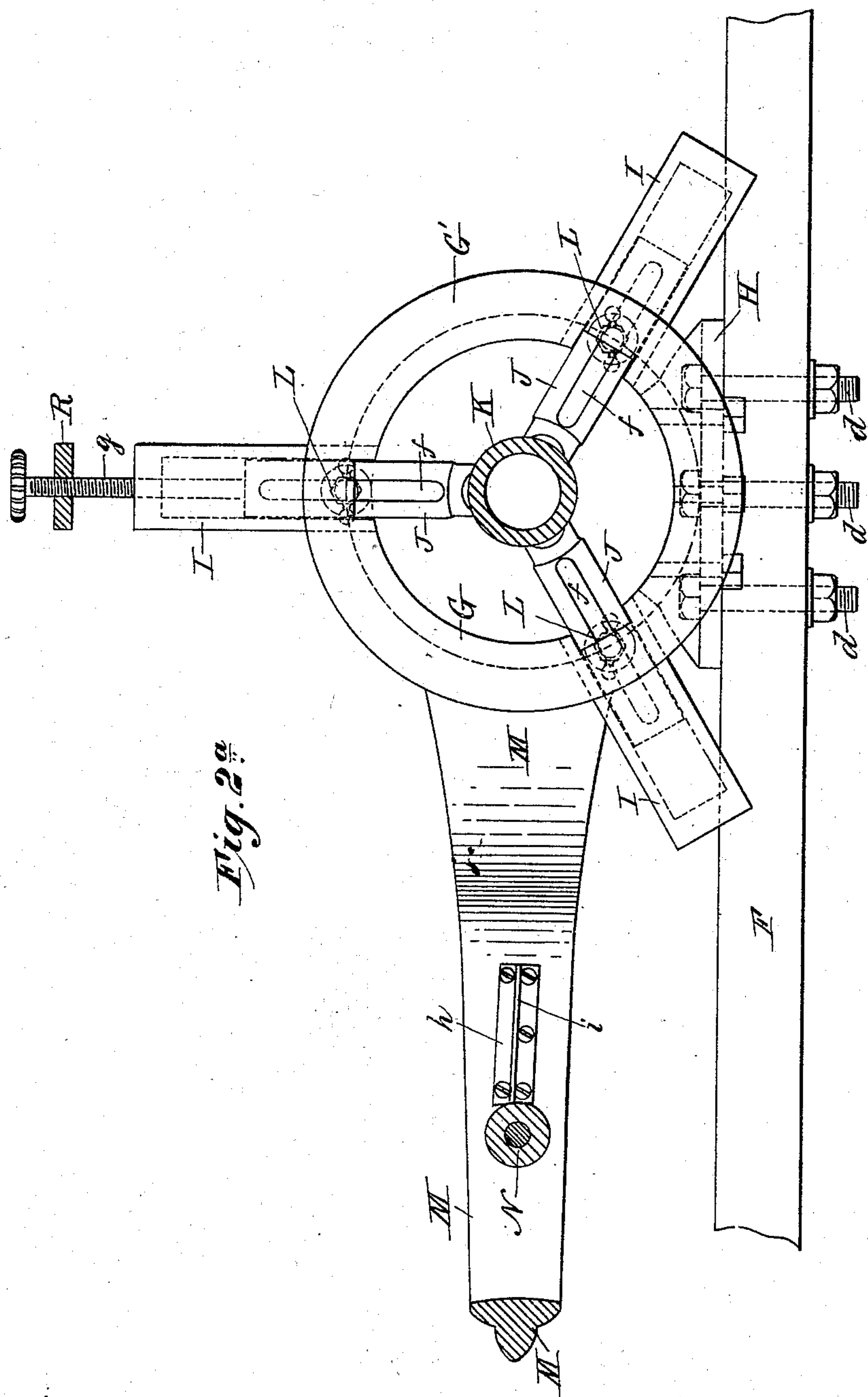
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*Fig. 3.*

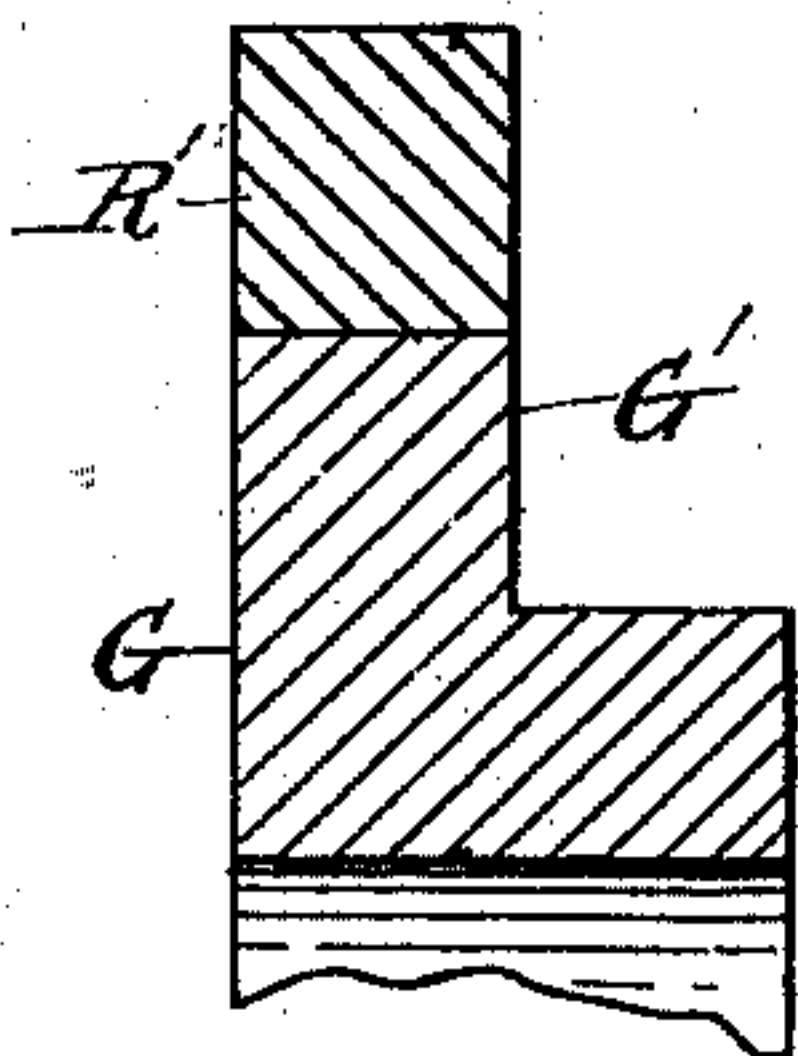


Fig. 4.

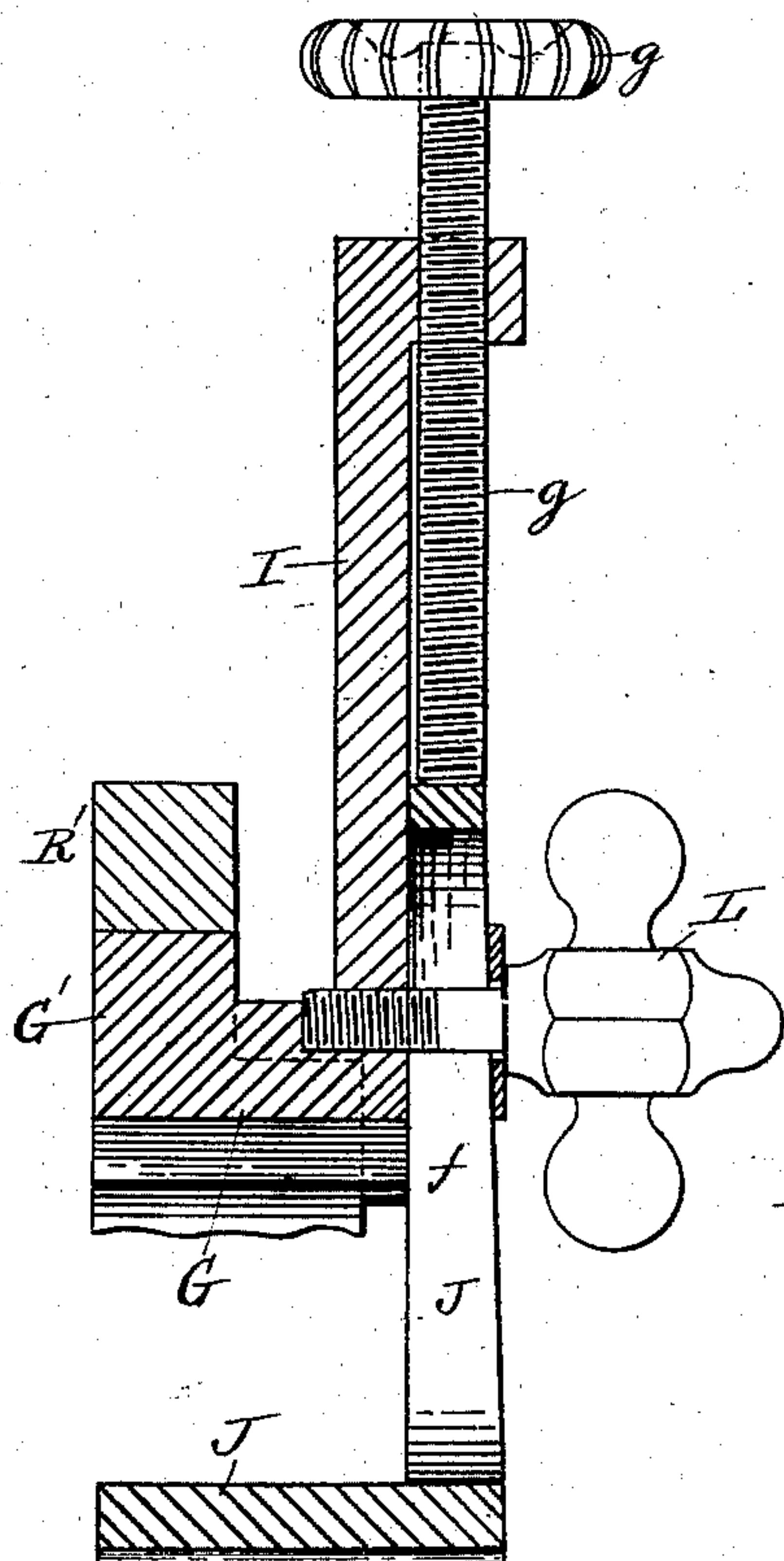
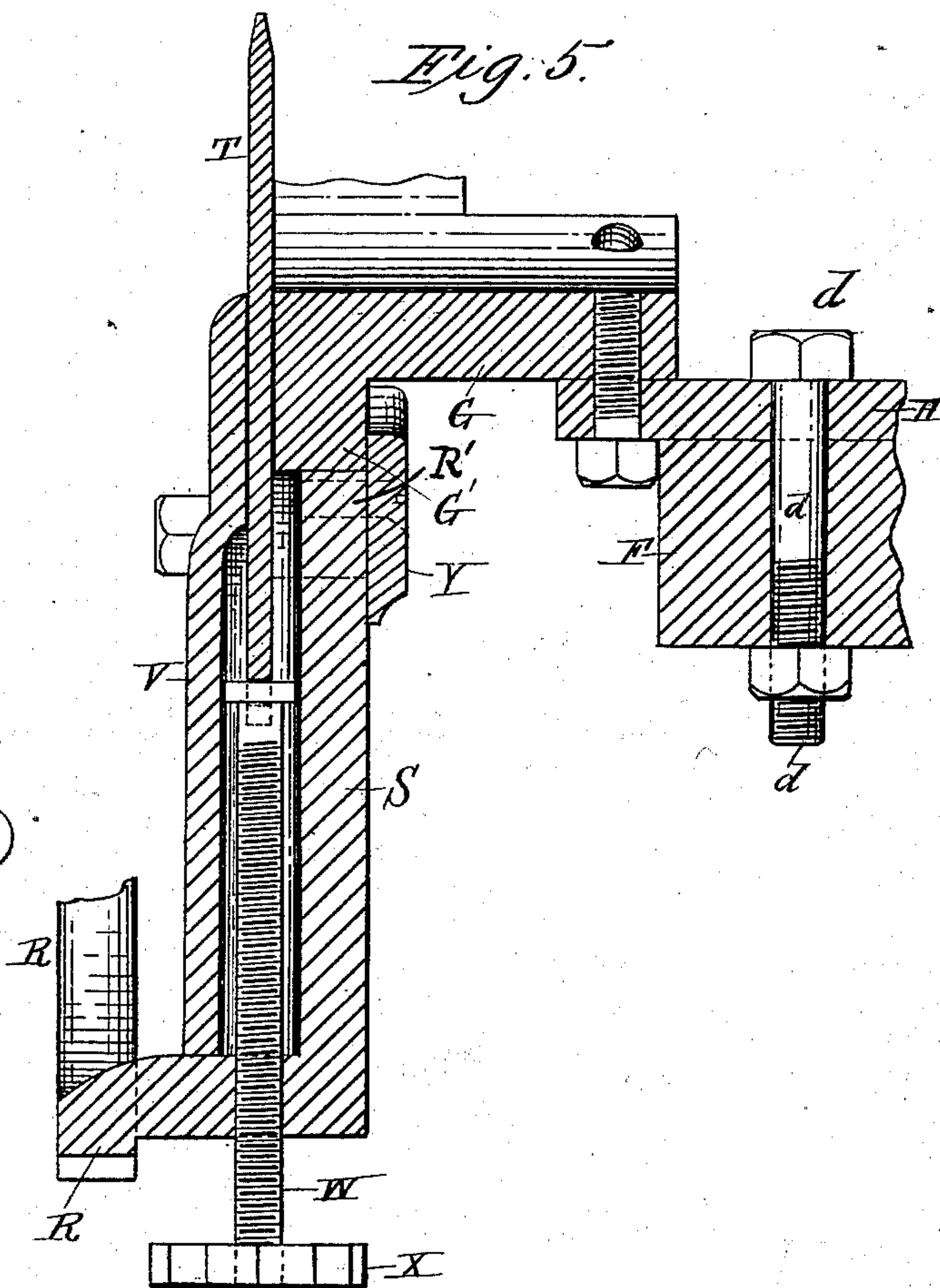


Fig. 5.



*Witnesses;*

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# UNITED STATES PATENT OFFICE.

JOHN L. TRUAX, OF WORCESTER, MASSACHUSETTS.

## MACHINE FOR CUTTING PIPE.

SPECIFICATION forming part of Letters Patent No. 282,473, dated July 31, 1883.

Application filed February 28, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN L. TRUAX, of the city and county of Worcester, and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Machines for Cutting Cast-Iron Pipe; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 represents a top or plan view of my machine. Fig. 2 represents a side view of my machine, looking in the direction of arrow *c*, Fig. 1. Fig. 2<sup>a</sup> represents an elevation showing the means for holding the pipe, the large spur-wheel and its connected parts being removed. Fig. 3 represents a cross-section taken on line A, looking in the direction of arrow *a*, Fig. 2. Fig. 4 represents a longitudinal section of pipe-holder on line B C, looking in the direction of arrow *b*, Fig. 2; and Fig. 5 represents a longitudinal section of pipe-cutter and its holder on line D E, looking in the direction of arrow *b*, Fig. 2.

The object of my invention consists in a machine to be operated by hand or by power, and especially adapted for cutting off cast-iron pipe by the gradual and regular feeding in of the cutters, constructed and arranged in the manner to be hereinafter fully described.

To enable those skilled in the art to which my invention belongs to make and use the same, I will proceed to describe it more in detail.

In the drawings the part marked F is the edge of a bench or support, to which is bolted securely my machine by bolts *d*, so that when ready for use my machine will be in the position shown in Fig. 2.

The part G is a circular holding and supporting device, through which the pipe to be cut is inserted. It is held stationary in its position by being bolted to the part H, which in turn is bolted to the bench or support F. In this instance the part G is cast in one piece, with the flange G' extending out therefrom, on which flange the cutting mechanism revolves, as will be hereinafter described; and said part G is provided with three projecting parts, I, in which are fitted movable slotted holders J, for centering and holding firmly in position the pipe K when it is being cut. Said holders J

are held in place in the grooved parts I by turning screws L, passing through slots *f* in holders J, and being screwed into the part G. (See Fig. 4.) The holders J are moved in to center the pipe K and hold it firmly in place, and then the screws L are turned, so as to hold the parts J firmly against the pipe K and prevent it from turning while being cut. In the end of one of the parts I a thumb-screw, *g*, is fitted to turn in a thread, and is used to force the holder J down upon the pipe after it has been properly centered relatively to the points of the cutters, and thus hold it more firmly, preventing any turning thereof. (See Fig. 2.)

The part marked M is a stationary and supporting arm extending out from the part G. One end of arm M is bolted to the part G. The other end is made in the form shown in Fig. 1, so that it will form a bearing for the shaft N to turn in. On said shaft N a gear-wheel, O, and pulley P are secured to turn with said shaft, and in the projecting end of the shaft a turning-handle arm, Q, is fixed, by means of which said shaft is turned, in case power is not used, by a belt on pulley P. On the inner side of arm M a flat piece of metal, *h*, with a thin projecting ridge, *i*, along its center, is fastened by screws or otherwise, (see Figs. 1 and 2,) for the purposes to be hereinafter fully described.

The part marked R is a large spur-gear wheel, the hub R' of which fits upon the outer rim of flange G' of part G and revolves thereon. The three arms S serve as cutter holders and guides for the cutters T, which are held in place by flat grooved pieces V, bolted to the hub R', and extending down over the rim of the flange G' to the inner edge of the part G. (See Fig. 5.)

The cutters T are attached to the ends of the screws W by having a head on the end of the screw, which fits into a forked end in the end of the cutter. On the outer ends of the screws W, which turn in a thread cut in the end of arms S, are fastened toothed wheels X, which are turned so as to gradually feed in the cutters T, which have their inner ends sharpened, by the teeth of said wheels X coming in contact with the ridge *i* of the part *h* as the gear-wheel R is revolved around on the part G by the turning of the shaft N and the gear-wheel O, which meshes with said gear-wheel R. In this way the screws W are gradually turned down through the thread cut in the ends of



arms S, and the sharpened ends of the cutters constantly forced against the pipe to be cut until they cut through said pipe. The hub R' of the gear-wheel R is held in place, so as to revolve upon and around the rim of the flange G' of the part G by the flat pieces or plate V, extending down over the rim of flange G', as before stated, and pieces or plates Y, bolted to the hub R', extending down on the other side of flange G', below the rim thereof. (See Fig. 5 of the drawings.) The function of the parts V and Y being to hold the spur-wheel firmly seated on the ring G, they may be designated by the term "holding-plates."

The operation of my machine may be briefly described as follows: The machine is first securely and firmly fastened to a suitable bench or support in the position shown in Fig. 2 of the drawings. The pipe-holding arms J and the cutters T are then moved outwardly in their supporting-arms a sufficient distance to allow the pipe to be inserted through the part G between the ends of said holders and of the cutters. From the construction and arrangement of the parts of my machine a pipe of any size—from one inch to ten or more inches—may be cut off. After the pipe has been inserted in the part G the holding parts J are moved inward and against the pipe to center it in the part G, and are held firmly in place by turning the screws L, and also turning down the thumb-screw g and forcing the upper holder, J, down upon the top of the pipe, and thus preventing it from turning while it is being cut. The cutters T are now moved inward by turning the toothed wheels X until the points of the cutters come against the pipe. The shaft N is now turned by a belt passed around the pulley P; or, in case power is not used, by turning the arm Q. The gear-wheel O turns with the shaft N, and said gear-wheel meshes with the spur-gear wheel R, which is also made to revolve. As the gear-wheel R, which supports and holds the cutters T, is revolved the teeth of the wheels X come in contact with the ridge i on the part h on the arm M, and the screws W are given one turn by each contact. In this way the points of the cutters T are gradually

and regularly forced down against the pipe to be cut, and by revolving the wheel R a sufficient number of times, the cutters being constantly turned down in the manner above described, the pipe will, in a very short time, be cut through.

Having described my improvements in machines for cutting cast-iron pipe, what I claim therein as new and of my invention, and desire to secure by Letters Patent, is—

1. The combination, with the stationary ring having a raised flange, of the rotatory wheel carrying the cutters, and having its hub seated on said flange, and the holding-plates secured to said hub and embracing said flange, substantially as described.

2. The combination of the rotatory wheel, the cutters carried by said wheel and operated automatically as the same revolves, the stationary ring having a raised flange, which forms the seat for the hub of said wheel, the holding-plates secured to said hub and embracing said flange, and the clamps or holders for the pipe carried by said ring and clamping the pipe close behind the line of cutting, substantially as described.

3. The combination of the wheel carrying the cutters, the stationary ring constituting the journal-bearing for said wheel, and the series of radial-adjustable holding-arms carried by said ring for grasping and centering the pipe within the same, one of said arms having an adjusting-screw, substantially as described.

4. The combination, with part H, circular holding device G, provided with projections I, and movable holders J, supporting-arm M, provided with the ridged piece of metal h, shaft N, with gear-wheel O, and pulley P, secured thereto, of the spur gear-wheel R, parts V and Y, and the movable cutters T, screws W, attached to one end of said cutters, and toothed wheels X, substantially as shown and described, and for the purposes set forth.

JOHN L. TRUAX.

Witnesses:

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JOHN C. DEWEY.