

No. 648,713.

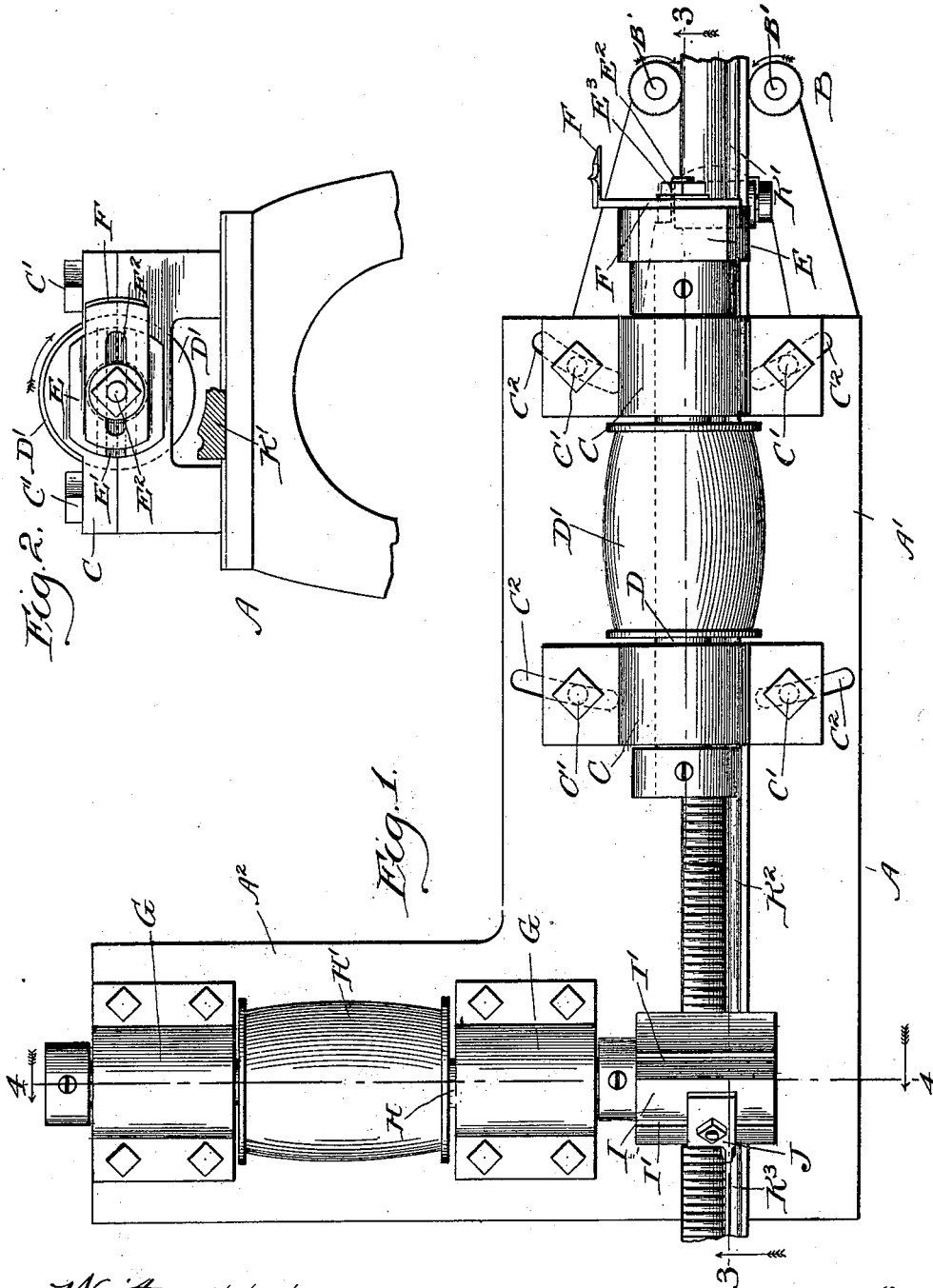
Patented May 1, 1900.

C. E. SANDSTROM.
MOLDING MACHINE.

(Application filed Sept. 8, 1896.)

(No Model.)

2 Sheets—Sheet 1



Witnesses
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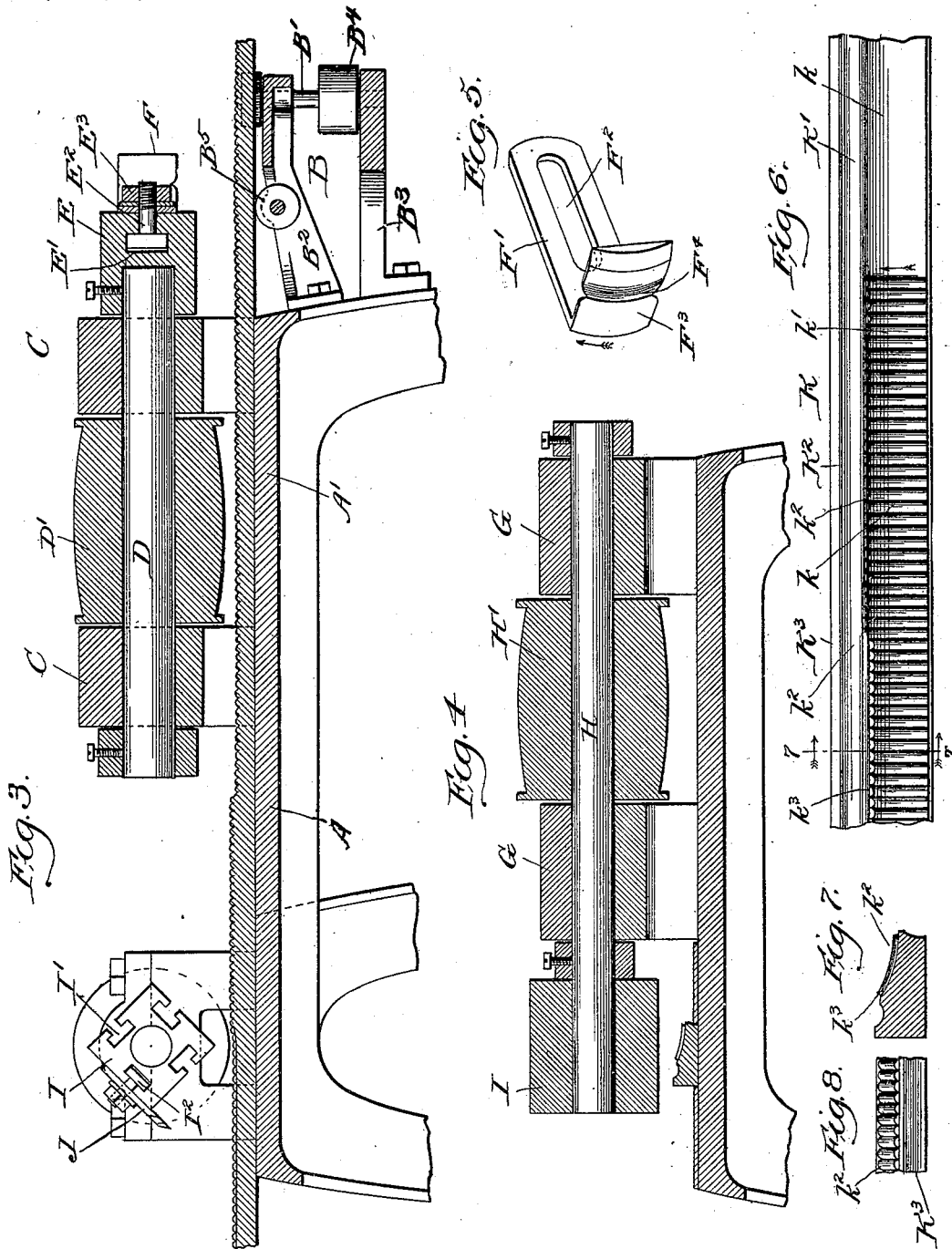
Coburn & Strong
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UNITED STATES PATENT OFFICE.

CHARLES E. SANDSTROM, OF CHICAGO, ILLINOIS.

MOLDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 648,713, dated May 1, 1900.

Application filed September 8, 1896. Serial No. 605,148. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. SANDSTROM, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Molding-Machines, which is fully set forth in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view of a machine adapted to illustrate my invention. Fig. 2 is an elevation of the right-hand end thereof as shown in Fig. 1, omitting the feed mechanism. Fig. 3 is a vertical section on the line 3 3 of Fig. 1. Fig. 4 is a vertical section on the line 4 4 of Fig. 1. Fig. 5 is a detail perspective of the transverse cutter. Fig. 6 is a view in plan of a strip of molding in different stages of completion. Fig. 7 is a cross-section of the completed molding on the line 7 7 of Fig. 6. Fig. 8 is a front elevation of the same.

My invention is intended to take the molding-strips as they come from the ordinary molding-machine provided with lengthwise beading and to form upon one or more of the faces of such strips transverse or cross beading. It will be obvious, however, that the cutters, &c., of which such latter machine consists can be applied to and combined with the former machine without departing from the spirit of my invention.

My invention comprises the combination of any suitable mechanism for feeding forward the molding-strip continuously and without rotation with a rotating cutter whose cutting-periphery extends over but a small portion of the circle described thereby, adapted to form transverse beading upon said strip as it is fed forward, and in case it is desired with a second cutter adapted to trim the transverse beading so formed.

Referring to the drawings by letters, A represents the framework of one form of machine embodying my invention, which is shown as L-shaped, comprising the two rectangularly-disposed wings A' and A². Upon the wing A' as a bed-plate are mounted two brackets C C, being secured to the said bed-plate by bolts C' passing through the curved slots C². In the said brackets C C are formed bearings for the short shaft D, which between

the said bearings is provided with a driving-pulley D'. Upon one end of the shaft D is keyed the cutter-head E, provided with a recess E', in which engages the head of the bolt E². The nut E³ is adapted to be tightened on the end of the said bolt and clamp the cutter F between the said nut and the cutter-head. The cutter F, I have shown as comprising a straight flat shank F', provided with a longitudinal slot F². The bolt E² passes through the said slot, which permits of angular and lengthwise adjustment of the cutter F. The cutter F further comprises a knife F³, preferably formed integral with the shank F' at one end thereof and at right angles to the said shank. This knife will vary in form according to the shape of the cross-beading which it is desired to form. As shown in the drawings, the knife is provided with a central concave curved rib F⁴. With a knife of this form the cross-beading will consist of a series of convex rounded ribs, as shown in Figs. 6, 7, and 8.

Upon the wing A² of the frame as a bed-plate is mounted a pair of brackets G, similar to the brackets C. In them is journaled a second short shaft H, provided with a driving-pulley H' and carrying at one end a cutter-head I. This cutter-head is preferably rectangular in form and provided on its sides with recesses I', adapted to receive the heads of bolts I². By the bolts I² one or more knives J are secured to the said cutter-head.

The feeding mechanism may be of any desired kind; but I preferably employ the form shown in Figs. 1 and 3, where a pair of vertical shafts B' have secured upon their upper ends the milled feed-rolls B, which take against the edges of the molding. These shafts B' are mounted in the brackets B² and B³, secured to the framework of the machine, and have fastened thereon the belt-pulleys B⁴, by which the shafts are driven in opposite directions by means of the customary belt applied thereto and connected with the source of power of the shops. An antifriction-roller B⁵ may be mounted in the bracket B³ for the purpose of furnishing a support to the molding adjacent to the feed-rolls.

The operation of the devices of which the construction is hereinabove described will be

clear when considered in connection with the strip of molding upon which they are adapted to operate. I have shown a molding-strip K in Fig. 6 of the drawings, of which the right-hand end K' represents the form of such strip as it comes from the ordinary molding-machine provided with lengthwise beading merely. This strip may be of any form, and according to its form the character of the cross-beading will be more or less modified. In the strip which I have shown in the drawings the outer face of the molding is provided with a longitudinal band k , which is more or less concave, being thus segmental in cross-section. This strip is now fed forward continuously by the feed mechanism under the rotating cutter F, which forms across the band k the cross-beading k' . That portion of the strip shown in Fig. 6 which is in this condition, having been operated upon by the cutter F, is designated as K^2 . The rate of feed is so proportioned to the rate of rotation of the knife by means of the speeds of the different belts applied to the pulleys D' and B' that the cut of the knife, which occurs through only a small fraction of its rotation, is not interfered with appreciably by the forward movement of the molding. During the time that the knife is not cutting the molding is fed forward such a distance that the next cut of the knife occurs at a sufficient distance from the preceding cut as to form the necessary ridges to produce the cross-beading. In many instances the molding-strip will be finished at this stage. It will be observed, however, noting the direction of revolution of the cutter F as shown by the arrow in Fig. 2 and the direction in which the beads k' are formed as shown by the arrow in Fig. 6, that the ends k^2 of these cross-beads where the knife leaves the wood are apt to be somewhat splintered and unfinished. It is to remedy this defect that I employ the second cutter J, which trims off the ends k^2 of the cross-beads, leaving them neatly finished in a beveled or curved form, as at k^3 . (Shown in Figs. 6 and 7.) This last step, as before intimated, is in many cases not essential, and the mechanism adapted to perform it is not a necessary part of my invention broadly considered.

Having thus described my invention, I do not wish to be considered as limiting it to the particular form so described, and shown in the drawings. It will be obvious that many modifications in detail may be made without departing from the spirit of my invention. Thus the transverse cutter may be disposed so as to form the beading k' of the configuration shown or of any other. This beading may be either at right angles to the length of the strip, or it may be diagonally disposed by adjustment of the bearings of the cutter-shaft in the slots C² or by any other equivalent means, so that the cutter F will rotate diagonally to the direction of feed. Indeed, if the rotation of the cutter is not extremely rapid

as compared with the lineal speed of the feed it will be necessary to dispose the plane of rotation of the transverse cutter somewhat diagonally to the direction of the feed in order to obtain a cross-beading perfectly at right angles to the length of the molding. Finally, the movement of the cutter and of the feed may be either continuous or intermittent. By an intermittent movement many varieties of design may be produced, the cross-beading on the molding alternating with strips of plain surface.

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

1. In a machine for cutting transverse beading upon molding, the combination with mechanism for automatically feeding a strip of molding lengthwise continuously and without rotation thereof, of a rotary cutter mounted with its axis substantially parallel to the line of feed of the strip and having its cutting-periphery extending over only a small portion of the circle described thereby, and means for driving said feeding mechanism and said cutter at such relative speeds that the cutter operates on the work intermittingly to form cross-beading thereon, substantially as described.

2. In a machine for cutting transverse beading upon molding, the combination of a pair of rolls for automatically feeding a strip of molding lengthwise continuously and without rotation thereof, with a rotary cutter mounted with its axis substantially parallel to the line of feed of the strip and having its cutting-periphery extending over only a small portion of the circle described thereby, and means for rotating said rolls in opposite directions, and for driving said cutter at such a relative speed thereto that the cutter operates on the strip intermittingly to form cross-beading thereon.

3. In a machine for cutting transverse beading upon molding, the combination with mechanism for automatically feeding a strip of molding lengthwise continuously and without rotation thereof, of a cutter comprising a rotary knife with its axis substantially parallel to the line of feed of the strip, said knife having its cutting-periphery extending over only a small portion of the circle described thereby, and means for driving said feeding mechanism and said cutter at such relative speeds that the cutter operates on the strip intermittingly to form cross-beading thereon, substantially as described.

4. In a machine for cutting transverse beading upon molding, the combination with mechanism for automatically feeding the strip of molding lengthwise and without rotation thereof, of a rotary cutter mounted with its axis substantially parallel to the line of feed of the strip and having its cutting-periphery extending over but a small portion of the circle described thereby, means for adjusting the position of the cutter to slightly vary the angle of its axis to the line of feed, and means

for driving said feeding mechanism and said cutter at such relative speeds that the cutter operates upon the strip intermittingly to form cross-beading thereon, substantially as described.

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5. In a machine for cutting transverse beading upon molding, the combination with mechanism for automatically feeding a strip of molding lengthwise continuously and without rotation thereof, of a rotary cutter mounted with its axis substantially parallel to the line of feed of the strip and having its cutting-periphery extending over but a small portion of the circle described thereby, and means for driving said feeding mechanism and said cutter at such relative speeds that the cutter operates upon the strip intermittingly to form cross-beading thereon, said means comprising the driving-pulleys connected to the feed-rolls and cutter, and the customary belts therefor.

6. In a machine for cutting transverse beading upon molding, the combination with a pair of rolls for automatically feeding the strip of molding lengthwise and without rotation thereof, of a rotary cutter mounted with its axis substantially parallel to the line of feed of the strip and having its cutting-periphery extending over only a small portion of the circle described thereby means for adjusting the position of the cutter to vary slightly the angle of its axis to the line of feed, and means for driving said feed-rolls and said cutter at such relative speeds, that the cutter operates upon the strip intermittingly to form cross-beading thereon, substantially as described. 25
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Witnesses:

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A. A. MURRAY.