

No. 702,768.

H. W. BOLENS.

Patented June 17, 1902.

CHAIR.

(Application filed Dec. 12, 1901.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

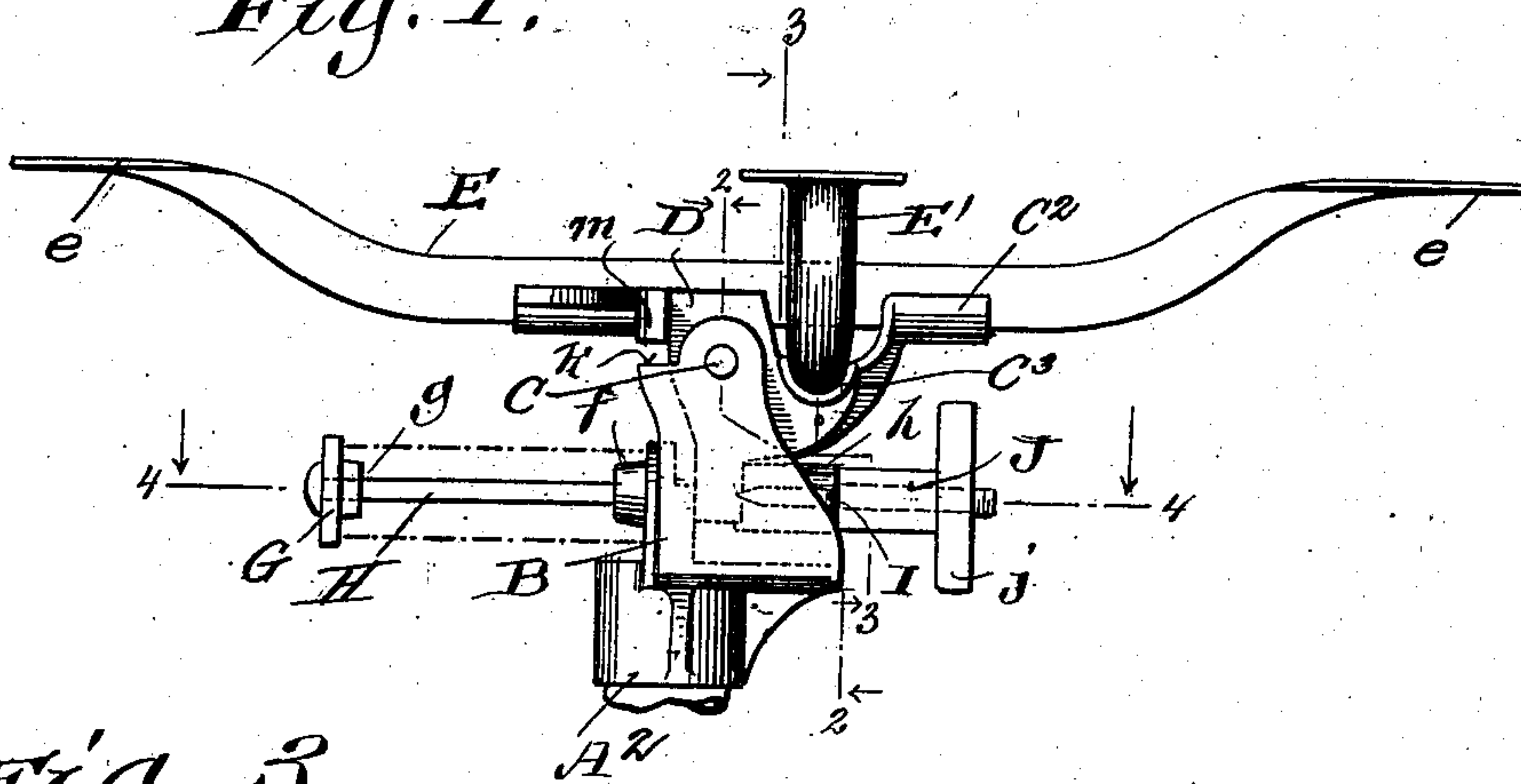


Fig. 3.

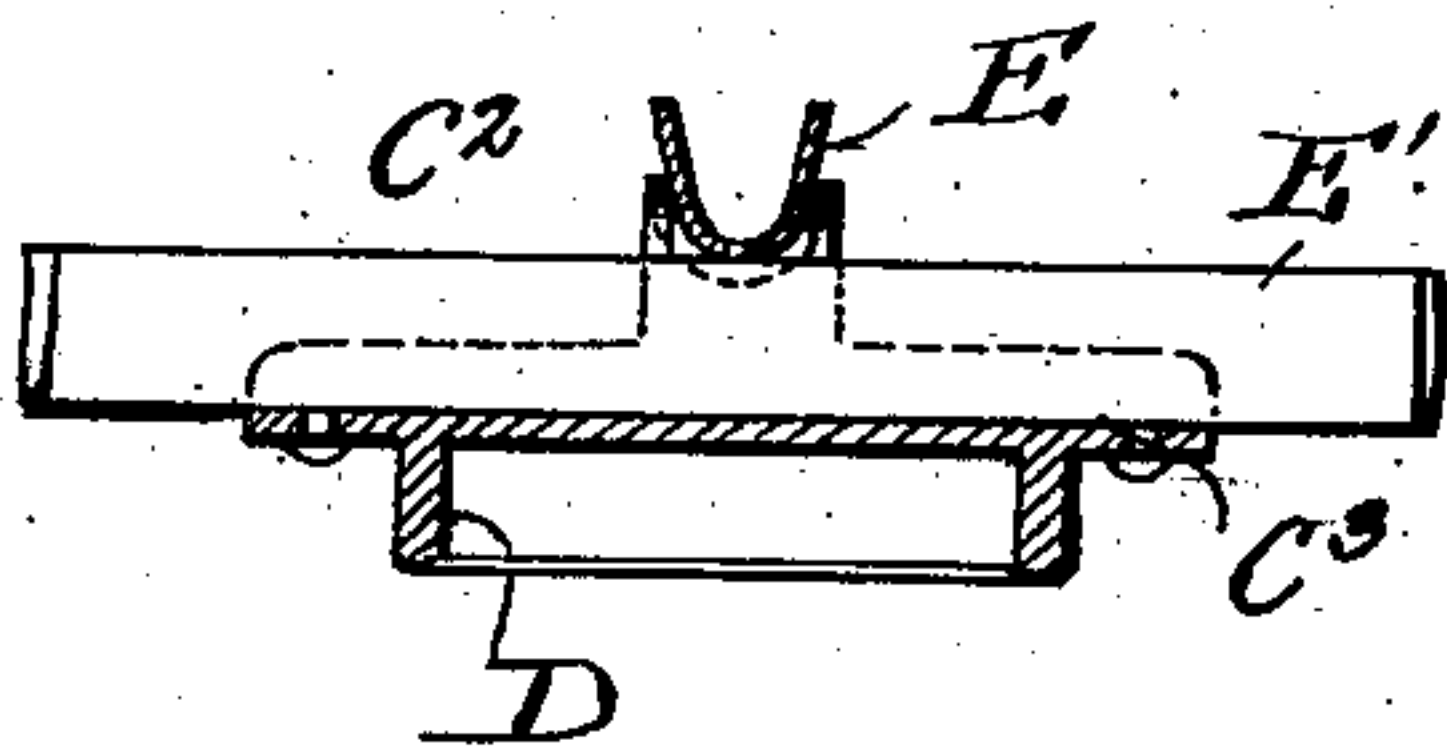


Fig. 2.

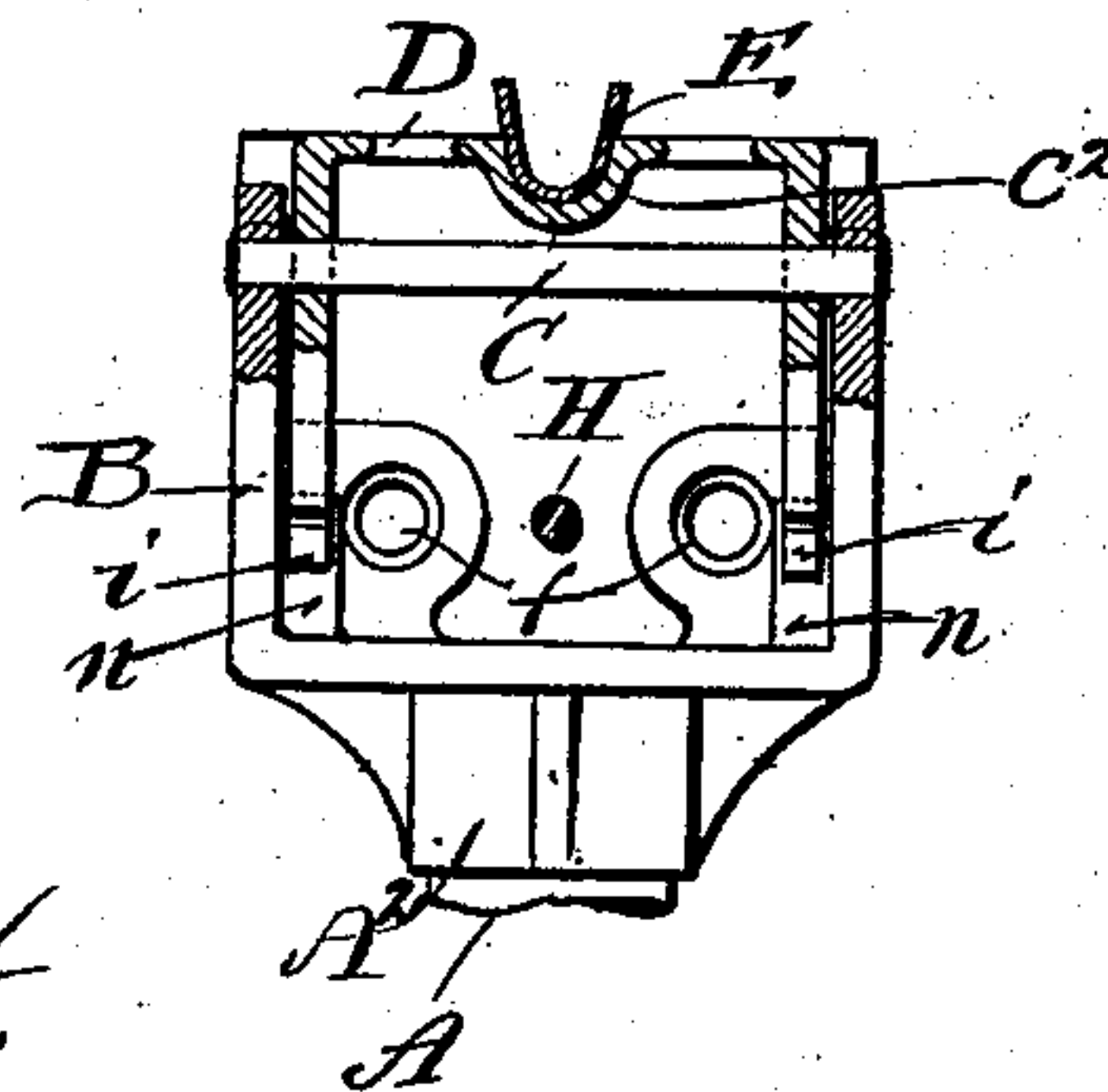
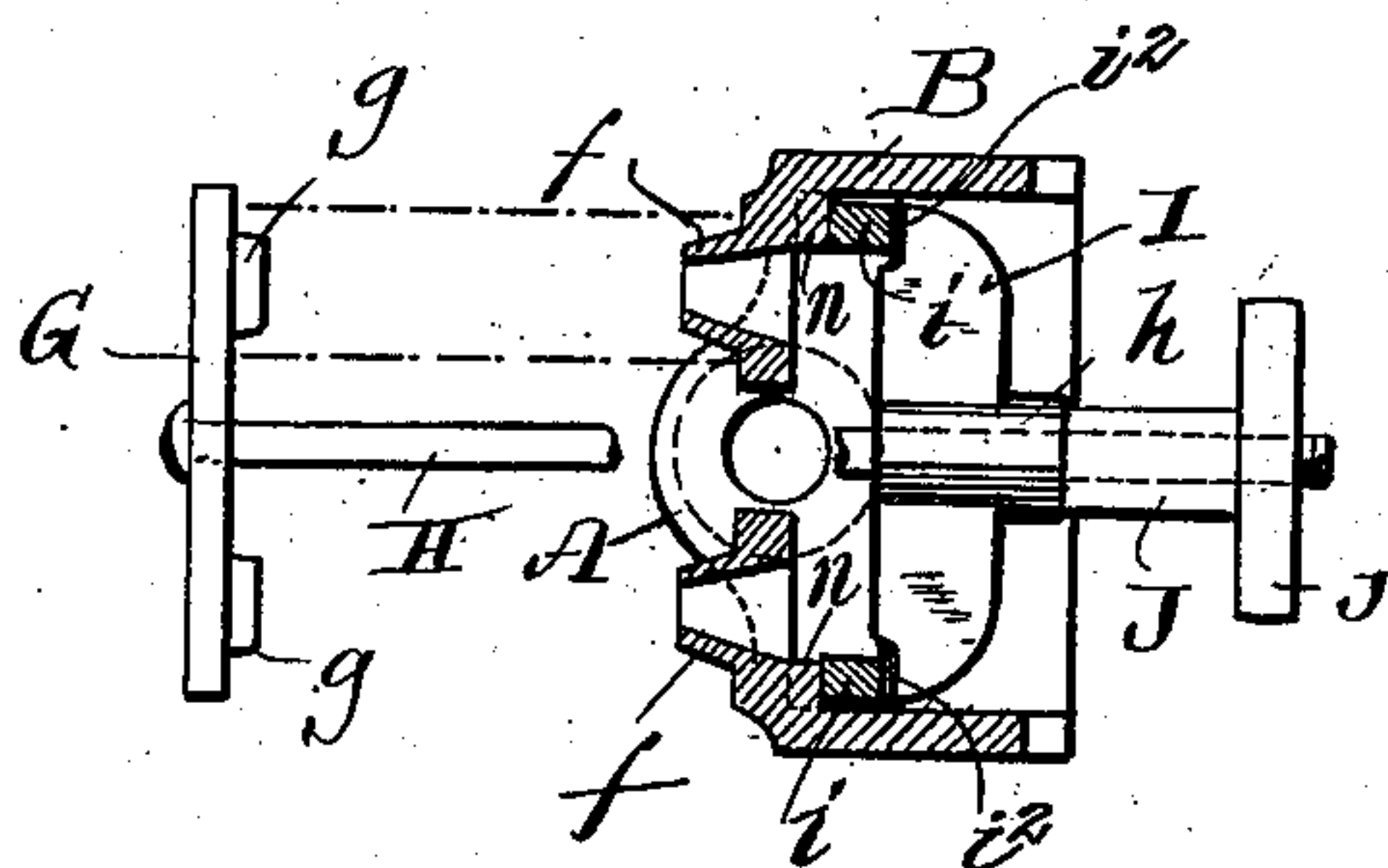


Fig. 4.



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2 Sheets—Sheet 2.

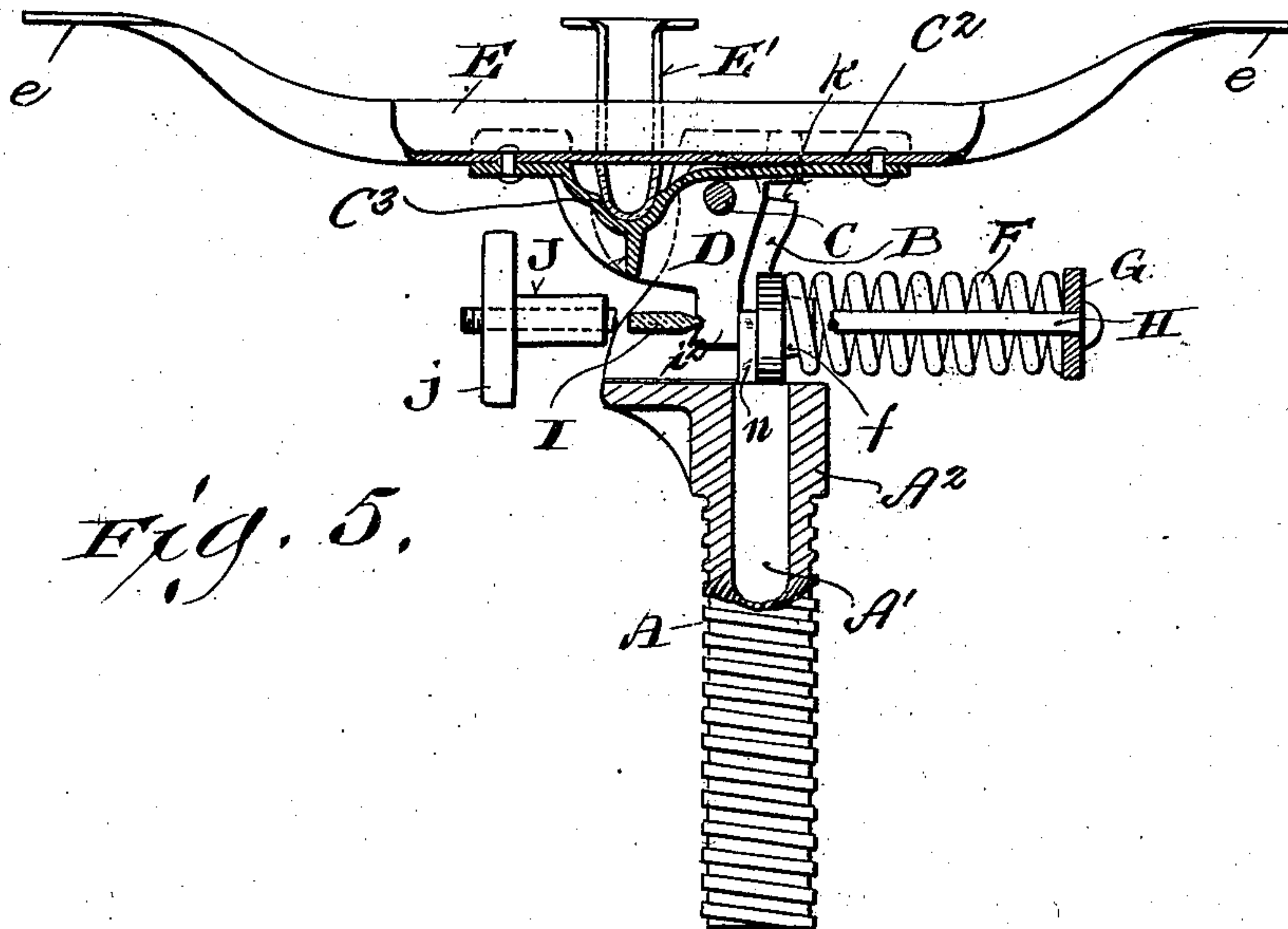


Fig. 5.

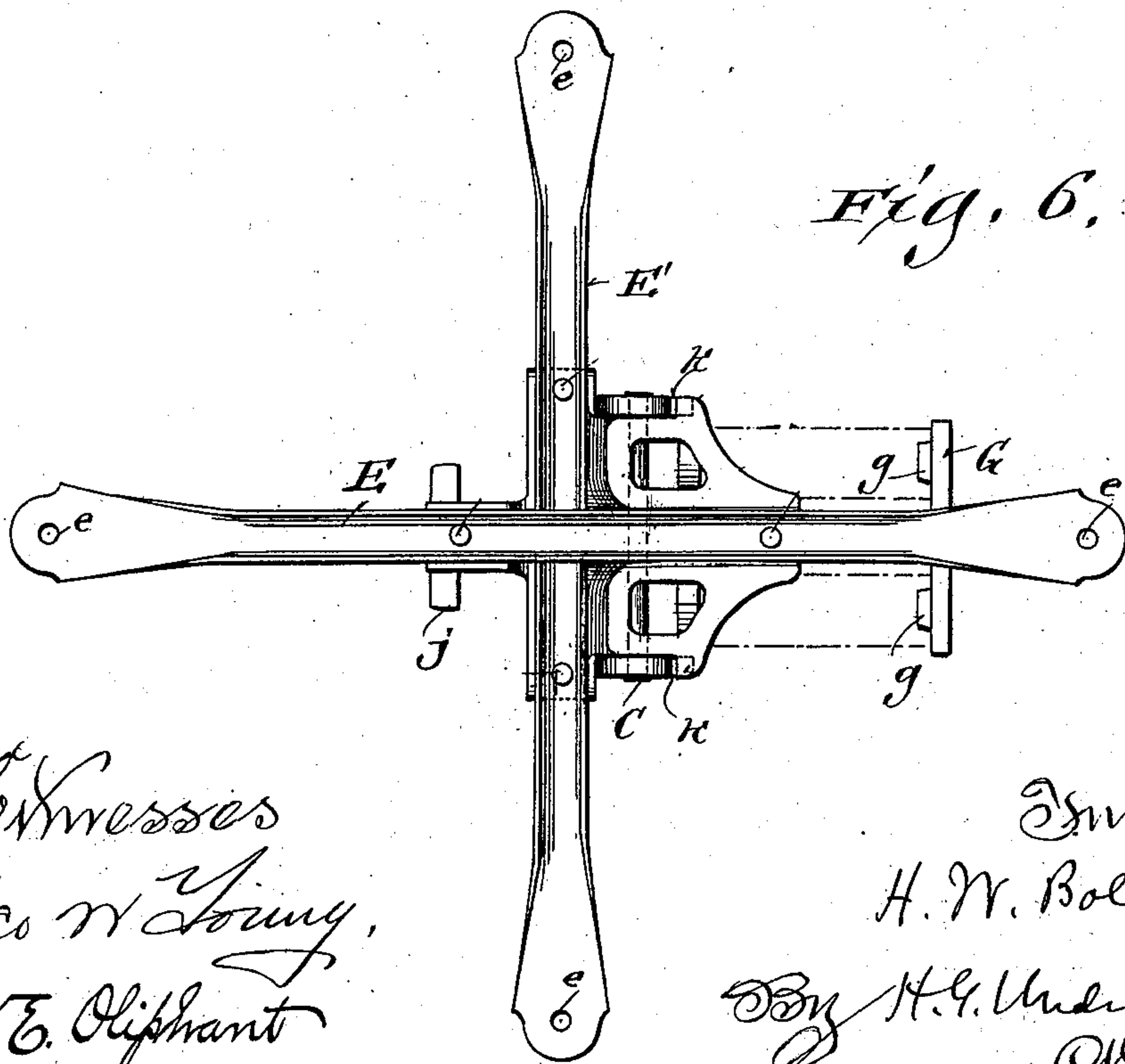


Fig. 6.

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UNITED STATES PATENT OFFICE.

HARRY W. BOLENS, OF PORT WASHINGTON, WISCONSIN.

CHAIR.

SPECIFICATION forming part of Letters Patent No. 702,768, dated June 17, 1902.

Application filed December 12, 1901. Serial No. 85,559. (No model.)

To all whom it may concern:

Be it known that I, HARRY W. BOLENS, a citizen of the United States, and a resident of Port Washington, in the county of Ozaukee and State of Wisconsin, have invented certain new and useful Improvements in Chairs; and I do hereby declare that the following is a full, clear, and exact description thereof.

My improvements relate to chairs that are organized to have vertically - adjustable, spring-controlled, and pivotal seats, said improvements consisting in certain peculiarities of construction and combination of parts in the metal-work of such a chair, as hereinafter particularly set forth with reference to the accompanying drawings and subsequently claimed.

Figure 1 of the drawings represents a side elevation of a seat-frame spider, a standard to which it is pivotally connected, a portion of the spindle that depends from the standard, and means for supporting and adjusting tension of the spider-controlling springs; Figs. 2, 3, and 4, section views respectively indicated by lines 2 2, 3 3, and 4 4 in the first figure; Fig. 5, a vertical central section view through the spider, standard, and spindle, a portion of said spindle being in elevation; and Fig. 6 a plan view of what is shown in the fifth figure.

A designates a threaded adjusting standard or screw that is cast, and the same is formed with a central core or chamber A', that may extend throughout the screw or partially so. Either cast on the upper end of the screw, and therefore integral therewith or secured thereon, and therefore separate, is a boss or ring A², from which extend outwardly and upwardly standards B, apertured to receive the usual pivoting-pintle C. At their rear edges these standards may have formed shoulders B and between the standards at the rear side thereof are formed seats f, designed to receive the inner ends of the tension-springs F, and spaced apart to permit the passage of the tension-bolt H. The outer end of the tension-bolt carries a cross-piece G, having seats g, and between the latter seats and the seats f are compressed the usual springs.

The inner faces of the seats f are provided with stop-lugs n, and lugs m are formed on the spreader above the seats f and are adapt-

ed to limit the tilting movement of the spreader in one direction by abutting against the recesses k. The front end of the bolt is threaded, and mounted thereon beyond the cross-piece J is a hand-wheel j, as usual. In this form of spider I prefer to position the spider-arms at a right angle and for this reason in the present instance form the spreader with intersecting seats C² and C³. These seats are preferably curved or substantially U-shaped in cross-section to conform to the shape in cross-section of the spider-arms E E', which are riveted or otherwise rigidly secured in the seats C² and C³, respectively. The spider-arms intersecting each other, as shown, necessitates the arrangement of the seats therefor in different horizontal planes, whereby the upper spider-arm E will clear the other. In order that the spider-arms may have sufficient bearing to render them stable, the seats for supporting the same are extended a sufficient distance at each side for that purpose.

The spreader is provided at opposite sides with perforated depending ears D², that somewhat loosely fit between the standards B, and through which and the standards is passed the pivoting-pintle C. The ears abut at their rear edges against the stop-lugs n, before mentioned, when the spreader is tilted in one direction. At their opposite edges the ears D² are recessed or notched, as at i, and resting therein and bearing thereagainst are recessed knife-edges i², formed in the inner edge and near the opposite ends of the transverse cross-piece I. This cross-piece is transversely bored to receive the tension-bolt, and beyond the latter is threaded to receive the nut or wheel J.

The spider-arms are preferably formed of sheet metal, and while semitubular or U-shaped in cross-section, yet may be of any shape desired, and where both ends of each are to be attached to the chair they terminate in attaching ends e. In the present instance, where the arms are shown as intersecting, of course the lower arm is given a greater longitudinal curve, so that the attaching ends are on a common horizontal plane.

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

1. In a seat-spider, a spreader provided with intersecting spider-arm seats, combined with spider-arms mounted in said seats.

2. In a seat-spider, a spreader provided with spider-arm seats disposed at an angle to each other, combined with spider-arms mounted in the seats.

3. In a seat-spider, a spreader provided with spider-arm seats located in different planes and intersecting each other, combined with spider-arms located in the seats, the said spider-arms terminating in the same plane in attaching ends.

4. In a seat-spider, a spreader provided with intersecting extended seats grooved to receive spider-arms, combined with intersecting spider-arms mounted in and secured to said seats.

5. In a seat-spider, a hollow adjusting-screw provided with an integrally-cast boss at its upper end having upwardly-disposed standards and at one side thereof seats, combined with a spreader having depending ears, a pintle passed through the ears and standards, notches formed in the ears, a bored bridge-piece engaging the notches, a threaded adjusting-bolt passed therethrough, a hand-nut on the end of the bolt, a cross-piece having

seats on the other end thereof, springs interposed between the seats of the boss and those of the cross-piece, and means for attaching the spreader to a chair.

6. In a seat-spider, an adjusting-screw, a boss at the upper end thereof provided with upwardly-disposed perforated standards, and between the same with spring-receiving seats, combined with a spreader having means of attachment to a chair and provided with depending perforated ears having notches, a pintle connecting the ears and perforated standards, an adjusting-bolt, a cross-piece carried thereby and having seats, springs interposed between the seats of the cross-piece and those of the boss, a bridge-piece seated in the notches of the ears and having an eye receiving the adjusting-bolt, and a hand nut or wheel mounted on the bolt beyond the bridge-piece.

In testimony that I claim the foregoing I have hereunto set my hand, at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

HARRY W. BOLENS.

Witnesses:

N. E. OLIPHANT,

B. C. ROLOFF.