

No. 618,666.

Patented Jan. 31, 1899.

R. HARRIS.
CENTER REST FOR LATHES.

(Application filed Jan. 25, 1897.)

(No Model.)

2 Sheets—Sheet 1.

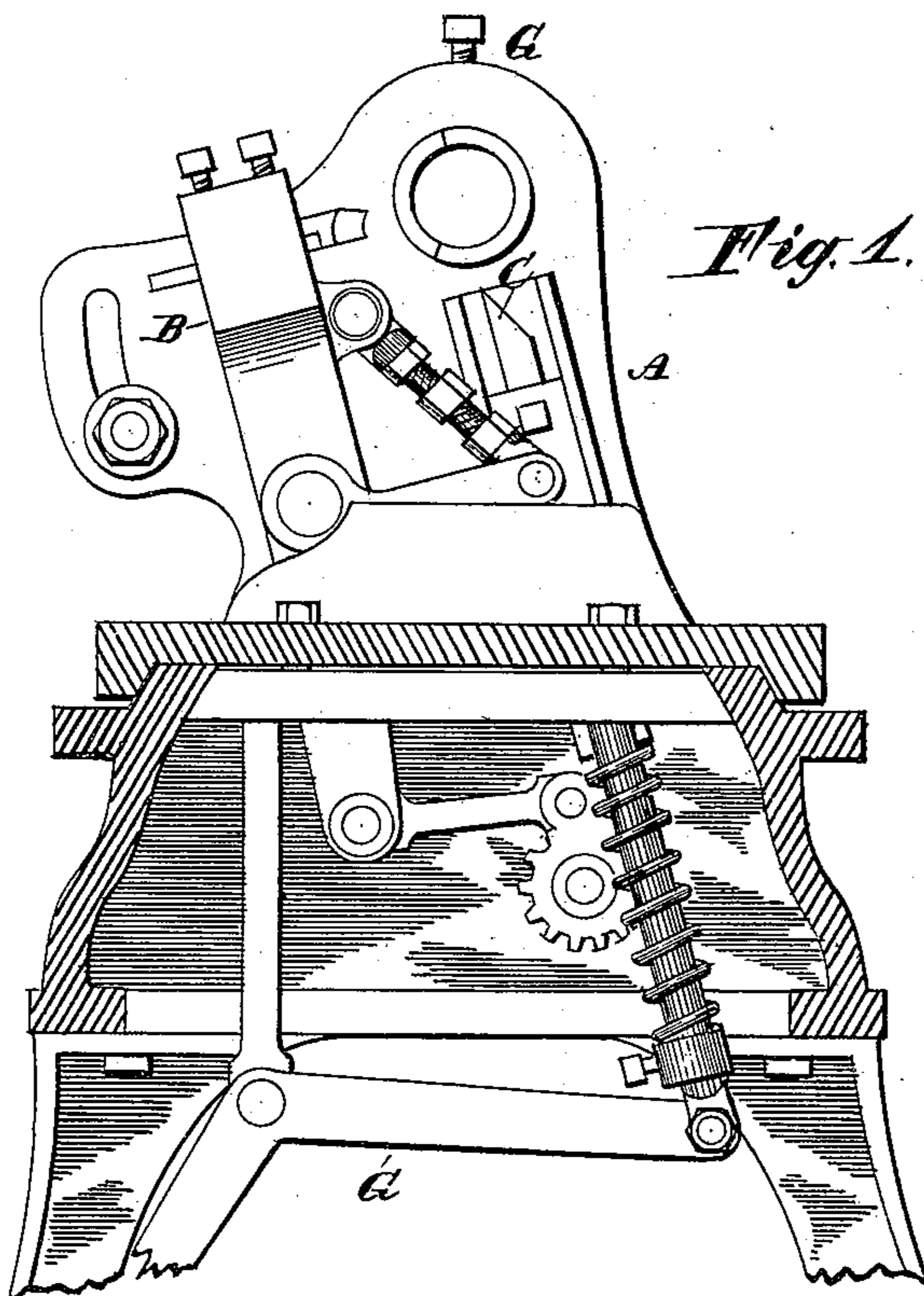


Fig. 1.

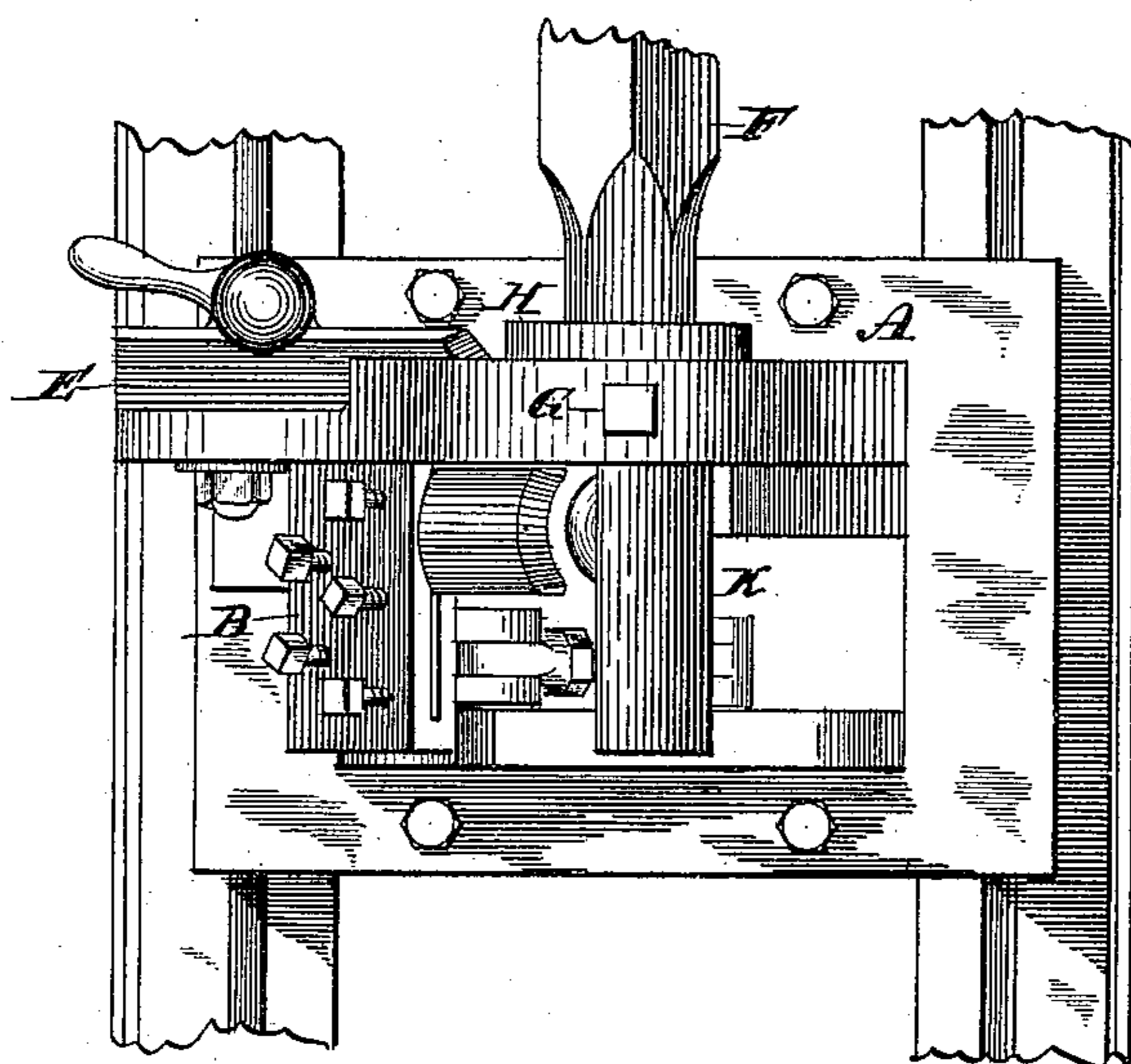


Fig. 2.

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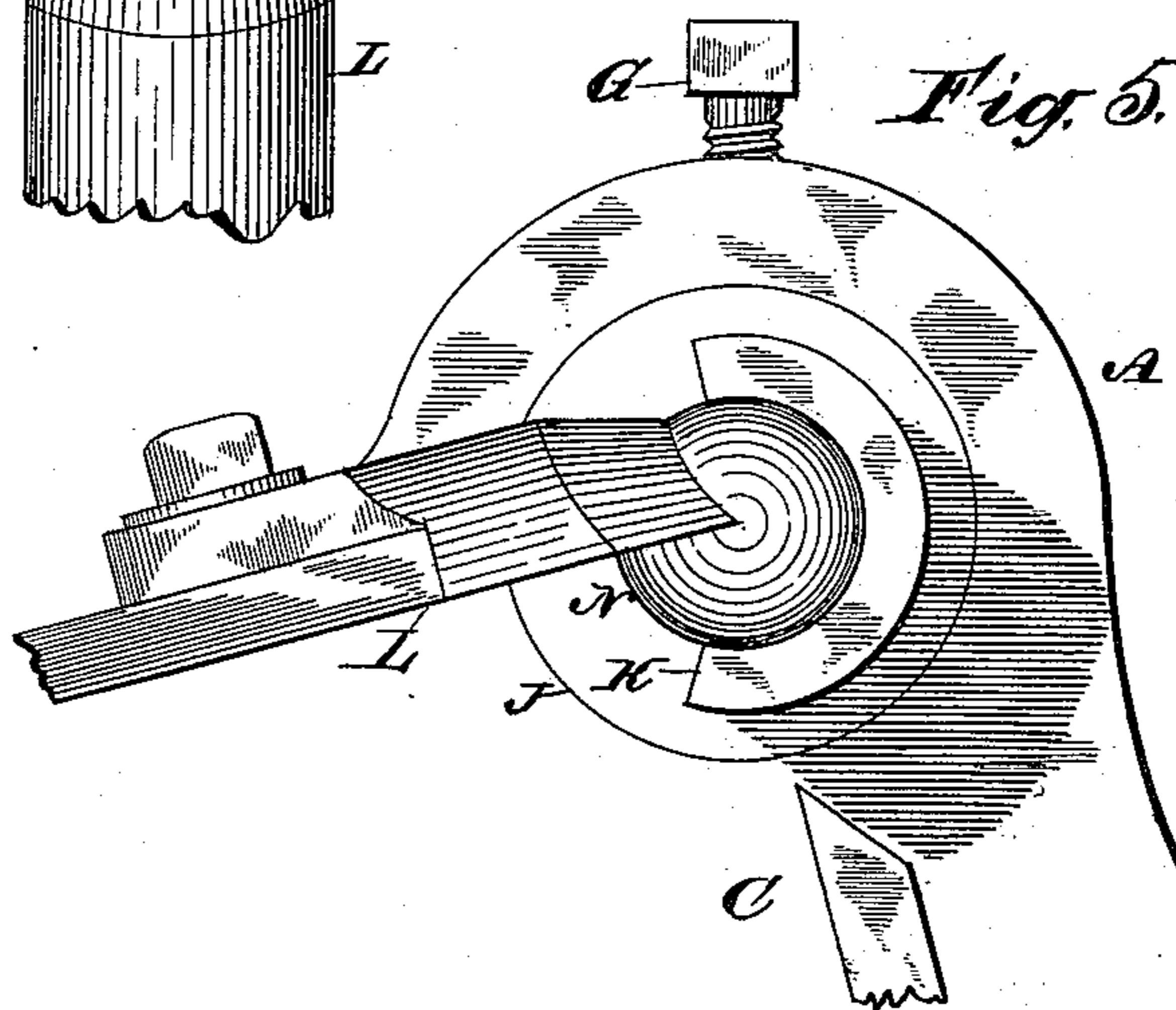
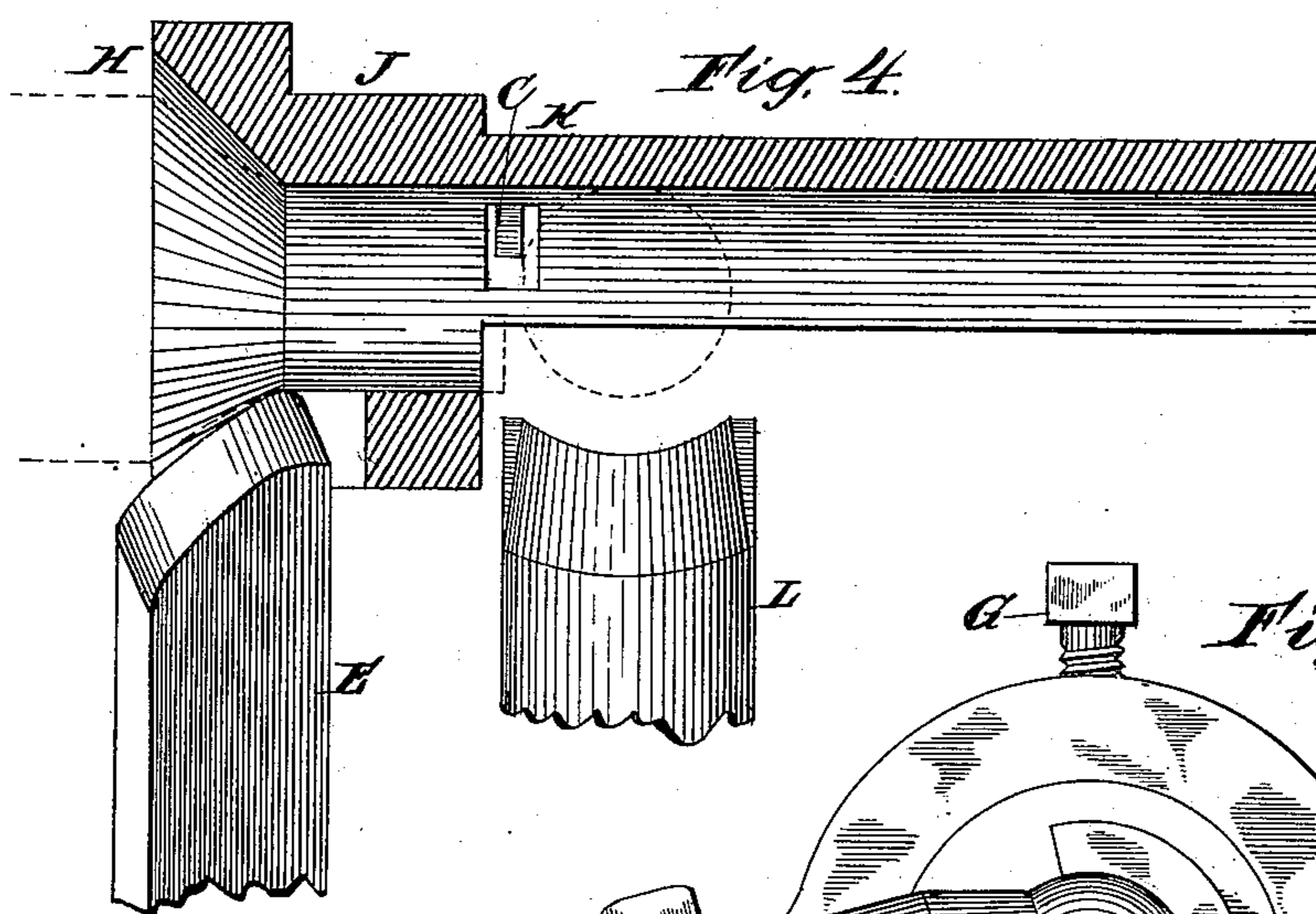
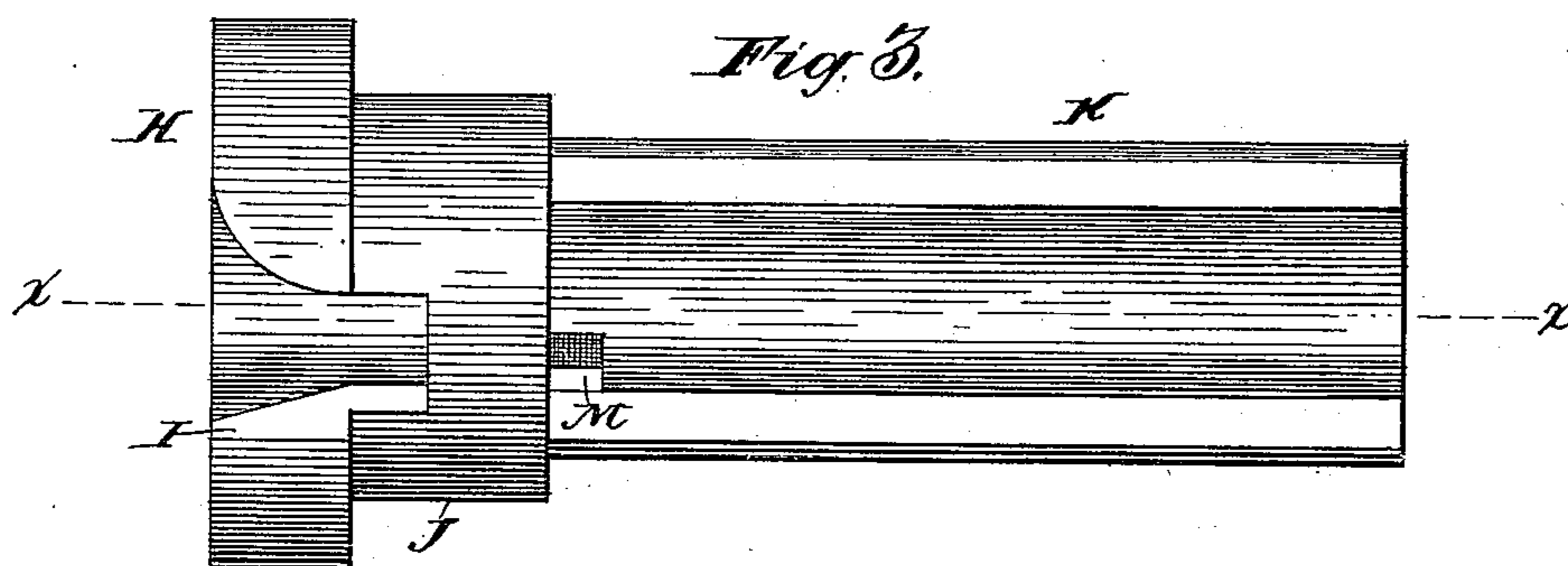
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UNITED STATES PATENT OFFICE.

RUTLEDGE HARRIS, OF CEDAR FALLS, IOWA.

CENTER REST FOR LATHES.

SPECIFICATION forming part of Letters Patent No. 618,666, dated January 31, 1899.

Application filed January 25, 1897. Serial No. 620,531. (No model.)

To all whom it may concern:

Be it known that I, RUTLEDGE HARRIS, a citizen of the United States, residing at Cedar Falls, in the county of Black Hawk and State of Iowa, have invented certain new and useful Improvements in Center Rests for Lathes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to wood-turning lathes of the type commonly designated "variety" lathes; and the object of the invention is to provide a center rest for such lathes adapted to hold and retain the work directly back of the operating-cutter.

A device embodying the invention will be fully hereinafter described, reference being had to the accompanying drawings, in which—

Figure 1 is a transverse section of a lathe such as above mentioned, showing an end elevation of the cross-head and center rest. Fig. 2 is a plan view of the same. Fig. 3, Sheet 2, is a front view of the center rest detached from the cross-head. Fig. 4 is a longitudinal section of the same in the line $x x$ of Fig. 3, showing also the relative positions of the roughing, finishing, and cutting-off chisels. Fig. 5 is a fragmentary end elevation showing the position of the finishing and cutting-off chisels with respect to the center rest while operating on a piece of work.

Similar letters of reference indicate corresponding parts.

In the drawings, A designates the cross-head of a lathe of a well-known type, provided with a swinging tool-post B. This, as well as the cut-off chisel C, is moved forward against the stick to be formed by means of a knee-lever D and suitable connecting mechanism of familiar construction and forming no essential part of this invention. Much of the work of this class of lathes consists in the formation of ornamental figures for use in house-finishing and the like, any particular figure being cut by a cutter having the properly-configured edge to cut the desired profile. In so doing the knife is simply moved toward the rapidly-revolving stick, and so cuts

its own edge outline therein, the stick having previously been sized by the roughing-chisel E.

In Fig. 2 the stick F is shown in position, its upper broken-off end being supposed to be held by a suitable chuck on the arbor of the head-block. (Not shown.) Hitherto the cylindrical portion of the stick has been held at its free end, or near it, by a simple collar of proper internal diameter secured in the cross-head by a set-screw G, leaving the projecting end on which the cutter operates without any direct support opposite the cutter. The effect is naturally to produce more or less vibration in the stick, particularly if it be slender and the cutter wide. My invention is designed to remedy this defect and give a firm support to the stick until the finished part is cut off, and prevents it when nearly cut off from springing against the edge of the cutter and spoiling the finished product.

The device, which is simple in its construction, consists of an elongated collar or sleeve H of suitable bore to admit the cylindrical part of the stick after leaving the roughing-tool. The bore of the larger end is flared, as shown, so as to hold the free end of a square stick, and through an opening I therein projects the diagonal roughing-chisel E. The part J is of uniform size in all cases, so as to fit the hole in the head-block; but the lateral extension K may be reduced, as shown, when the bore is of such a size as to admit of it. This is made long enough to correspond with the width of the cutter in any case, projecting laterally in some instances as far as the tool-holder B. Somewhat less than one-half of this lateral extension is cut away, so as to allow the cutter to move up against the work and the chips to escape; but the remaining portion describes more than half a circle, so as to retain the work even when cut off from the parent stick, it being understood that the finished product is at some point as large, or nearly so, in diameter as the cylindrical stick from which it is formed.

To allow for the passage of the cut-off chisel C, a slot M is made through the extension K, which for convenience may be called the "guide."

In the drawings I have illustrated the turning of a ball N. It will be evident by reference to Fig. 5 that the ball cannot spring out of the guide forward or upward, as its tendency would be if not held in place. Neither
5 can it escape from the guide, even when cut off, except from the end. While in a large class of work the finished part comes off on a bit which bores a hole through it as the last
10 operation, there is still much of this work finished without boring, and it is desirable that the piece should not spring against the knife, taking a deep cut on one side and tearing the piece off before being smoothly finished, as would be the case were the back rest
15 no more than half a circle in cross-section.

It will be understood that the guide is adapted to only one size of stick, and in practice as many of them with varying bores are
20 provided as the work may require.

Having thus described my invention, what

I claim as new, and desire to secure by Letters Patent, is—

In combination with a lathe having a cutter adapted to cut only on one side of the stick and
25 attached to a fixed tool-holder a center rest having a collar fitting the hole in the lathe cross-head, and a lateral guide projecting across the path of the cutter, bored to the size of the cylindrical portion of the stick and
30 with a little less than one-half its material removed on the one side adjacent to the cutter and the full length of the guide to allow the cutter to reach the stick, substantially as described.

In testimony whereof I affix my signature
35 in presence of two witnesses.

RUTLEDGE HARRIS.

Witnesses:

HUGH MCCARTNEY,
NORMAN H. HARRIS.