

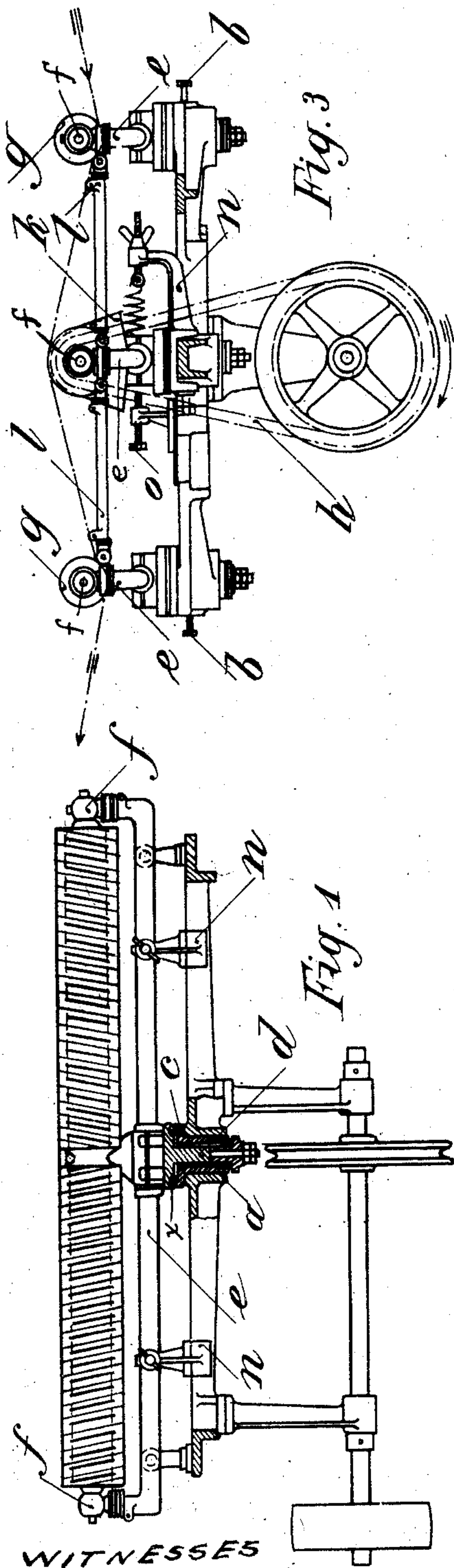
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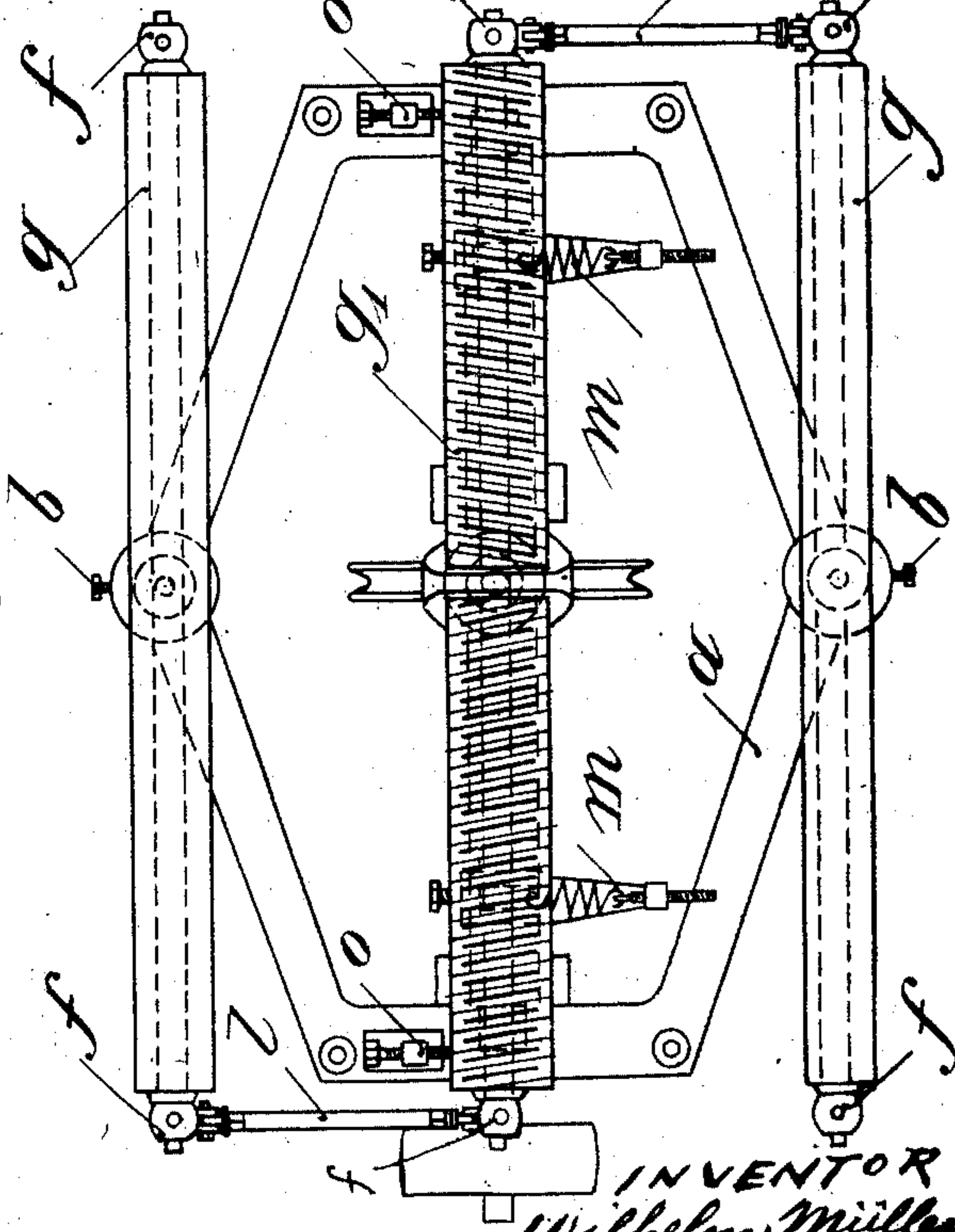
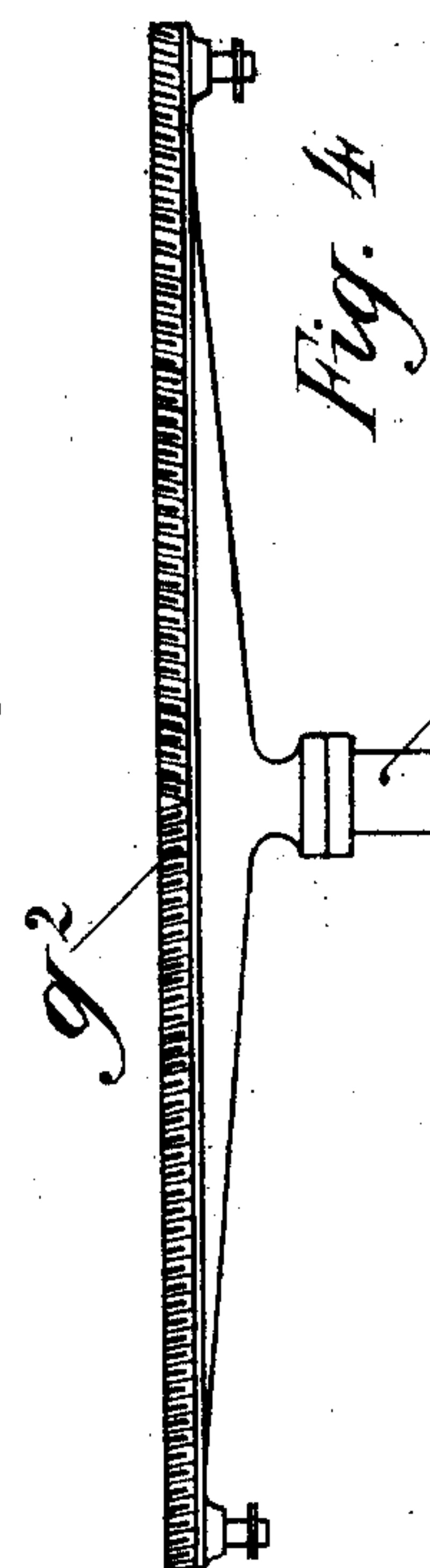
W. MÜLLER.

CONTRIVANCE FOR FEEDING MOVING FABRICS INTO CALENDERING
MACHINES.

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CONTRIVANCE FOR FEEDING MOVING FABRICS INTO CALENDERING-MACHINES.

No. 879,298.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILHELM MÜLLER, of Switzerland, residing at Affoltern, Switzerland, have invented new and useful Improvements in Contrivances for Feeding Moving Fabrics into Calendering-Machines, of which the following is a specification.

Contrivances, for feeding moving fabrics into calendering machines, in which oscillating guiding rollers are employed have, to some extent, the disadvantage that the return of the oscillating rollers to the central position results only from the counter strain of the fabric which has been guided back to and is running out over the center, with the result that the fabric runs continually from side to side and a regular passage over the central position can never be attained. In the case of other known contrivances in which the return of the fabric, which has run off the straight, is accomplished by a spreading roller oscillating vertically to the direction of movement of the fabric, and actuated by a regulator swinging in the direction of the passage of the fabric, the delivery of the guide is vitally impaired by the oscillations in different planes of its individual parts which necessarily result, and through which, moreover the fabric is frequently pulled off the straight. Other feed-contrivances, in which the guiding rollers are arranged close behind each other in the same oscillating frame, have the disadvantage that the individual rollers cannot come completely into operation, so that the return of the fabric to the central position only follows slowly; and as the front and back rollers swing eccentrically they must therefore get displaced aslant the fabric by the oscillation of the frame and thereby the sensitiveness of the guide is reduced.

Through the feeding contrivance which forms the subject of the abovementioned patent and of which an example of one form of construction is represented in the accompanying drawing, these disadvantages will be removed.

Figure 1 shows the contrivance in front elevation with a section through one bearing. Fig. 2 shows same in plan. Fig. 3 shows same in side elevation with a section through one half of the spreading roller. Figs. 4 and 5 are detail views of a modification.

In a frame *a* as in Fig. 1 to 3 the bearings *c* are arranged which are adjustable vertically and locked by the set-screws *b* and in which

are seated the three balanced tubular U-shaped supports *e* which oscillate on the pivots *d* with an easy movement, being on ball bearings *x*. The smooth guiding rollers *g* and the spreading roller *g*¹ are placed to rotate in the bearing-heads *f* of the supports *e* and the said spreading roller *g*¹ is driven, as is known, centrally, for example by a cord *h*. The three supports *e* are connected pivotally with the roller bearing-heads by the arms *l* so that the supports retain their parallel position during the oscillation. The supports are held nonrigidly in the central position by the springs *m* which are fastened to the holders *n* that can be moved along the U-shaped traverse of the frame *a*. The adjustable stop-screws *O* are arranged to limit the play of the supports.

Fig. 4 and 5 represent in front and side elevation respectively a grooved spreading bar *g*² which can be put in the place of the spreading roller when the smoothing out of folds is less necessary and the bar has more to effect the stretching of the fabric.

The mode of acting of the feeding contrivance is as follows:—The fabric is led under the rollers *g* over the spreading roller *g*¹ and runs regularly over their centers, so that the fabric is uniformly opened and stretched by the spreading roller. When the fabric runs out of line to one side or the other, then, as a result of the now unequal strain of the fabric acting upon the three supports *e* as also upon the rollers fixed in them, those sides of the rollers, towards which the fabric has deviated, are carried in the direction of the passage of the fabric, the screw *m*¹ concerned being also under tension. The oblique position of the guiding rollers to the line of movement of the fabric causes the latter to move along the rotating guide rollers towards those ends of them, which are in rear of their correct position with respect to the line of motion of the fabric, and so to return to the central position. On the return of the fabric to the center the three rollers are also brought back to the central position by their respective springs *m*. Through the arrangement of the spring *m* a continual movement of the fabric from side to side is avoided. In order that the strain of the springs can be simply altered in relation to the fabric and its operation when running through the guide, they are fixed to movable holders *n*, so that the action of the springs may be lessened by moving them nearer to the center of

motion or increased by displacing them in the opposite direction.

The spreading and guiding rollers, which are placed in separate supports for the greater delicacy of the guidance, are arranged so far apart that the fabric can yield sufficiently to the strain of each roller.

By placing the bearings *c*, and thus also the spreading or guiding rollers, higher or lower, the strain on the fabric can be simply regulated, which is an important factor in the sensitiveness of the guide.

Since the centrally-driven spreading roller swings in the direction of the fabric under the influence of the crooked running fabric and of the guiding-rollers connected with it, not only is the delicacy of the feeding contrivance increased and the return to central position considerably quickened, but also distortion of the fabric by the guide is avoided. So that the movable parts of the contrivance may be as light as possible the supports *e* and the connecting arms *l* as well as the rollers *g* and *g*¹ are made of tubes. The latter could also be constructed of wood. To enable the rollers to be adjusted vertically the connecting-rods could also be fastened to the oscillating frame in some other expedient manner, for example, by ball and socket joints.

To increase the spreading, effect still more, the spreading-roller *g*¹, driven by the cord, could be surmounted by another spreading roller, opening on the upper side of the line of movement of the fabric, the latter roller to be drawn by the former, for example, by means of spur-wheels arranged on each end, and both rollers to oscillate together.

The feeding contrivance can be erected in a horizontal or a vertical position; but, in the latter case, it is necessary that the three supports with the rollers and connecting arms be exactly balanced.

Patent—claims

1. An apparatus for feeding webs of textile fabric to calenders and the like, comprising a main support, a plurality of frames pivoted upon vertical axes upon said support and having upwardly extending end

portions, a single roller having its ends journaled in the upwardly extending arms of the outer supports, a single spreading member supported by the upwardly extending ends of the intermediate support, means interposed between said frames for maintaining the rollers in parallel position, and yielding means tending to hold said frames in neutral position, substantially as described.

2. An apparatus for feeding webs of textile fabric to calenders and the like, comprising a main support, a plurality of frames pivoted upon vertical axes upon said support and having upwardly extending end portions, a single roller having its ends journaled in the upwardly extending arms of the outer supports, a single spreading member supported by the upwardly extending ends of the intermediate support, said member having inclined grooves on each side of its center, the grooves of one side inclining in a direction opposite to the inclination of the grooves on the other side, means interposed between said frames for maintaining the rollers in parallel position, and yielding means tending to hold said frames in neutral position, substantially as described.

3. In combination, a main support, center and side U-shaped members pivotally carried thereby, a single spreading roller journaled in the central member and having inclined grooves, the grooves on one end inclining in the opposite direction from the grooves on the other end, means for driving said spreading roller, guide rollers journaled in the frames on the opposite side of the spreading roller, connections between the spreading and guide rollers for maintaining them parallel, and means for yieldingly holding said U-shaped members in neutral position, substantially as described.

In testimony whereof have signed name to this specification in the presence of two subscribing witnesses.

WILHELM MÜLLER.

Witnesses:

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