

(No Model.)

T. A. CONSIDINE.
MOLDING MACHINE.

No. 402,508.

Patented Apr. 30, 1889.

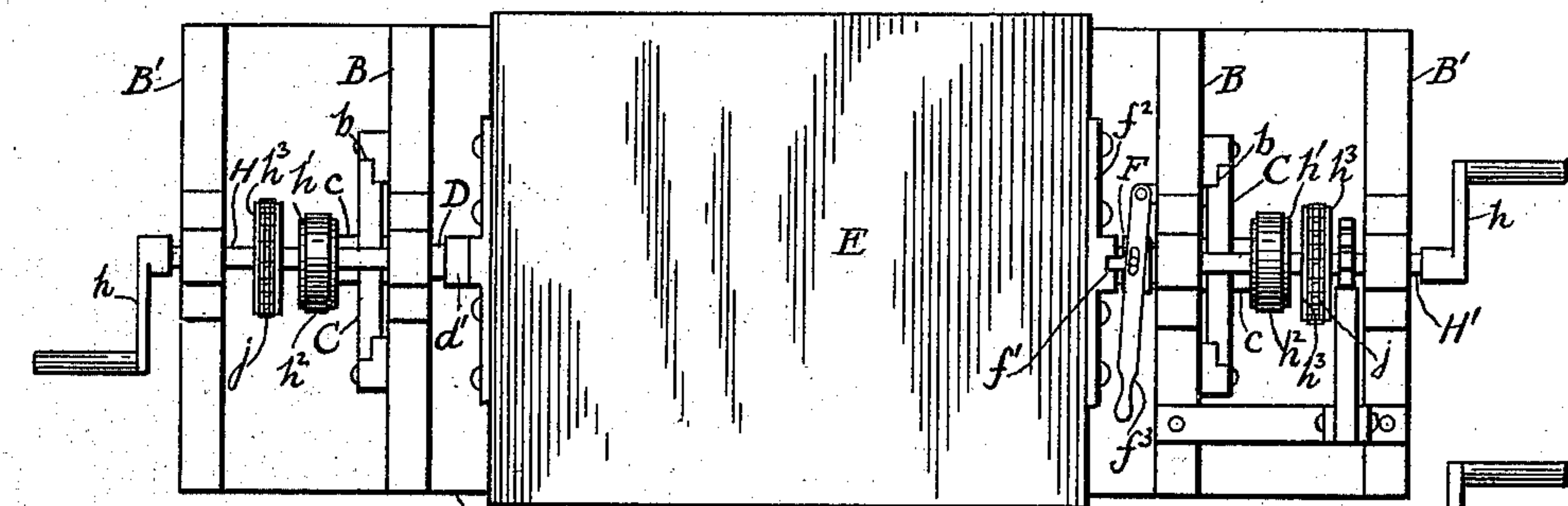


FIG. 1.

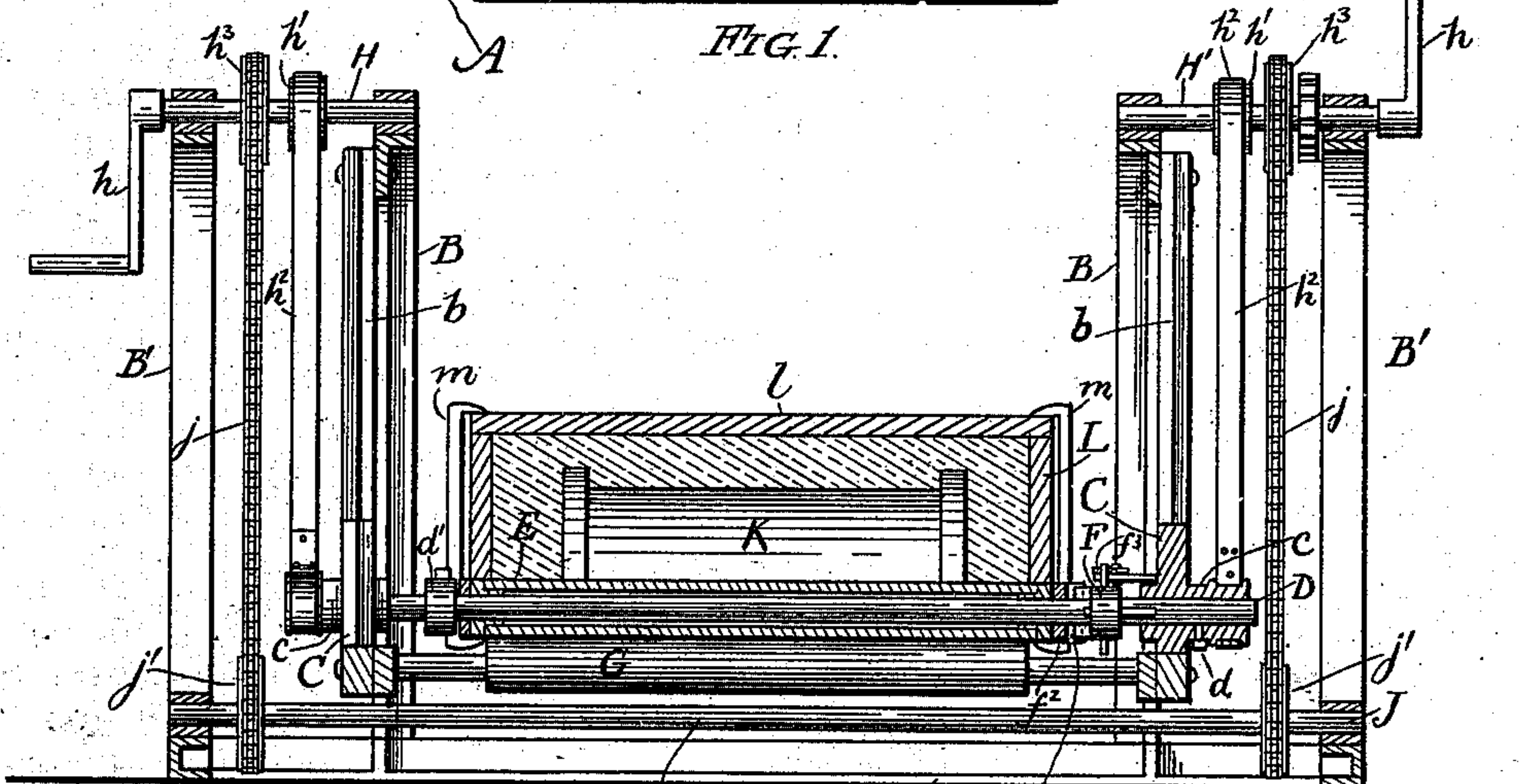


FIG. 2.

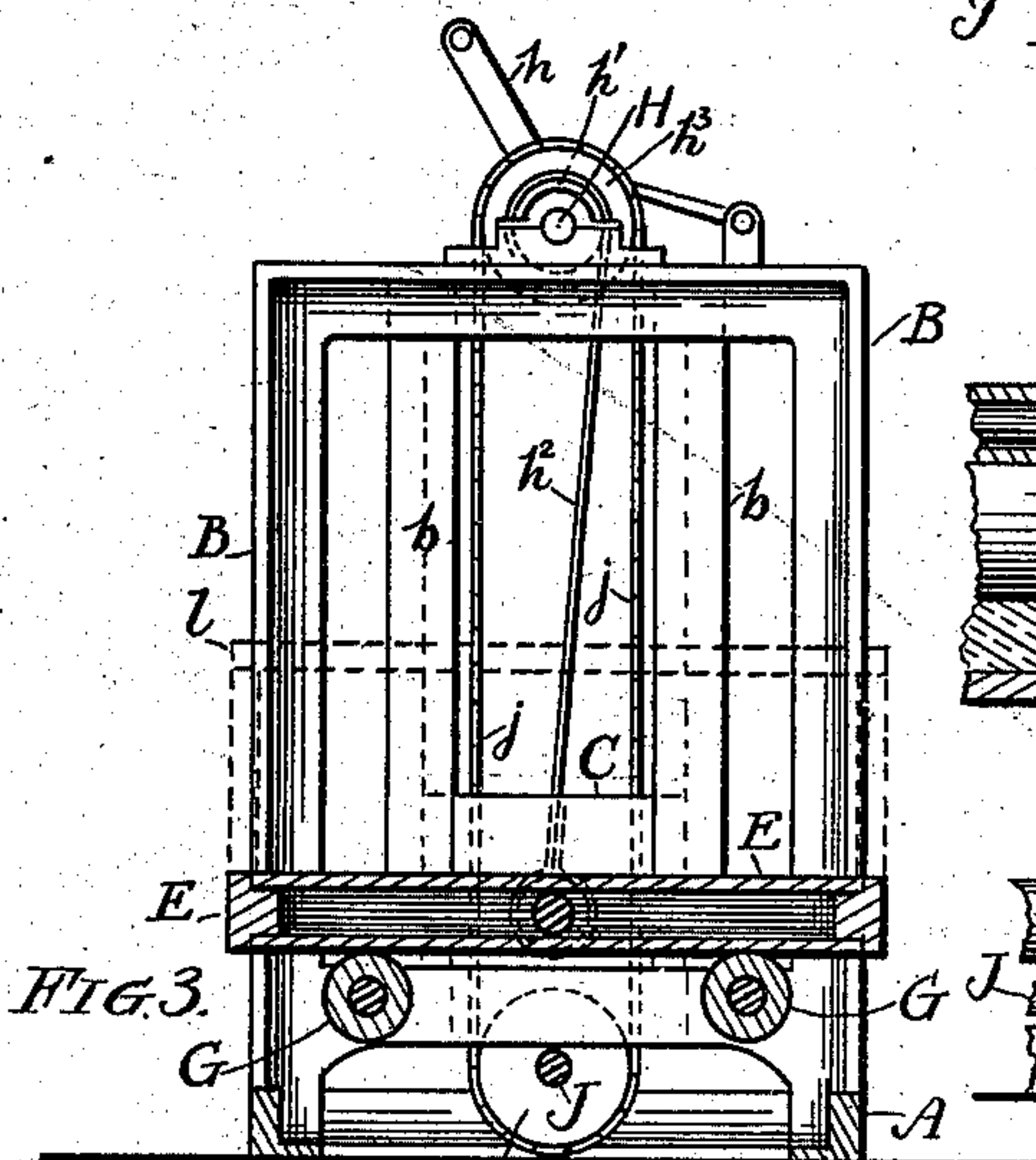


FIG. 3.

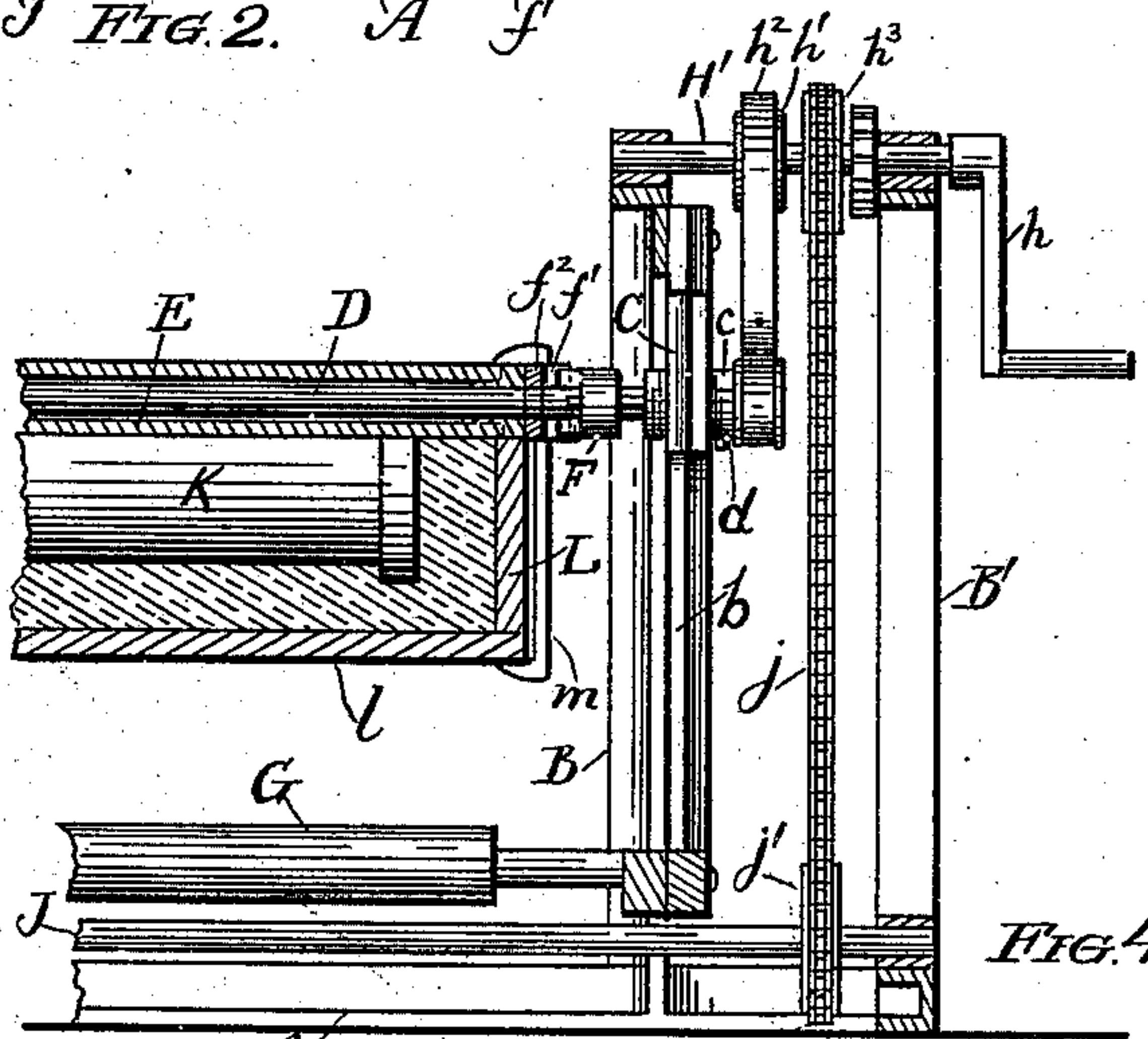


FIG. 4.

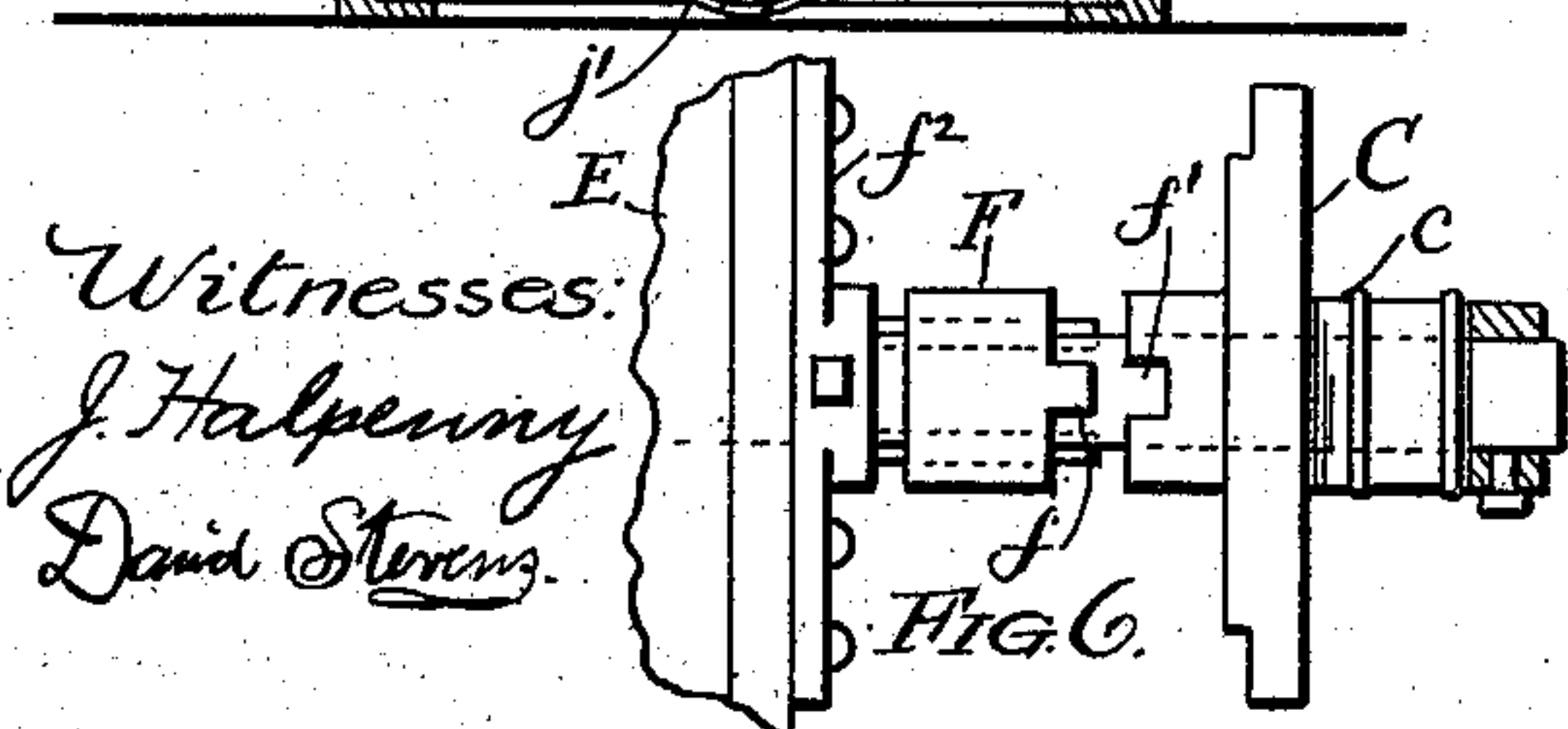


FIG. 5.

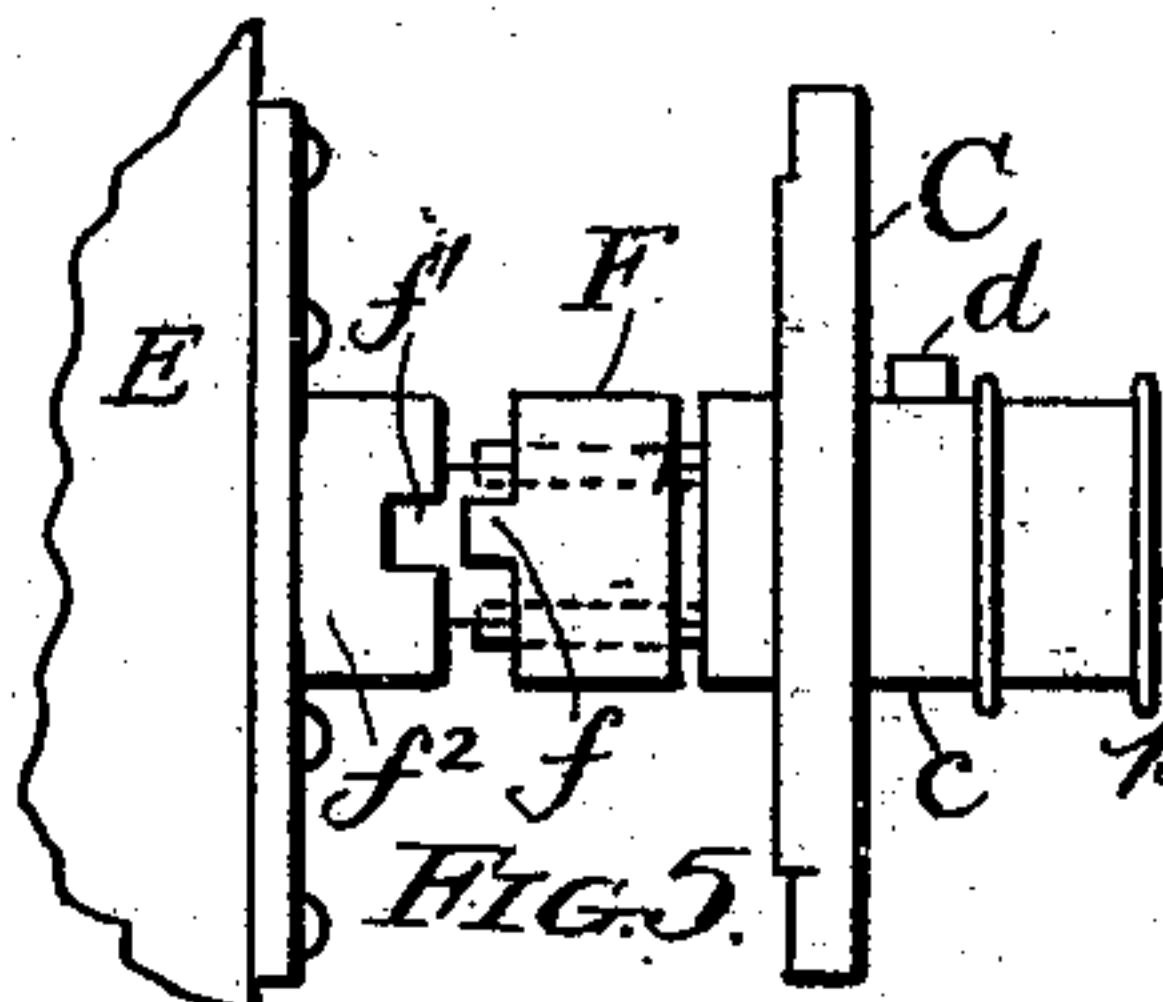


FIG. 6.

Witnesses:
J. Halpern
David Stevens.

Inventor:
Thomas A. Considine
By Lindley & O'Leary
his Attys.

UNITED STATES PATENT OFFICE.

THOMAS A. CONSIDINE, OF CHICAGO, ILLINOIS.

MOLDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 402,508, dated April 30, 1889.

Application filed February 26, 1889. Serial No. 301,187. (No model.)

To all whom it may concern:

Be it known that I, THOMAS A. CONSIDINE, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Molding-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a plan view of a molding-machine embodying my improvements. Fig. 2 is a vertical longitudinal sectional view of the same. Fig. 3 is a transverse vertical sectional view. Fig. 4 is a longitudinal sectional view, in detail, of a portion of said machine. Fig. 5 is a detail view of the sliding cross-head and clamping device for maintaining the mold-board in the desired positions, and Fig. 6 is a like view showing a modification of said construction.

Like letters of reference in the different figures indicate like parts.

The object of my invention is to so construct a molding-machine that the flask may be in a position to be readily filled and tamped and then reversed and placed upon rolls, so that the pattern may be withdrawn from the sand by operating the machine, leaving the flask in a position to be readily and easily removed, all of which is hereinafter more fully described and claimed.

A in the drawings represents the base of the frame-work of the machine, to which are attached uprights B B B' B'. Loosely fitted in grooved uprights b b are sliding blocks or cross-heads C C, having hubs c c, formed integral therewith, which are centrally bored for the reception of a shaft, D, which is by preference rigidly secured therein by means of a set-screw, d, Figs. 2 and 5. A molding-board, E, is preferably loosely attached to the shaft D, being prevented from longitudinal movement thereon by means of collars, one of which, d', is shown in Figs. 1 and 2. A clutch member, F, is loosely splined upon the shaft, and is provided with one or more teeth, f, which are adapted to fit into notches f', formed in a plate, f², rigidly attached to the mold-board E. The sliding of the clutch member F into engagement with its counterpart serves to secure the mold-board rigidly

to the shaft D, or to leave it loose thereon when disconnected. This may be accomplished by means of a lever, f³, Fig. 1, arranged as shown or in any convenient way. Rolls G G are arranged in bearings at the bottom of the frame for the reception of the mold-board or flask, as the case may be, as hereinafter stated. Shafts H H' are journaled in bearings in the top of the frame and provided with suitable cranks, h h. Pulleys h' h' are attached rigidly to the shafts H H', and connected with the hubs c c by means of straps or cords h² h², the ends of which are attached to said pulleys and hubs, respectively. Sprocket-wheels h³ h³ are mounted upon the shafts H H' and connected by means of chains j j to secondary sprocket-wheels j' j' upon a shaft, J, which is placed beneath the rolls G. This device prevents the shafts H H' from being revolved except in unison.

K, Figs. 2 and 4, represents the pattern secured to the molding-board, while L indicates the flask, provided with a loose cover, l. Said cover may be detachably secured to the flask and in turn to the mold-board by means of clamps m m.

The operation of said machine is as follows: The mold-board E is lowered by turning the cranks h until it rests upon the rolls G, as shown in Figs. 2 and 3. The flask L is then placed upon the mold-board and the sand tamped around the pattern, after which the board l is placed in position and the cover and flask clamped to the mold-board by means of the clamps m m. The cranks h are then turned and the mold-board, with the flask attached thereto, raised sufficiently to permit the flask to rotate. The clutch F is then released and the mold-board inverted, as shown in Fig. 4, when it is lowered to rest upon the rolls G. The clamps m are then detached, when, upon turning said cranks, the mold-board is raised and the pattern withdrawn from the sand. The flask, resting upon the rolls G, may be withdrawn with but little effort. It is obvious that the shaft may be made to revolve in its bearings in the slides C, while the counterpart of the clutch F may form a part of the hub c, as shown in Fig. 6.

Having thus described my invention, I claim—

In a molding-machine, the combination, with a revoluble mold-board, of the crank-shafts H H', having pulleys and sprocket-wheels arranged thereon, the straps $h^2 h^2$ in
5 operative connection with the mold-board shaft, shaft J, sprocket-wheels $j' j'$, and chains j , substantially as shown and described.

In testimony whereof I have signed this specification, in the presence of two subscribing witnesses, this 15th day of February, 1889. 10
THOMAS A. CONSIDINE.

Witnesses:

D. H. FLETCHER,
J. HALPENNY.