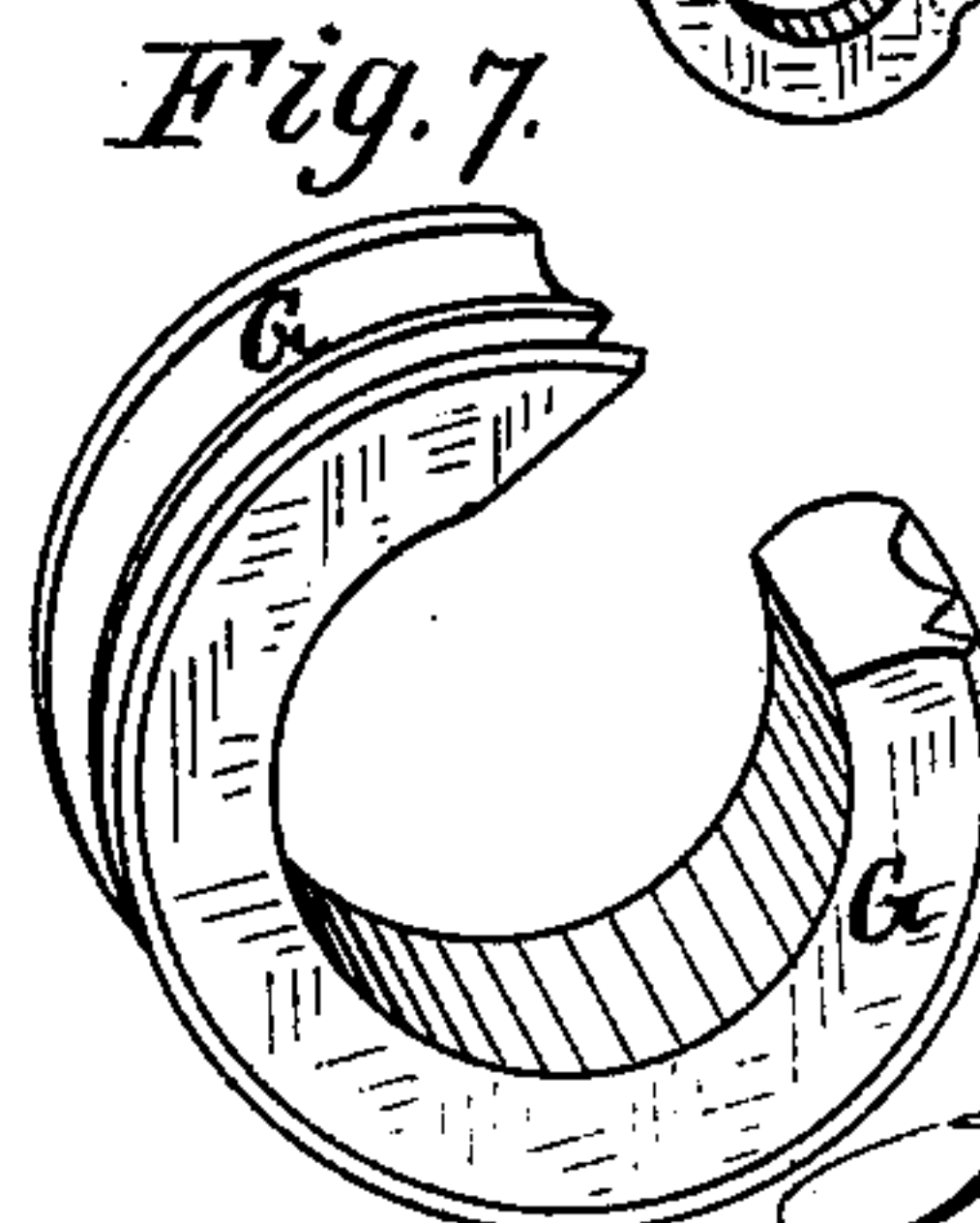
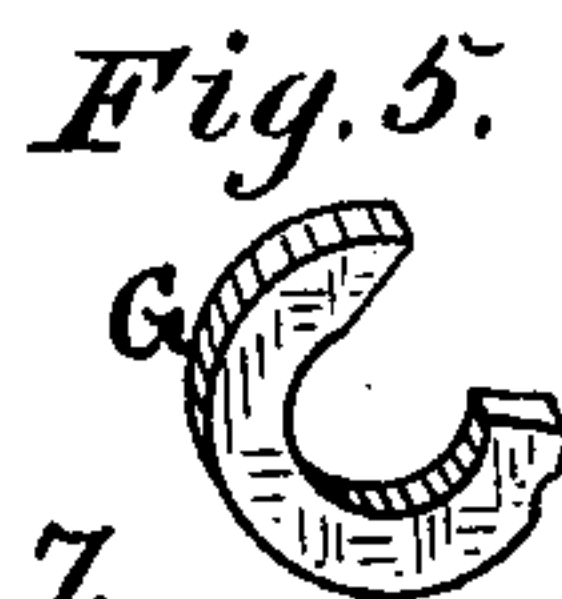
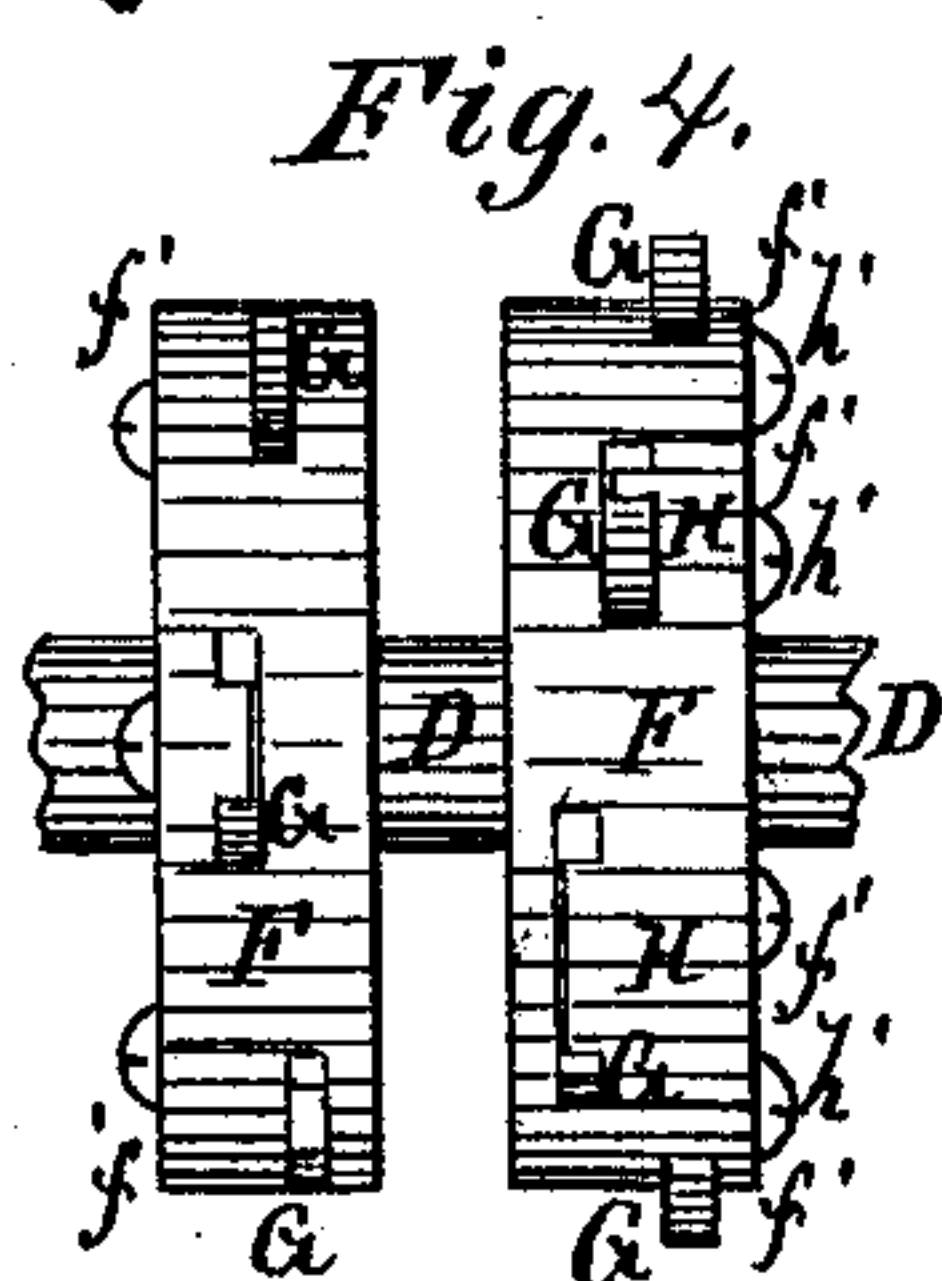
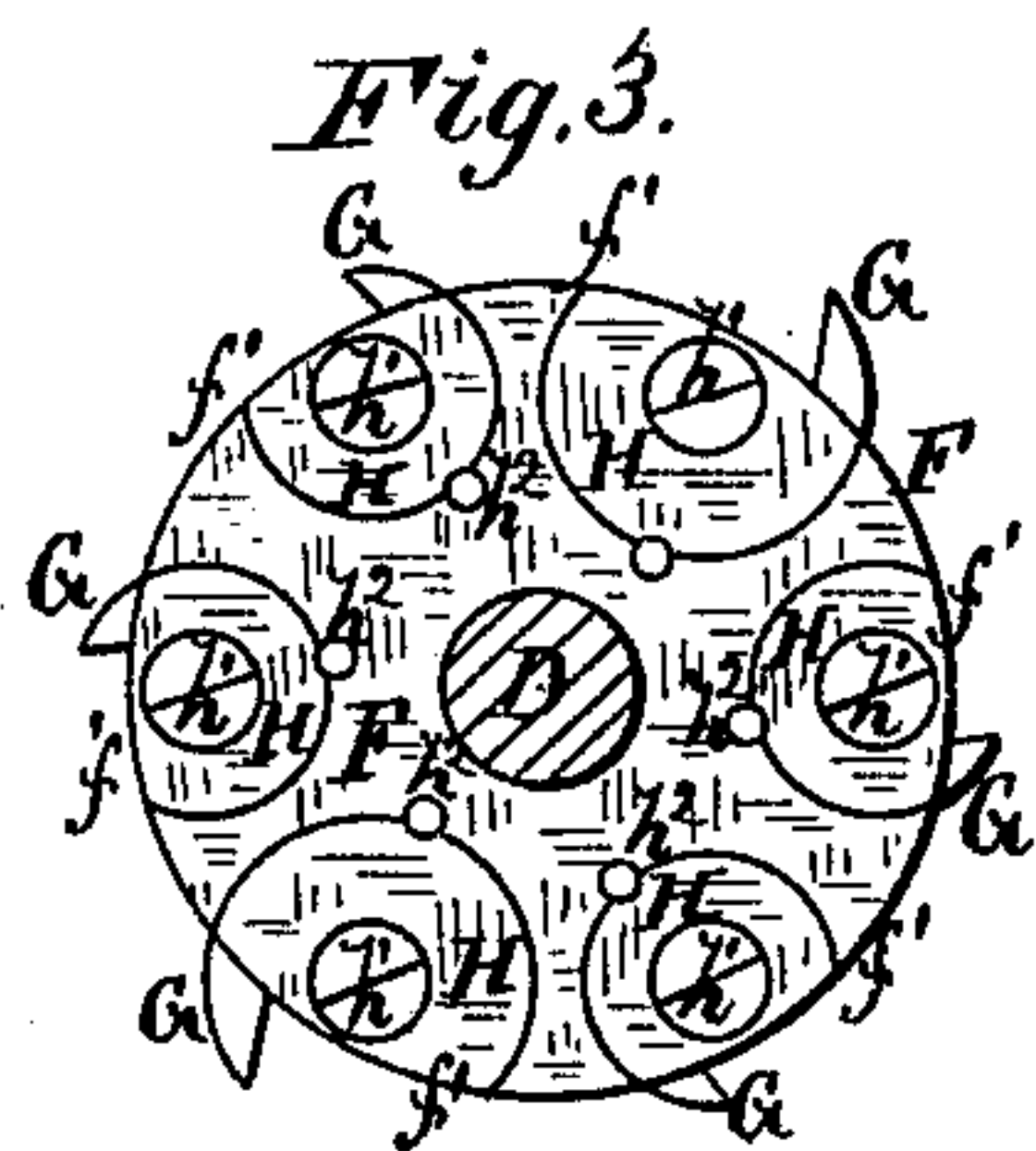
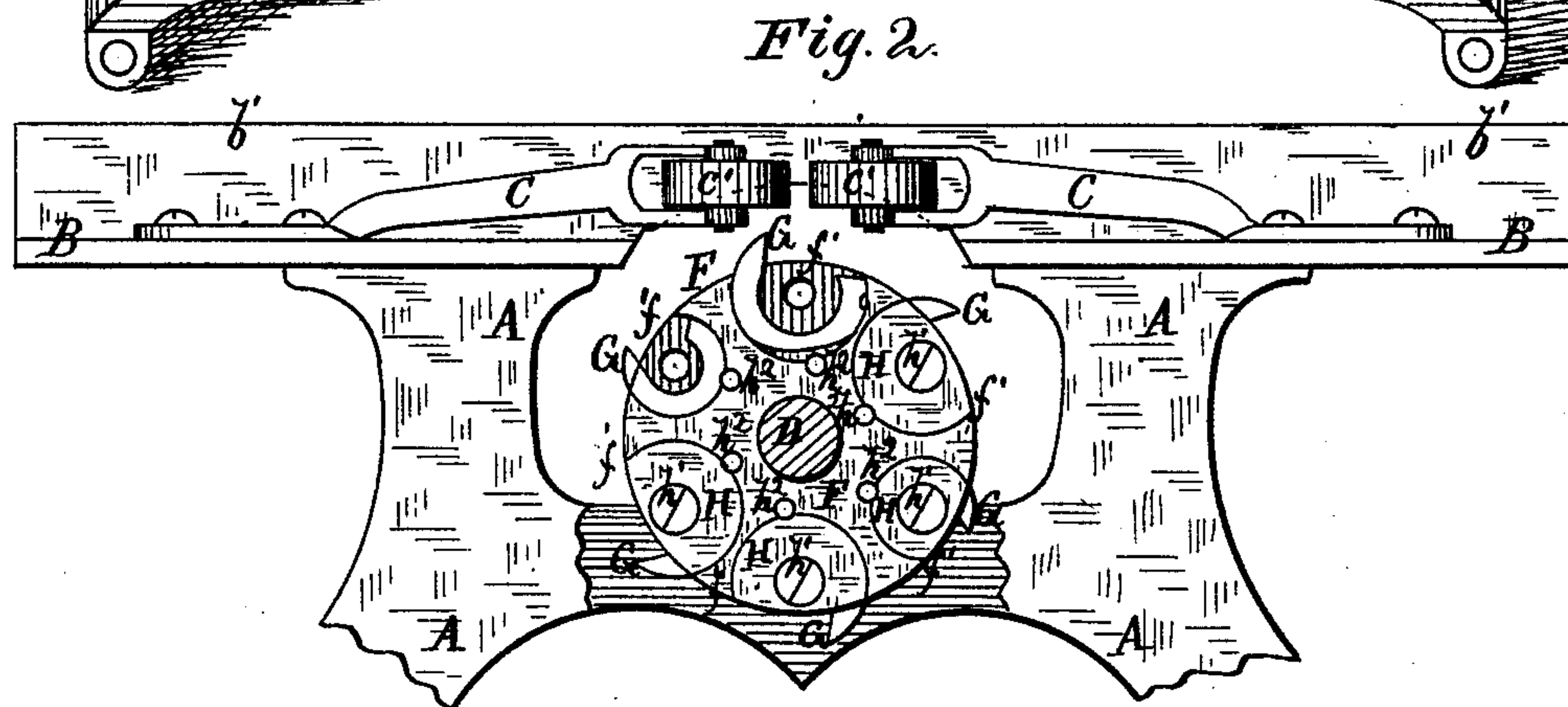
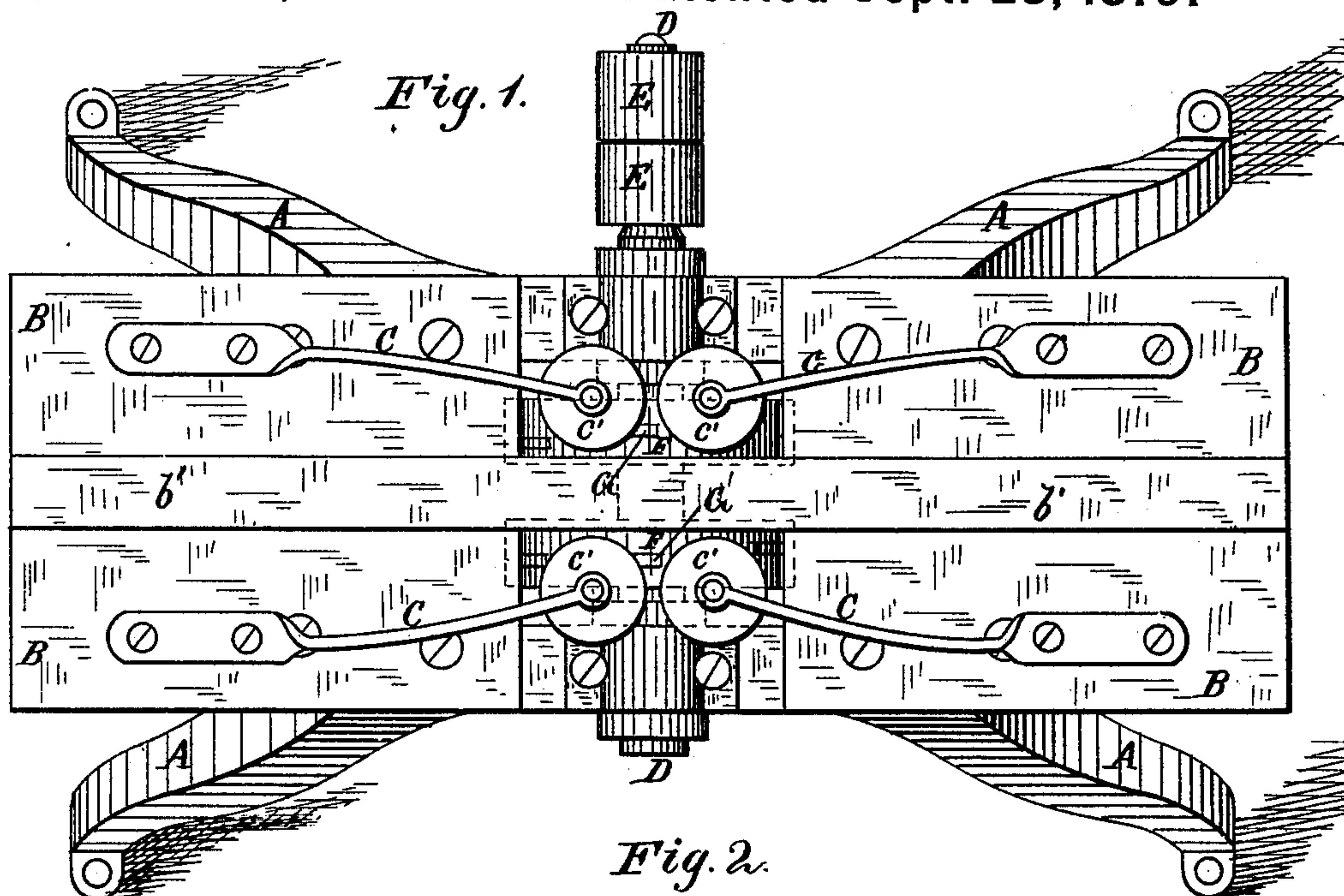


J. HYSLOP, Jr.  
Matching and Molding Machine.

No. 219,947.

Patented Sept. 23, 1879.



WITNESSES:

Henry N. Miller  
C. Sedgwick

INVENTOR:

J. Hyslop Jr.  
BY *Mum & Co*  
ATTORNEYS.



# UNITED STATES PATENT OFFICE.

JOHN HYSLOP, JR., OF ABINGTON, MASS., ASSIGNOR TO ABINGTON TACK AND MACHINE ASSOCIATION, OF SAME PLACE.

## IMPROVEMENT IN MATCHING AND MOLDING MACHINES.

Specification forming part of Letters Patent No. **219,947**, dated September 23, 1879; application filed May 27, 1879.

*To all whom it may concern:*

Be it known that I, JOHN HYSLOP, Jr., of Abington, in the county of Plymouth and State of Massachusetts, have invented a new and useful Improvement in Matching and Molding Machines, of which the following is a specification.

Figure 1 is a top view of my improved machine. Fig. 2 is a side view of the same, parts being broken away to show the construction. Fig. 3 is a detail side view of one of the cutter-heads. Fig. 4 is a detail face view of the two cutter-heads. Fig. 5 is a detail perspective view of one of the cutters. Fig. 6 is a detail perspective view of one of the clamping-blocks. Fig. 7 is a detail perspective view of one of the molding-cutters.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish an improved machine for tonguing and grooving the edges of boards, and at the same time jointing them, which may also be used for forming molding, and which shall be simple in construction and convenient and reliable in use, allowing the cutters to be readily ground and adjusted, and doing accurate work.

The invention consists in combining with a transversely-slotted frame, table having median rib, and spring-supported rolls a rotary shaft having two heads, one arranged on each side of said rib, and provided with cutters, as hereinafter described.

A represents the frame of the machine, to the top of which is attached the table B. The table B is made with a central division rib or flange,  $b'$ , for the side of the boards to rest against while the edge is being operated upon, and against which the said boards are held by the springs C. The outer ends of the springs C are detachably secured to the side parts of the table B. The inner ends of the springs may be provided with rollers  $c'$ , to bear against the boards and lessen the friction.

In bearings in the middle part of the frame A, revolves the shaft D one of the journals of which projects and has a fast and a loose pulley, E E, attached to it to receive the driving-belt.

To the shaft D are attached two cutter-heads, F, one upon each side of the plane of the rib or flange  $b'$ , so that their cutters may operate upon the edges of boards moving along the sides of the said rib or flange  $b'$ . In the outer side of each cutter-head F, along its edge, are formed recesses  $f'$ , made in the form of sections of a circle, to receive the cutters G, which are bent into the form of arcs of circles, and may be greater or less than semicircles, as may be desired.

The cutters G fit into the recesses  $f'$ , where they are secured in place by the clamping-blocks H, which fit into the said recesses, and are secured in place by screws  $h^1$  passing through them and screwing into the cutter-heads F. The inner edges of the curved sides of the blocks H are rabbeted to receive and fit upon the cutters G.

The clamping-blocks H are prevented from turning in their seats by key-pins  $h^2$ , inserted in holes formed in the cutter-heads F, at the edge of the recesses  $f'$ , and in such positions that the side of the said pins may project into the said recesses sufficiently to enter notches in the curved edges of the blocks H, and thus lock them. The pins  $h^2$  are made so short that their inner ends will not come in contact with the cutters G, leaving the said cutters free to be adjusted as their wear or grinding may require.

When the recesses  $f'$  and the cutters G are larger than a semi-circumference, the cutters G have a notch formed in their convex sides near their rear ends, so that they may be slipped in past the said pins  $h^2$ . When the recesses  $f'$  and the cutters G, or either of them, are smaller than a semi-circumference this notch is not needed.

Three cutters, G, form a set, and one, two, or more sets may be applied to each cutter-head F, as may be desired.

In grooving the edge of a board, one cutter of each set forms the groove, the second cutter joints the edge of the board upon one side of the groove, and the third cutter joints the edge of the board upon the other side of the groove.

In tonguing the edge of a board, one cutter forms the shoulder upon one side of the

tongue, the second cutter forms the shoulder upon the other side of the tongue, and the third cutter joints the edge of the tongue.

The cutters that form the groove and joint the edge of the tongue may be grooved circumferentially upon their outer sides; but the other cutters should be made plane. The outer sides of the molding-cutters should have the exact form of the desired molding.

With this construction the cutters are ground flat upon the inner side of their forward ends, so that an unskilled person can readily grind them.

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

The combination, with the transversely hollow frame A and the table B, having median rib *b'*, of the spring-supported rolls C *c'* and the rotary shaft D, having a head of cutters, G, on each side of said rib, as shown and described, for the purpose specified.

JOHN HYSLOP, JR.

Witnesses:

SAML. B. THUXTER,

MICAH NASH.