

No. 683,047.

Patented Sept. 24, 1901.

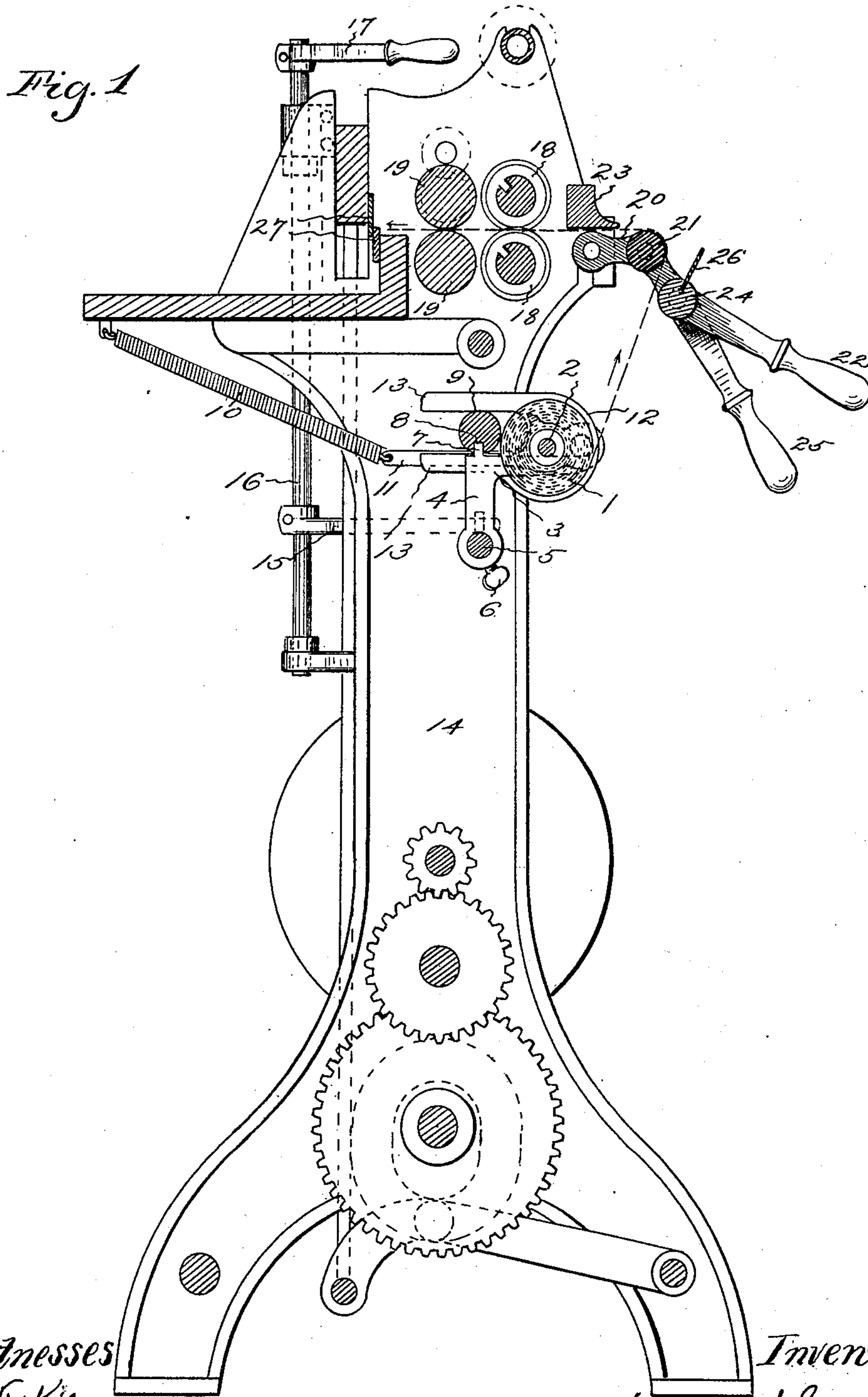
A. I. JACOBS.

ADJUSTABLE GUIDE AND FLATTENER FOR CLOTH CUTTING MACHINES.

(Application filed June 11, 1901.)

(No Model.)

3 Sheets—Sheet 1.



Witnesses
G. F. Kilgore
J. R. Holcomb.

Inventor
Arthur I. Jacobs
Harry P. Williams,
Attorney

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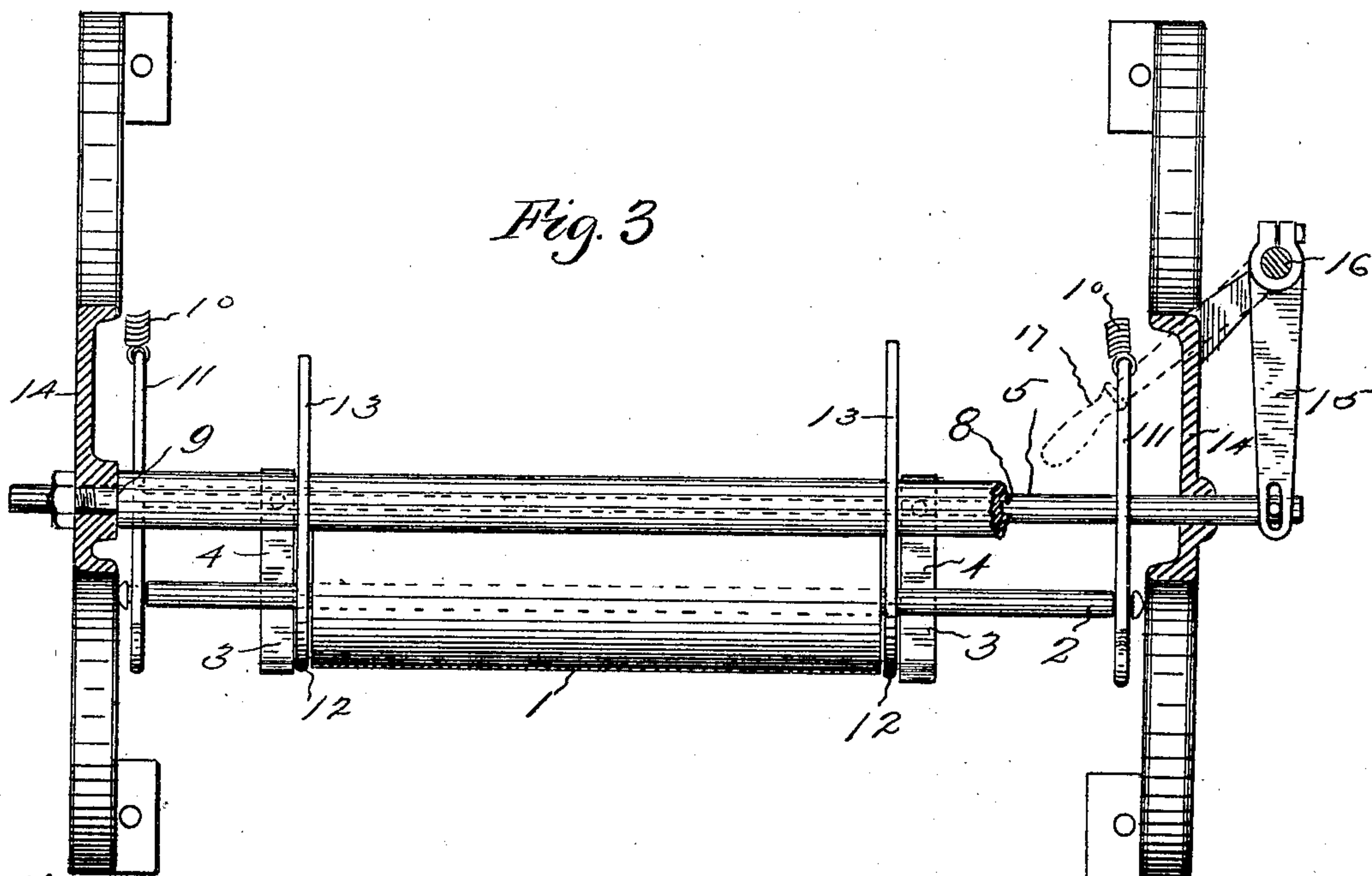
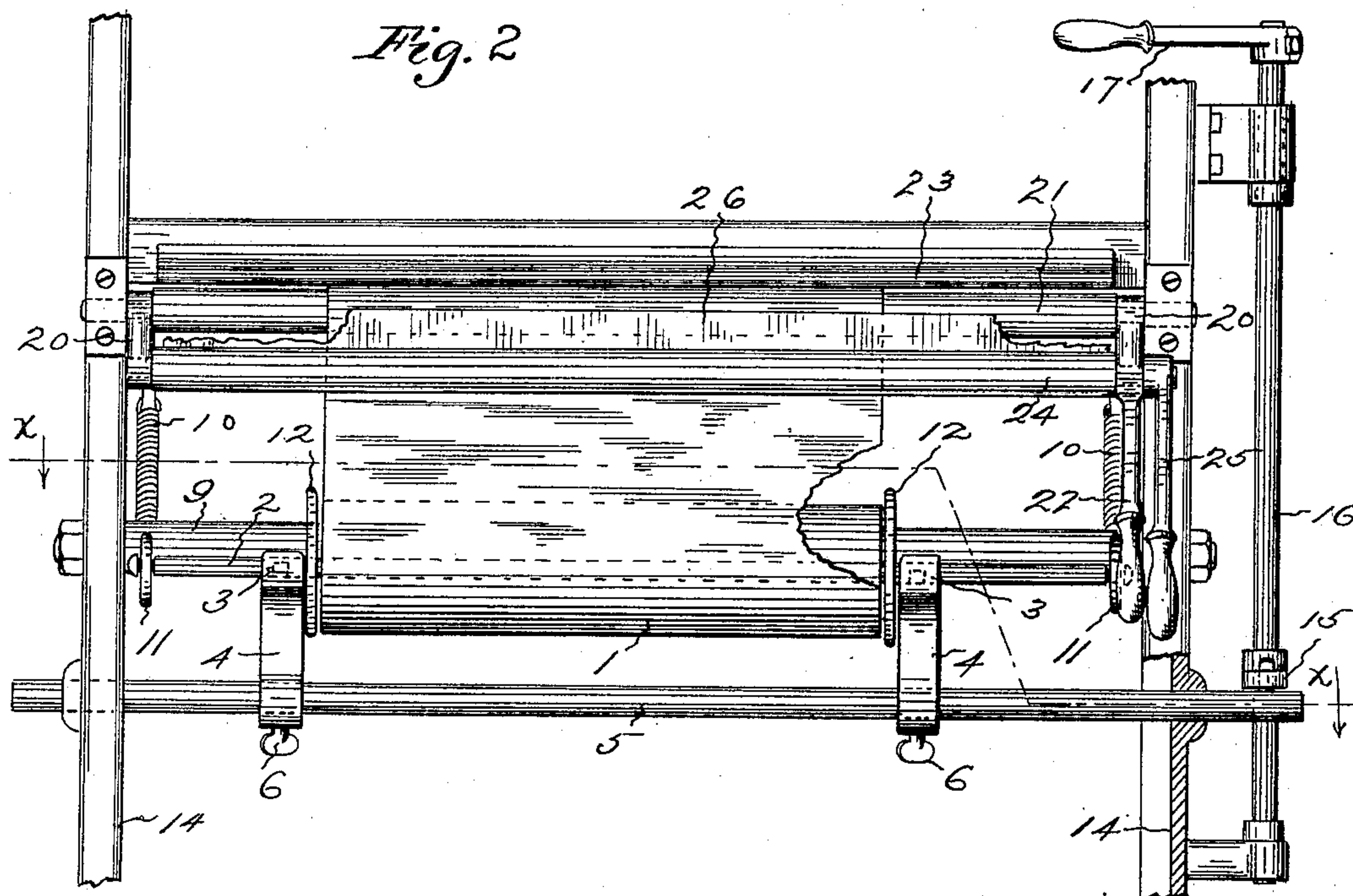
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ADJUSTABLE GUIDE AND FLATTENER FOR CLOTH CUTTING MACHINES.

(Application filed June 11, 1901.)

(No Model.)

3 Sheets—Sheet 2.



Witnesses

C. F. Kilgore

V. R. Holcomb.

Inventor

Arthur I. Jacobs, by

Harry P. Williams.

Attorney

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(No Model.)

3 Sheets—Sheet 3.

Fig. 4

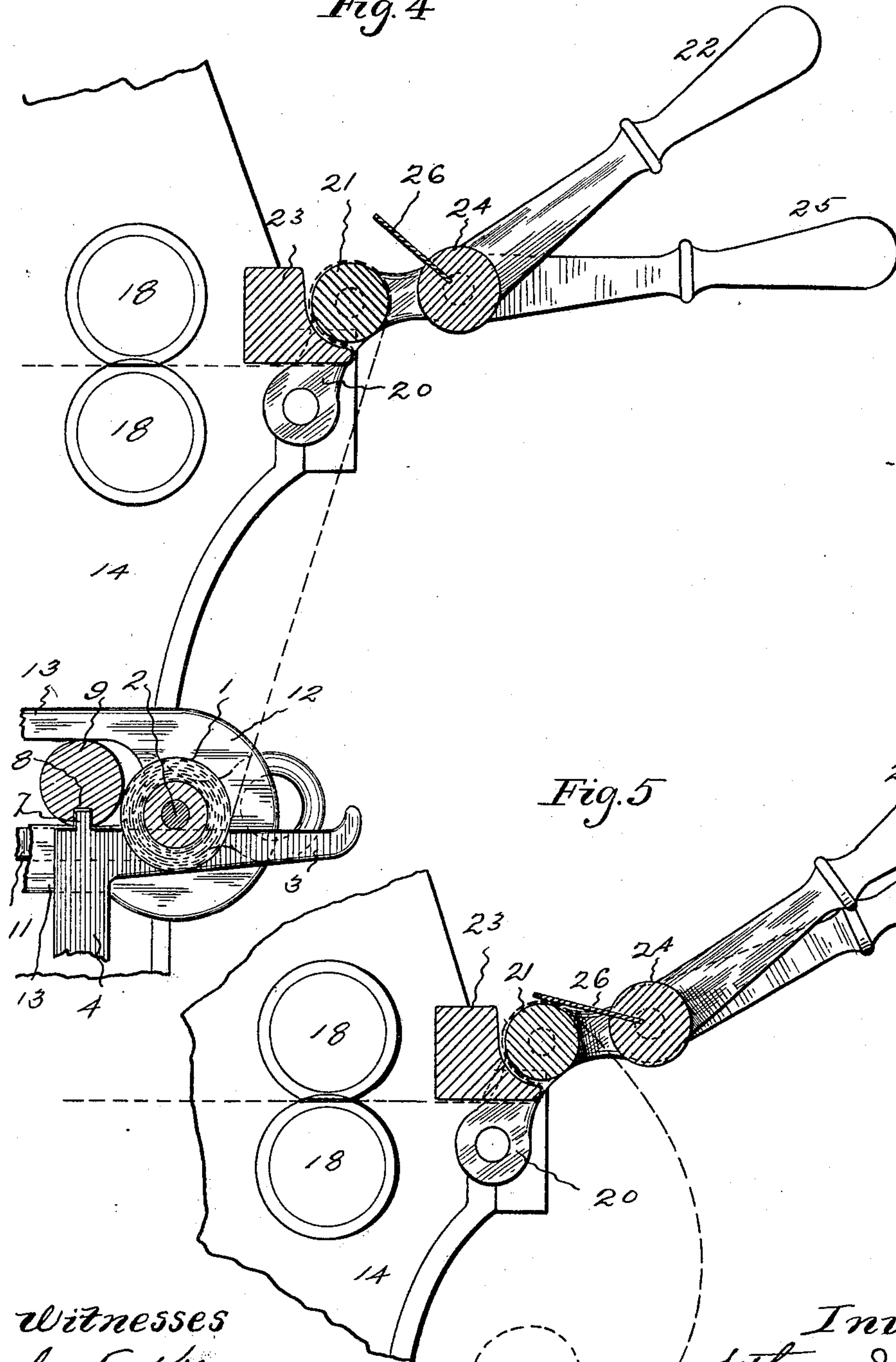
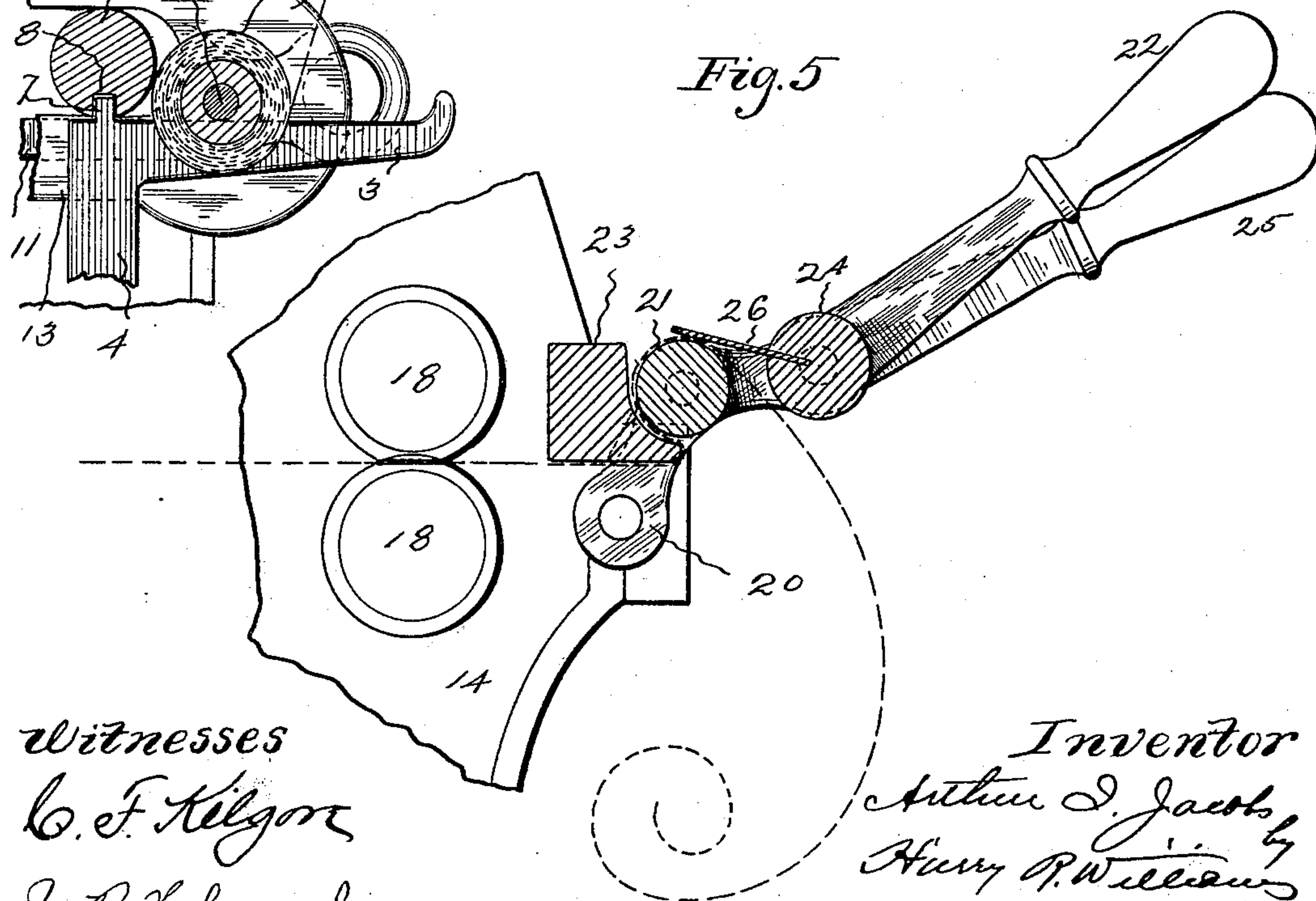


Fig. 5



Witnesses

C. F. Kellogg

J. R. Holcomb

Inventor

Arthur I. Jacobs

Harry P. Williams

Attorney

UNITED STATES PATENT OFFICE.

ARTHUR I. JACOBS, OF HARTFORD, CONNECTICUT, ASSIGNOR TO THE
SMYTH MANUFACTURING COMPANY, OF SAME PLACE.

ADJUSTABLE GUIDE AND FLATTENER FOR CLOTH-CUTTING MACHINES.

SPECIFICATION forming part of Letters Patent No. 683,047, dated September 24, 1901.

Application filed June 11, 1901. Serial No. 64,059. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR I. JACOBS, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Adjustable Guides and Flatteners for Cloth-Cutting Machines, of which the following is a specification.

This invention relates to those machines which are constructed for slitting a web of cloth into strips of various widths and severing the strips at various intervals, so as to form sheets of desired size.

The object of the invention is to provide a simple and inexpensive mechanism for accurately guiding the cloth to the slitting-cutters and severing-blade of such a machine and removing all of the curl inherent in such material, so that the sheets, which are particularly intended for forming bookcases as they feed from the machine, will be flat.

This invention resides in an attachment for a cloth-cutting machine which has means for longitudinally moving the roll of cloth to be cut, an adjustable roll for bending the cloth around the edge of a straightening-bar, and a friction-plate movable with the straightening-roll for holding the cloth while it is being drawn around the edge of the straightening-bar.

Figure 1 of the accompanying drawings shows a vertical section of the cloth-cutting machine shown and described in my application for patent filed April 28, 1900, and serially numbered 14,703, provided with the improved adjustable guide and flattener. Fig. 2 shows a view of the upper portion of the machine looking from the rear. Fig. 3 shows a horizontal section taken on the plane indicated by the line xx on Fig. 2. Fig. 4 shows a section, on larger scale, of the straightening-roll with the friction-plate lifted; and Fig. 5 shows a sectional view of the straightening-roll with the friction-plate lowered.

The roll of cloth 1 to be slitted into strips and severed into lengths for forming sheets is wound upon a bar 2. This bar is held upon the arms 3 of brackets 4, that are adjustably secured on the rod 5 by thumb-screws 6. The brackets are held from turning by the lugs 7, that project into the groove 8 in the tie-brace 9. Springs 10 are joined to rods 11, that are connected with the ends of the

cloth-bar, so as to draw the roll against the tie-brace and cause enough friction to prevent the cloth from unwinding faster than it is needed when the machine is in operation. On the cloth-bar at the ends of the roll and inside of the bracket-arms are guard-plates 12, which have arms 13, that extend above and below the tie-brace. The bracket-rod 5 is loosely supported by the side frames 14, and one end is connected with a rocker-arm 15, secured to a vertical shaft 16, that is supported by brackets fastened to the frame and that at its upper end is provided with a handle 17. When the handle is turned, the rocker-arm moves the bracket-rod longitudinally, and the brackets carried by the rod engage with the guard-plates and cause them to push the roll of cloth longitudinally until it is in the desired position. The direction of movement of the roll depends upon the direction in which the handle is turned, so that by turning the handle in the proper direction the roll of cloth may be moved longitudinally beneath the slitting-cutters 18 and the slits made on the correct lines as the cloth is drawn along by the feed-rolls 19.

A lever 20 is pivotally attached to the inside wall of each side frame. These levers are connected by a round bar 21. One lever has a handle 22, by means of which the levers can be moved and the bar 21 swung from below the plane of the opening between the feed-rolls and slitting-cutters, as in Fig. 1, to above that plane, as in Fig. 4. A bar 23, with its lower edge projecting rearwardly, extends across the machine between the side frames, with its lower face slightly above the plane of the opening between the feed-rolls and the slitting-cutters. A rock-shaft 24, with a handle 25, is supported by the levers 20. This shaft carries a plate 26.

The cloth which is drawn by the feed-rolls 19 between the rotary slitting-cutters 18 and passed to the reciprocating shearing-blades 27 travels from the supply-roll 1 over the movable round bar 21, that is supported by the levers 20, and beneath the fixed angular bar 23. When the cloth is first taken from the roll and has but little curl, the levers are placed so that the upper edge of the bar 21 is about on the level of the bottom face of the bar 23. As the cloth-roll becomes smaller and the tendency of the stiff cloth to curl in-

creases, the bar 21 is raised, so that the cloth is made to pass over the bar 21 and bend around the rear lower edge of the bar 23 in such manner that the original curl is removed and the cloth passes flat through the machine and is delivered upon the table in flat sheets. When there is no curl in the cloth, the bar 21 is left in the position shown in Fig. 1. When there is much curl in the cloth, as the roll becomes smaller the bar 21 is moved into the position illustrated in Fig. 4. The bar 21 can be quickly moved to such a position with relation to the edge of the bar 23 that all of the curl may be taken out of the cloth whether there is much or little. With enough cloth in the roll to offer resistance to its feed there will be sufficient friction as it passes around the edge of the straightening-bar to remove the curl. Under this condition the shaft 24 may be rocked so that the plate 26 stands up from the surface of the bar 21, as indicated in Fig. 4. When the cloth is unwound or there is not sufficient friction to remove the curl, the handle 25 is lifted and the shaft 24 rocked until the plate holds the cloth to the face of the bar 21, as indicated in Fig. 5, and produces enough drag to retard the cloth and cause it to draw around the edge of the plate sufficiently to remove the curl. By means of this invention an adjustable guide is provided, so that the cloth, which is not always wound evenly into a roll, may be fed to the cutters and all of it cut into sheets without danger that some of the sheets will be smaller than others by reason of one edge of the cloth running out from under the cutters, and by means of the flattening mechanism all of the curl may be removed from the cloth, so that the finished sheets will lie flat and can be packed into a casing-in machine. If the curl is not removed, and the curl of course varies with the atmospheric conditions, the thickness of the material, and its treatment in process of manufacture, a large amount of space would be required to hold the curled sheets, and it would require much labor to flatten them so that they could be used in the machine which performs the following step in the process of forming the book-covers for which these sheets are designed.

I claim as my invention—

1. An attachment for a cloth-cutting machine comprising a cloth-roll holder, a longitudinally-movable rod supporting the holder, a rocker-arm connected with the rod, and a shaft with a handle for rocking the arm, substantially as specified.

2. An attachment for a cloth-cutting machine comprising a cloth-roll holder, a longitudinally-movable rod supporting the holder, yielding means adapted to be connected with the roll-bar for drawing the cloth-roll against a friction-bar, a rocker-arm connected with the rod, and a shaft with a handle for rocking the arm, substantially as specified.

3. An attachment for a cloth-cutting ma-

chine comprising a cloth-roll holder, a longitudinally-movable rod supporting the holder, guard-plates movable along the rod, a rocker-arm connected with the rod, and a shaft with a handle for rocking the arm, substantially as specified.

4. An attachment for a cloth-cutting machine comprising a cloth-roll holder, a longitudinally-movable rod supporting the holder, yielding means adapted to be connected with the cloth-bar for drawing the cloth-roll against a friction-bar, guard-plates movable along the rod, a rocker-arm connected with the rod, and a shaft with a handle for rocking the arm, substantially as specified.

5. An attachment for a cloth-cutting machine comprising a longitudinally-movable rod, cloth-roll-holding brackets adjustable along the rod, springs adapted to be connected with the roll-bar for drawing the cloth-roll against a friction-bar, guard-plates movable along the cloth-bar between the supporting-brackets, a rocker-arm connected with the rod, and a shaft with a handle for rocking the arm, substantially as specified.

6. In combination with the guiding, feeding and cutting mechanisms of a cloth-shearing machine, a straightening-bar extending across the machine, levers pivoted to the side frames, and a stretching-bar carried by the movable levers, substantially as specified.

7. In combination with the guiding, feeding and cutting mechanisms of a cloth-shearing machine, a straightening-bar extending across the machine, levers pivoted to the side frames, a stretching-bar carried by the levers and a friction-plate carried by the levers and movable into and out of engagement with the stretching-bar, substantially as specified.

8. In combination with the guiding, feeding and cutting mechanisms of a cloth-shearing machine, a straightening-bar extending across the machine, levers pivoted to the side frames, a stretching-bar carried by the levers and movable above and below the rear edge of the straightening-bar, a friction-plate carried by the levers and a handle for moving the friction-plate into and out of engagement with the stretching-bar, substantially as specified.

9. In combination with the feeding and cutting mechanisms of a cloth-cutting machine, a movable cloth-guiding mechanism, springs for holding the cloth against a friction-bar, a straightening-bar and a stretching-bar movable with relation to the straightening-bar, substantially as specified.

10. In combination with the feeding and cutting mechanisms of a cloth-shearing machine, a movable cloth-guiding mechanism, a fixed straightening-bar, a movable stretching-bar, and a friction-bar movable with the stretching-bar, substantially as specified.

ARTHUR I. JACOBS.

Witnesses:

V. R. HOLCOMB,
H. R. WILLIAMS.