

No. 714,012.

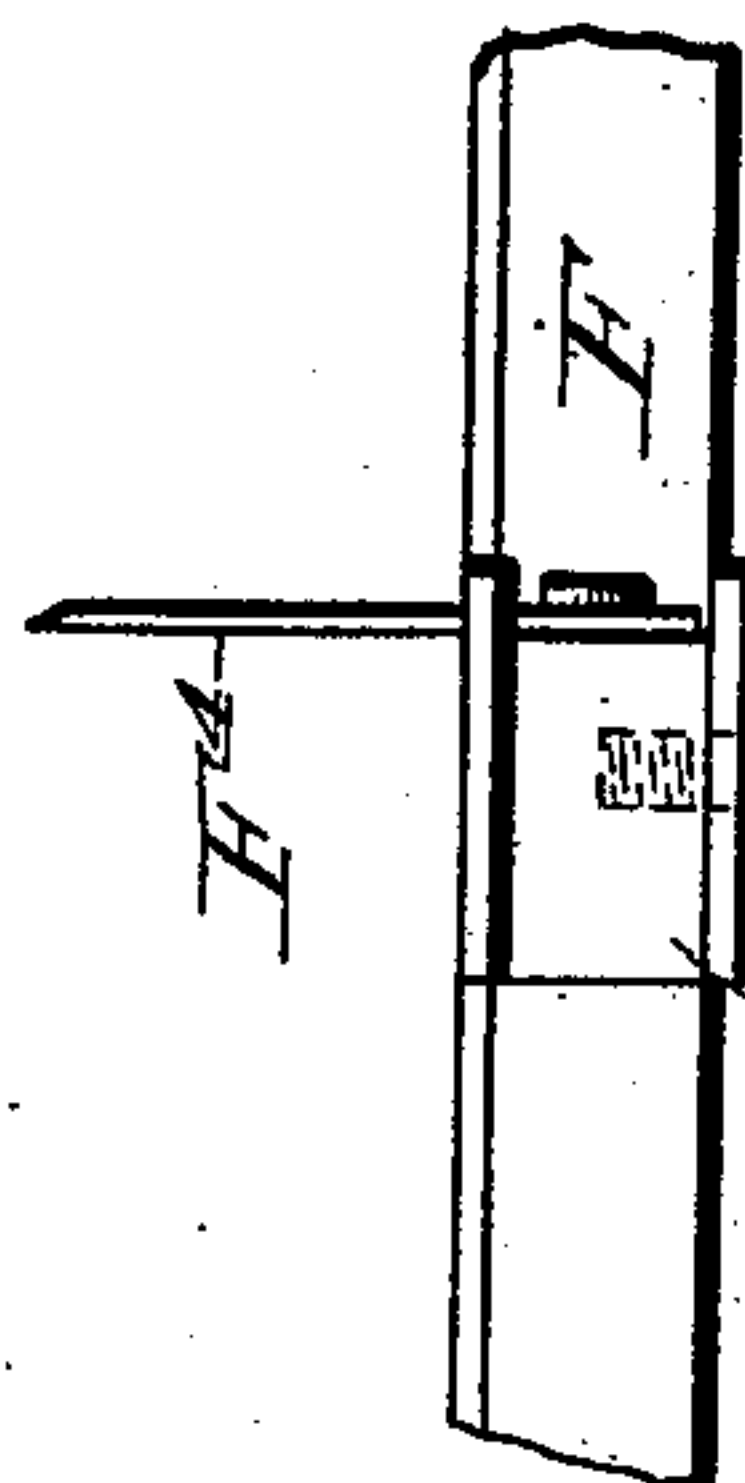
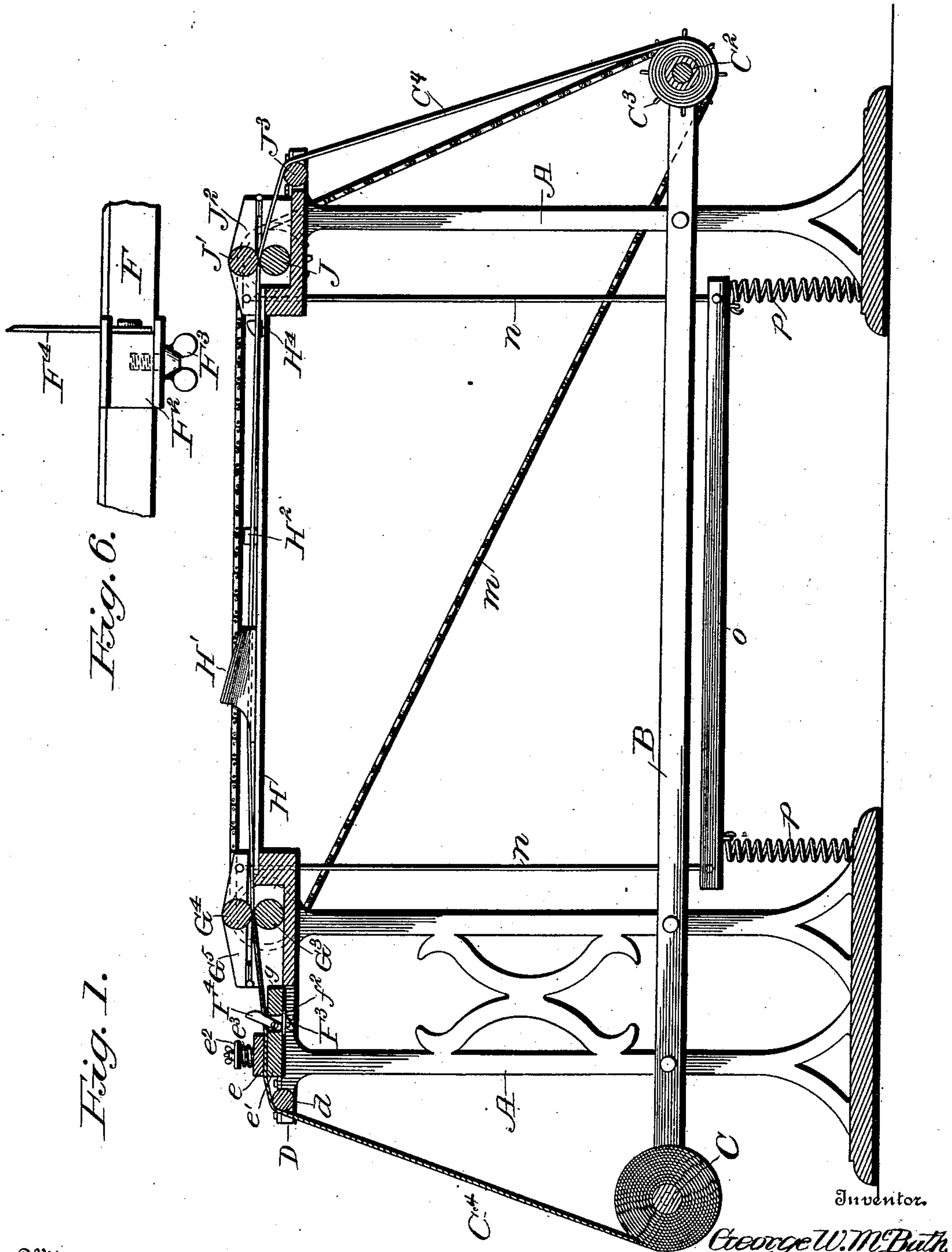
Patented Nov. 18, 1902.

G. W. McBATH.
BACK BAND MAKING MACHINE.

(Application filed May 3, 1902.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses

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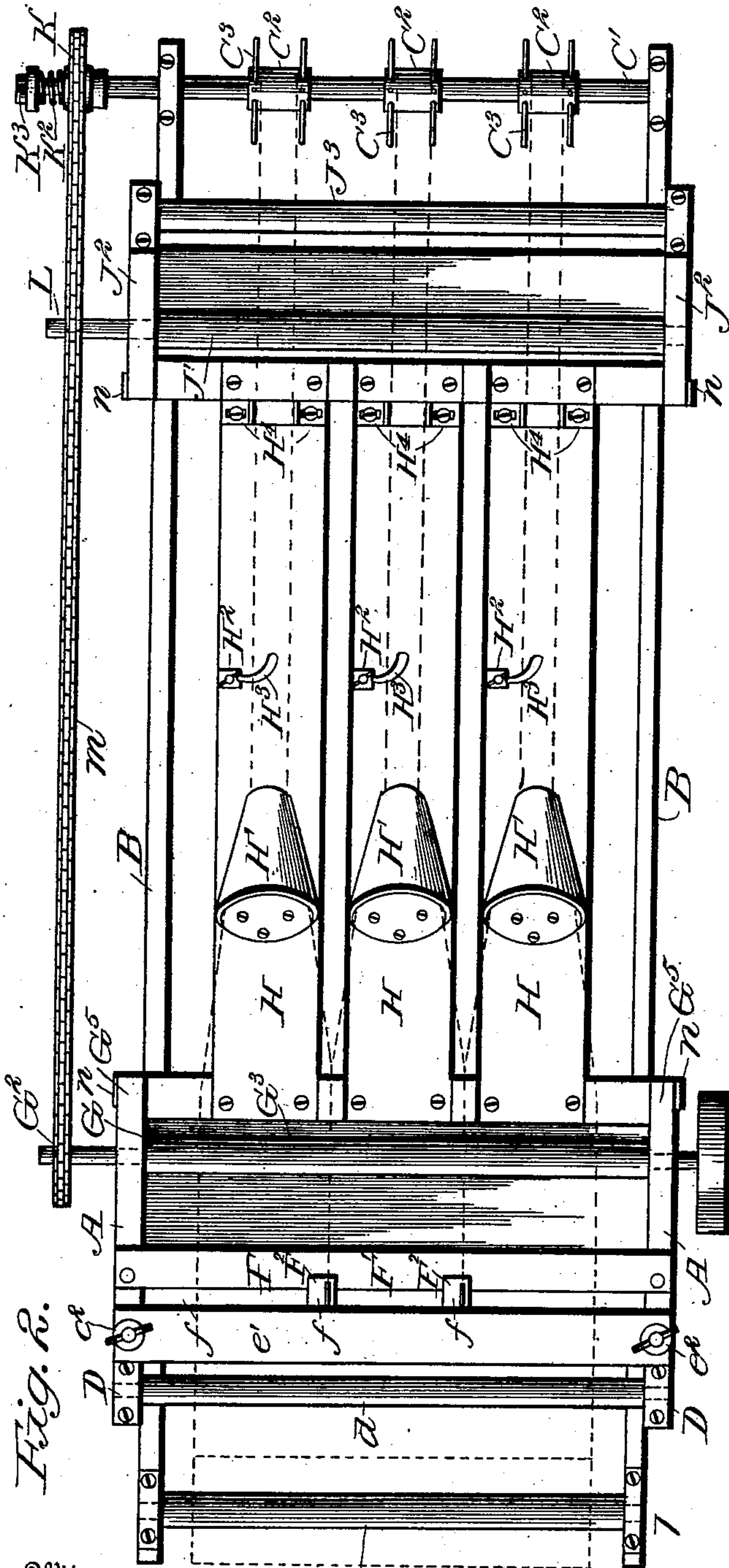


Fig. 2.

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Fig. 4.

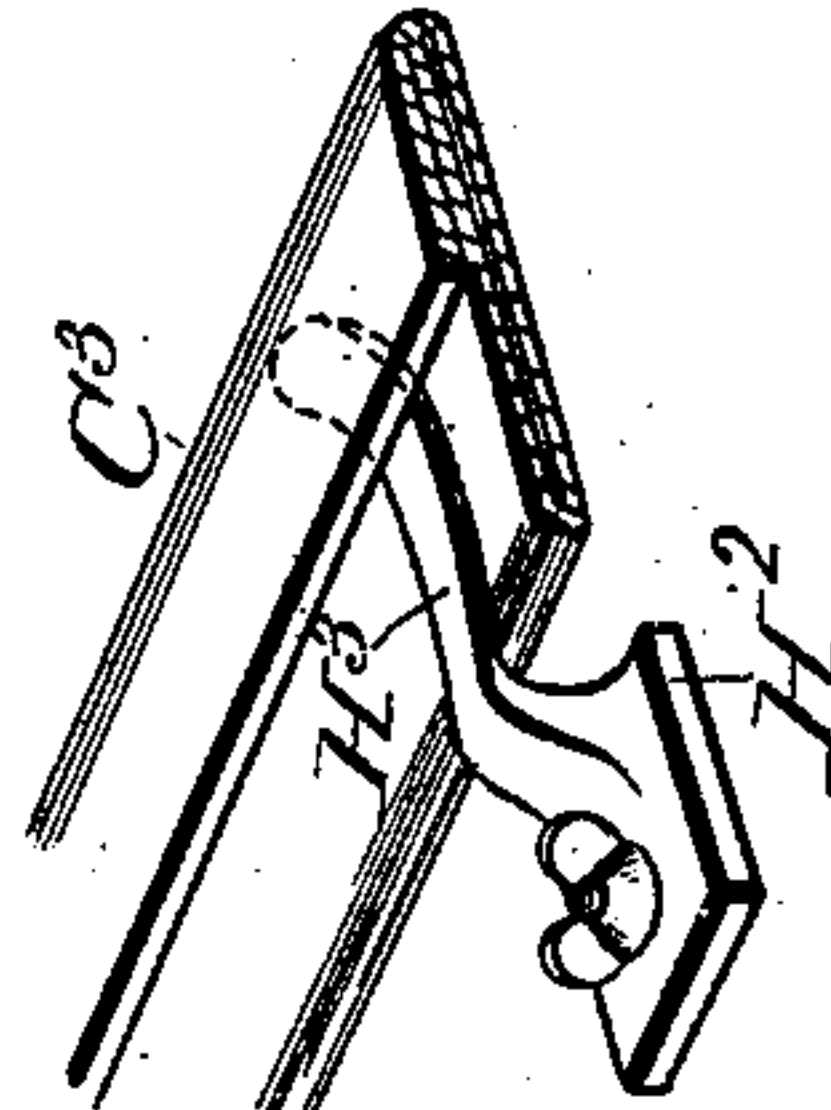


Fig. 5.

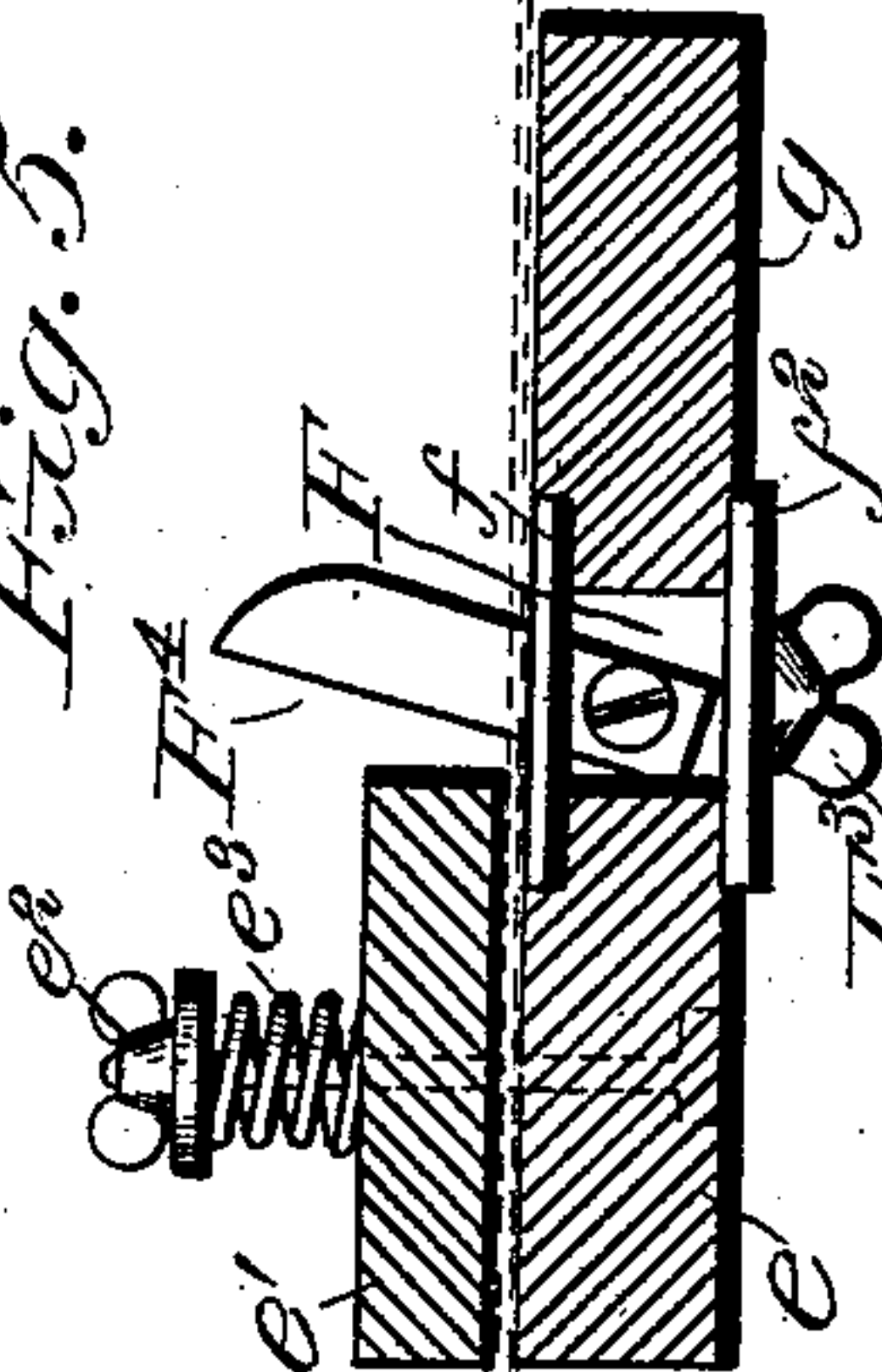
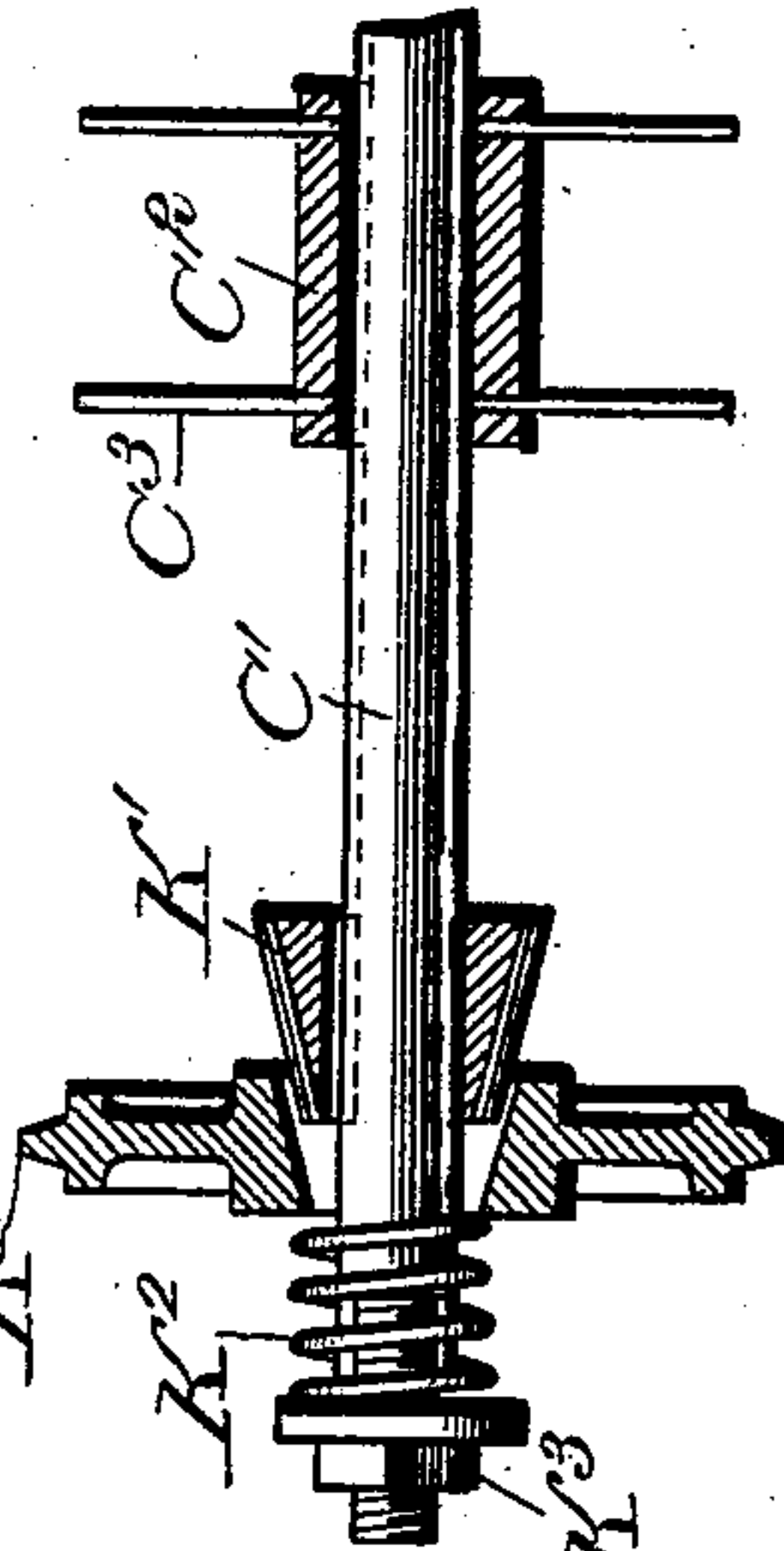


Fig. 3.



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UNITED STATES PATENT OFFICE.

GEORGE WILLIS McBATH, OF MERIDIAN, MISSISSIPPI.

BACK-BAND-MAKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 714,012, dated November 18, 1902.

Application filed May 3, 1902. Serial No. 105,746. (No model.)

To all whom it may concern:

Be it known that I, GEORGE WILLIS McBATH, a citizen of the United States, residing at Meridian, in the county of Lauderdale and State of Mississippi, have invented certain new and useful Improvements in Back-Band Machines; and I do hereby 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.

My invention relates to a machine for cutting, folding, creasing, and rolling cloth or other material for back-bands, such as are commonly used in harness-making.

The general object of the invention is the construction of a device by which these various operations will be rapidly and automatically accomplished by one machine.

The invention comprises a suitable frame, upon one end of which is carried a roll of the material to be operated on. Mounted upon the frame are the cutting, folding, and creasing devices and means for feeding the material to be worked to said devices. Upon the opposite end of the frame are mounted rollers to receive the strips after they have passed through the machine.

In the accompanying drawings, illustrating the preferred embodiment of my invention, Figure 1 is an elevation of the complete machine, partly in section. Fig. 2 is a plan view of the machine. Fig. 3 is a detail view of a friction feed device. Fig. 4 is a detail view of the underlayer-guide. Fig. 5 is a detail view of a cutting-knife. Fig. 6 is a view of one of the cutting-knives looking in the direction of the arrow in Fig. 5.

In the views, A represents a suitable frame, which may be made of wood or metal. Upon the lower portion of each side of the frame is rigidly secured a bar B, which projects beyond the ends of the frame, and between the fore ends of the bars is secured in suitable bearings a roller C. Mounted in bearing-plates D is a second roller d , located above the roller C on the front end of the frame A. In the rear of said roller d and extending transversely across the frame are the tension-boards e e' , the latter being positioned above the former and held in place by set-screws

e^2 , having tension-springs e^3 located between the set-screws and the upper face of the board e' . Running transversely across the frame adjacent to the lower tension-board is the slot F, on the opposite side of which and parallel to the tension-board is the cutting-board F' , and slidably secured in said slot are plates F^2 , their projecting upper portions sliding on one side in a recess formed between the tension-boards and the frame and on the other side on the upper face of the cutting-board, their lower portions engaging flange-like the under surface of the frame. They are thus securely held against vertical movement, while a suitable thumb-screw F^3 , Figs. 5 and 6, clamps them against horizontal movement in the slot F. Rigidly secured to each of the plates F^2 is a cutting-knife F^4 , projecting upwardly and rearwardly, with its cutting edge toward the front of the frame. Mounted in bearings upon the main portion of the forward part of the frame is a shaft G, upon one end of which is a driven pulley G' , Fig. 1, and upon the other end a sprocket-wheel G^2 . Intermediate of the two the shaft is enlarged to form a feed-roller G^3 , above which is a second roller G^4 , mounted in a hinged frame G^5 and normally resting on the roller G^3 , the hinged bracket adapting it to be lifted when the material is to be inserted. From these rollers extend rearwardly parallel folding boards H, equal in number to the number of strips to be cut. Positioned on these boards are funnel-shaped folding devices H' , having their larger open ends toward the knives. In the rear of the smaller open end of these and adjustably clamped upon blocks H^2 , which are positioned alongside the path of the folded material, are the underlayer-guides H^3 , consisting of arms projected over the path of the cloth and having their free ends curved upward. At the rear end of each folding-board are adjustable gages between which the folded material passes on its way to the creasing-rollers J J'. These latter are mounted in a hinged bracket J^2 , and in the rear of them is mounted a small guide-roller corresponding to the roller d at the front of the frame.

Between the rear ends of the arms B is hung or journaled a roller or shaft C' , corre-

sponding to the roller C at the front end of the machine. This roller or shaft is grooved longitudinally to within a few inches of one of its ends, and reels C², having radiating arms C³, are slipped upon and secured to said shaft by means of lugs projecting from the inner surface of the hollow sleeve or hub of each of said reels. The cut and folded strips are wound upon these reels. Upon one end of the roller K is also mounted a sprocket-wheel K. The roller J is also provided with a sprocket-wheel L, the wheels K and L being upon the same side of the machine as the sprocket-wheel G². A sprocket-chain M passes over the wheel G², thence over L, thence over K, and back to G², all these wheels being driven by said chain.

Extending downwardly from the hinged brackets are rods N, connected by a cross-bar O, to which are attached springs P, their lower ends being secured to the base of the frame, this arrangement serving as a tension device for the feeding and creasing rollers.

By means of a suitable friction feed of any preferred form—such, for instance, as illustrated, consisting of cone K², spring K³, and nut K⁴—the speed of the roller or shaft C' may be varied as desired in winding the folded strips.

In practice the application of the device is as follows: The bolts or rolls of cloth or other material to be operated on being suitably hung or journaled between the ends of the bars B at the forward end of the frame, the free ends of said rolls of cloth are cut or slit to the desired width for a suitable length by hand and drawn up over the roller d, inserted between the tension-boards and the feed-rollers, the roller G⁴ being raised from contact with the roller G³ by lifting the hinged bracket G⁵. The cut strips are then passed through the folder H', between the creasing-rollers, the upper roller being lifted back by means of its hinged bracket, passed over the guide-roller J³, and secured to the reels C² in any suitable manner. The thumb-screw e² is now tightened as much as may be required by reason of the thickness of the material in order that it may present a smooth surface to the cutting-knives, and power being transmitted from any suitable source to the pulley G'

the various operations are rapidly and automatically accomplished.

It is obvious that various minor changes may be made in the invention without departing from the spirit thereof, and I wish it to be understood that I do not limit myself to details as described herein.

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

1. In a back-band machine, the combination with a suitable frame carrying feed-rollers, cutting-knives mounted transversely across the frame, funnel-shaped folding devices in the rear of said knives, underlayer-guides, creasing-rollers, adjustable gages, reels for receiving the cut strips, and means for feeding the material to be operated on to the machine.

2. In a back-band machine, the combination with a suitable frame, a roller positioned at the front of the frame to hold the material to be acted on, a plurality of adjustable cutting-knives mounted on the frame, folding and creasing devices mounted in the rear of the knives, feed-rollers adapted to draw the material to the knives, a roller mounted in the rear of the frame and carrying a plurality of spools having radiating arms and adapted to receive the cut and folded strips and a common sprocket-chain extending from the feed-rollers and actuating the creasing and winding devices whereby uniformity of movement is secured between the various parts.

3. In a back-band machine, the combination with a suitable frame, of cutting, folding and creasing devices mounted thereon, a material-holding roller, a roller carrying a plurality of reels at the rear of the frame, friction feed-rollers, a pulley mounted on the end of one of said feed-rollers, a sprocket-wheel mounted at the opposite end, corresponding wheels on the creasing device and reel-carrying roller and a common sprocket-chain for the three sprocket-wheels.

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

GEORGE WILLIS MCBATH.

Witnesses:

WALTER G. HODGES,
M. F. NICHOLS.