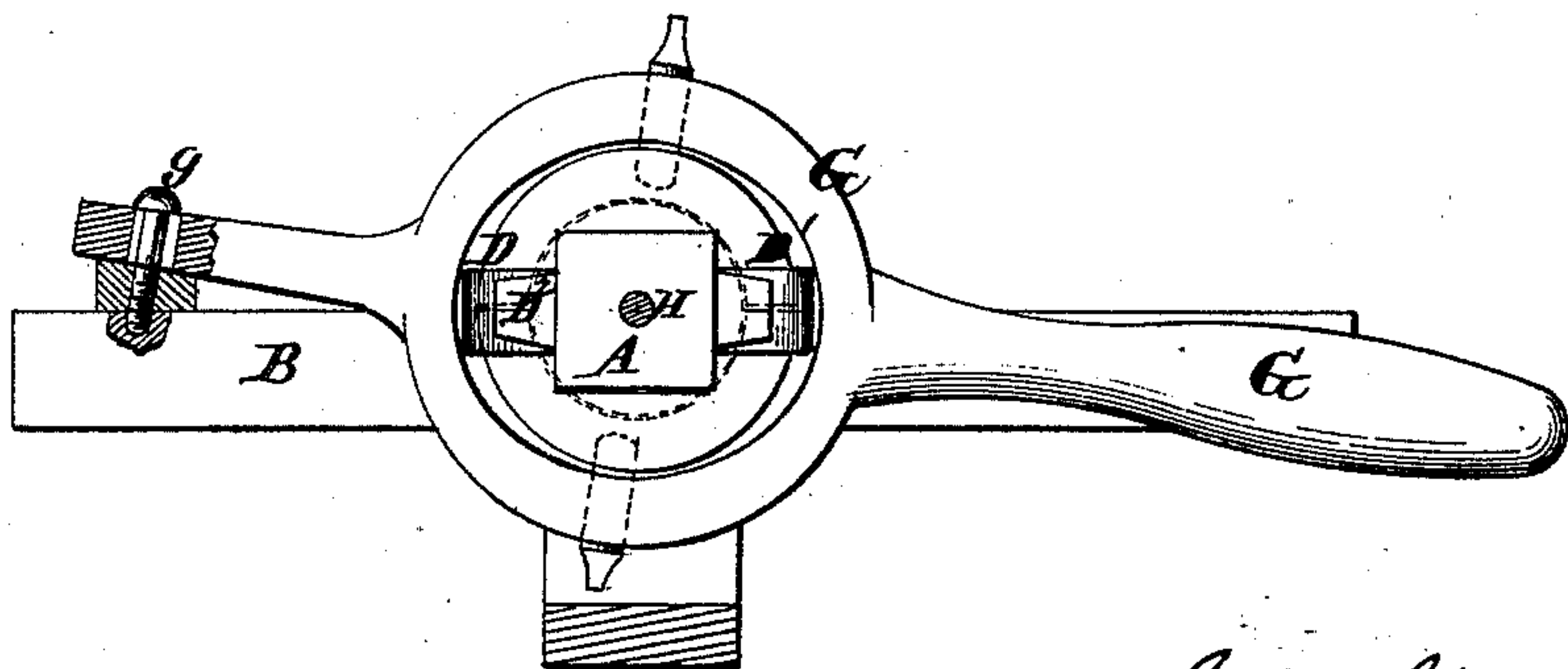
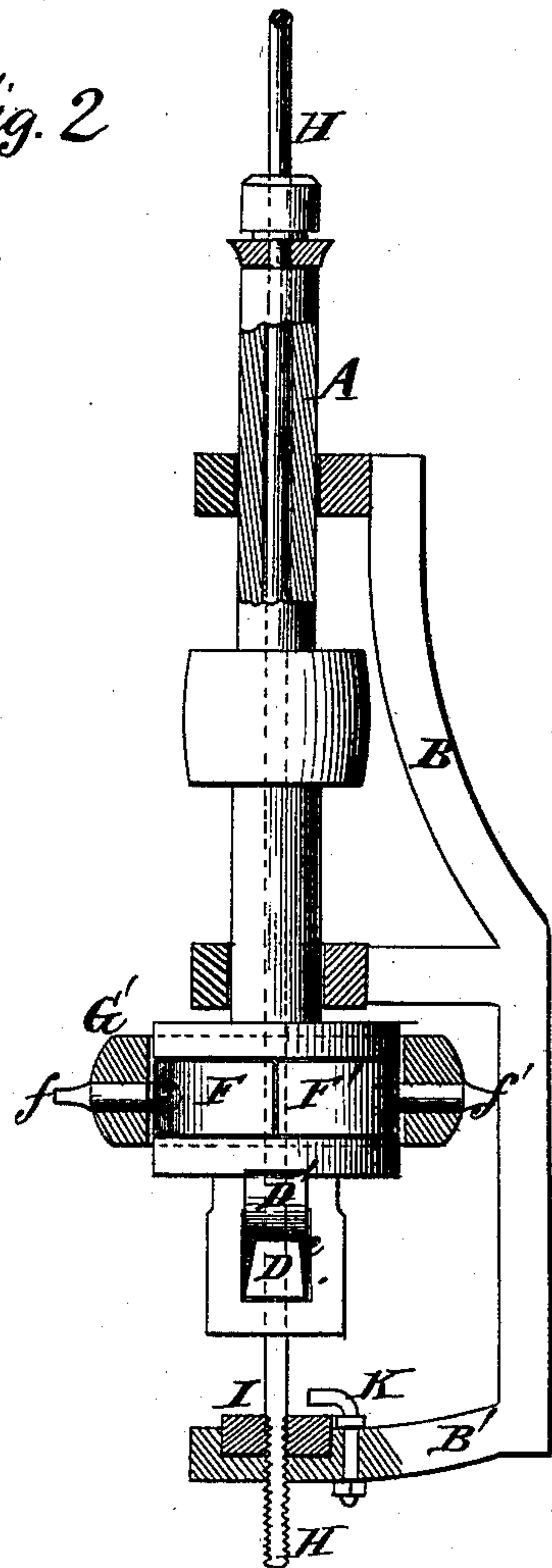
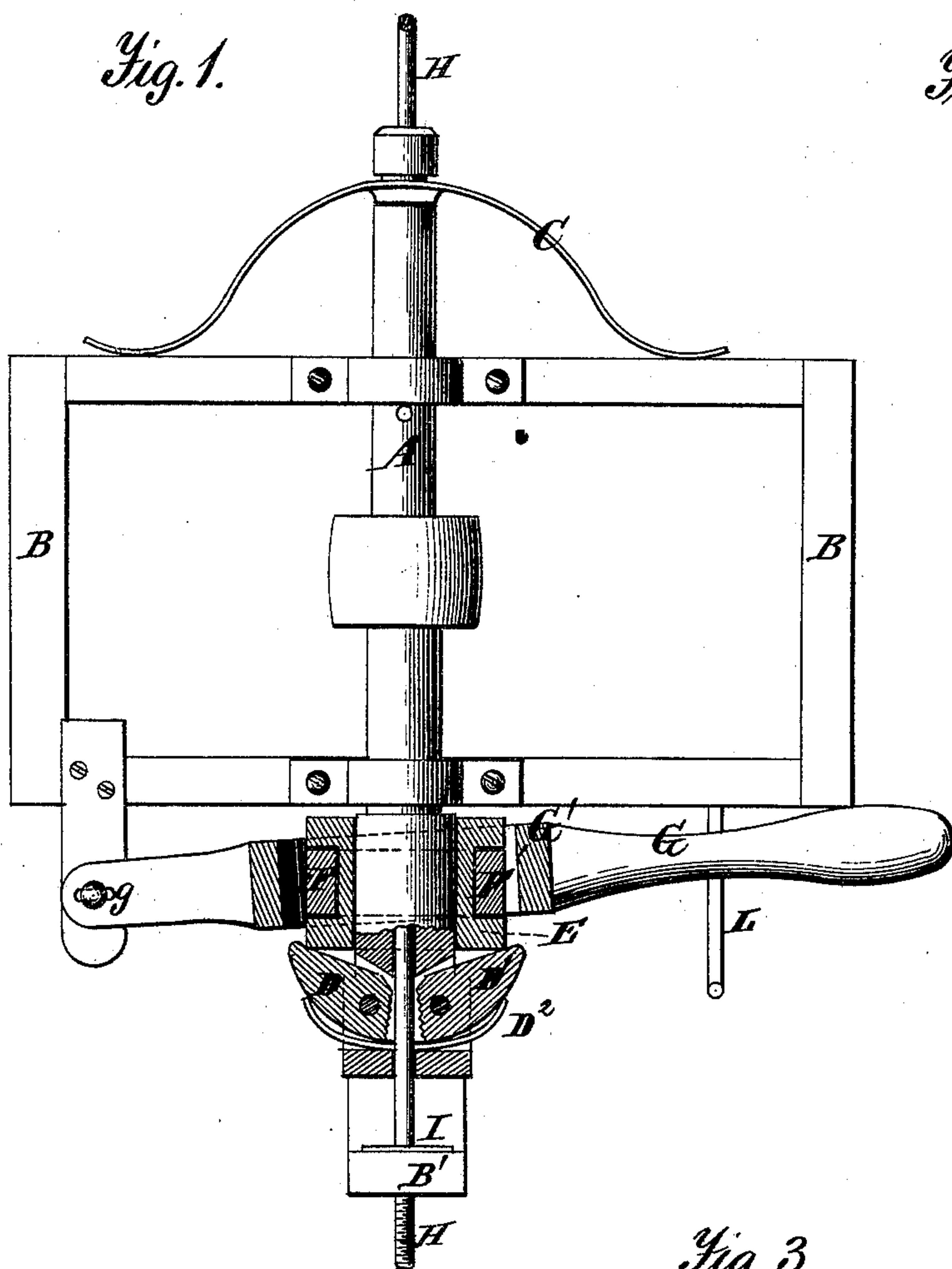


S. E. SHUTE, Jr.

MACHINE FOR THREADING AND INSERTING WIRE.

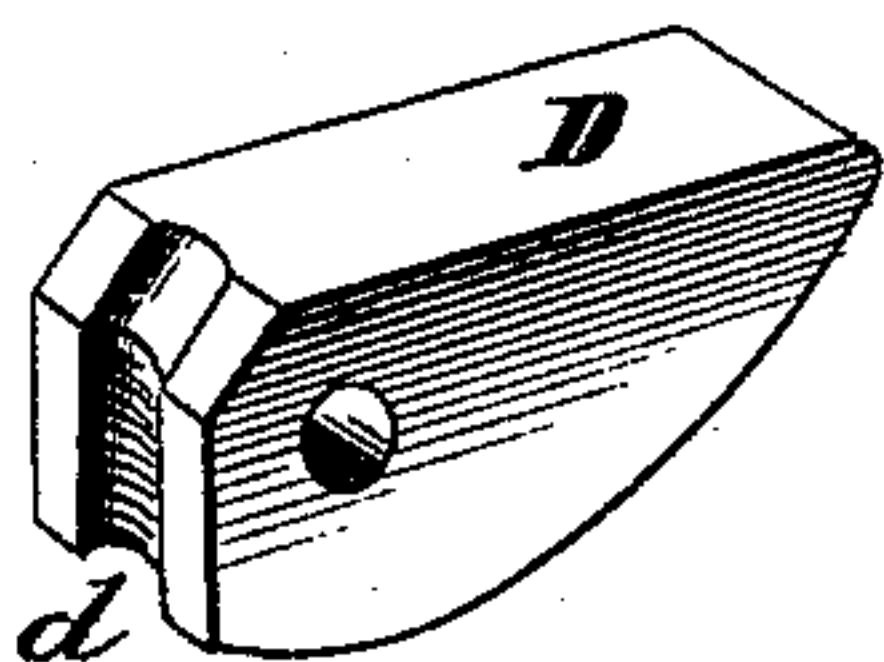
No. 170,689.

Patented Dec. 7, 1875.



Witnesses.
A. Ruppert.
Edw. J. Cile

Fig. 4.



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Inventor.
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Atty

UNITED STATES PATENT OFFICE.

SAMUEL E. SHUTE, JR., OF RICHMOND, INDIANA.

IMPROVEMENT IN MACHINES FOR THREADING AND INSERTING WIRE.

Specification forming part of Letters Patent No. **170,689**, dated December 7, 1875; application filed June 3, 1875.

To all whom it may concern:

Be it known that I, SAMUEL E. SHUTE, Jr., of Richmond, in the county of Wayne and State of Indiana, have invented certain Improvements in Machines for Inserting Screws into the Fellys of Wheels, and for other purposes, of which the following is a specification:

My invention is more especially designed to furnish wheelwrights with a machine adapted for cutting screw-threads upon long lengths of wire, and, at the same time, screwing the wire thus threaded in required lengths into the fellys of wheels, upon the sides of the spoke-mortises, so as to accomplish at one operation what has heretofore required several.

My improvement consists in the use of a hollow sliding mandrel, through which the wire or rod to be threaded and inserted passes, combined with a peculiarly-constructed chuck for periodically gripping the wire to hold it so as to turn with the hollow mandrel, a die for threading the wire, and a spring for lifting the mandrel and chuck on the wire a distance required for the length of the next screw after the insertion of each.

In the annexed drawings, Figure 1 is an elevation of the front side of my improved machine, showing the chuck in section. Fig. 2 is a sectional side elevation of the same. Fig. 3 is a sectional bottom view thereof. Fig. 4 is a perspective of one of the gripping-jaws of the chuck.

The same letters of reference are used in all the figures in the designation of identical parts.

The hollow mandrel A is arranged to slide in suitable bearings in the vertically-disposed frame B, and is borne up by a spring, C. Its lower end terminates in a square head, having a transverse slot, within which the gripping-jaws D D¹ are pivoted, as best seen in Fig. 1. The long arms of these jaws protrude on either side of and above the head of the mandrel, and are borne up, so as to throw their short gripping-arms apart, by a spring, D², against the sleeve E of the chuck, which encircles and slides on the mandrel. The opposed faces of the short arms of the gripping-jaws have semicircular or concave grooves *d*, adapted to the wire to be gripped, and suitably

milled to enable them to take a firm hold on the wire. The sliding sleeve E of the chuck has an annular groove in its surface, receiving the segments F and F' of a ring, to which the yoke G' of a lever, G, is pivoted by pins *f* and *f'*. The lever is fulcrumed at *g* to the frame, and has a handle of suitable length by which to operate it. The wire or rod H, passing through the mandrel between the gripping-jaws, enters the screw-die I, which is of rectangular form, and rests in a socket in the bracket B' of the frame. The die rests loosely in its socket, and is permitted to rise to the extent allowed by the overhanging button K. The downward movement of the lever is checked, so as to release the wire from the gripping-jaws of the chuck, by a stop or gage, L, depending from the frame, and reaching with its horizontal end under the lever.

The operation of the machine will be as follows: A wire or rod having been passed into the hollow mandrel so as to enter the die, and the mandrel having been started to rotate, the lever G is borne down, and the wire clamped between the gripping-jaws, causing it to rotate with the mandrel; and the pressure on the lever being continued, the wire will be gradually drawn into and through the screw-die, carrying the mandrel and chuck with it, against the force of the spring C, which will now be compressed. On striking the stop L the lever is released, the gripping-jaws open, and the mandrel and the entire chuck are raised up on the wire, which becomes at once stationary by the resilience of the spring C. A wheel is now placed, bearing with the side of the rim against the end of the screw-threaded rod or wire, and the wire again clamped between the gripping-jaws. As it is being threaded it is drawn through the die, as before, and screwed into the felly of the wheel at the same time. The extent of each downward movement of the mandrel is so regulated that each time the exact length of screw desired will be screwed into the felly. The inserted end of the screw will be cut off close to the felly by suitable shears, leaving the end of the wire beveled, so as to facilitate its entrance into the wood. On passing through the wire the shears will slightly lift its upper length, which is permitted by the loose die.

This machine is applicable to inserting screws into the soles of boots and shoes, and other similar purposes, though primarily intended for wheelwrights, as above stated.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of the frame B, sliding hollow mandrel A, griping-jaws D D¹, die I, and spring C, substantially as specified.

2. The herein-described chuck, composed of the griping-jaws D D¹, spring D², sleeve E, seg-

ments F and F', and yoked lever G G', substantially as specified, in combination with the hollow mandrel and die I, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

S. E. SHUTE, JR.

Witnesses:

D. P. HOLLOWAY,

B. EDW. J. EILS.