

E. J., E. H. & W. T. CARROLL.  
TOP DRAWING ROLL AND SADDLE THEREFOR.

No. 342,779.

Patented June 1, 1886.

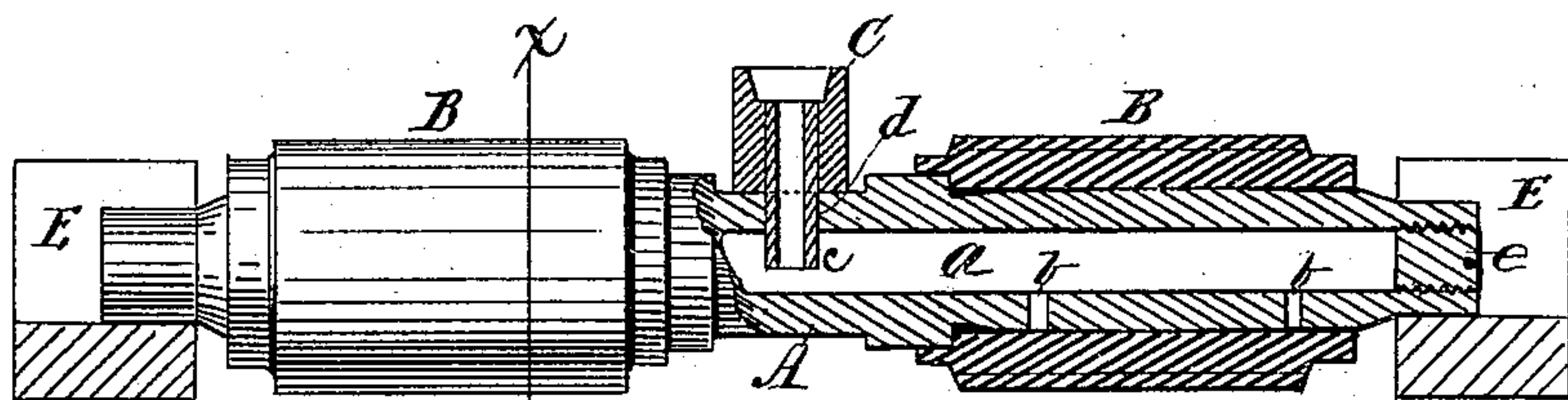


Fig. 1

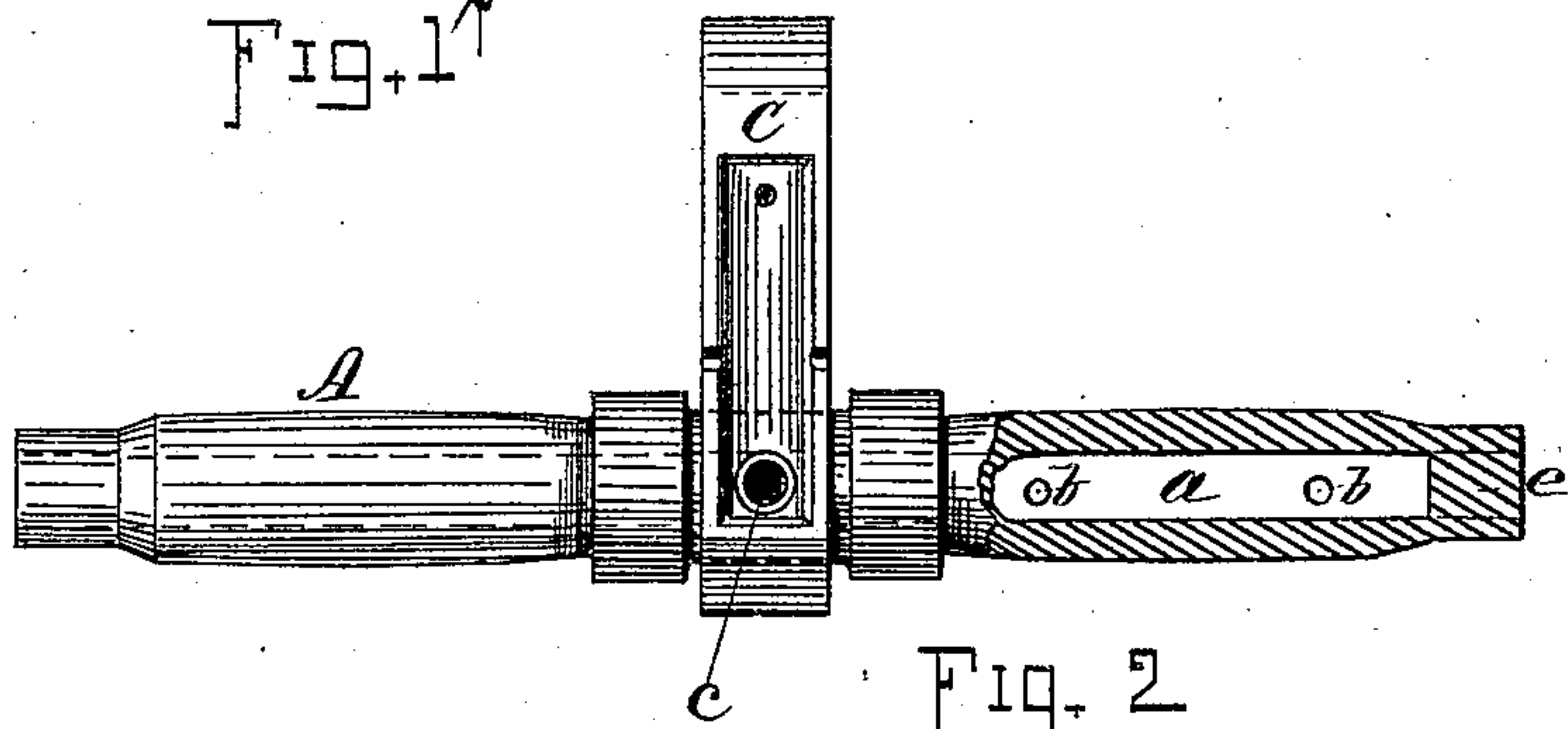


Fig. 2

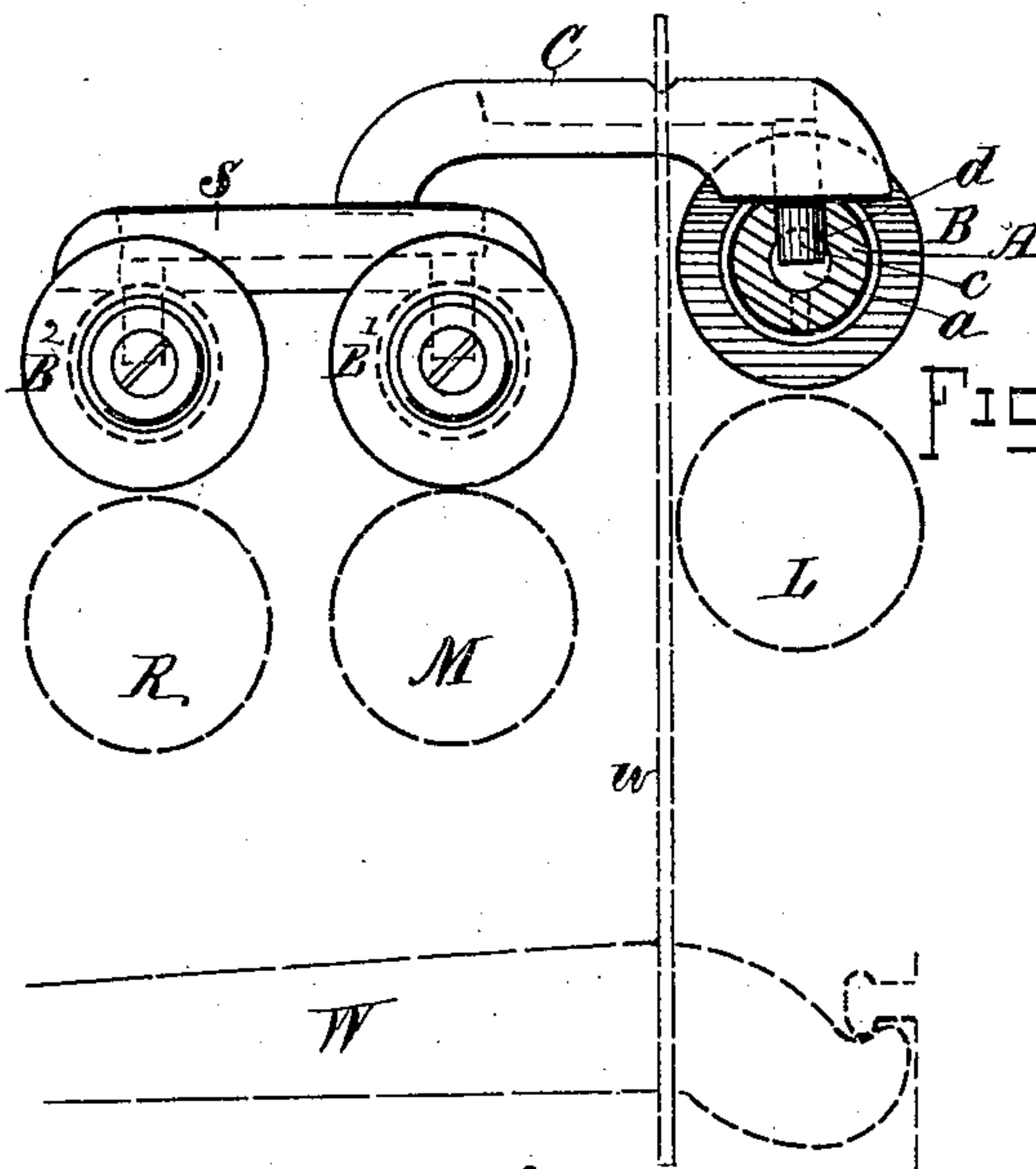


Fig. 3

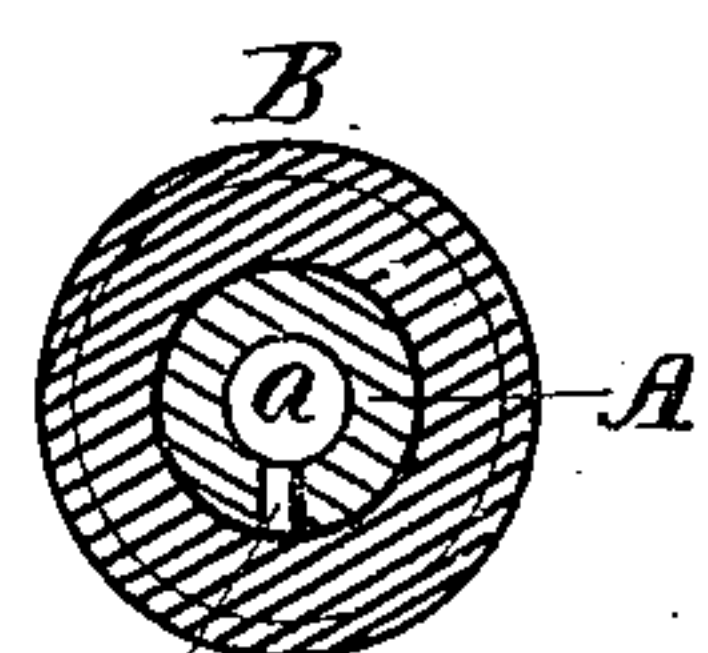


Fig. 4

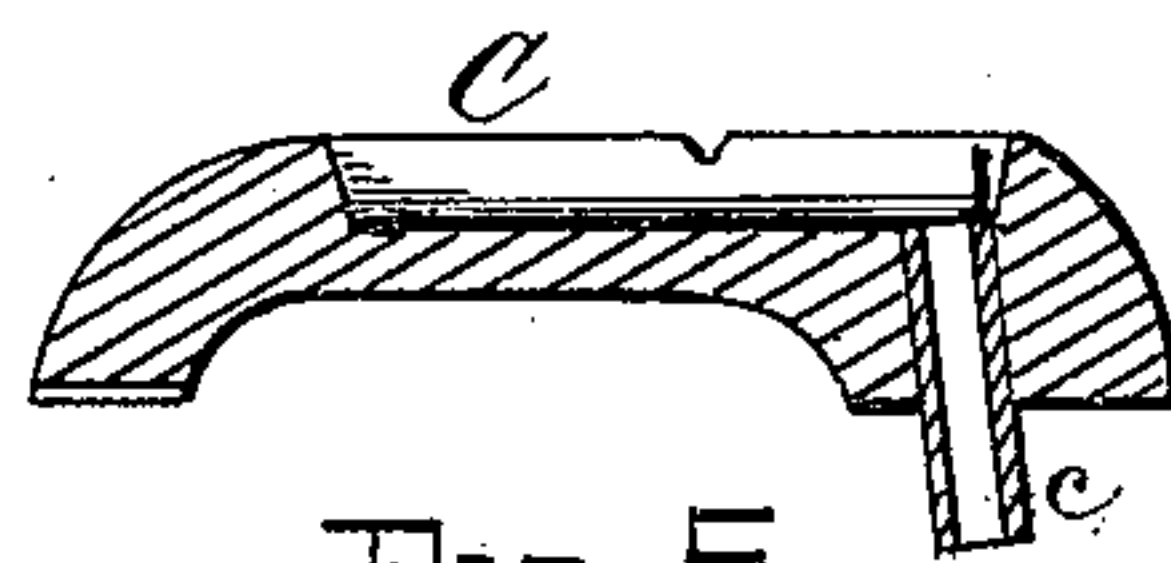


Fig. 5

WITNESSES \_

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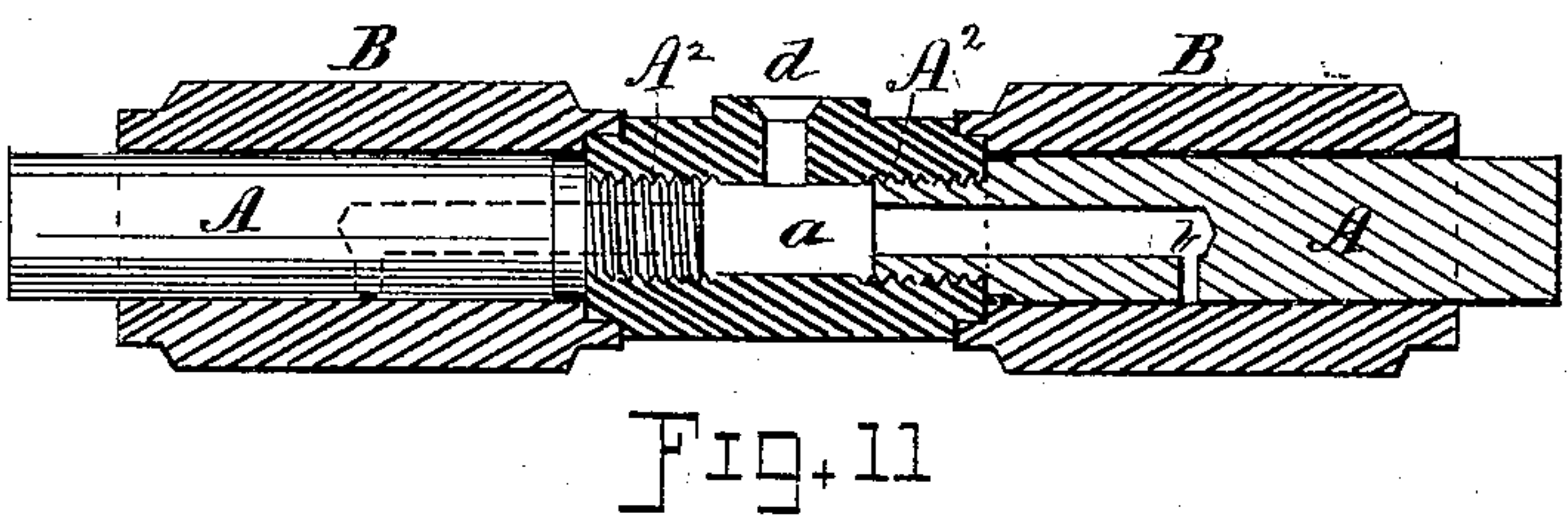
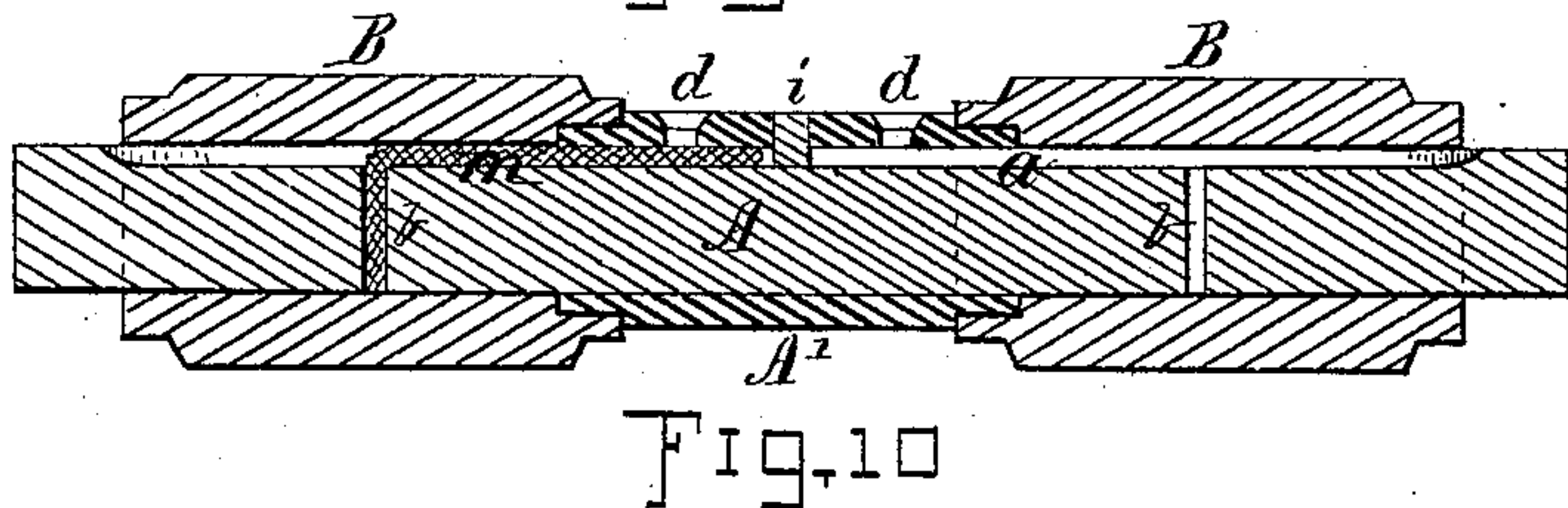
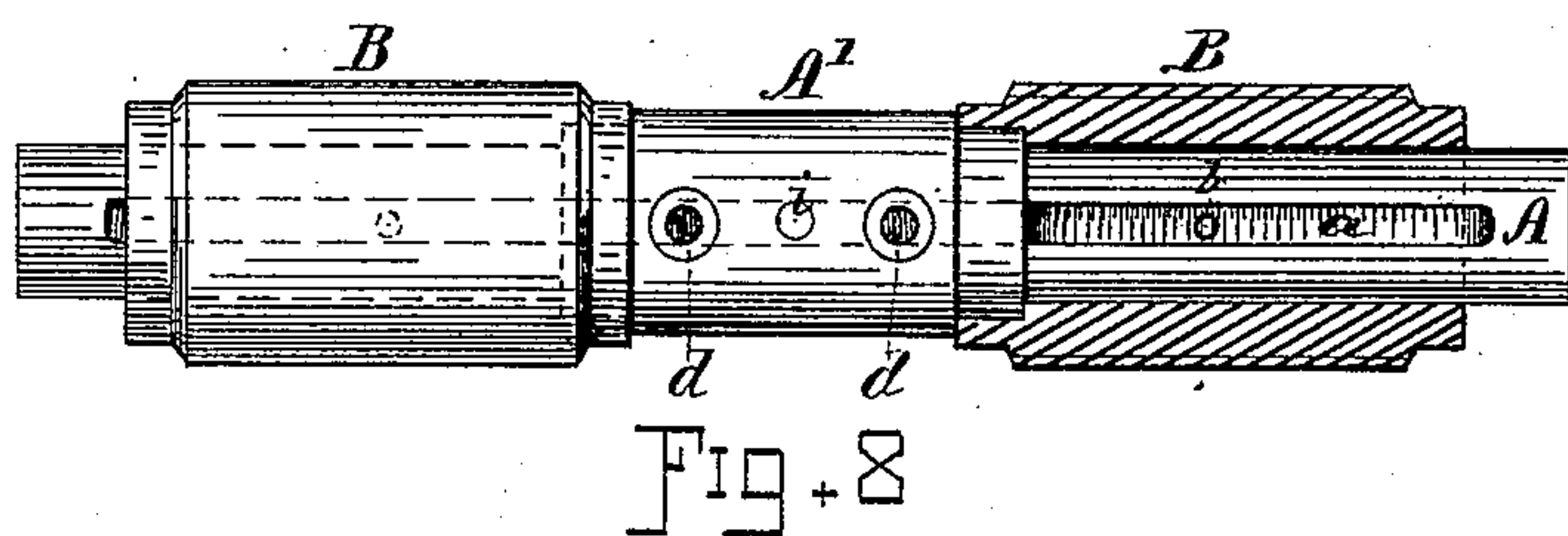
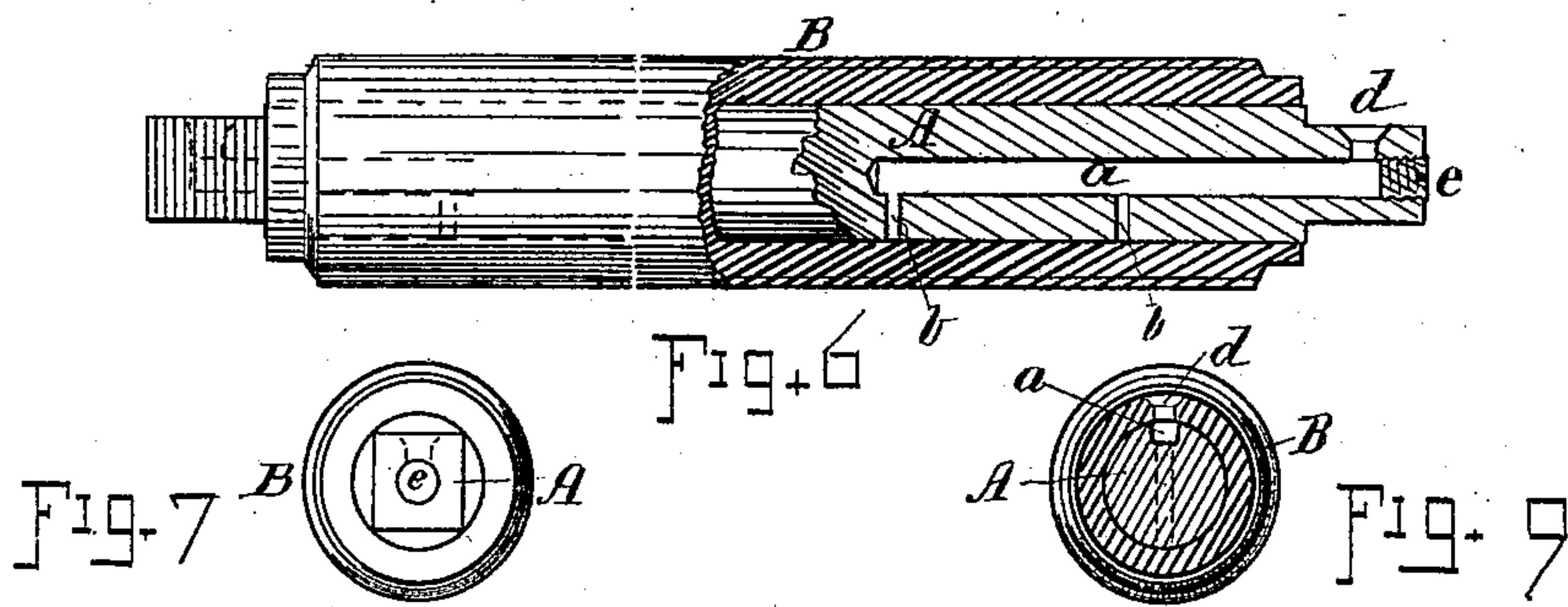
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# UNITED STATES PATENT OFFICE.

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WORCESTER, MASSACHUSETTS, ASSIGNORS TO THE WRIGHT MACHINE  
COMPANY, OF SAME PLACE.

## TOP DRAWING-ROLL AND SADDLE THEREFOR.

SPECIFICATION forming part of Letters Patent No. 342,779, dated June 1, 1886.

Application filed July 11, 1883. Serial No. 100,486. (No model.)

*To all whom it may concern:*

Be it known that we, EDGAR J. CARROLL, ELBERT H. CARROLL, and WILLIAM T. CARROLL, citizens of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Top Drawing-Rolls and Saddles Therefor; and we declare the following to be a description of our said invention, sufficiently full, clear, and exact to 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.

Our present invention relates to improvements in devices employed in machines for carrying, feeding, or working sliver or roving—such as drawing-frames, railway-heads, slubbers, speeders, mules, spinning-machines, &c.—the objects being to provide a superior, more desirable, and efficient drawing-roll mechanism than that heretofore in use, and to afford means for the convenient and thorough oiling of the rolls without requiring the stopping of the machines therefor. These objects we attain by mechanism, the nature and construction of which is shown in the accompanying drawings and hereinafter explained, the particular features claimed in this application (which is one of two separate applications of even date—see Serial No. 100,487—and relating to the same class of invention) being hereinafter definitely specified.

In the drawings, Figure 1 is a front elevation, partly in section, of a top roll, a saddle, and the bearings for said roll. Fig. 2 is a plan, partly in section, of the arbor of the roll and the saddle. Fig. 3 is a transverse section of the roll, also showing positions of the second saddle, middle, back, and under rolls, and weighting devices, indicated by dotted lines. Fig. 4 is a transverse section through the roll at line *x x*, Fig. 1. Fig. 5 is a longitudinal section of the front saddle. Fig. 6 is a sectional elevation of a roll adapted to machines where the saddles are used at the ends of the arbor. Fig. 7 is an end view of the roll shown in Fig. 6. Figs. 8, 9, and 10 are views illustrating a modification in the construction of

the arbor. Fig. 11 shows another modification of the construction of the arbor.

In the drawings, A denotes the arbor or shaft. B indicates the revoluble shells or bosses, and C the saddle.

The arbor A is formed hollow, or with an oil recess or chamber, *a*, within it. From the lower part of said chamber are passages or ducts *b b*, leading to the bearing-surfaces between the arbor and bosses B, and an opening, *d*, is provided in that part of the arbor not covered by the bosses, from the exterior into the upper part of said chamber, for the introduction of the oil. The hollow or chamber *a* may be formed by boring into or through the arbor and then stopping the ends by screws or plugs *e*. The chamber *a* and passages *b* may be filled with wicking or packed with suitable fibrous material for retaining the oil.

The bosses B are made as revoluble metallic shells, externally covered with leather or the materials commonly employed for that purpose. Said shells are mounted to turn freely on the arbor A in the positions shown, while the arbor is arranged to stand stationary in its bearings.

The bearings E for supporting the arbor and bosses may be the same now employed on the class of machines named, and the location and arrangement of the under front roll, L, middle roll, M, rear roll, R, and weighting devices W *w* may be substantially such as now in use. The top rolls in machines now in use and where shell rolls are employed can be altered by changing the arbors and saddles to the forms specified, the old bosses and arbors being used as stock for the new form whenever found practical, thus adapting such machines with our improvement at comparatively small expense.

The saddle C we provide with a short tube, *c*, rigidly fixed therein and projecting downward from its under side near the forward end, in the manner shown. This tube *c* is inserted into the opening *d* of the arbor A, and serves to hold the arbor from any rotation when the parts are together, as indicated. The oiling of the bosses can be effected while the machinery is in operation by pouring the



oil through the tube *c* into the chamber *a*. The second saddle, *S*, may also be provided with similar tubes and be combined with the arbors of the middle and rear top rolls, *B'* *B''*, in similar manner, as indicated in Fig. 3.

In Fig. 6 we have shown a construction adapted for long shafts, or for single long rolls, such as are employed on railway-heads. The ends of the arbor are formed square, as shown in Fig. 7, and the chambers *a* are extended inward from the ends of the arbor, as illustrated. With this form of arbor and boss the weighting-saddles will be arranged at either side between the end of the boss *B* and the projecting end of the arbor *A*, two saddles being employed instead of a single one.

In Figs. 8, 9, and 10 we have shown a modified construction wherein the oil reservoir or chamber *a* is cut into the side of the arbor instead of being bored through the center thereof, and the central hub or enlargement, *A'*, is put on over the shaft *A*, and retained by a pin, *i*, or otherwise. The wick or packing *m* is shown at one side in the reservoir *a* and duct *b*. (See Fig. 10.)

In Fig. 11 we have shown a modified construction wherein the ends of the arbor on which the bosses run are formed in separate pieces, said pieces being chambered at their inner ends and screwed into a central hollow hub, as at *A''*. If desired, one of the ends could be made integral with the central part, the other being screwed into it.

The advantages of our improvement are that the rolls can be conveniently oiled without stopping the machines, and they remain properly lubricated for a very long time and

operate with ease and facility, saving expense, much time, inconvenience, and labor in the maintenance and attendance of the machinery.

We do not herein claim, broadly, constructing the boss of a drawing-roll as a shell or tube, as such form of rolls have been heretofore used in the class of machinery named.

What we claim as of our invention, and desire to secure by Letters Patent, is—

1. A hollow arbor for the top rolls of roving or spinning machinery, having its ends closed by screws or stoppers *e*, and provided with passages *a b d*, in combination with the bosses *B*, formed as shells and revoluble thereon, and means, substantially such as described, for retaining said arbor stationary in its bearing *E*, for the purposes set forth.

2. The combination, with the arbor *A*, provided with an oil-chamber, *a*, and opening *d*, of the saddle *C*, provided with the tube *c*, fitting into said opening *d*, substantially as and for the purpose set forth.

3. An arbor for the drawing-rolls of roving and spinning machines, composed of a hollow central hub provided with chambered bearing-studs for supporting shell bosses, one or both of which studs are screwed into said central hub, as hereinbefore described.

Witness our hands this 6th day of July, A. D. 1883.

EDGAR J. CARROLL.  
ELBERT H. CARROLL.  
WILLIAM T. CARROLL.

Witnesses:

CHAS. H. BURLEIGH,  
GEORGE E. BOUVIER.