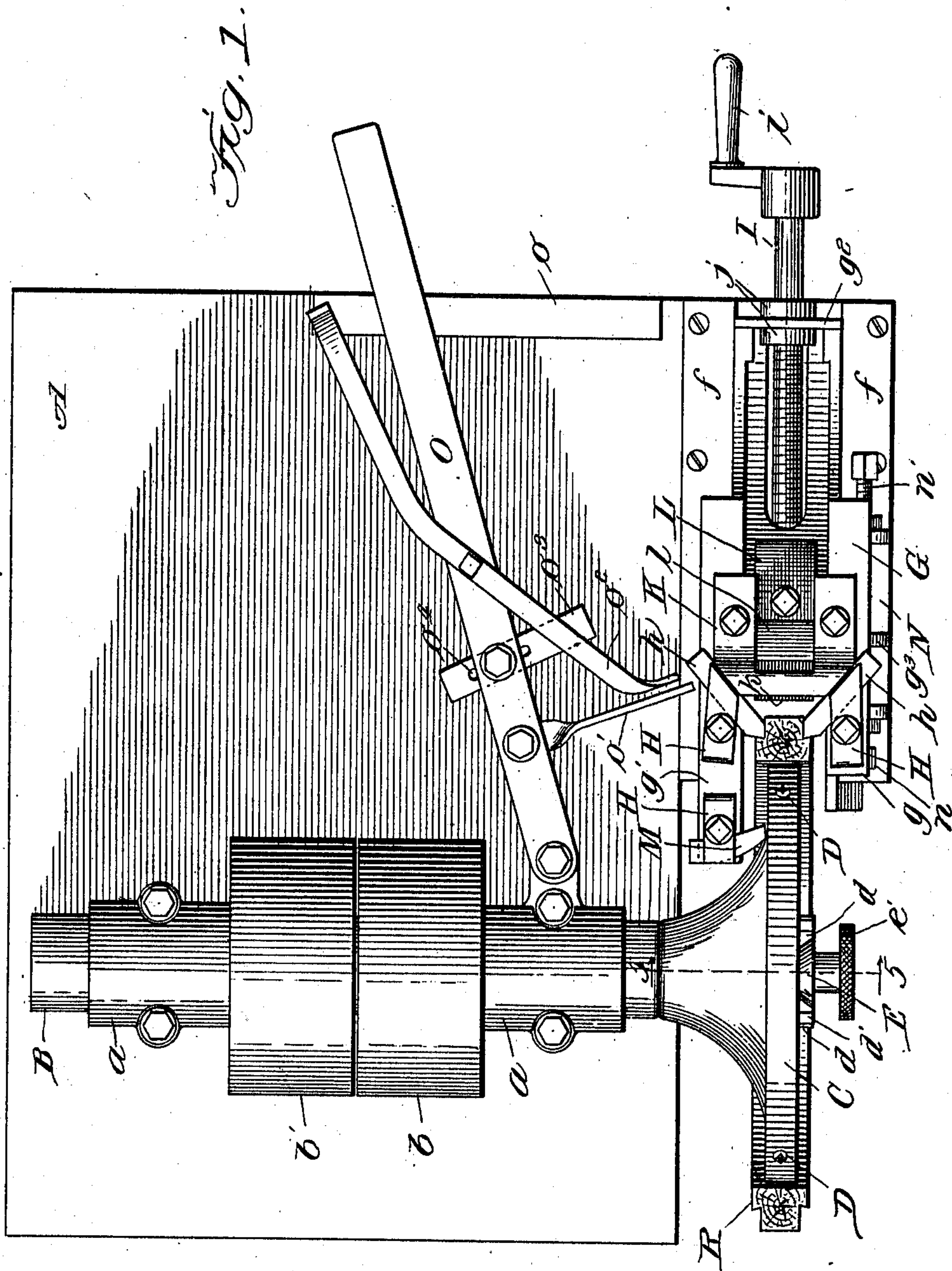


F. BURYANEK.
MACHINE FOR TURNING CHAIR BOTTOMS.
APPLICATION FILED JULY 31, 1909.

988,756.

Patented Apr. 4, 1911.

4 SHEETS—SHEET 1.



Witnesses:

Harry S. Gaither
E. R. Lundy.

Inventor
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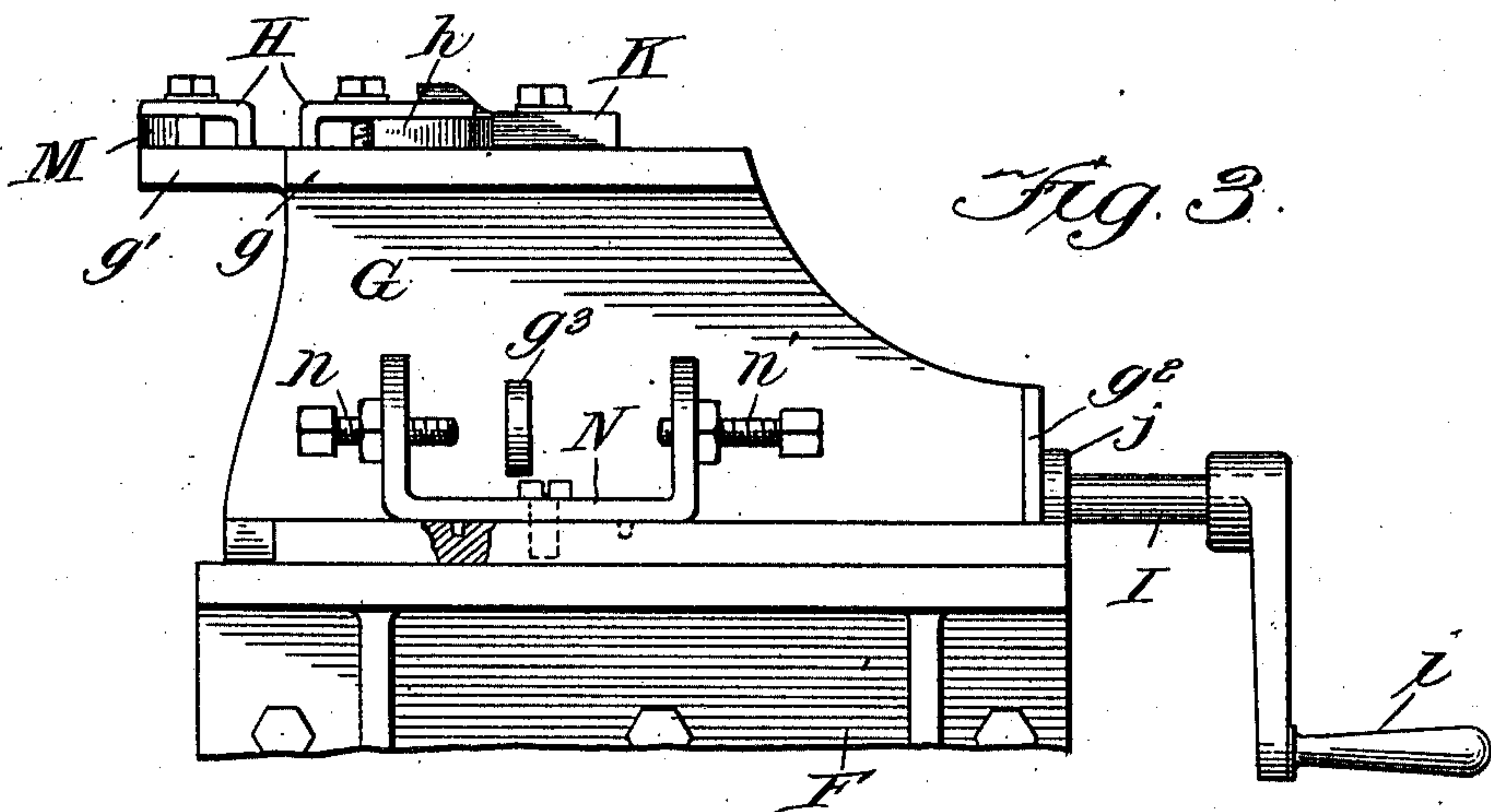
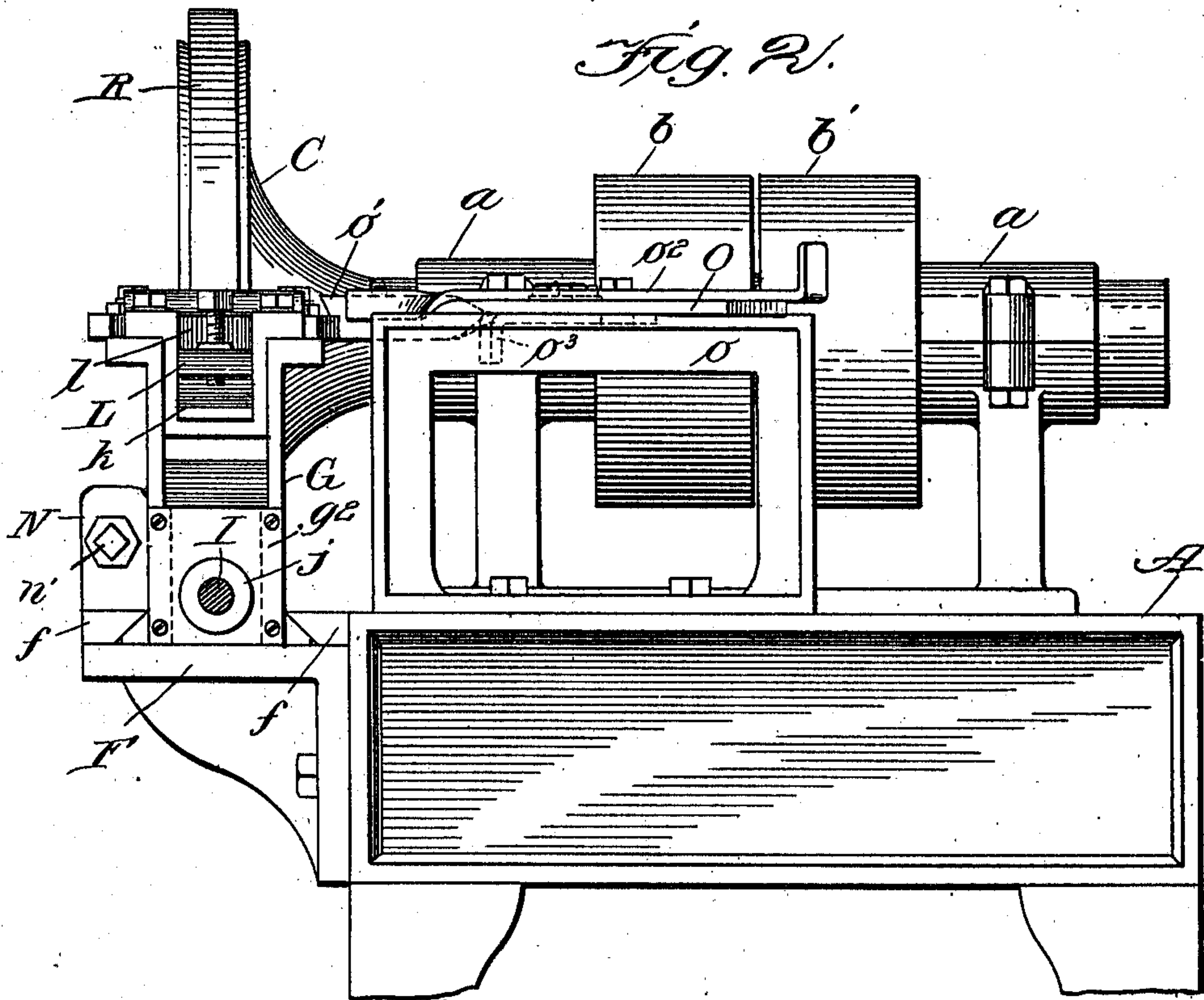
by Frank D. Thomason
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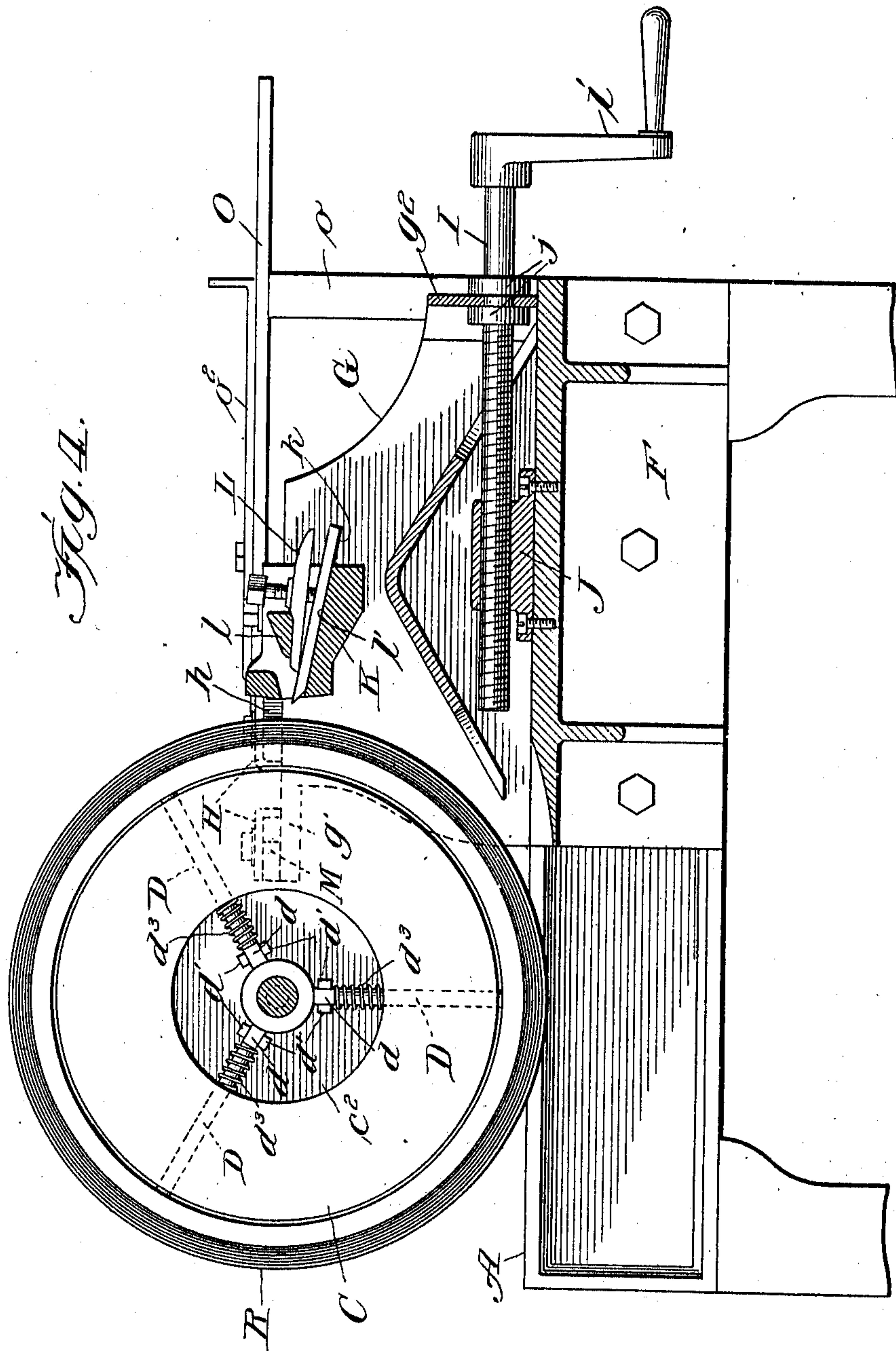
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Fig. 6.

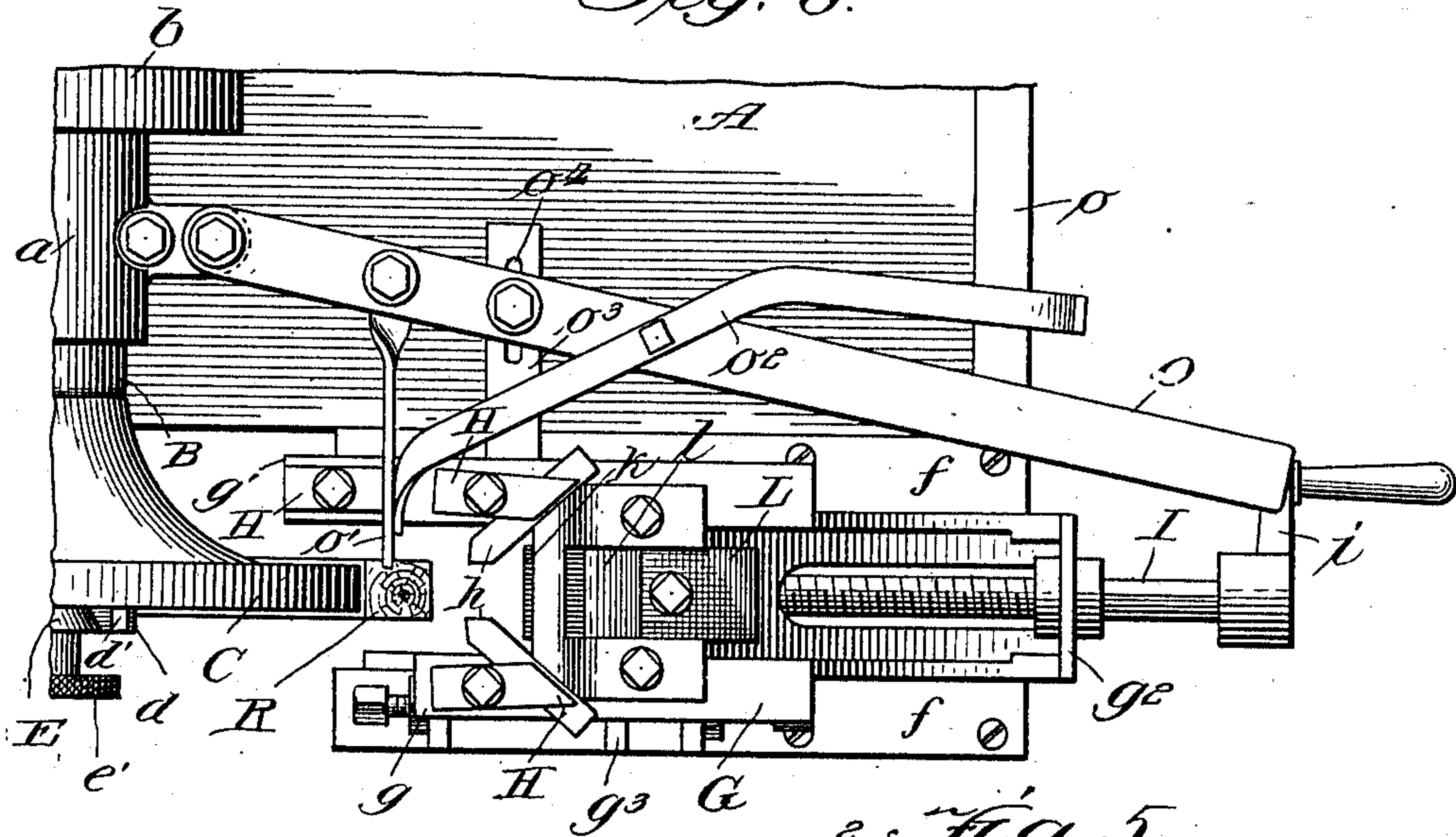


Fig. 5.

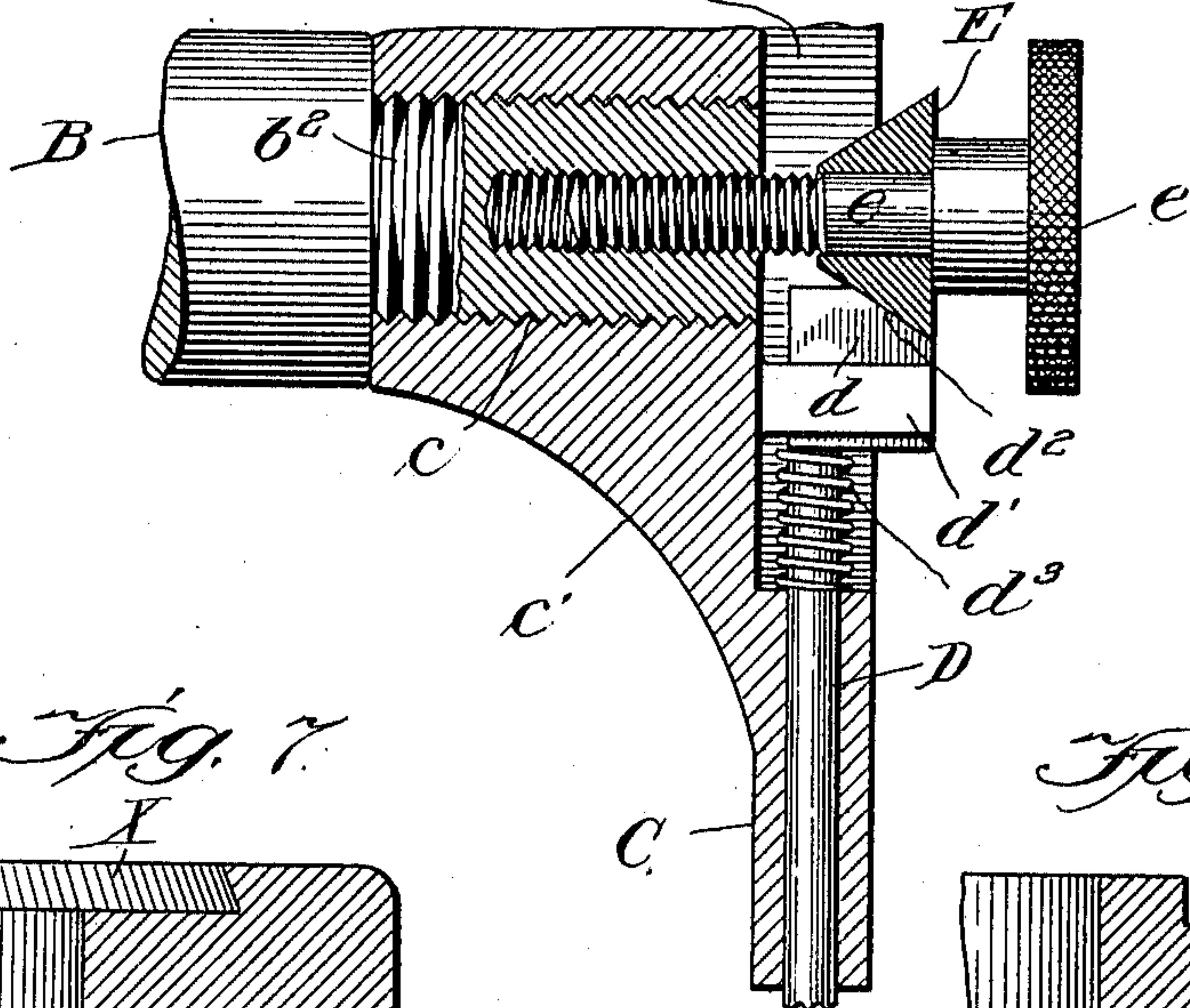


Fig. 7.

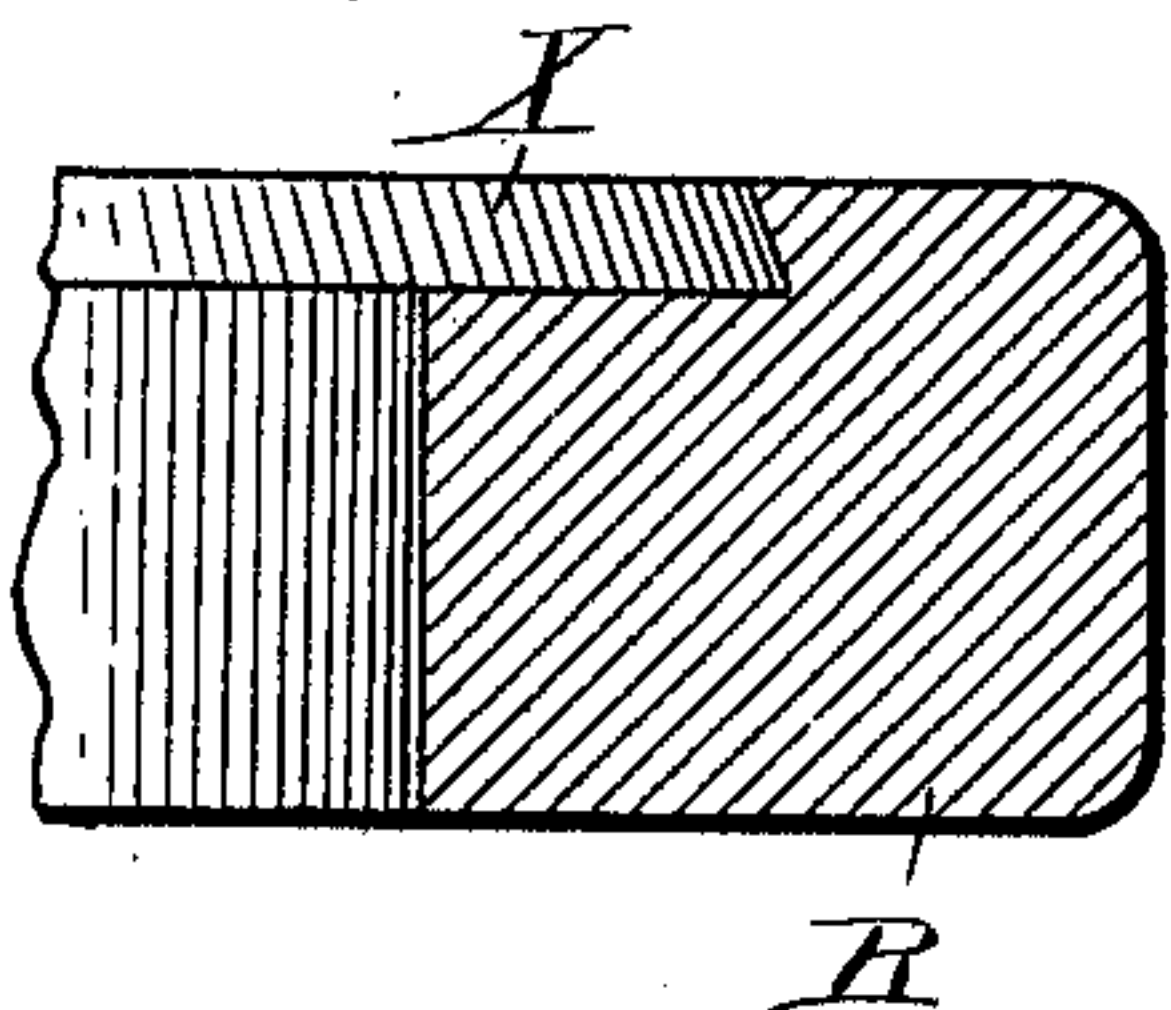
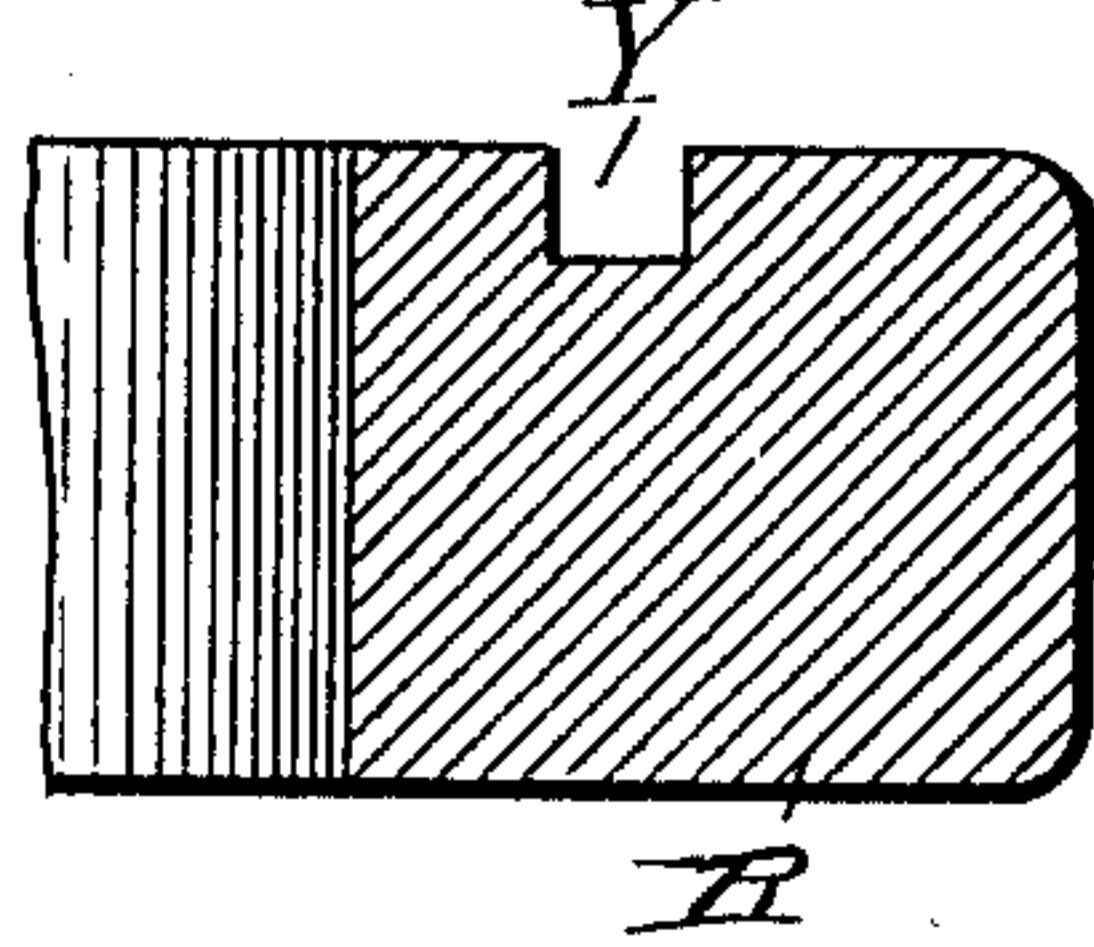


Fig. 8.



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UNITED STATES PATENT OFFICE.

FRANK BURYANEK, OF CHICAGO, ILLINOIS, ASSIGNOR TO HERHOLD CHAIR COMPANY,
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MACHINE FOR TURNING CHAIR-BOTTOMS.

988,756.

Specification of Letters Patent.

Patented Apr. 4, 1911.

Application filed July 31, 1909. Serial No. 510,571.

To all whom it may concern:

Be it known that I, FRANK BURYANEK, a subject of the Emperor of Austria-Hungary, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Machines for Turning Chair-Bottoms, of which the following is a full, clear, and exact description.

My invention relates to machines for automatically turning down and finishing the wooden rings into which the veneer plates, cane, or the like, are inserted and secured to make a complete chair seat.

It is the object of my invention to construct a machine that will automatically shape outer faces of the ring (the upper, lower, and outer surfaces) as well as provide convenient means whereby the operator may round off or bevel the adjacent corners of the ring and may cut a groove or recess in the top in which the seat proper is adapted to be fitted. This I accomplish by the means and in the manner hereinafter fully described and as more particularly pointed out in the claims, reference being had to the accompanying drawings, wherein,

Figure 1 is a top plan view of my improved machine showing a wooden chair-seat ring (partly finished) on the chuck thereof and the cutting blades planing the upper and lower surfaces in engagement therewith. Fig. 2 is a view in elevation looking at the machine from the side on which the cutters are mounted and operate. Fig. 3 is a vertical front elevation of the movable carriage or platform on which the cutting-blades are mounted, and showing in detail the means for limiting the reciprocation of said platform. Fig. 4 is a vertical front elevation of the entire machine showing the blade carrying platform delineated in central longitudinal section. Fig. 5 is a central axial section of the chuck taken on line 5—5 Fig. 1 and drawn to an enlarged scale. Fig. 6 is a top plan view of a portion of the chuck and the movable carriage showing the operation of the groove cutting frame and blade. Fig. 7 is a transverse vertical section drawn full size of a wooden seat ring showing the under cut recess for veneer seats. Fig. 8 is a similar view showing the groove for cane seats.

Referring to the drawings, A represents the bed or platform of a suitable table, pref-

erably of rectangular dimensions, that is elevated a suitable distance above the floor and which has projecting upwardly from the same the divided bearings *a a*, for mounting the main, horizontally disposed, rotatable shaft B of the machine. This shaft is provided between said bearings with a fixed and loose pulley *b, b'*, respectively that are adapted to be belted or otherwise connected with a suitable power line-shaft or motor (not shown) for the purpose of driving the same.

Securely mounted on the outer extended end of shaft B is a universal chuck C on which the rough wooden ring R, from which the seat ring is turned, is adapted to be clamped by suitable means which will be hereinafter described in detail. For the purpose of mounting the chuck C on shaft B the latter is provided with a screw-threaded opening *c* in the center of a conical-shaped embossment *c'* extending inwardly on the back of the chuck-disk as shown in Fig. 5 of the drawings. The central portion of the front face of the chuck-disk is provided with an annular recess *c²* that is cut in the same until its inner surface comes flush with the outer end of extension *b²* of the shaft. Radiating from this recess are several spring-pressed plungers D that are adapted, when moved outwardly, to project beyond the periphery of the chuck-disk and engage the inner face of the seat ring R that is placed concentrically on the chuck. The inner ends of these plungers D that project into the recess *c²* have enlarged heads *d* that are engaged on either side by lugs *d', d'*, projecting from the inner surface of the annular recess and have their corner *d²* beveled or inclined toward the center of the chuck-disk and form a countersunk seat for a conical-shaped cam or spreader E. In order to keep these plunger-heads in contact with the sides of the cam suitable coiled expansion springs *d³* are placed around the shanks thereof between their heads and the shoulder formed at the outer edge of said recess. This cam E may be mounted either loose or fast upon a suitable screw-threaded spindle *e* that is tapped axially into the outer end of the extension *b²* of the shaft and is provided with a hand-wheel or grasp *e'* on its outer end, the turning of which latter in one direction or the other will move the

plungers of the chuck either outwardly or inwardly to clamp or release the wooden seat-ring, as desired.

When the chuck is rapidly revolved the work carried thereby is adapted to be engaged by several stationary cutters that automatically shape the ring as desired and at the same time are adapted to cut a recess or groove on the upper face of the ring to receive the seat proper. This is accomplished by mounting the cutter upon a reciprocally sliding carriage that moves toward the work to shape it, and away from it to cut the recess or groove. Mounted on the side of the bed or platform of the machine and adjacent to the chuck, is a suitable shelf F that is supported on brackets secured to the side of the table and is provided on its upper longitudinal edges with parallel guide bars or tracks f, f that are undercut on their oppositely disposed faces to form a runway or guide for the outwardly flanged lower edges of a longitudinally reciprocal carriage G. This carriage is of such height that the cutters secured to its upper portion will engage the work at about the horizontal axial plane of the shaft B. The top of the carriage is preferably bifurcated on the end nearest the chuck so that the arms g , and g' will pass on either side of the work. Secured to these arms by means of substantially L-shaped clamps H, H, are the cutter blades h, h , that trim down or smooth off the work on each side of the chuck disk, which when finished becomes the upper and lower surfaces of the chair seat. These blades h, h are made to cut into the work by the longitudinal movement of the carriage toward the chuck and reduce the ring to the desired thickness. This movement of the blades is accomplished by providing an opening or bearing in the outer end wall g^2 of the carriage in which an elongated screw shaft or bolt is journaled which is adapted to be rotated by means of a suitable crank or hand lever i upon its outer extended end. The opposite end of this screw shaft is tapped through a stationary nut or boss J bolted to or made a part of the bed A of the shelf and on each side of the end wall g^2 said screw-shaft is provided with a collar or sleeve j . Thus it will be seen that by rotating said screw-shaft in one direction or the other the carriage may be made to travel either toward or away from the chuck.

The upper edges of the central portion of the side walls of the carriage are connected by a bridge-frame K that is bolted to or made in one piece with said walls and is adapted to carry a broad cutting-blade l for planing off the outer edge of the seat-ring R as the carriage approaches the limit of its movement toward the chuck. In order to firmly secure the blade l in position a clamping or wedge plate L is forced under

a transversely disposed rib or bar l and the upwardly inclined surface l' of said bridge frame and is locked in place by a bolt tapped through the central portion of said clamping plate so that it engages the said cutting blade as shown in detail in Fig. 4 of the drawings.

In order to form an undercut recess in the seat ring for veneer bottoms a suitable rearwardly curved cutter blade M is mounted on the longer arm g' of the carriage and secured in place by an L-shaped clamp K. This blade is adapted to engage and cut into the inner corner of the top surface of the ring and operates as the carriage approaches the limit of its reverse movement.

In order to limit the longitudinal movement of the carriage and the depth of the undercut a suitable U-shaped stop-plate is secured in upright position to the bracket supporting the carriage, and the vertical arms thereof are provided with adjustable bolts, n, n' that are adapted to be engaged by a lug g^3 projecting laterally from the adjacent side-wall of the carriage. Thus it will be seen that when the carriage is moved in one direction or the other by turning the hand lever i , this lug g^3 will engage the respective bolt n or n' so that while the carriage is moving toward the chuck the cutters will engage and finish the top, bottom, and outer faces of the seat-ring. When said carriage is reversed and has traveled a suitable distance away from the chuck, the recess-cutting blade M thereon will engage the upper surface of the ring beginning at its inner edge and cut into the same until its movement is stopped by the lug g^3 engaging with the bolt n thus forming an undercut recess X (shown in detail in the cross section of this ring in Fig. 7) for the insertion of the veneer seat.

When cane seats are to be used a groove or gutter Y (Fig. 8) must be cut in the upper face of the ring to receive the tongue or wedge for retaining the same. This is accomplished by means of the auxiliary cutting-frame O, (illustrated in operation in Fig. 6 of the drawings) that has one end pivotally secured to a lug projecting laterally from the adjacent side of the bearing boss a while its opposite end is supported on a suitable guide or rest o arising from the edge of the table. Near its secured end this frame is provided with a pivoted cutter-blade o' that is adapted (when the carriage is farthest from the chuck) to be moved into engagement with the rear edge of clamping-plate that secures the recess cutting-blade and it is steadied in this position by means of a rod o^2 pivoted mediate its ends to the auxiliary frame O. As the seat ring is rotated this cutter is brought in contact with and cuts the groove as shown in Fig. 6 and the depth of the cut is regulated

lated by the stop-plate o^3 adjustably secured to the frame O mediate its ends and which is provided with a longitudinally elongated slot o^4 through which, and said frame, a tightening bolt passes.

What I claim as new is:—

1. In a machine for turning chair bottoms, a rotatable shaft, a chuck on the shaft, a carriage movable radially of the chuck, parallel arms on the carriage, one of said arms being longer than the other said arm, cutting tools oppositely disposed on the arms, a cutting tool on the longer arm having its cutting edge oppositely disposed to that of the first said cutting tools, a bridge connecting said arms, a cutting tool carried by said bridge, means for advancing said carriage, and means for gaging the movement of said carriage.

2. In a machine for turning chair bottoms, a rotatable shaft, a chuck on the shaft, means for securing a ring of material around the periphery of said chuck, a pivotally connected lever on said lathe having a pivoted cutting tool thereon adapted to engage the ring on its radial plane, an adjustable stop member on said lever, means for moving said pivoted tool with relation to the said lever.

3. In a machine for turning chair bottoms, a rotatable shaft, a chuck on the shaft for holding a ring of material, a bifurcated

tool carriage adapted to straddle the chuck and having an aperture and having a tool secured in said aperture in operative relation with the convex surface of the said ring, means on the furcations of the carriage for securing tools in operative relation to the plane surfaces of said ring, and means for moving the carriage with relation to the chuck.

4. In a machine for turning chair bottoms, a rotatable shaft, a chuck secured on the shaft and embracing means for securing a ring to the periphery thereof, a carriage having a bifurcated portion straddling said periphery and said ring, each of the furcate members of said carriage carrying a cutter blade adapted to contact the outer surface of said ring when the carriage is advanced toward the shaft and one of said furcate portions carrying a tool adapted to engage the inner surface of said ring when the carriage travels in the reverse direction, means for advancing and reversing the travel of the carriage, and adjustable means for positively limiting the movement of the carriage.

In witness whereof I have hereunto set my hand this 14th day of July, 1909.

FRANK BURYANEK.

Witnesses:

HIRAM C. BERNSTEIN,
EDWARD F. HERHOLD.