

No. 756,078.

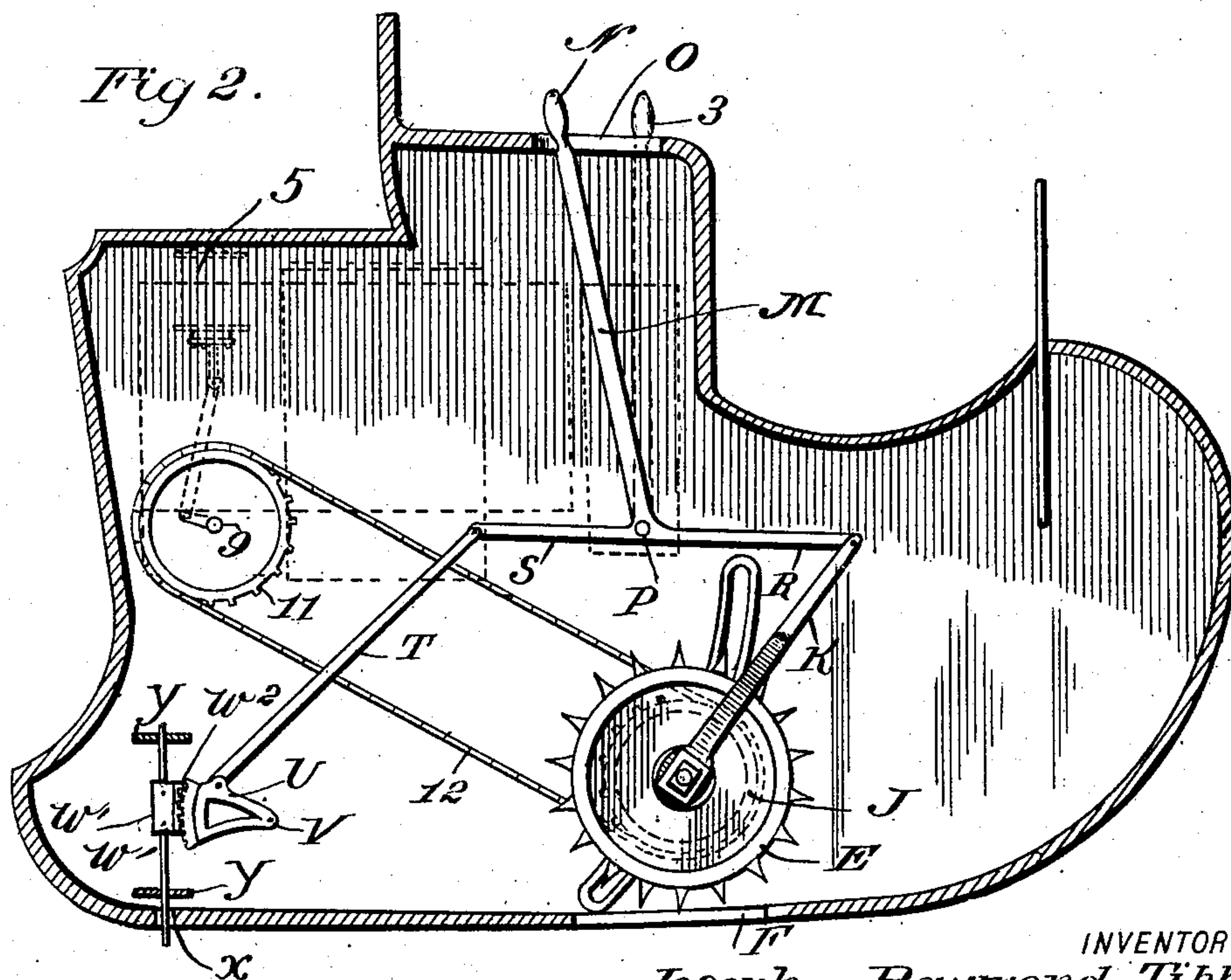
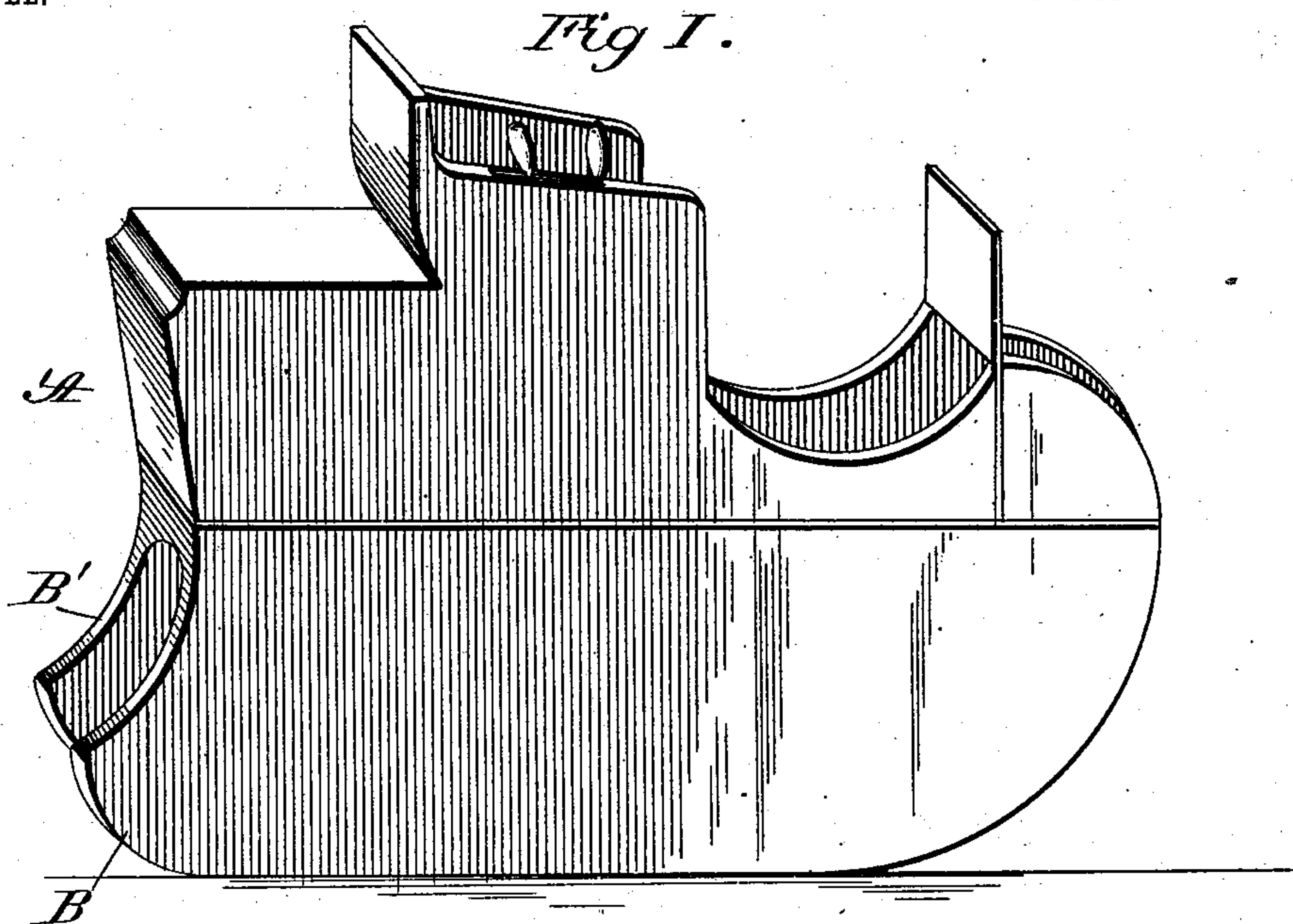
PATENTED MAR. 29, 1904.

J. R. TIBBITS.
STEAM SLEIGH.

APPLICATION FILED OCT. 31, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses.
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Harrison B. Brown

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2 SHEETS—SHEET 2.

Fig 3.

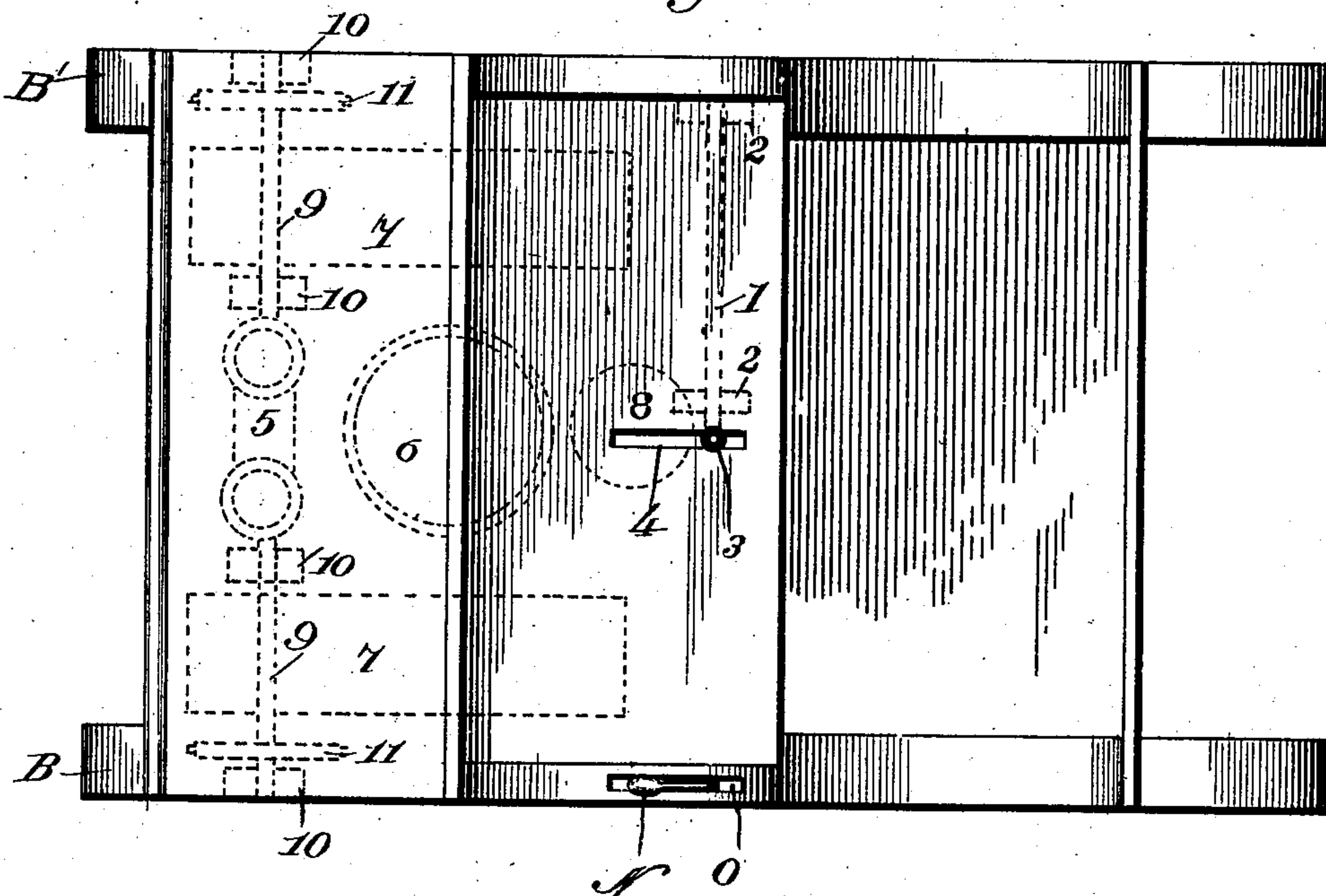


Fig 4.

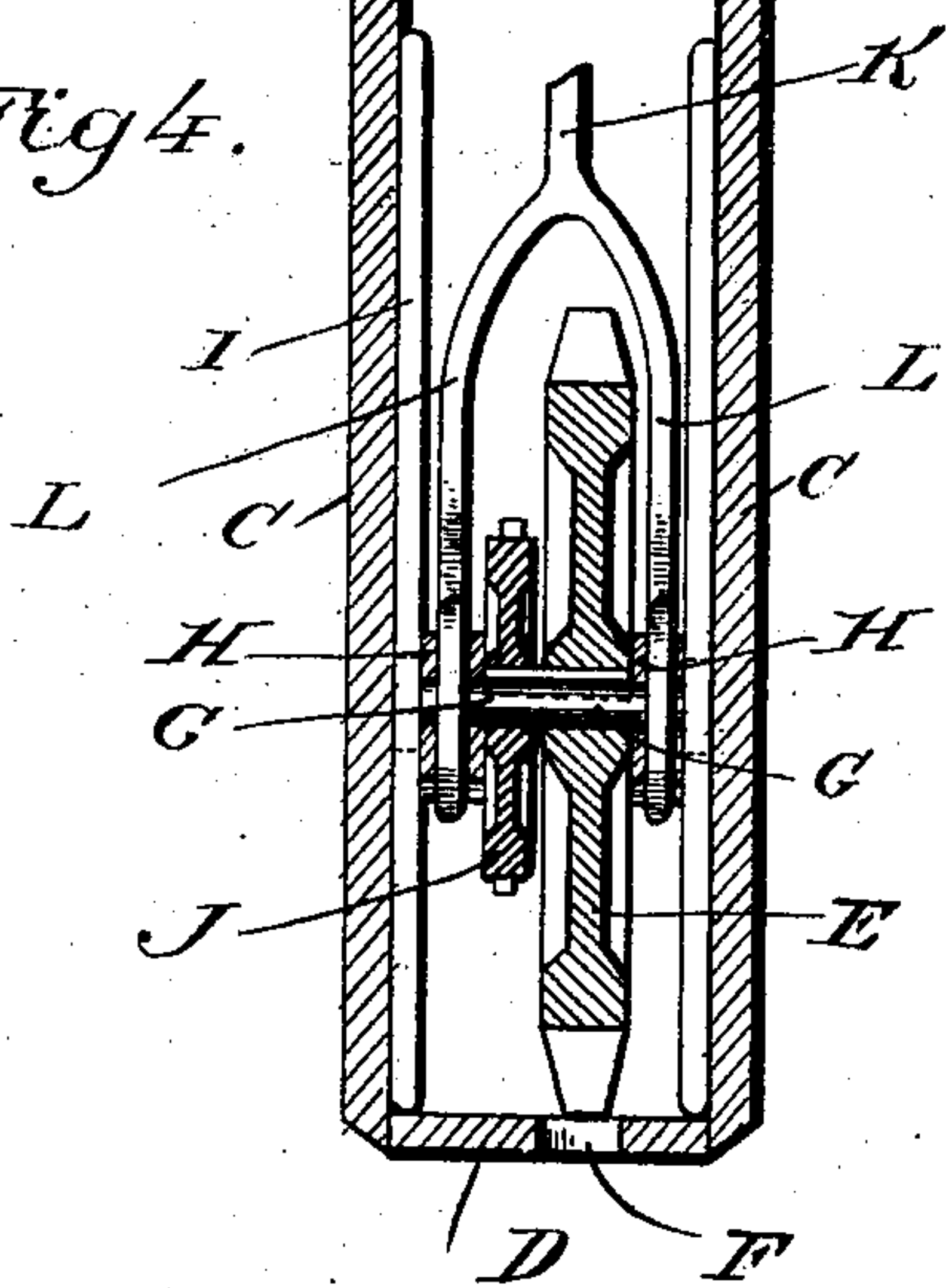
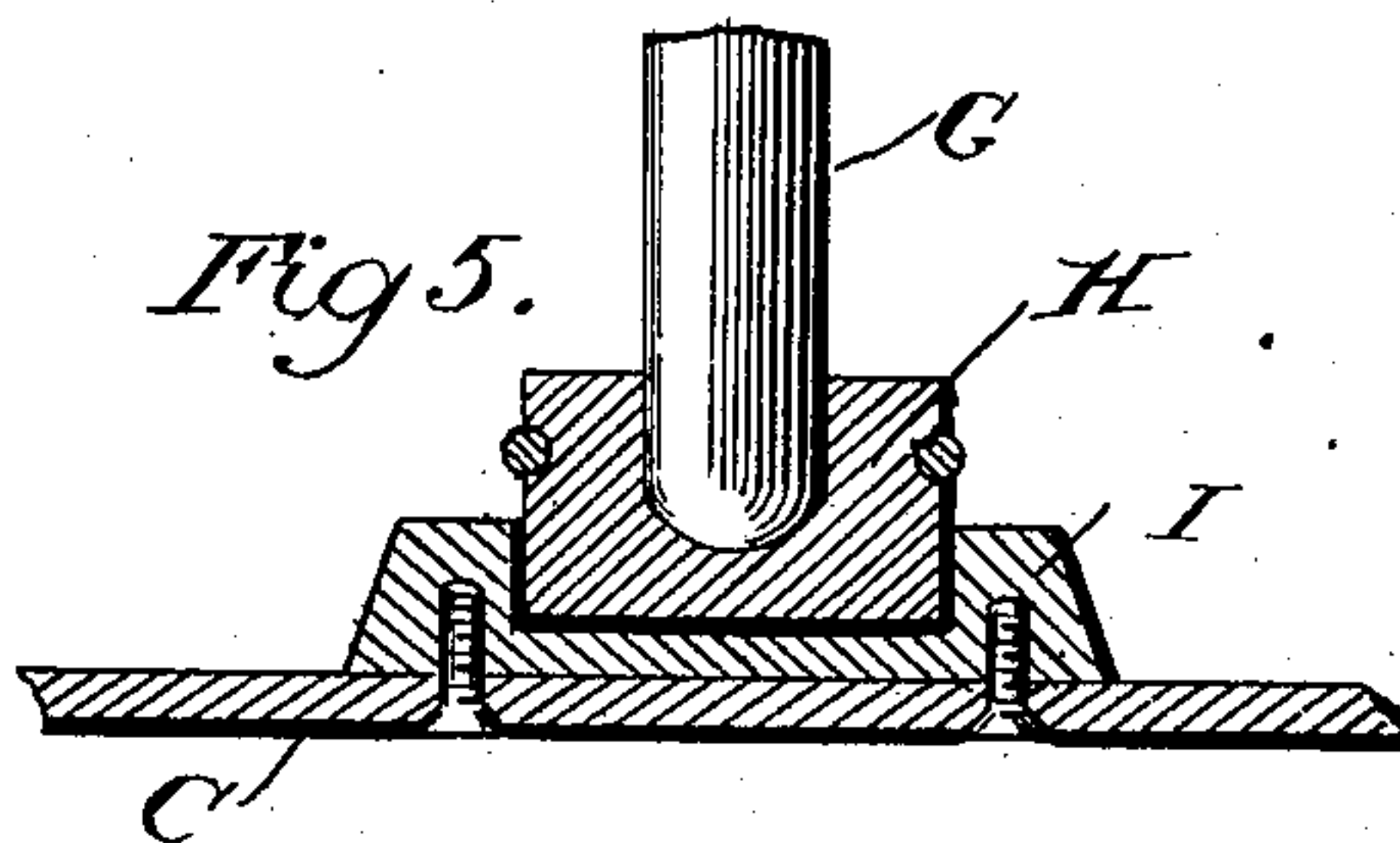


Fig 5.



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UNITED STATES PATENT OFFICE.

JOSEPH RAYMOND TIBBITS, OF DELMAR, NEW YORK.

STEAM-SLEIGH.

SPECIFICATION forming part of Letters Patent No. 756,078, dated March 29, 1904.

Application filed October 31, 1903. Serial No. 179,309. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH RAYMOND TIBBITS, a citizen of the United States, residing at Delmar, in the county of Albany and State of New York, have invented certain new and useful Improvements in Steam-Sleighs, of which the following is a specification.

This invention relates to propelling means for sleighs; and it consists of novel and improved means therefor adapted to be driven by steam-power.

The invention consists, further, in novel and effective means whereby the sleigh may be guided. The propelling means and the guiding means are thrown into and out of engagement with the snow or ice by levers extending up within reach of a person sitting on the sleigh-seat. The guiding means has further advantage in being adapted to be used as a brake.

In order to enable others to make and use my invention, I will now proceed to describe it in detail, referring to the accompanying drawings and the characters of reference marked thereon.

The features of novelty will be pointed out in the subjoined claims.

In the drawings, Figure 1 is a perspective view illustrating my invention. Fig. 2 is a vertical longitudinal sectional view through one runner and the body portion, showing the propelling and guiding devices. Fig. 3 is a top plan view of a sleigh with my invention applied thereto. Fig. 4 is an enlarged detail sectional view through one runner and the devices thereon, and Fig. 5 is an enlarged detail sectional view through one side guide and a portion of one runner.

In practicing my invention I employ a sleigh-body A, having runners B B', whose side-boards C are spaced apart, as best shown in Fig. 4, forming a chamber closed at its lower end by a board D, to which any suitable runner-shoe may be secured. In each runner-chamber I arrange a spur-wheel E, adapted to be adjusted to position with its spurs projecting through an opening F in the shoe-board D. The spur-wheel E is fixedly secured on a horizontal shaft G, having end support in bearings H, having sliding adjustment in suit-

able guideways I. The guideways are arranged and secured to the runner side-boards C, as best shown in Fig. 5.

J denotes a sprocket-wheel fixedly secured to the shaft G, (see Fig. 4,) and K a bifurcated arm whose forks L are secured in any suitable manner to the adjustable bearings H, straddling the spur-wheel E and the sprocket-wheel J, substantially as shown by Figs. 4 and 5.

M denotes a suitable lever, with its upper end N extended through a slot O in the right-hand side rail of the seat. (See Figs. 2 and 3.) The lever M is supported on a suitably-located pivot P and has front and rear arm extensions R S. It will be noticed upon reference to Fig. 2 that the upper end of the bifurcated arm K has pivotal connection with the lever extension R. To the rear lever extension S, I connect the upper end of a rod T, whose lower end has pivotal connection with a toothed segment U, working on a suitable supporting-pin V.

In the runner-chambers, and near the rear end thereof, I arrange a pin W with its lower end adapted to be projected through an opening X in the runner-board D and supported by suitable guide members Y, as shown in Fig. 2. The pin W is provided with an enlargement W', having teeth W², adapted to engage the similar teeth on the segment U.

The runner B' is constructed with spaced sides and a bottom or shoe-board forming an inclosed chamber, all similar to like parts of the runner B. Within the runner B', I arrange a spur-wheel supported and adapted to be adjusted to position with its teeth projecting through an opening in the shoe-board, a sprocket-wheel on the spur-wheel shaft, guideways for the shaft ends, a bifurcated operating-arm, and an adjustable pin, all in duplicate of and substantially as contained in the runner B.

I would now refer to Fig. 3 of my drawings and to a shaft 1, having support in suitable bearings 2, (indicated by dotted lines.) The outer end of this shaft extends into the chamber in the runner B', and from whence it extends inwardly to about midway of the sled-seat. To the inner end of the shaft 1 I fixedly

secure an upright lever 3, with its upper end projecting through an elongated opening 4 in about the mid portion of the sleigh-seat, as shown in Fig. 3 of my drawings.

5 Within the body portion A of the sleigh I provide suitable power for driving the spur-wheels E, such as an engine 5, located in rear of the boiler 6. Water-tanks 7 are also provided and also a gasoline-tank 8, all as indicated by dotted lines in Fig. 3. The engine 10 5, through suitable connecting means, is designed for imparting rotary motion to a power-shaft 9, which may be supported in suitable bearings 10. On the power-shaft ends I fixedly secure sprocket-wheels 11, (indicated by 15 dotted lines in Fig. 3,) which are connected with the sprocket-wheels J by drive-chains 12. One side arrangement of the drive-chain is shown in Fig. 2, the similar parts in the other 20 runner being in exact duplicate of those just described and illustrated, and a detail description thereof is deemed unnecessary for a full understanding of my invention.

It will be understood that suitable valve 25 mechanism or devices are provided whereby steam may be cut off and regulated, the same being arranged and located within reach from the sleigh-seat.

I make no claim in this application to any 30 particular engine, boiler, or regulating mechanism and may adopt any type and form thereof now commonly employed with motor-vehicles.

In the use of my invention and when it is desired to propel the sleigh forward the upper 35 end of both hand-levers N 3 are shoved forward. This action, through the lever extension R and bifurcated arm K, will force down the spur-wheel E, projecting its teeth through the opening F and into engagement with the 40 snow or ice. The same action at the same time and through the lever extension S, rod T, segment U, and rack-teeth W² will operate, lifting the pin W. In Fig. 3 of my drawings I have shown the right-side hand-lever N 45 thrown back and the left-side lever pushed forward. In this position of the levers the spur-wheel on the right side in the runner B will be elevated (see Fig. 3) and the pin W

50 moved to projecting position with its lower end adapted for engagement with the snow or ice. At the same time and with the levers adjusted as stated the spur-wheel in the runner B' will be lowered, with its teeth projecting 55 through the bottom of that runner into engagement with the snow or ice and adapted in operation to propel forward. The pin W in the runner B being adjusted to engaging position, obviously it will effect braking action 60 while the engaging spur-wheel in the runner B' is effecting propelling action, and thereby turn or guide the sleigh to the right. When it is desired to guide to the left, the levers are reversed, throwing the spur-wheel in the runner B into engaging action and the 65 spur-wheel in the runner B' out of engaging action. When both levers are thrown forward, both spur-wheels are in action, and when they are both thrown backward both pins W are adjusted to engaging position, and 70 thereby effecting braking action.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a sleigh, of power 75 means, and propelling means, the latter employing on opposite sides of the sleigh, a rotatable spur-wheel and a brake-acting pin, the said spur-wheel and brake-acting pin being 80 operatively connected, whereby, through a suitable lever, both spur-wheels or both pins, or one pin and one spur-wheel, may be adjusted to engaging position, substantially as described.

2. The combination with a sleigh of a propelling spur-wheel and a brake-acting pin, 85 power means for operating the spur-wheels, sprocket-wheels and a drive-chain, whereby power is transmitted, a lever operatively connected with the said spur-wheel and pin 90 through connecting-arms, and suitable guides for the said spur-wheel and pin, substantially as described.

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