

(No Model.)

J. L. SIMMONS.

ATTACHMENT FOR WOOD MOLDING MACHINES.

No. 368,623.

Patented Aug. 23, 1887.

Fig. 1.

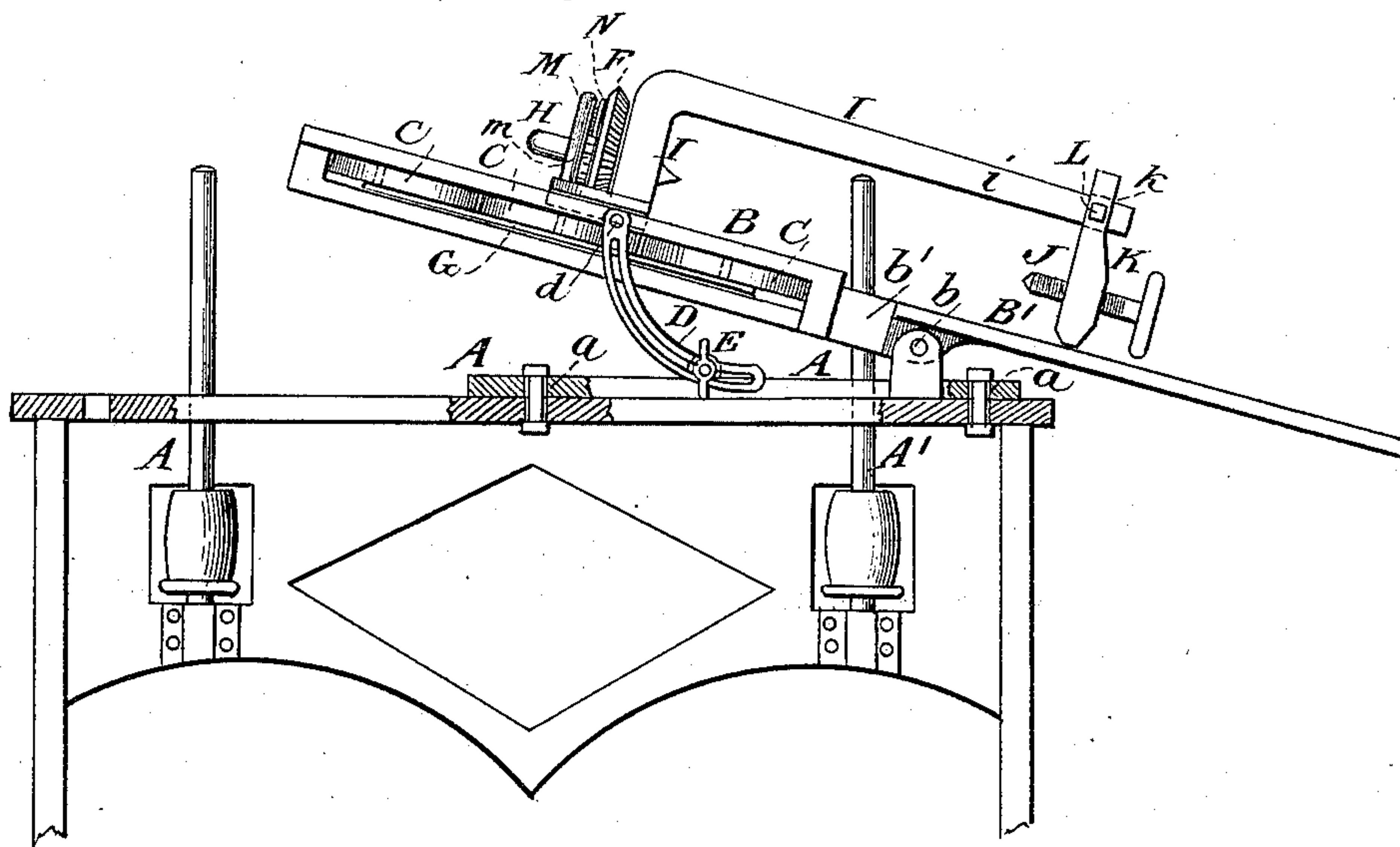


Fig. 2.

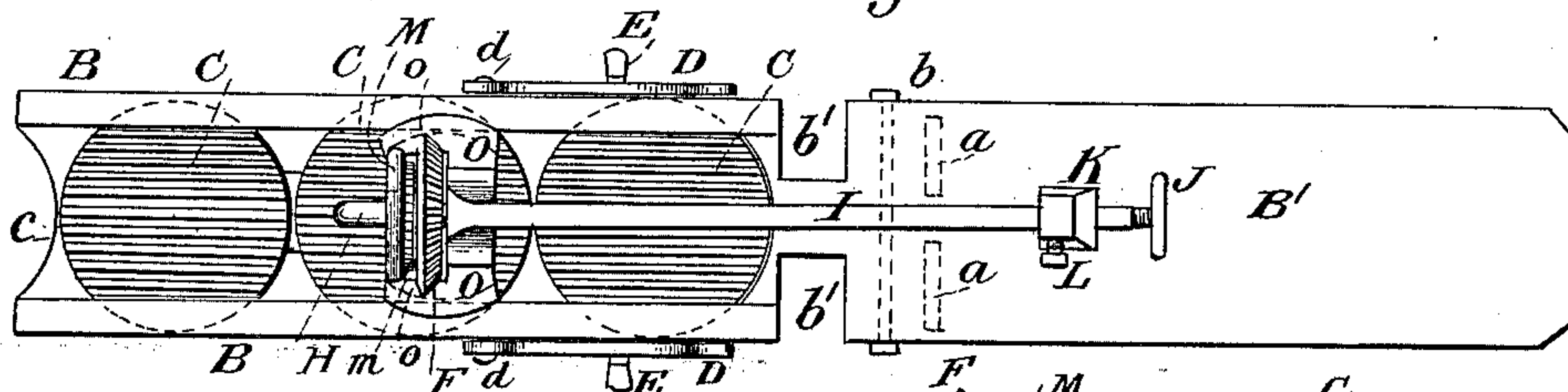


Fig. 3.

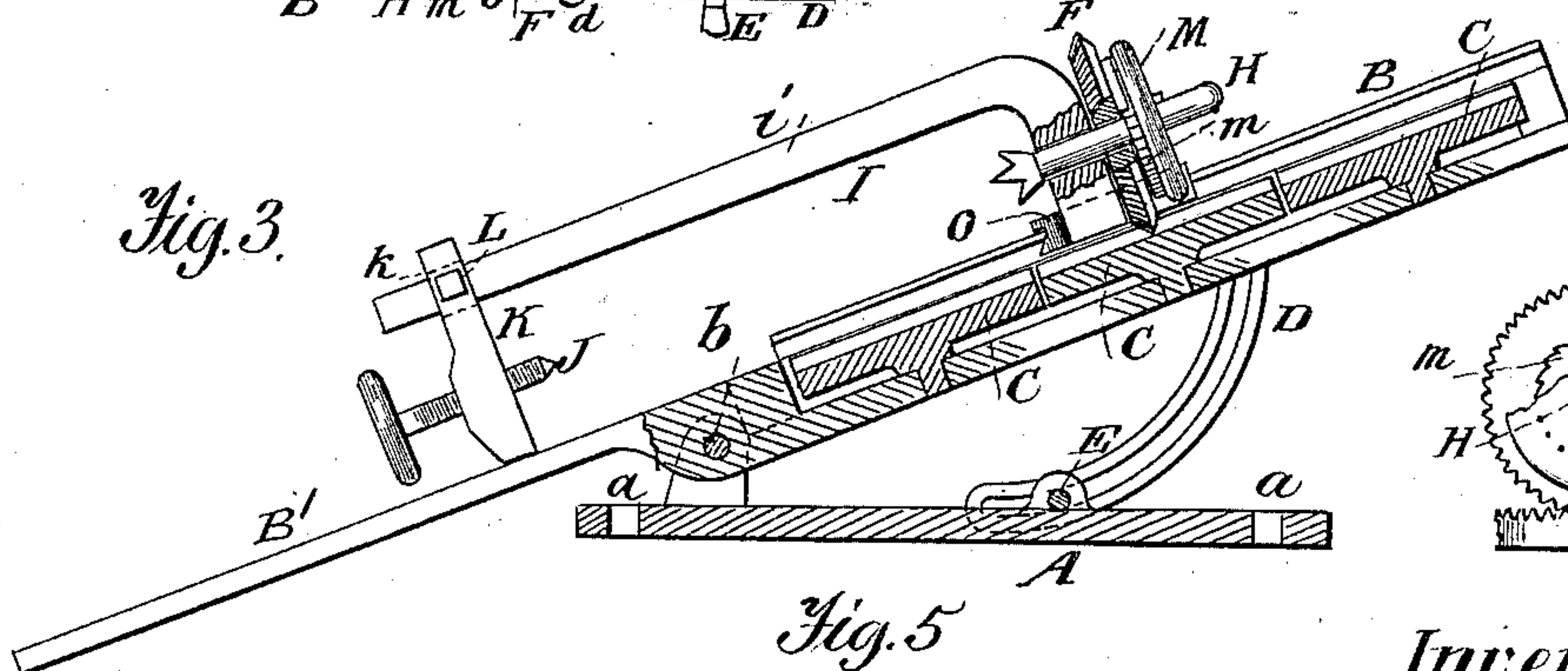


Fig. 4.

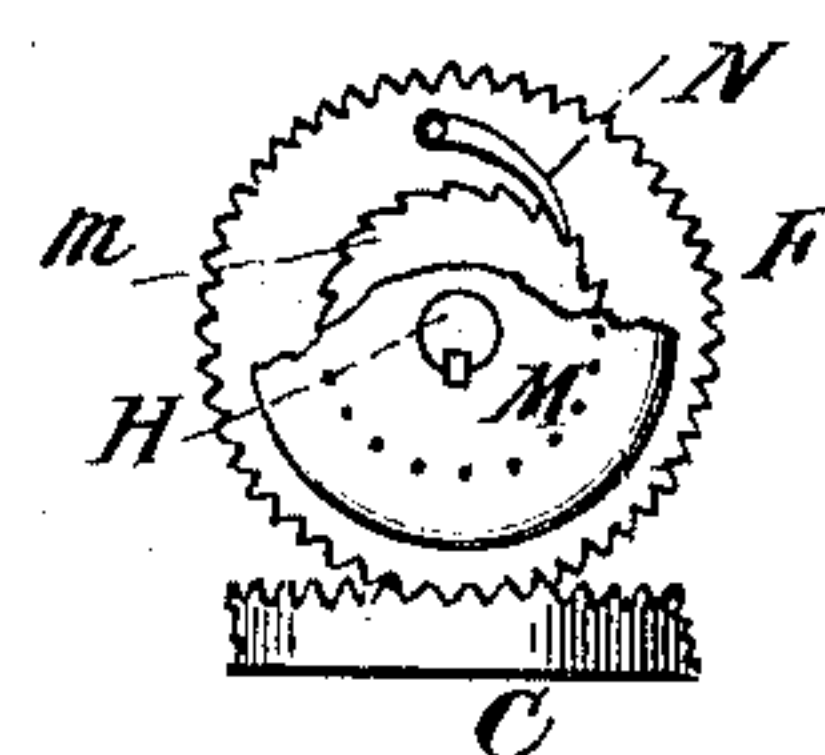
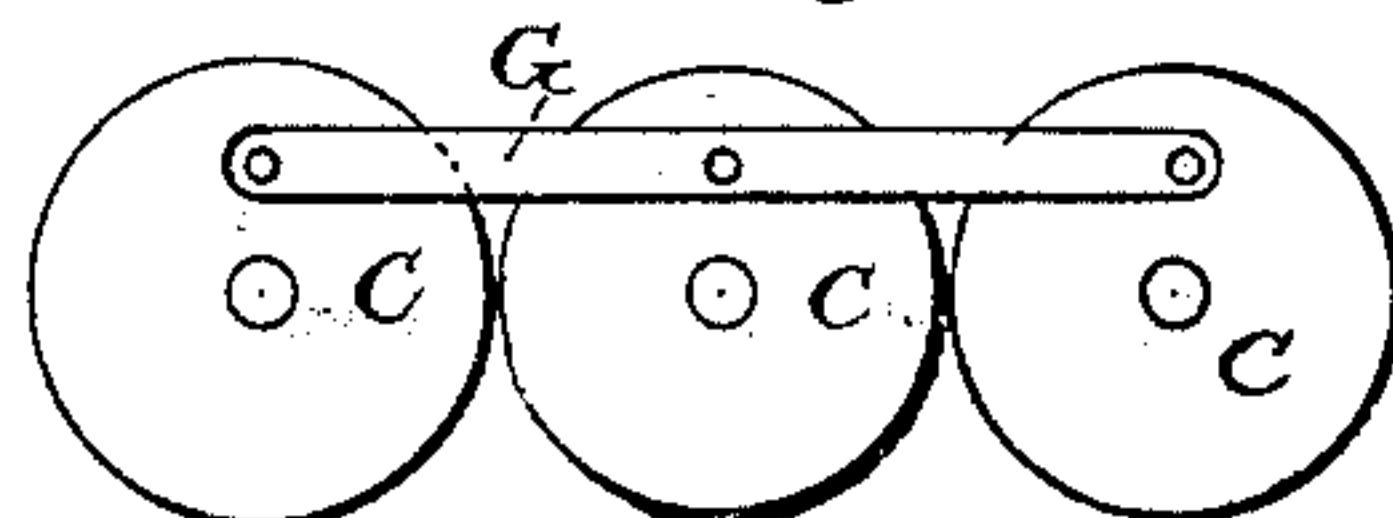


Fig. 5.



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# UNITED STATES PATENT OFFICE.

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## ATTACHMENT FOR WOOD-MOLDING MACHINES.

SPECIFICATION forming part of Letters Patent No. 368,623, dated August 23, 1887.

Application filed April 1, 1887. Serial No. 231,291. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES LEE SIMMONS, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Attachments for Wood-Molding Machines; and I do 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

The invention will first be described in connection with the drawings, and then pointed out in the claims.

Figure 1 of the drawings shows my invention applied; Fig. 2, a plan view of my attachment, and Fig. 3 a side elevation thereof. Figs. 4 and 5 are details.

In the drawings, A represents the base of the attachment, slotted at *a a*, so as to be fastened upon the top of the molder by the screw-clamps, and thus made adjustable to and from the molder-spindle, so as to allow wooden pieces of different size to be worked.

B is the twister-frame, hinged at *b* to the base A, and cut out at *b' b'* to allow the molder-spindle sufficient play when the attachment is to be moved or set to suit the desired size.

C C C are disks having the parallel cord-grooves *c* on the upper face centrally pivoted, and preferably arranged so that their grooved faces will be flush with the plain face *B'* of the frame. The frame B, being pivoted at *b*, may be turned thereon in a vertical plane, so as to assume the proper pitch or slant to correspond with the desired angle of twist. The greater the twist desired the greater must be the angle of elevation. When this object is attained, it becomes necessary to hold it securely in that position, and for this purpose I use the arc-slotted bars D D, one on each side of the frame, hinged thereto at *d d*, and provided with a clamp-screw, E, which is made fast to the side of base A. When the desired pitch has been given to the frame B, the screws E are made fast and the attachment is ready for work.

The under sides of the disks C are connected

by a bar, G, in which is pivoted a crank-pin on each disk, so that the inclination of the grooves in each disk will always correspond to that of the others. The disks may be turned so that the grooves will be inclined to the right or to the left, according to the required direction of the fluting. As the piece of wood which is to be fluted is moved forward by hand in the head and tail stocks within reach of the rotary cutter, which does the excising, the tooth or teeth of the wheel F, which move in the disk-grooves, follow their line of direction, and if there is to be a twist fluting the gradual inclination of the grooves turns the wheel, and as a consequence the piece of wood to be fluted. The only guiding means of the wood which is being fluted are the eyes and hands of the operator. The attachment is turned and moved horizontally by hand.

The piece of wood which is to be molded is held at one end by the spindle H of the head I, which carries the loose spur-wheel F, and at the other end by the spindle J of the tail-stock K, which is slotted at *k* near the top to receive the rod *i* of the head I. The tail-stock K is adjusted on the rod *i* toward head I, so as to suit the length of the piece of wood which is to be molded. The set-screw L is used to fasten the tail-stock K on the rod *i* at any preferred adjustment.

M is a face-plate on the head-spindle H, spaced off on one side to indicate the number of beads or flutes which are to be made, and correspondingly notched or ratcheted on the other side. This face-plate is fast to the spindle H, while the spur-wheel F is loose thereon, but provided on the side with a pivoted detent, N, which drops into the ratchet *m* of the face-plate. The spur-wheel and face-plate are thus held firmly in place while the cut is being made. Then the ratchet is moved one notch and a second cut is made, and the same is continued until the whole work is completed. The spur-wheel, gearing with the grooved disks, causes the twist.

O is a plate, rounded at *o o*, so that the tail end may be pulled around from the cutters of the molders, so as to allow said cutters to clear the wood while the wood is being pulled back for another cut. The wood is then pushed over to the cutters, as before.

It will be perceived that my attachment is



intended for a single or double upright molder by which rope-twist molding, beading, or fluting may be made, the twist being either to the right or left. I use the succession of 5 grooved plates C, pivoted in the center and connected by the bar G. The wood which is to be worked is arranged as in a turning-lathe, between a head and tail stock, the latter being movable on the rod *i* to suit the different 10 lengths. The face-plate fast on the end of the head-spindle is notated so as to regulate the number of beads or flutes which are to be made, while the wheel F works loosely, and is provided with a detent which drops into the 15 ratchet *m* on the face-plate, so as to hold said wheel and face-plate firmly to the head-spindle while a cut is being made. Then the ratchet is moved to another notch and a second cut is made. The wheel F runs in the 20 grooves of the plates C, so as to form the twist. The tail end is pulled around from the molding-cutters in order to clear them while pulling the wood back for another cut to form a second or additional flute. Then it is pushed 25 over to the cutters, as before.

The attachment is manipulated by hand both in turning it and in feeding to the fluting-cutter on the spindle. As the lathe-stock carrying the wood to be fluted is moved past 30 the cutter, and the spur-wheel is carried over the grooved disks, the spur-wheel will not turn at all if the grooves of the disks are in the same direction with that of the moving lathe-stock, and a straight fluting will be made. 35 On the other hand, in proportion as these grooves vary from the line of direction of the lathe-stock will be the degree of twist given to the fluting. The disks, being adjusted to give the desired twist, remain in position, so 40 that the spur-wheel which turns the stick of wood to be fluted may be turned as the stick is pushed forward to the cutter. I use two or more

small grooved disks instead of a large one, because it is more convenient. Of course each disk is a counterpart of the others and must 45 have its grooves arranged correspondingly. The molder-spindles A' A' of a double molder are used, one for a right-hand and the other for a left-hand fluting; but right or left fluting 50 may be made from the same spindle by inclining the grooves of the disks to the right or to left, as this will reverse the direction of the spur-wheel.

Having thus described all that is necessary to a full understanding of my invention, what I claim as new, and desire to protect by Letters Patent, is— 55

1. In a molding attachment for working twist-moldings, &c., the centrally-pivoted disks C, having the parallel chord-grooves *c* 60 and connected underneath by the pivoted rod G, and a grooved frame for the disks, in combination with the loose spur-wheel F, arranged on spindle H and carrying the pivoted detent or gravity-pawl N, a support for the spindle 65 H, arranged to slide, and the face-plate M, fast on said spindle, said plate M being notated on one side to indicate the number of beads or flutes and correspondingly notched or ratched on the other side, as and for the purpose 70 described.

2. The combination, with the spindles H J, of the head I, having rod *i*, and the tail-stock K, slotted at *k*, said stock adapted to slide on rod *i*, and held by a clamp-screw at 75 varying adjustments, as and for the purpose set forth.

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

JAMES LEE SIMMONS.

Witnesses:

JAMES ROUNTREE,  
JOS. R. SIMPSON.