

No. 815,970.

PATENTED MAR. 27, 1906.

E. T. & E. H. MARBLE.
ADJUSTABLE GUIDING MECHANISM FOR SKEWING BRIDGE
THREADED FABRICS.

APPLICATION FILED JULY 13, 1905.

2 SHEETS—SHEET 1.

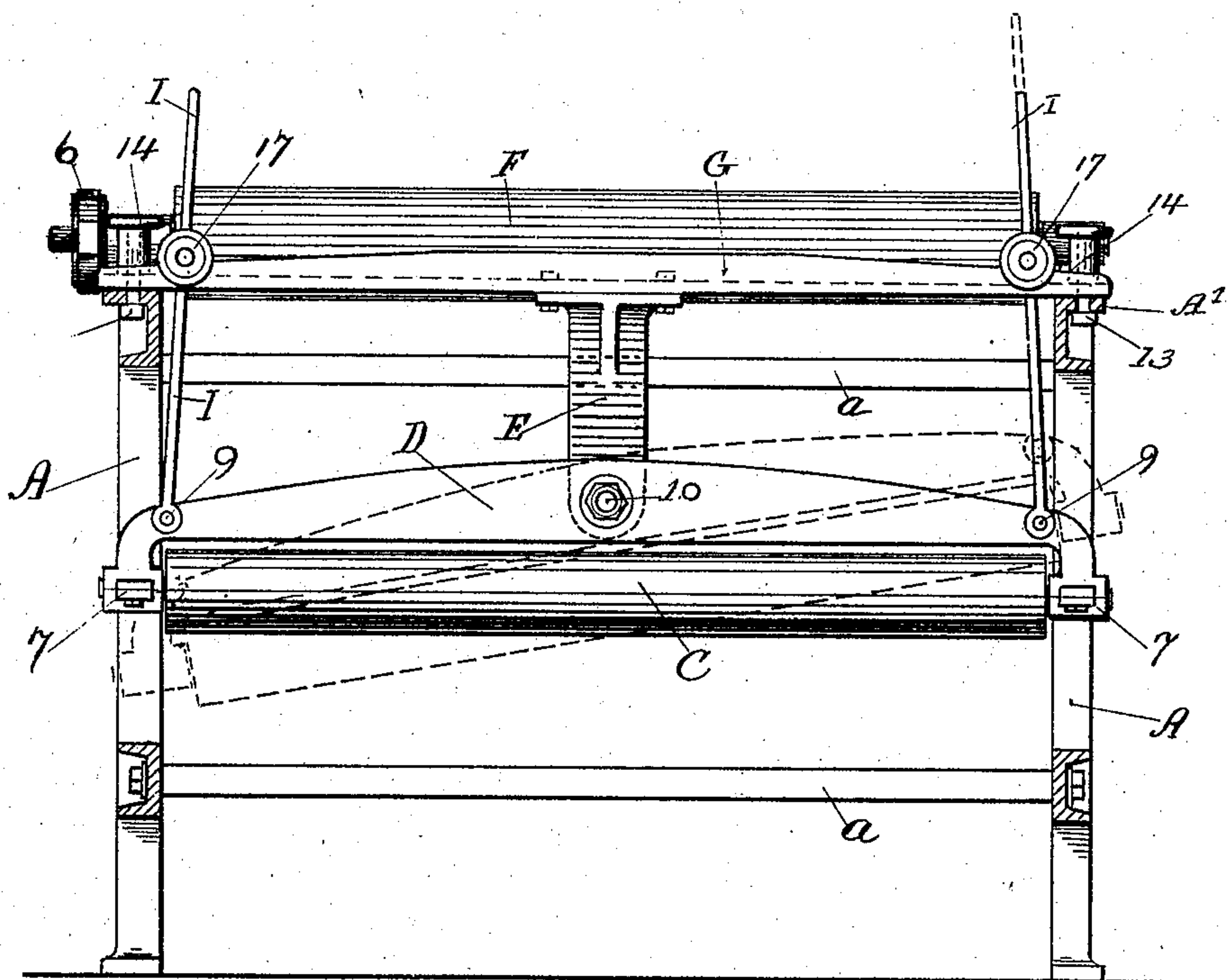


FIG. 1.

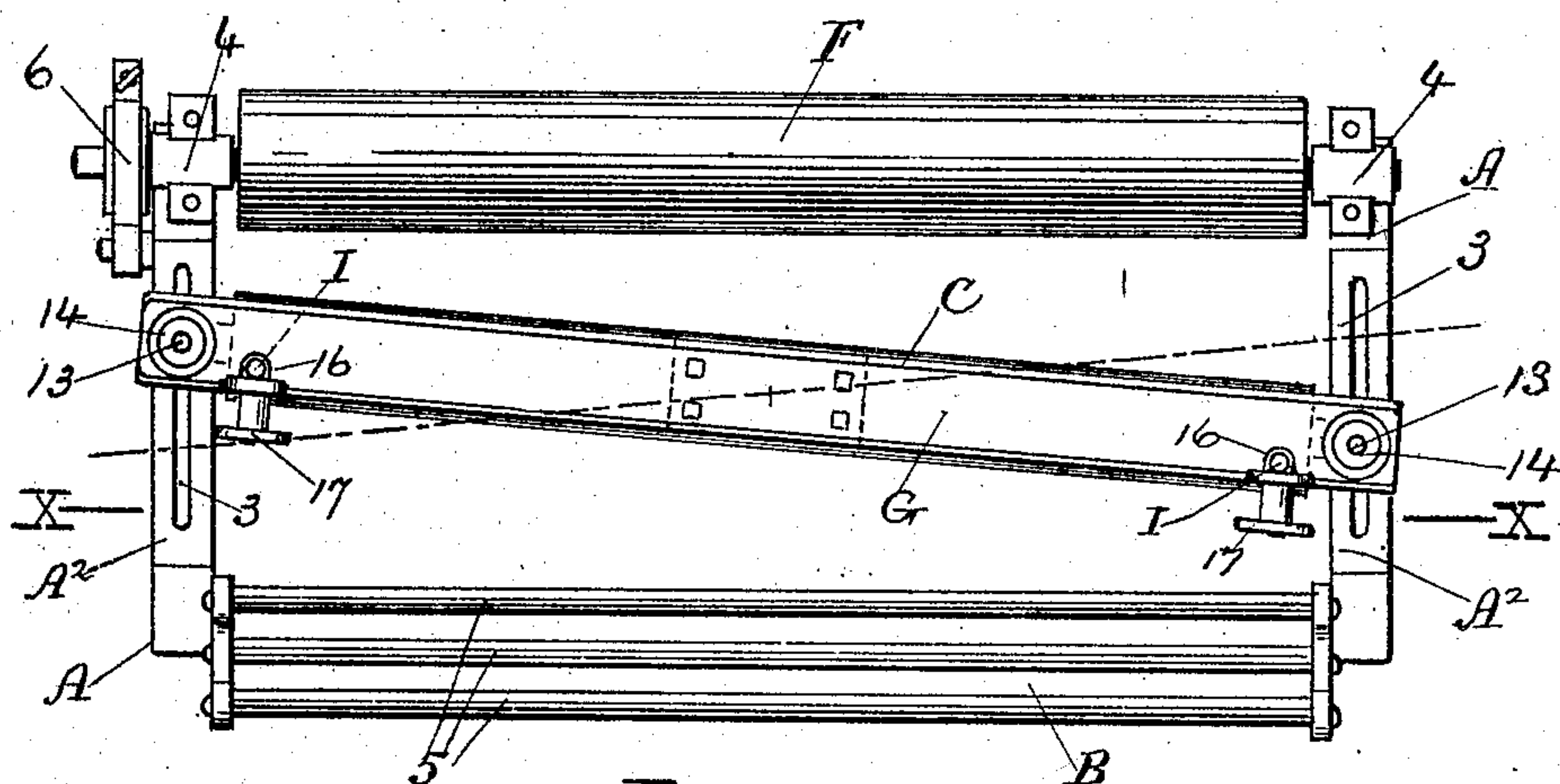


FIG. 2.

Witnesses.
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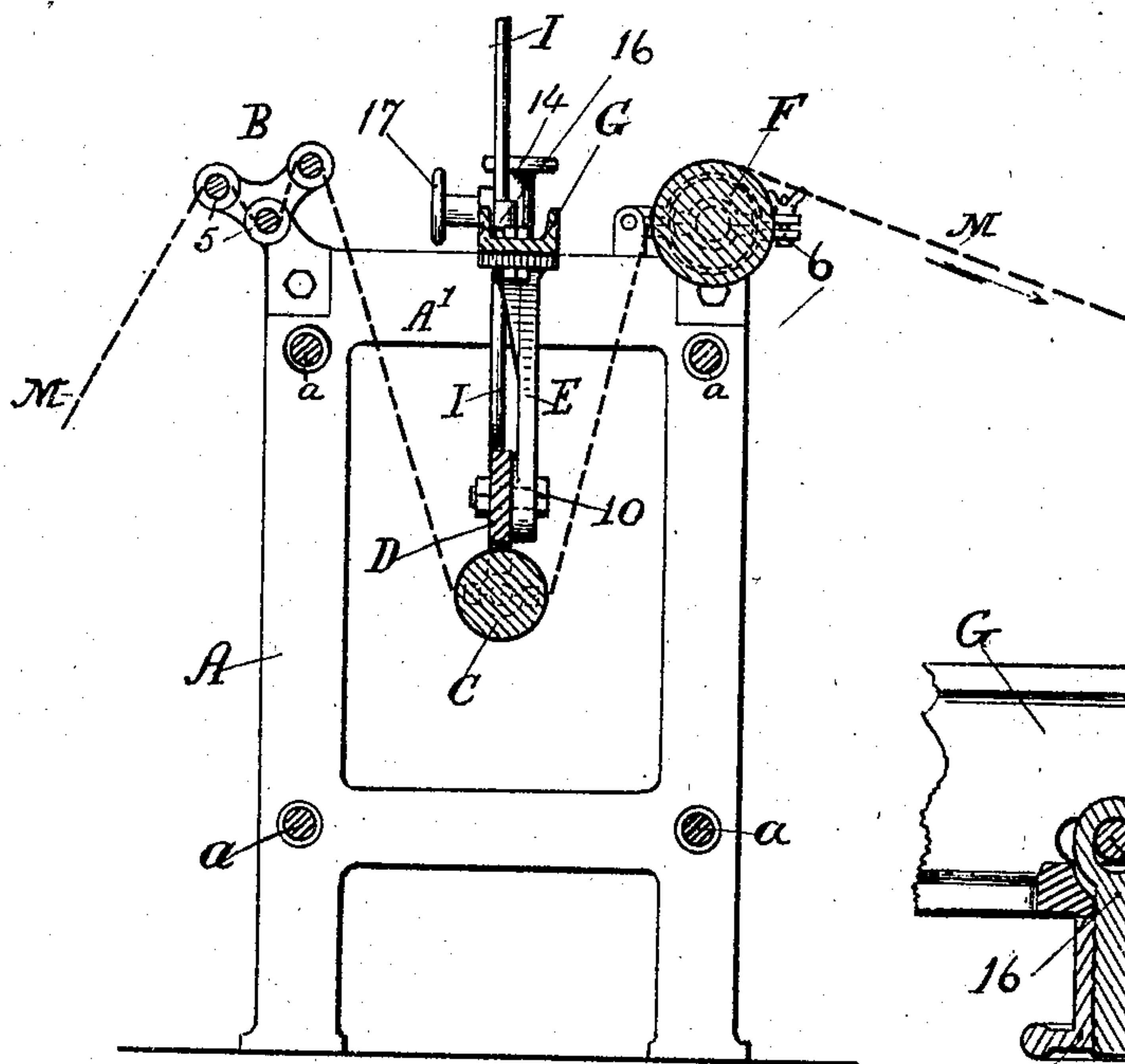


FIG. 3.

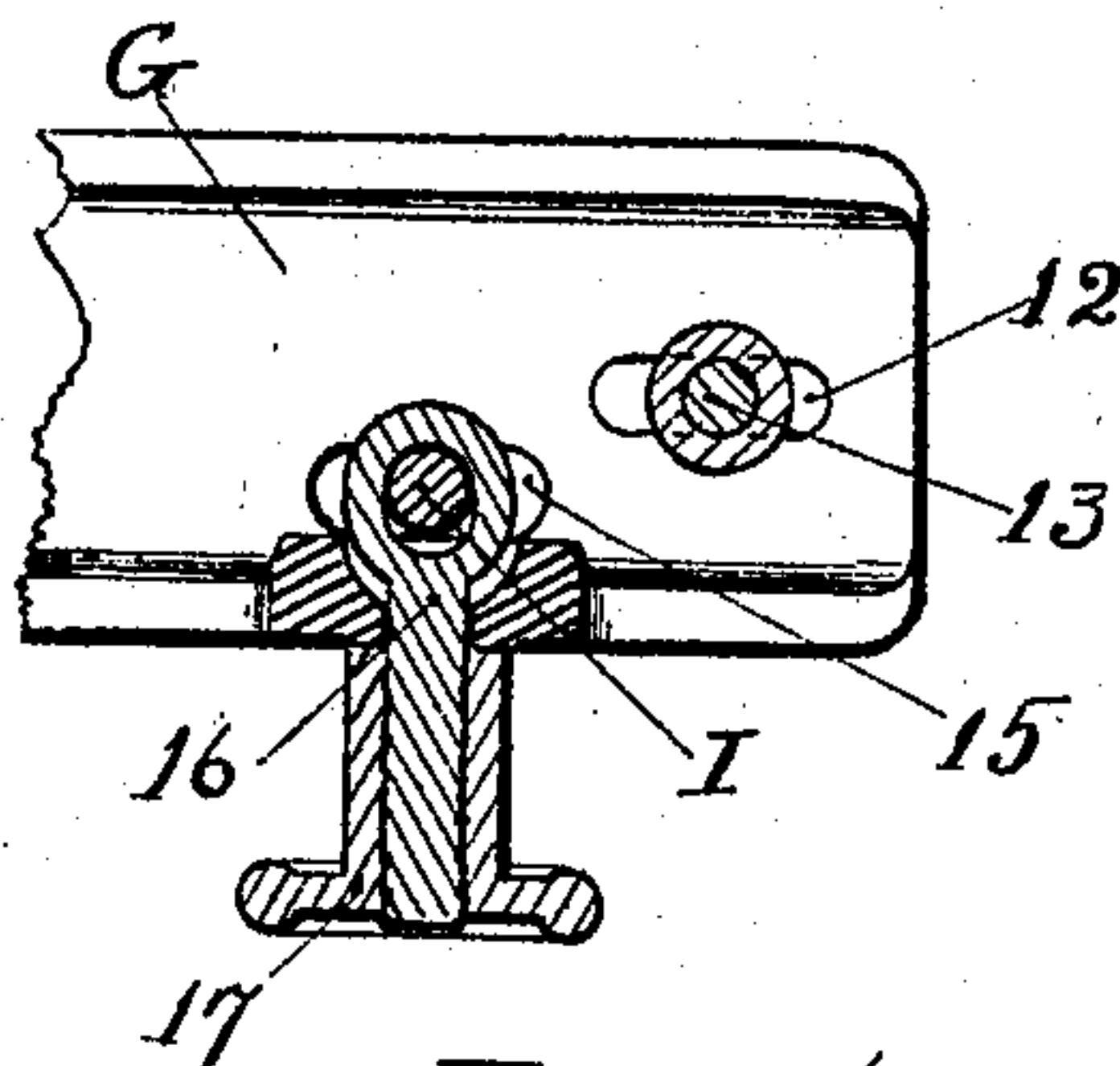


FIG. 4.

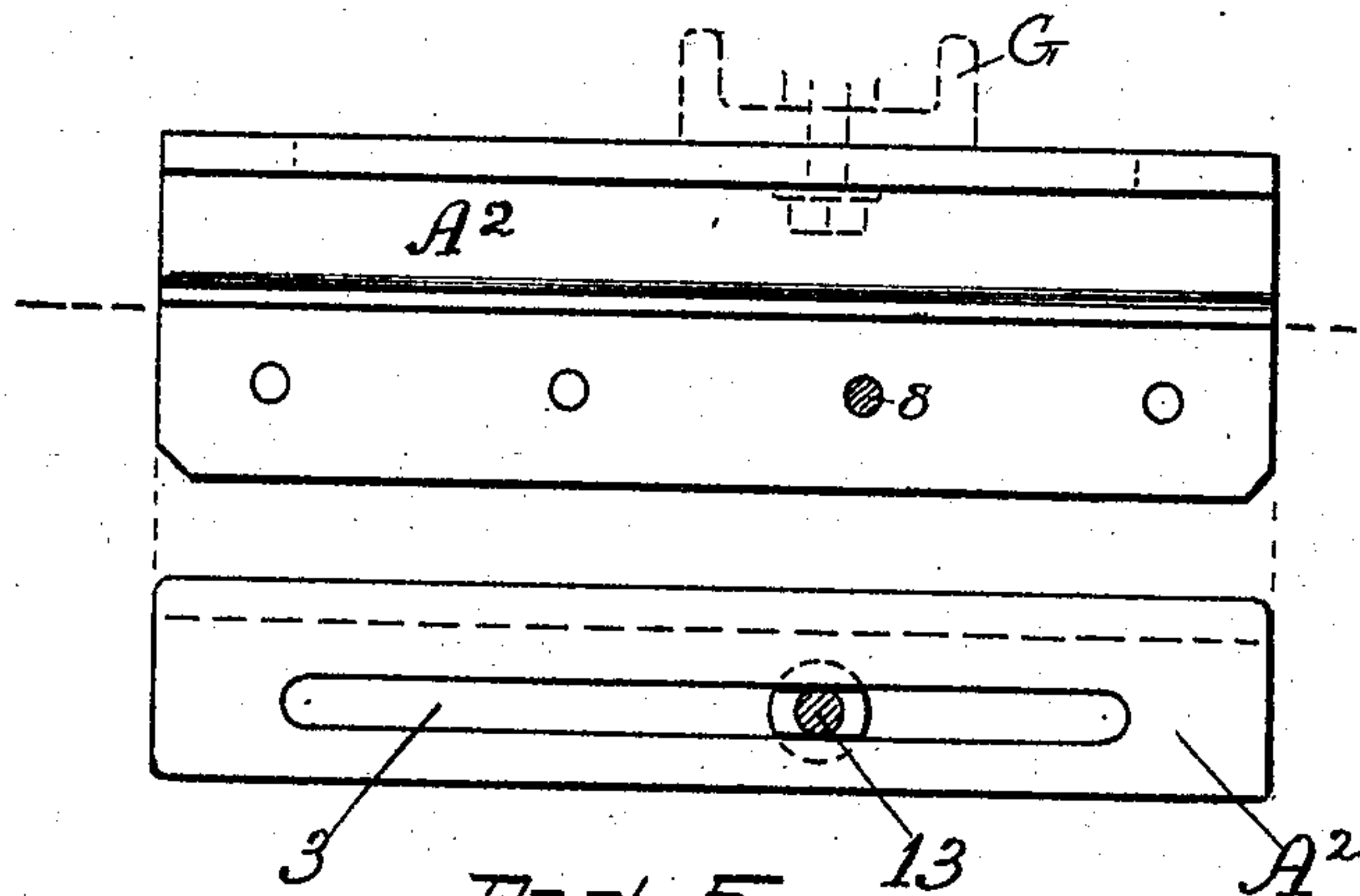


FIG. 5.

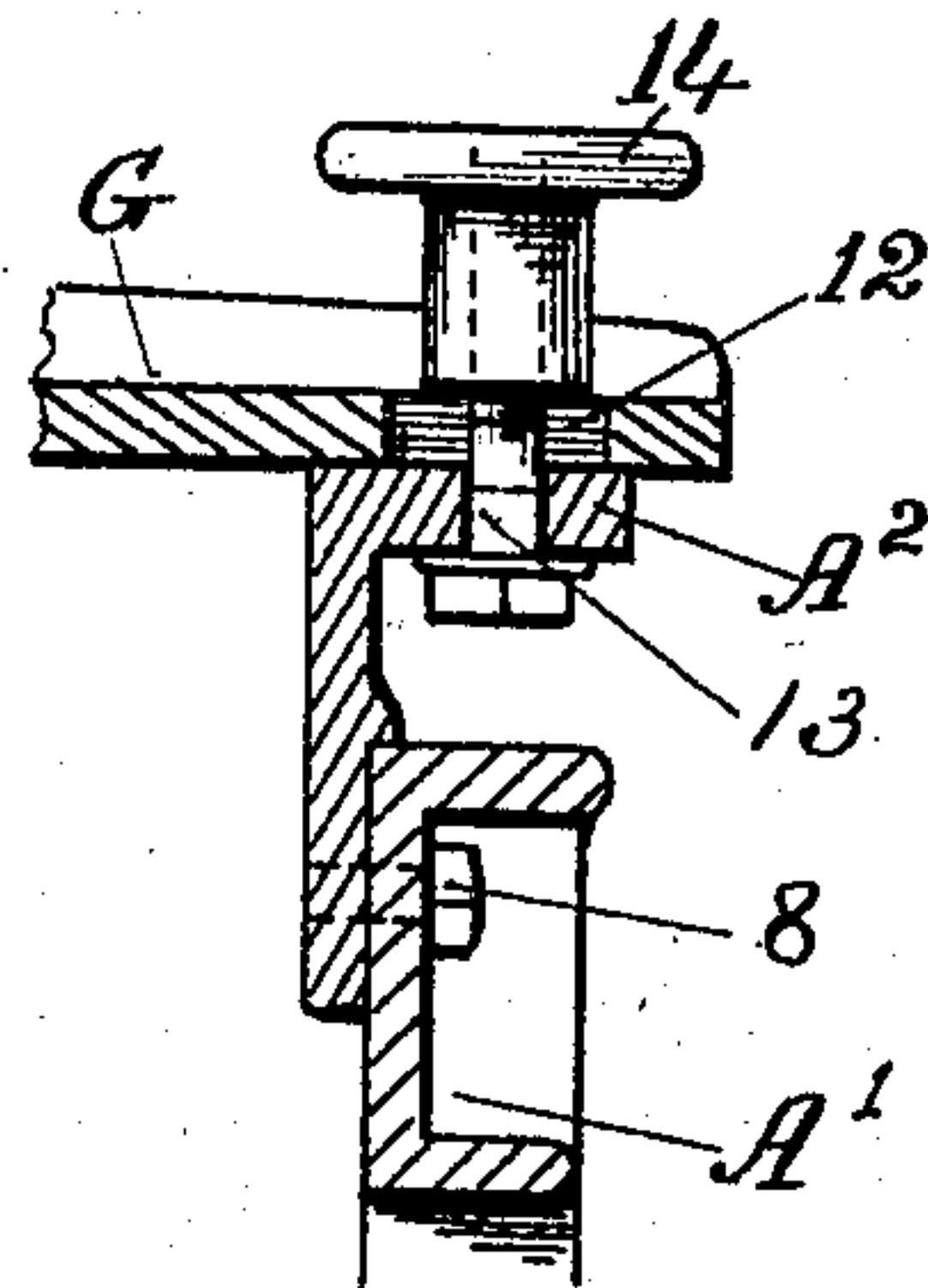


FIG. 6.

Witnesses.

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UNITED STATES PATENT OFFICE.

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ADJUSTABLE GUIDING MECHANISM FOR SKEWING BRIDGE-THREADED FABRICS.

No. 815,970.

Specification of Letters Patent.

Patented March 27, 1906.

Application filed July 13, 1905. Serial No. 269,504.

To all whom it may concern:

Be it known that we, EDWIN T. MARBLE and EDWIN H. MARBLE, citizens of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Adjustable Guiding Mechanism for Skewing Bridge-Threaded Fabrics, of which the following is a specification, reference being made therein to the accompanying drawings.

The object of this invention is to provide a convenient and efficient mechanism for the purpose stated in which the mechanism is self-contained and which is adapted for use not only with lappet or bridge-thread shearing-machines, but also with various shearing-machines that are not specially built for shearing such fabrics and without requiring changes in the construction of the shearing-machines or disturbing any of their regular parts; also, to provide a self-contained fabric-guiding mechanism in which the skewing-roll is mounted in a supporting-yoke that is tiltingly adjustable to different positions of obliquity and bodily adjustable, together with the roll, to various positions of horizontal inclination in relation to the tension devices employed in combination therewith, as more fully hereinafter explained. We attain these objects by the mechanism illustrated in the accompanying drawings, wherein—

Figure 1 represents a sectional elevation of the mechanism, taken on line X X, Fig. 2. Fig. 2 represents a top plan view; Fig. 3, a vertical transverse section. Fig. 4 is a horizontal sectional detail of means for clamping the rod that retains the vertical tilt adjustment of the skewing guiding-roll. Fig. 5 shows, on a somewhat larger scale, a separate outer side view and a plan of a detachable seat-piece that may form the top of the end frame; and Fig. 6 is a vertical section of said seat-piece and a portion of the frame with the rail-adjusting joint.

Our improved mechanism comprises a standing frame having mounted thereon front and rear guiding means and an intermediately-disposed guiding roll or member carried by a vertically-swiveling yoke, which in turn is carried by a supporting means having facilities for its horizontally-oblique adjustment relatively to the parallel positions

of the front and rear guiding means, said yoke and its support being provided with devices for releasing and retaining the parts as required.

As illustrated in the drawings, the standing frame consists of two upright end portions A, rigidly united and sustained at the required distance apart by suitable rods or girths *a*. Said end portions are preferably made of rectangular shape with open central area and each provided with a flat-topped head-transom A' or an attached seat-piece A², having a longitudinal guideway or slot 3 therein.

Upon one part of the stand or frame A there is mounted a series of parallel rods, bars, or rolls 5, forming a tension-guide B, which extends across the upper part of the frame transverse to the direction in which the fabric travels. Upon the opposite part of the frame and rotatable in suitable bearings 4 there is a frictional guide-roll F, disposed axially parallel with the tension-guide B. Said roll is provided with friction adjusting devices at 6 for varying the tensional resistance exerted by the roll upon the fabric when in operation, and such adjusting devices may be of the usual well-known construction employed for friction-rolls in other machinery.

C indicates the intermediately-disposed skew-guiding roll mounted in suitable bearings 7 at its ends in a forked frame or yoke D, which latter is centrally pivoted, as at 10, to a support or hanger E in a manner to permit the tilting or swivel adjustment of the yoke D, together with the roll C, to different positions of right or left obliquity in a vertical plane.

The yoke-supporting hanger or member E is attached to and carried by a bridge or rail G, that extends across the frame and has its respective ends movably supported on the transoms A' or seat-piece A² in a manner to facilitate the adjustment of said rail, together with the yoke and roll C, carried thereby, horizontally along the guideway-slot 3 to various positions of angularity in relation to the parallel of the tension-guide and friction guide-roll.

The slot 3 may in some instances be formed in the top flange of the transom A' of the

frame; but in other instances a supplemental seat-piece A², (see Fig. 5,) having the slot formed therein, is attached to the transom or frame casting by bolts or screws 8, as illustrated in Fig. 6, the rail being supported by a flat surface upon said seat. This latter form is preferable, as it permits the more convenient planing of the seats and otherwise facilitates the manufacture.

By the vertical oblique adjustment of the yoke D and the horizontal angular adjustment of the rail G the skew-roll C can be made to assume any desired inclination within the stand or frame. The rail is held at adjusted position by clamping it against the seat-surfaces with the bolts 13. Each of said bolts is arranged to pass through its slot 3 and through a slot 12 in the rail and is provided with a hand-nut 14 above the rail. The bolts 13 are preferably provided with a slabbed-off neck that is held in the slotted portion of the frame (see Figs. 5 and 6) and can be slid or moved along said slot to clamp the rail at such position as may be found necessary. At the same time the bolt acts as a pivot upon which as a center the rail may be swiveled. Adjustment can be effected at either end of the rail, so that the attendant can adjust the skewing devices from either side of the machine and at any time while the fabric is passing the guides.

I and I indicate the adjusting brace-rods for holding the yoke D with the skewing-roll C at positions of adjustment. Said rods are connected with the yoke at 9, and each extends up through an opening 15 in the rail G, and a clamping device 16 and hand-nut 17 are arranged thereon for rigidly clamping the brace-rod I at any adjusted position, thereby confining the yoke at such position as desired. When the clamps are loosened, the yoke can be readily swung on its pivot 10 in a vertical plane, thus varying the vertical skew of the roll C by a simultaneous movement of both its bearings 4 and without liability of interfering with the free running of the roll under the various conditions of its adjustments.

The form of the guides and tension-roll at B and F may be varied for giving greater or less strain on the fabric, and the tension-roll may be placed at the front or rear part of the frame, as may also the bar-guide, the essential feature being that the skewing-roll operates between a front guiding means and a rear guiding means, both of which are carried in parallel relation upon the standing frame A.

In the operation the fabric M, which may be drawn from a cloth roll or from a folded pile, is led through the tension-guide B, thence beneath the skewing-roll C, and then over the friction-roll F, from which it runs to the shearing-machine. The course of the fabric in this instance is indicated by the dotted line and arrow on Fig. 3. The fabric may be

passed in either direction through the mechanism as desired, so that the frictional drag of the roll F can act on the fabric either before or after it passes the skewing-roll C, as may best meet the requirements of the goods in any particular instance. The proper skew for raising the bridge-threads is imparted to the fabric more or less, according to the position of the roll C, as the fabric passes from the parallel front guiding means to the parallel rear guiding means.

This described mechanism is designed to be used as a convenient supplemental attachment with shearing-machines which are not specially built for shearing bridge-threaded fabrics, thereby enabling the work of shearing off bridge-threads to be done thereon, the mechanism being placed for use in front of any ordinary cloth-shearing machine. It can also be used in connection with such shearing-machines without disturbing any of the parts thereof as employed for regular or smooth-faced fabrics, thus in many instances avoiding the necessity and expense to manufacturers of procuring entire new machinery.

While this skewing device is primarily intended for the purpose of imparting a skew to the fabric, it can also be successfully used to remove or straighten out the skew in a fabric. The fabric passing over the first tension-guides in a skewed condition is upon passing under the yoke-supported roll straightened out, so that the cloth as it passes over the second or rear guiding devices is left straight or with its filling-threads perpendicular to the selvage.

What we claim as of our invention, and desire to secure by Letters Patent, is—

1. A mechanism for the purpose specified, comprising a standing frame, transversely-disposed parallel guides arranged thereon, a fabric-guiding roll having its journals mounted in a yoke, a hanger on which said yoke is pivotally supported to have swivel or tilting movement in a vertical plane, a bridge bar or rail carrying said hanger, having its ends supported on the frame, and adapted for horizontal adjustment at either end thereof.

2. In a mechanism for the purpose specified, the combination, with a standing frame, and front and rear parallel guiding devices; of an intermediately-disposed skewing-roll, a swiveling yoke carrying the bearings of said skewing-roll, and tiltingly adjustable in a vertical plane, means for supporting said yoke carried upon the frame and having facility for the adjustment thereof horizontally to various degrees of inclination in relation to the parallel guide devices.

3. In combination, with the stand provided with parallel front and rear guiding devices, and an intermediate horizontally-adjustable member, means for independently adjusting each end thereof, a vertically-tiltable yoke pivotally suspended from said member, a

guide-roll mounted therein, and means for securing said yoke at the various positions of its tilting adjustment.

4. In a guiding mechanism for the purpose
5 set forth, a supporting stand or frame, a vertically-swinging pivoted yoke having bearings at its respective ends, the skew-roll mounted in said bearings, and devices for securing said yoke at different positions of oblique adjustment; in combination, with means
10 for supporting the yoke, said means being adjustable horizontally to angular positions upon the stand or frame, and devices for retaining the same at adjusted position.

15 5. In a fabric-skewing-guide mechanism of the character specified, the stand or frame,

an overhead rail having a central hanger, the yoke pivotally supported thereon, and provided with roll-journal bearings, the skew-guiding roll journaled in said yoke, an adjusting brace-rod connected to said yoke and extending to said overhead rail, and a clamping device thereon for securing the brace-rod to said rail, substantially as set forth. 20

Witness our hands this 12th day of July, 25
1905.

EDWIN T. MARBLE.
EDWIN H. MARBLE.

Witnesses:

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CHARLES S. BACON.