

(No Model.)

2 Sheets—Sheet 1.

G. W. DE GRASSE.  
DADO HEAD.

No. 510,961.

Patented Dec. 19, 1893.

Fig. 1.

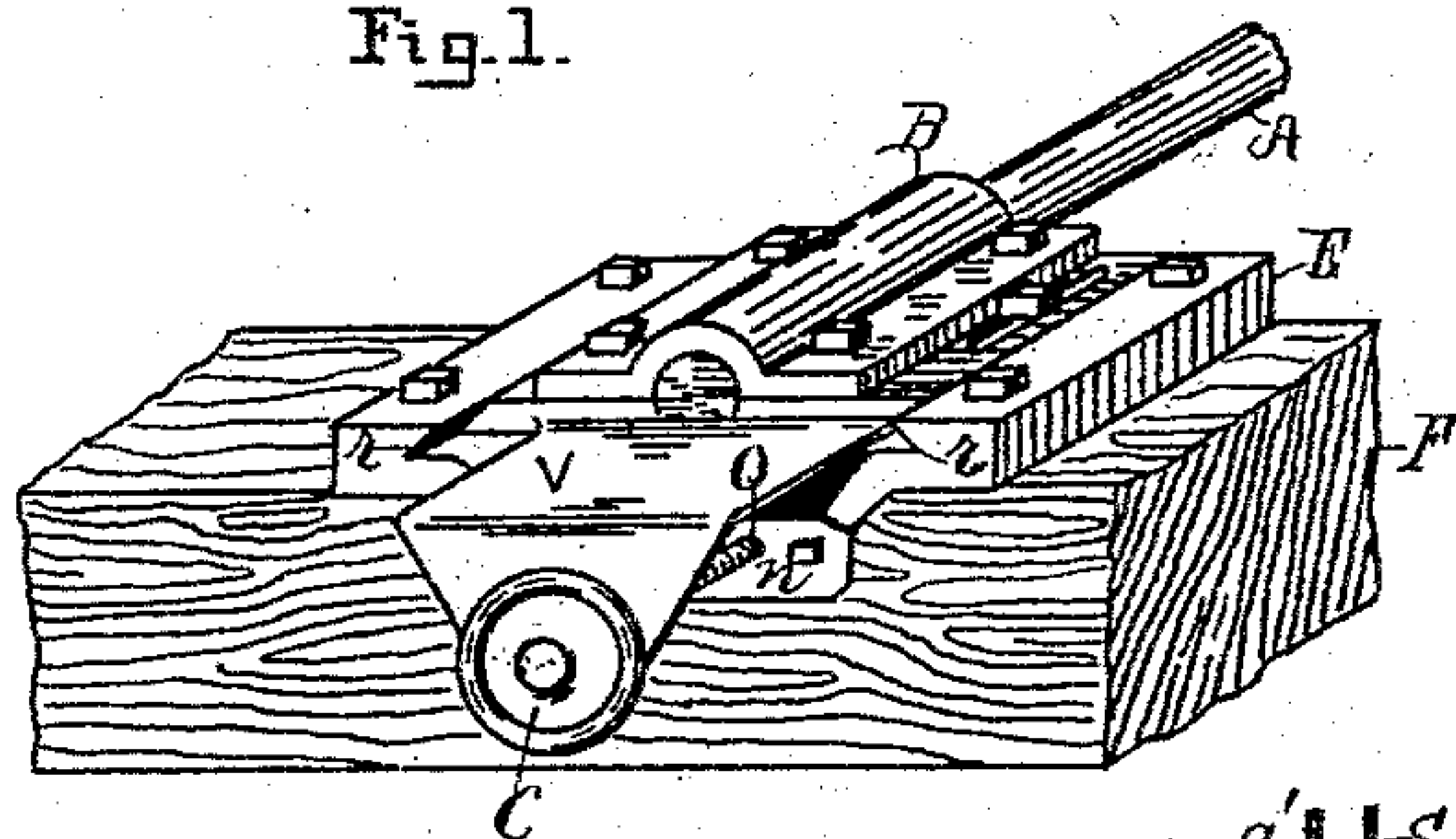


Fig. 2.

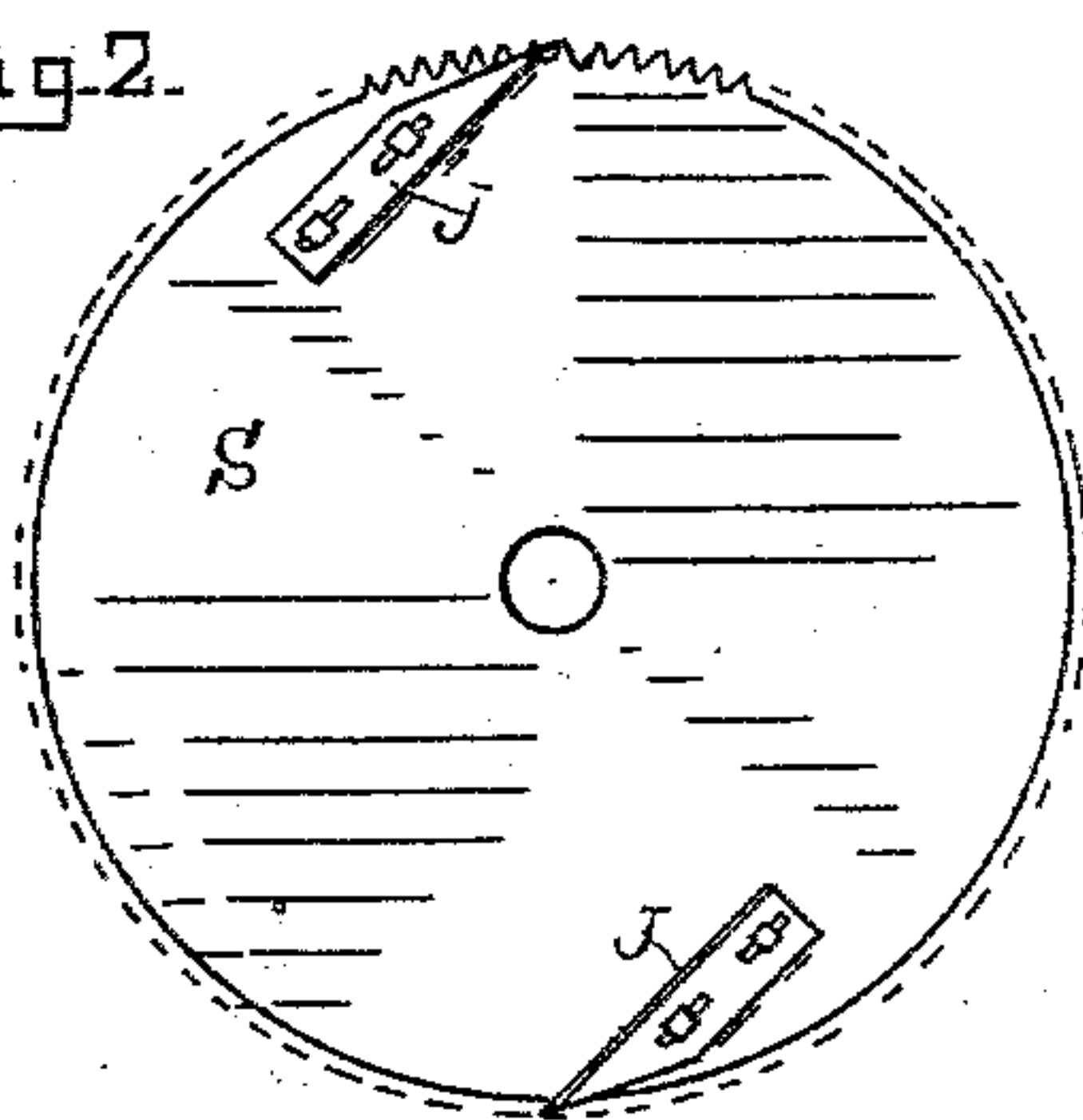


Fig. 3.

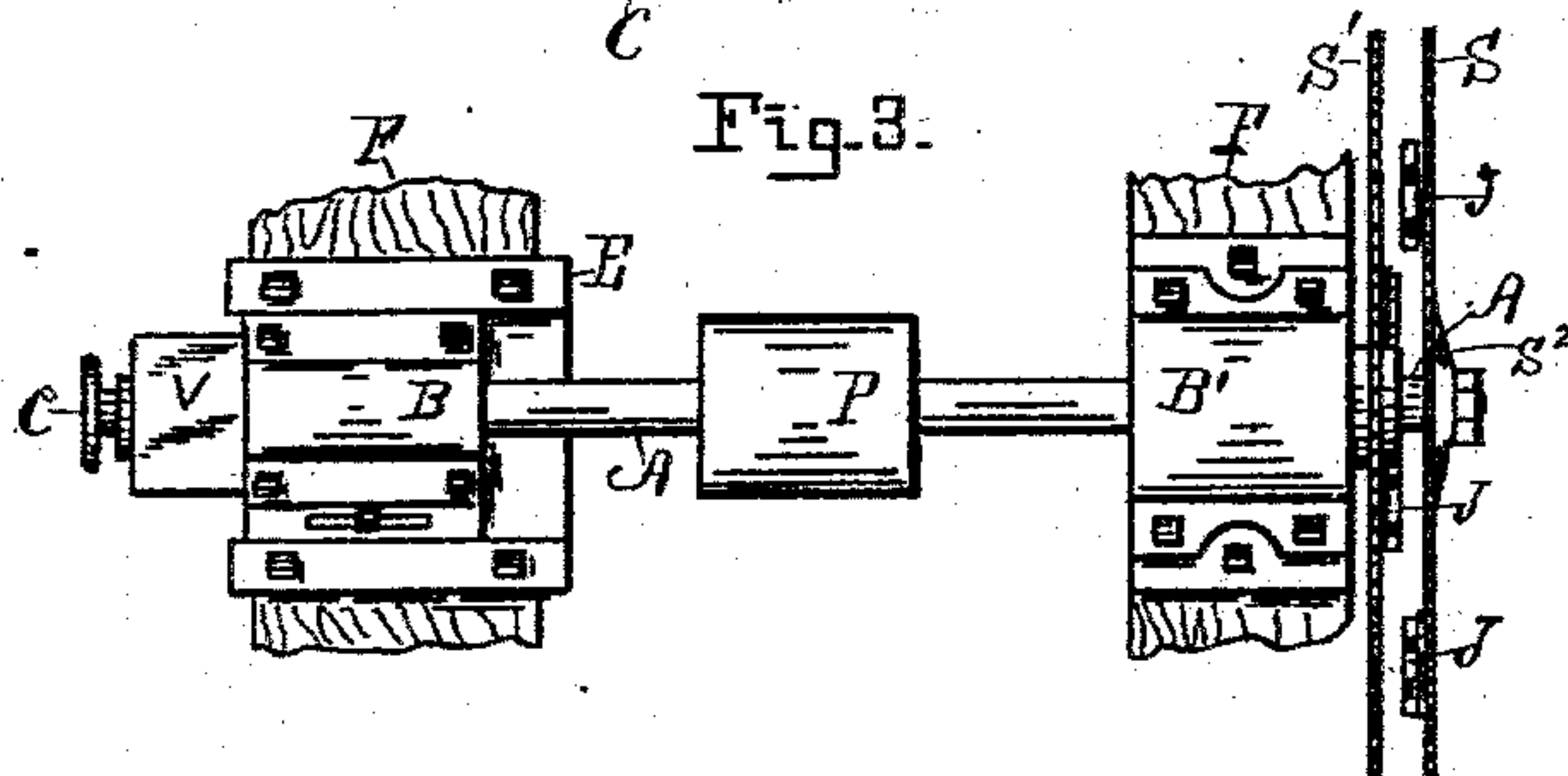


Fig. 4.

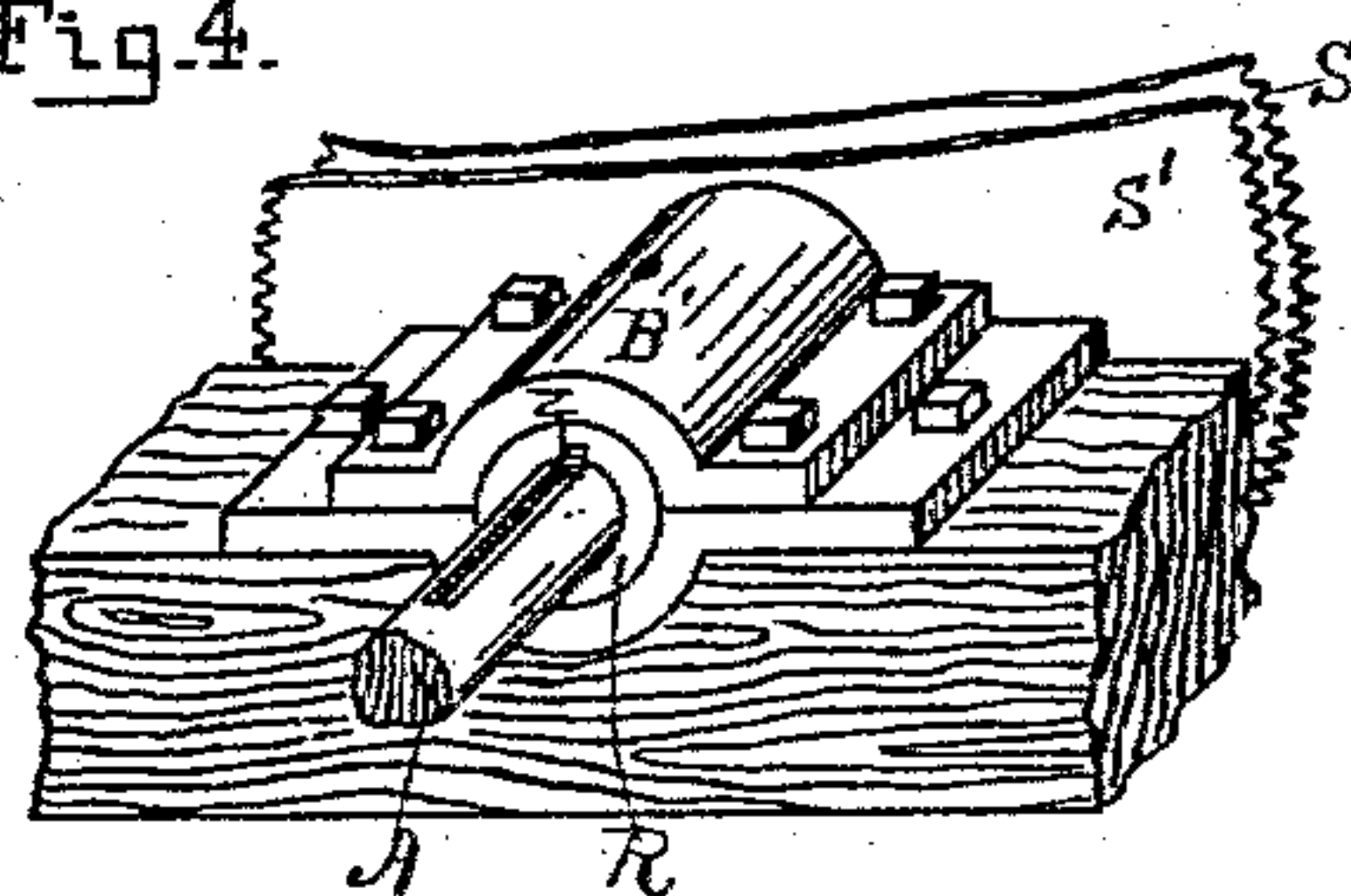


Fig. 5.

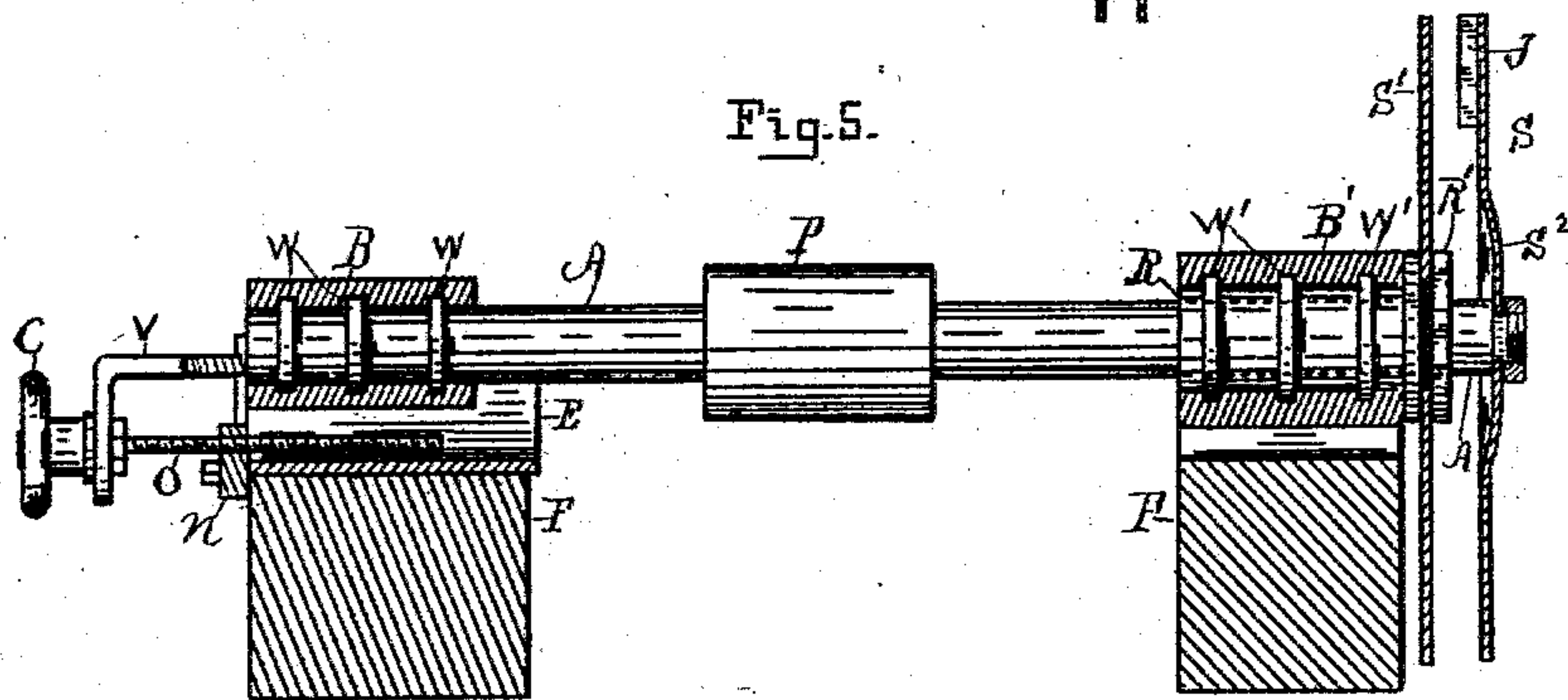


Fig. 6.

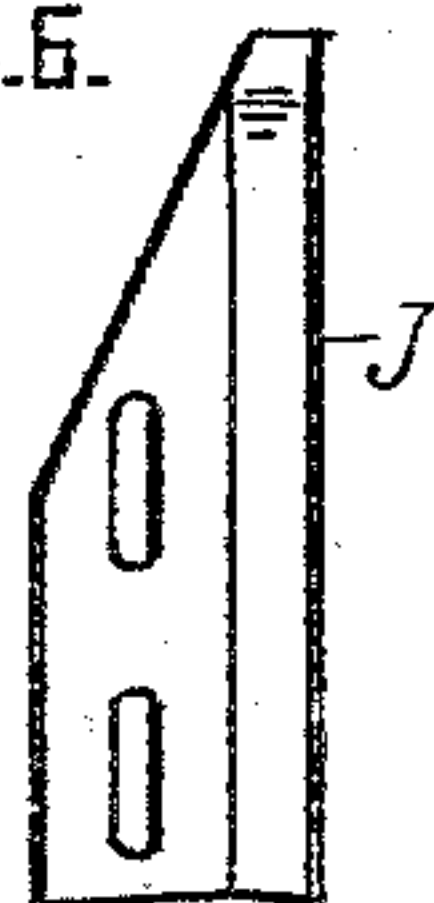


Fig. 7.



Witnesses:

*Ray Hutchins.*  
*Herbert Cowell.*

Inventor:

*George W. De Grasse* By  
*Thor H. Hutchins* his  
Attorney.

(No Model.)

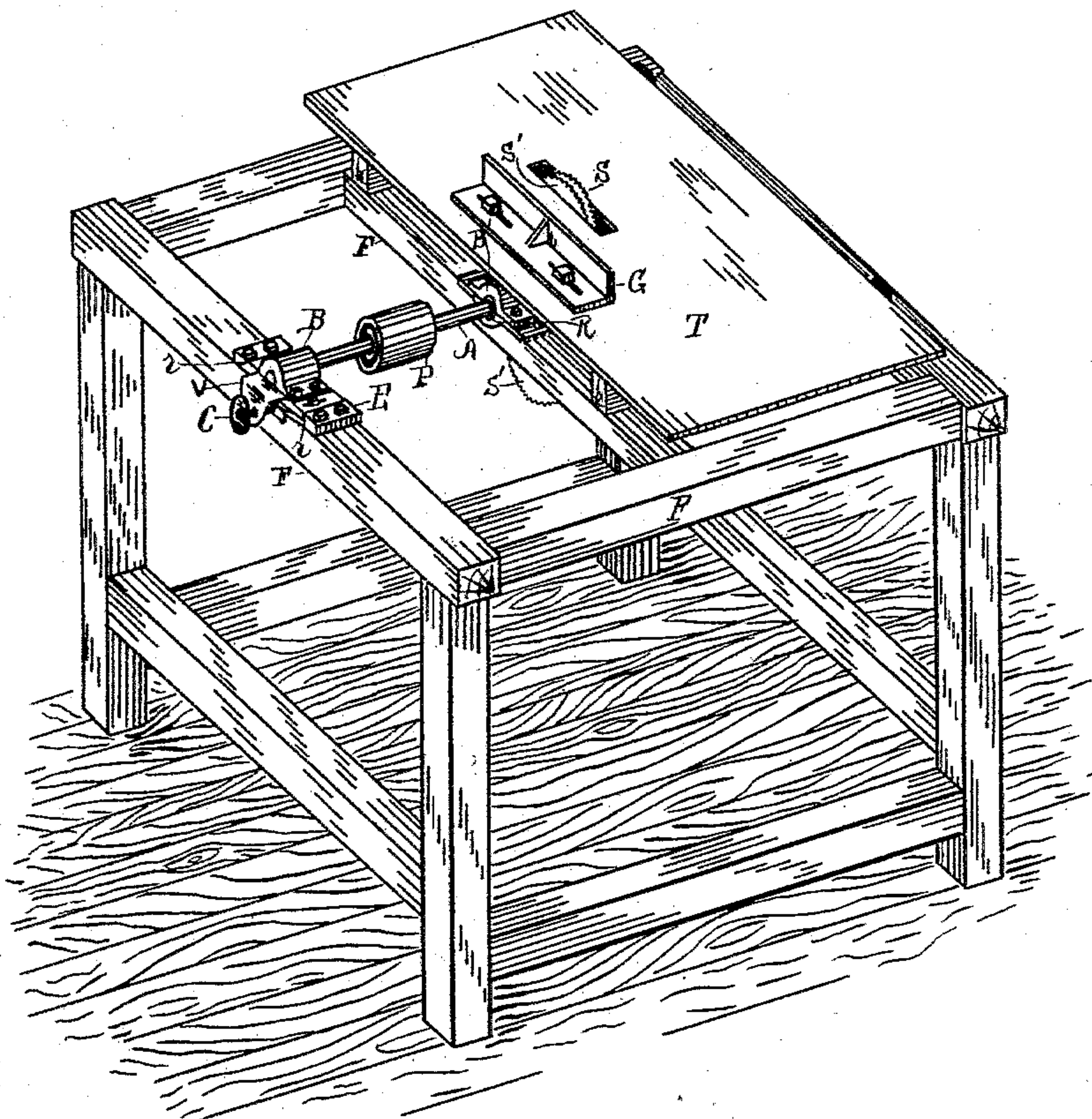
2 Sheets—Sheet 2.

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*Fig. 8.*



Witnesses:

*Ray Hutchins.*  
*Herbert Cowell.*

Inventor:

*George W. De Grasse By*  
*Thos H. Hutchins his*

Attorney.



# UNITED STATES PATENT OFFICE.

GEORGE W. DE GRASSE, OF CRETE, ILLINOIS.

## DADO-HEAD.

SPECIFICATION forming part of Letters Patent No. 510,961, dated December 19, 1893.

Application filed May 22, 1893. Serial No. 475,138. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE W. DE GRASSE, a citizen of the United States of America, residing at Crete, in the county of Will and State of Illinois, have invented certain new and useful Improvements in Dado-Heads, of which the following is a specification, reference being had therein to the accompanying drawings and the letters of reference thereon, forming a part of this specification, in which—

Figure 1 is a perspective view of the sliding box, and of a portion of the arbor and of the main frame. Fig. 2. is a side view of one of the circular saws showing cutting bits secured thereto by means of bolts. Fig. 3. is a plan of the arbor and its saws and its boxes, and portions of the main frame. Fig. 4 is a perspective view of one of the boxes next the saws, and of a portion of the arbor, and portions of the saws thereto attached, and a portion of the main frame. Fig. 5. is a vertical section through the boxes and the main frame, and a side view of the arbor and the saws thereto attached. Fig. 6 is a perspective view of one of the detachable bits for attachment to the side of the saws. Fig. 7. is a perspective view of a piece of a board showing a transverse kerf cut across its grain, it being the product of the machine, and Fig. 8. is a perspective view of the machine as it would appear ready for operation.

This invention relates to certain improvements in dado heads of the class wherein circular saws are used to cut a kerf across the grain of a board in place of a dado plane, which improvements are fully set forth and explained in the following specification and claims.

Referring to the drawings F represents the frame of the machine having a work holding table T, and gage G, and bearing boxes B. E. B'. in which are journaled the saw arbor A. having secured thereon the pulley P to which a belt may be applied to drive the saws. The arbor A has secured to its inner end in the ordinary manner the circular saw S'. Its outer end is journaled in a sliding box B, and is prevented from having end movement in said box by means of a series of annular flanges W arranged in corresponding annular grooves in said box, while its opposite or inner end passes through the hub R which is journaled in the

box B', and is prevented from having end movement therein by means of its annular flanges W' arranged in corresponding annular grooves in said box. The inner end of said hub R has secured to it the circular saw S' by means of a nut R' shown in Fig. 5. Said hub R has a spline Z fitted in a seat, and occupying a longitudinal groove in the arbor A. as shown in Fig. 4 for the purpose of permitting longitudinal movement of said arbor in said hub so as to adjust the circular saws to and from each other. The said spline connection of said arbor and hub, causes said hub and its saw to rotate with the arbor, and so the two saws will rotate at the same speed.

In order to move the arbor A. longitudinally through hub R for the purpose of regulating the distance of the saws apart, the box B is provided with an extending arm V having its outer end formed to extend downward so as to receive the screw threaded rod O having a thumb button on its outer end, the said rod O passing into a nut n secured to the frame F, and collared in arm V, so that by turning said screw rod, said box B may be moved, and with it the arbor for the purpose stated. Said box B rests on a seat E and slides thereon in the dove tail ways r shown in Fig. 1.

The saws are each provided on their sides facing each other with cutting bits J detachably connected thereto by means of screws or bolts as shown particularly in Fig. 2; the bits on one saw alternating with those on the other saw. These bits may be of any number desired and are located so as to cut as deep as the saw, and are intended to remove all material between the two saw kerfs, so as to form a transverse groove or kerf across the board or wood as shown in Fig. 7, and by means of adjusting the distance apart of the saws such groove or kerf of any desired width within the capacity of the machine may be made. The outer saw S is shown as bilged in its central part as shown at S<sup>2</sup> for the purpose of permitting the saws to be more closely adjusted toward each other than if the said saw were not bilged as shown.

In operation a belt is applied to the pulley P to drive the saws, and the work is placed upon the table in such manner that as it is passed over the saws they will cut such a



channel or kerf across, or longitudinally in the work as is shown in Fig. 7. Both saws may be bilged as shown if desired, and only one saw may be fitted with bits if for any reason they are not needed on both saws, and the bits may be of any size or form.

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

10 1. The combination of frame F having table T and gage G, sliding box B, E, and arm V, screw rod O, nut *n*, arbor A having pulley P and circular saw S secured thereto, hub R having circular saw S' secured thereto and  
15 splined on arbor A, and bits J detachably secured to the adjacent sides of said saws, all arranged to operate substantially as and for the purpose set forth.

20 2. In a dado head the combination of the hub R, circular saw S' secured to said hub, arbor A splined in said hub, circular saw S secured to said arbor, bits J detachably secured to the adjacent sides of said saws, and

the means for adjusting and for driving said saws substantially as and for the purpose set forth.

3. A dado head comprising the combination of the arbor A, having the circular saw S secured to its inner end and having the annular flanges W and arm V, hub R having the circular saw S' secured to its inner end and having the annular flanges W' and splined on said arbor, box B' having annular grooves fitting said flanges W', reciprocating box B having annular grooves fitting flanges W, and having arm V, screw rod O for longitudinally adjusting said arbor and its saw, bits J detachably secured to the adjacent sides of said saws, and the means for driving said saws, all arranged to operate substantially as and for the purpose set forth.

GEORGE W. DE GRASSE.

Witnesses:

HENRY NEIMEYER,

ALFRED BOARDMAN.