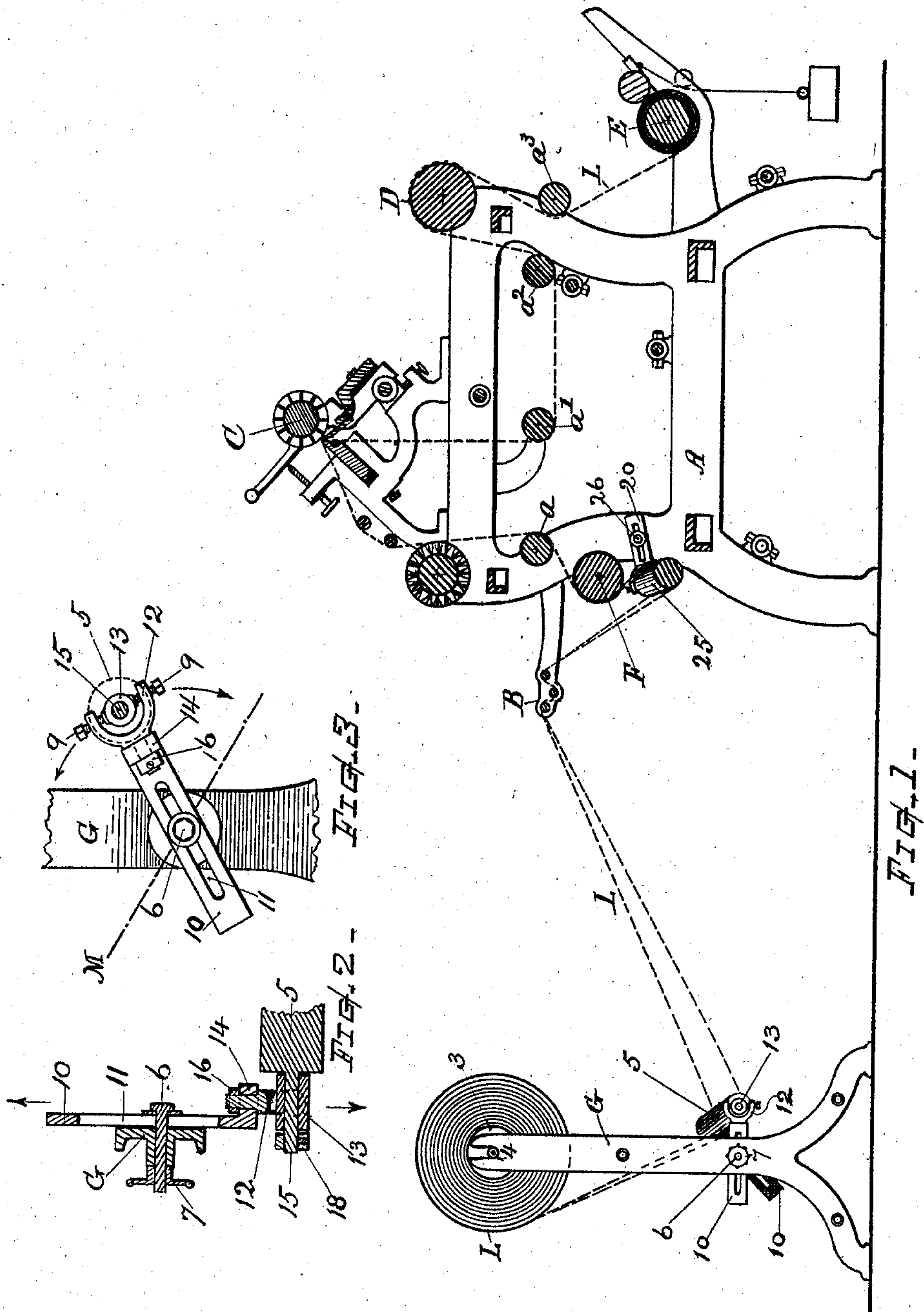


No. 815,938.

PATENTED MAR. 27, 1906.

W. C. BRADLEY.
LAPPET SHEARING MACHINERY.
APPLICATION FILED JULY 13, 1905.

2 SHEETS—SHEET 1.



Witnesses—

W. C. Snick
Charles A. Bacon

Inventor—

William C. Bradley
By Chas. H. Burlingame
Attorney.

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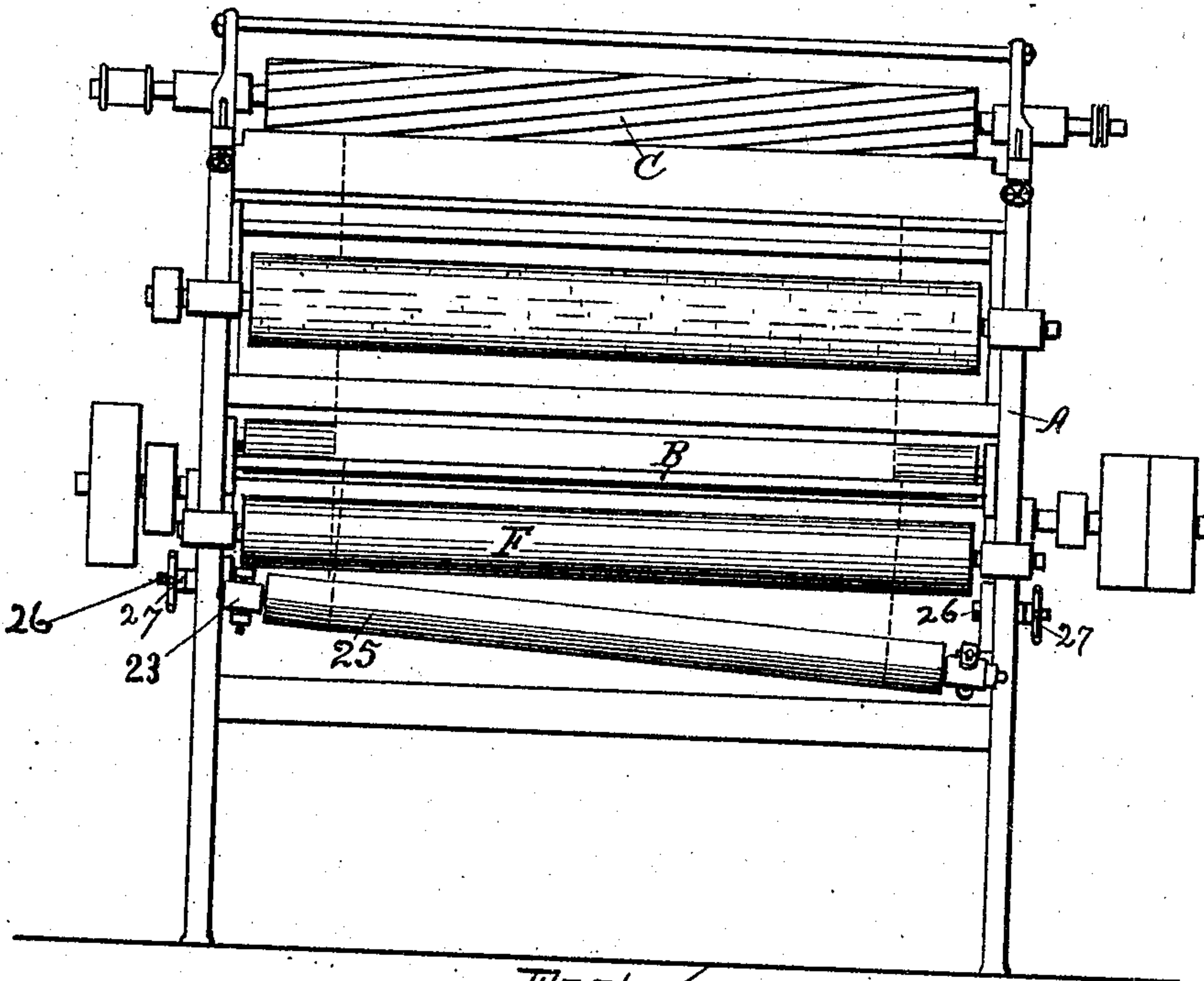


FIG. 4.

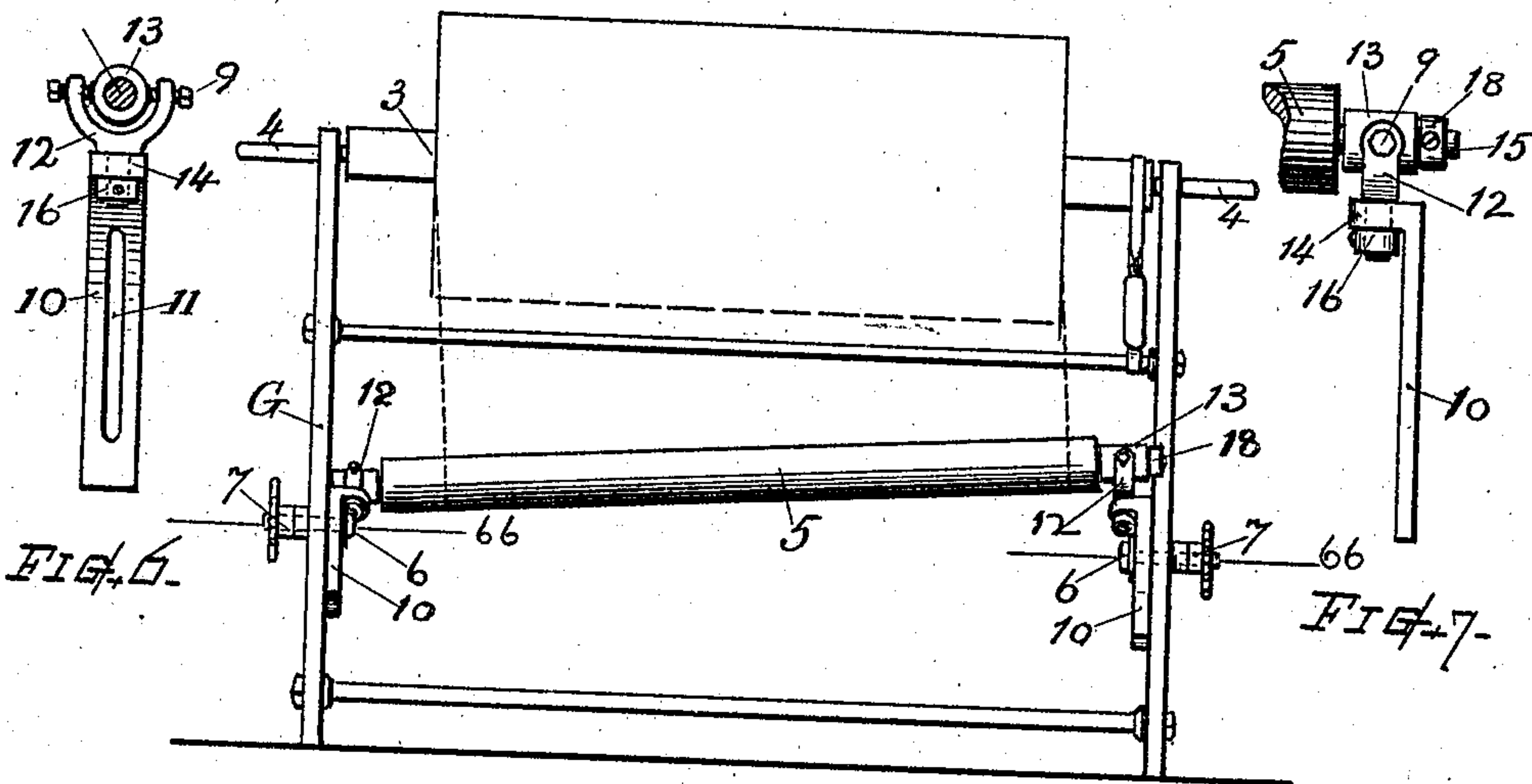


FIG. 5.

WITNESSES.

W. V. Suck
Charles A. Bacon

INVENTOR.

William C. Bradley
By Chas. H. Burleigh
Attorney.

UNITED STATES PATENT OFFICE.

WILLIAM C. BRADLEY, OF WOONSOCKET, RHODE ISLAND, ASSIGNOR TO
CURTIS & MARBLE MACHINE COMPANY, OF WORCESTER, MASSACHU-
SETTS, A CORPORATION OF MASSACHUSETTS.

LAPPET-SHEARING MACHINERY.

No. 815,938.

Specification of Letters Patent.

Patented March 27, 1906.

Application filed July 13, 1905. Serial No. 269,503.

To all whom it may concern:

Be it known that I, WILLIAM C. BRADLEY, a citizen of the United States, residing at Woonsocket, in the county of Providence and State of Rhode Island, have invented a new and useful Improvement in Lappet-Shearing Machinery, of which the following, together with the accompanying drawings, is a specification sufficiently full, clear, and exact to enable persons skilled in the art to which this invention appertains to make and use the same.

In the manufacture of lappet-cloth fabrics the loose threads, commonly known as "bridges," that extend from one figure to another may occur in any relative position or lie in any direction from transverse to longitudinal in different pieces of cloth or at different inclinations upon the same piece of goods, thus requiring for the complete shearing of all the bridges two or more runs of the fabric through the shear with the fabric skewed at different degrees of angularity, either right or left or both right and left successively, in order to throw up the bridges for shearing and in some instances requiring different modifications of the skew at different parts of the same piece of goods. It is known that mechanisms of different kinds have heretofore been devised for imparting a skew to goods of this class; but my invention relates to an improved means adapted for employment in combination with ordinary shearing machinery, as more fully hereinafter explained.

The object of my present invention is to provide a convenient, simple, and efficient means for supporting a cloth-roll and directing the lappet fabric therefrom to the shearing mechanism and for imparting, controlling, and modifying the nature and degree of skew in the fabric, so as to raise the bridges and bring the various sets of bridges more prominently into position to be properly presented to the shearing-blades without liability of wrinkling the fabric while it is run through the machine. I attain these objects by the mechanism explained in the following description; the particular subject-matter claimed being hereinafter definitely specified.

In the drawings, Figure 1 represents a longitudinal sectional elevation of such parts of a lappet-shearing mechanism as will illus-

trate the nature of my invention. Fig. 2 is a horizontal sectional detail, and Fig. 3 an inner side view, of the bearing devices for supporting the skewing-roll. Fig. 4 represents a front elevation view of the shear-machine. Fig. 5 is an elevation view of the cloth-roll stand. Fig. 6 is a separate side view of the journal-box and adjusting-arm by which the respective ends of the skewing-roll are mounted in connection with the stand or supporting-frame, and Fig. 7 is a front view of the same.

The general construction of the cloth-shearing machinery in combination with which my invention is designed to be employed may be of the usual well-known type or of any suitable form, and, as shown in the drawings, comprises principal parts, whereof the reference-letter A denotes the main frame; B, the front tension devices consisting of rolls or rods; F, the friction-roll; C, the shearing-cutters; D, a draft or feed roll by which the fabric is advanced through the machine; E, a winding-up roll or receiving devices for the sheared fabric; and a , a' , a'' , and a''' indicate suitable guide-rolls disposed parallel with the shear devices for directing the fabric in its regular course. The parts pertaining to the shearing-machine which are not herein shown and specifically described will be understood by those conversant with the art and may be arranged and organized for operating in well-known or any suitable manner.

According to my invention the support or stand G for carrying the primary cloth-roll is made portable or unattached to be placed at will at any desired position in relation to the front of the shearing machinery. Said stand is provided with suitable bearings or recesses for the reception and support of the axles 4 of the beam or roll 3, upon which the fabric L is wound preparatory to the shearing operations. In connection with the stand G and preferably also on the front of the shear-machine frame I provide an adjustably-mounted skewing or skew-guiding roll, as at 5 and 25. Each of said skew-guiding rolls has its journals or axle-mountings arranged in a manner to permit adjustment of the roll to different degrees of angularity in relation to the transverse axial alinement of the stand or its supporting-frame by a ra-

dial extension or contraction in the effective length of the carrying means and is also made capable of adjustment in oscillative relation on the central axis of its connections or points at which the carrying means is joined with the stand or frame. The journal-bearings or mounting devices at the respective ends of the skewing-roll are each capable of adjustment independently of the other, thus by their compound adjustments affording facilities for the placement of the skewing-roll in any required position and at any desired degree of right or left obliquity in relation to the cloth-roll and direction of fabric feed, while the portability of the stand permits of its being placed central, with the shear more or less at either side thereof, or at any inclination in relation to the alinement of the shearing mechanism as may at any time be desired for executing the work.

For supporting the skewing-roll 5 and effecting its adjustment, as above noted, there is employed at each end of the roll and secured to the upright frame or stand by a clamp-bolt 6 and nut 7 a longitudinally-slotted arm 10, carrying at one end a swiveling piece or furcated member 12, in which the journal-box 13 is pivotally supported by studs or axis-points 9 to rock or swivel in a transverse direction or crosswise to the pivotal movement of the swivel member 12, the axis of the latter member being preferably longitudinal with the arm 10, its stem being supported in a bearing or offset 14 thereon, where it is retained by a collar 16, fixed on the end of the stem by a set-screw or otherwise. The screw-points or axis-studs 9, that support the rockable journal-box 13, are arranged through the projecting fingers of the swivel member 12. The clamp-nut 7 is preferably provided with a flange or hand-wheel grip as a convenient means for its operation.

By shifting the respective arms 10 endwise on their clamping centers 6, more or less, in the same or in different directions, as indicated by arrows on Fig. 2, the position of the skew-roll and the degree of angularity or inclination thereof in relation to the center or axial line 66 of the attaching or clamp bolts 6 can be varied as desired, and by oscillative rotative adjustment of the arm or arms 10, together with the swiveling roll-journal bearings 13, about the clamping center or axis 6, as indicated by the arrows on Fig. 3, the position of obliquity or angularity can be changed in relation to the central vertical plane of the cloth-roll and supporting-stand. The arm may incline at either angle, as in full lines, Fig. 3, or as indicated by the dot-and-dash line M on the same figure.

One journal of the skewing-roll is provided with a collar 18, secured to its projecting end outside the bearing-box for the purpose of confining the roll, so that endwise variations due to different adjustments will occur only

at one end bearing and will not interfere with the effective skew trend imparted when the roll is operating.

At the front of the shear-machine frame near the friction-roll F a similar skewing-roll 25 is provided which acts on the fabric as it passes from the front tension-guides B to said friction-roll. This secondary skew-roll is mounted in bearings 23, that are swiveled or pivoted in swiveling forks carried by longitudinally and oscillatively adjustable attaching-arms 20. Said bearings and arms are made substantially the same as that illustrated in Figs. 2 and 3, so that the roll 25 can be positioned at any desired inclination in relation to the parallel of the front tension-guide B and friction-roll F, the clamping center bolt being at 26 and controlled by the hand-nut 27.

The independent adjustment of the respective roll-bearing supports facilitates the ready placing of the skewing roll or rolls for attaining the required and peculiar skew in the fabric best adapted for raising the bridges for advantageous shearing.

I am aware that it is not new to skew lappet fabrics in their presentation to a shearing mechanism for the purpose of raising the bridges, so that they may be sheared off. Hence it will be understood that I do not broadly claim such idea; but my invention has reference to the improved means herein defined for effecting and regulating the skew action.

What I claim is—

1. A mechanism for the purpose set forth, comprising a portable stand having bearing-recesses for receiving and supporting the axles of a cloth-roll, a skewing-roll mounted in connection with said stand, means for adjusting said skewing-roll to different degrees of angularity in relation to a line through the centers of its attaching-points, and means for adjusting the plane of such angularity in relation to the central vertical plane of the stand.

2. In lappet-shearing machinery, the combination, with the shearing-machine, of a cloth-roll-supporting stand, a skewing-roll mounted on the frame of said stand with journal-supporting means that affords adjustment of the respective roll-journal bearings forward or backward relatively to the central line of the stand, and to higher or lower positions, and means for securing the parts at their adjusted positions.

3. In a lappet-shearing mechanism, the combination, with a stand adapted for supporting the roll of fabric for delivery to the shearing-machine; of a guide-roll, journal-bearings therefor pivotally mounted upon swiveling supports, clamping means connecting said supports with the stand, said parts adapted to afford adjustment of the guide-roll axis radially toward or from a predetermined center point, and also in a circular arc

around said center point at any distance therefrom within the limit of the radial adjustment.

4. In mechanism for the purpose set forth, 5 the combination, of the stand having means for the support of a cloth-roll thereon, adjustable arms attached to said stand by pivotal connection to have oscillative adjustment, means for clamping said arms rigidly to the 10 stand, a skewing-roll, and journal-bearings for said skewing-roll having compound swiveling connection with said adjustable arms.

5. In combination with a shearing-machine, 15 a portable stand having bearings or recesses for supporting a cloth-roll thereon, endwise-adjustable arms connected with said stand by pivotal connection to afford longitudinal and oscillative adjustments of the arm, a 20 skewing-roll, journal-bearing boxes for said skewing-roll, compound swivel devices connecting said bearing-boxes to the respective arms, and means for clamping the arms rigidly at position as adjusted.

6. In a mechanism of the character described, 25 the combination, with the shearing mechanism, the supporting-frame, front tension-guide, and friction-roll; of a skewing-roll disposed at the front of the shearing-machine frame between said front tension-guide and

friction-roll, and means for supporting and 30 adjusting said skewing-roll to different degrees of angularity in relation to the friction-roll, or the front tension-guide.

7. In a mechanism of the character described, in combination with the shearing 35 mechanism, front tension-guide rods or rolls, and the friction-roll; a skewing-roll disposed between said front tension-guide and friction-roll, swiveled bearings for said skew-roll carried by longitudinally and oscillative in- 40 dependently adjusting arms, and means for clamping said arms in connection with the shearing-machine frame, a portable cloth-roll-supporting stand provided with a skewing-roll mounted in said stand, independently 45 adjustable bearing-supports for said skewing-roll comprising longitudinally-adjusting arms pivotally connected to the stand-frame, and compound swiveling bearing-boxes on said arms, a center pivot or connecting-stud, 50 and a nut for clamping each of the respective adjusting-arms at position as adjusted.

Witness my hand this 24th day of June, 1905.

WILLIAM C. BRADLEY.

Witnesses:

CHAS. H. BURLEIGH,
EDWIN H. MARBLE.