

F. FARNWORTH,
 APPARATUS FOR STRETCHING TEXTILE FABRICS,
 APPLICATION FILED MAY 3, 1907.

920,122.

Patented May 4, 1909.

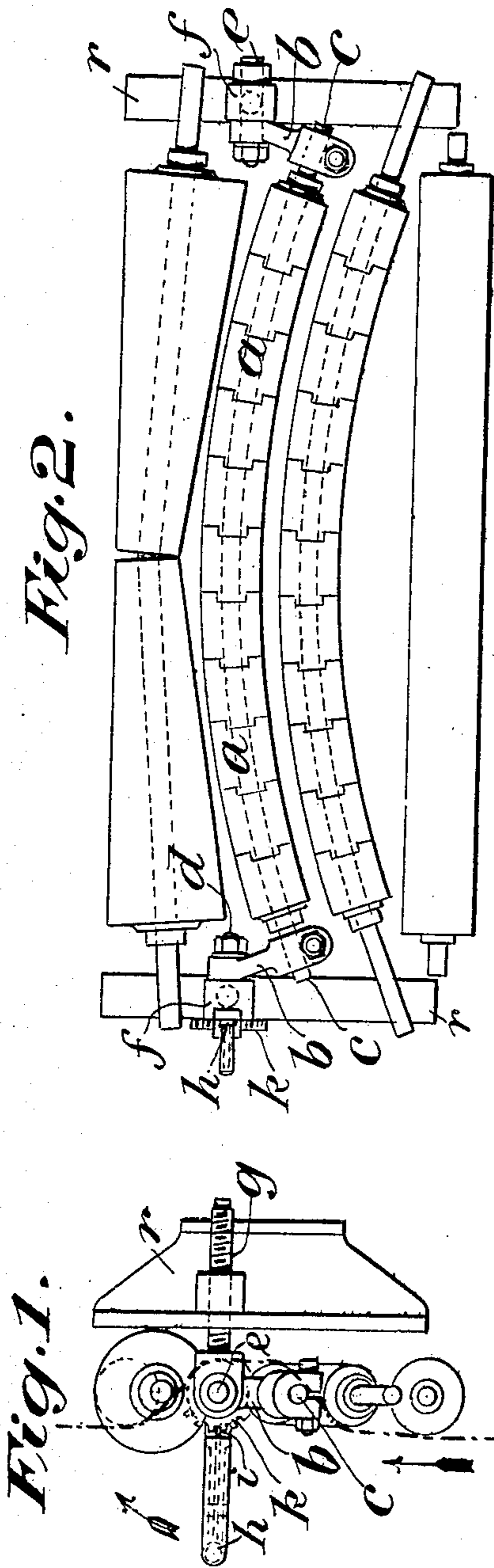


Fig. 2.

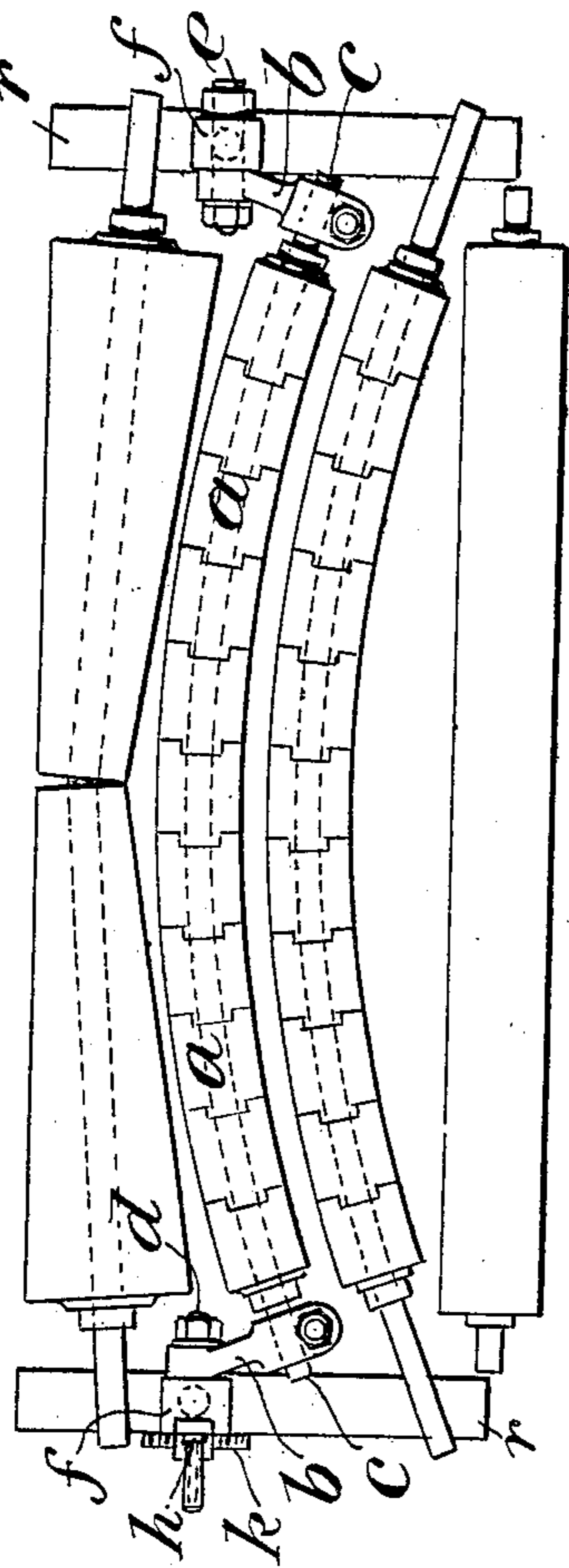


Fig. 3.

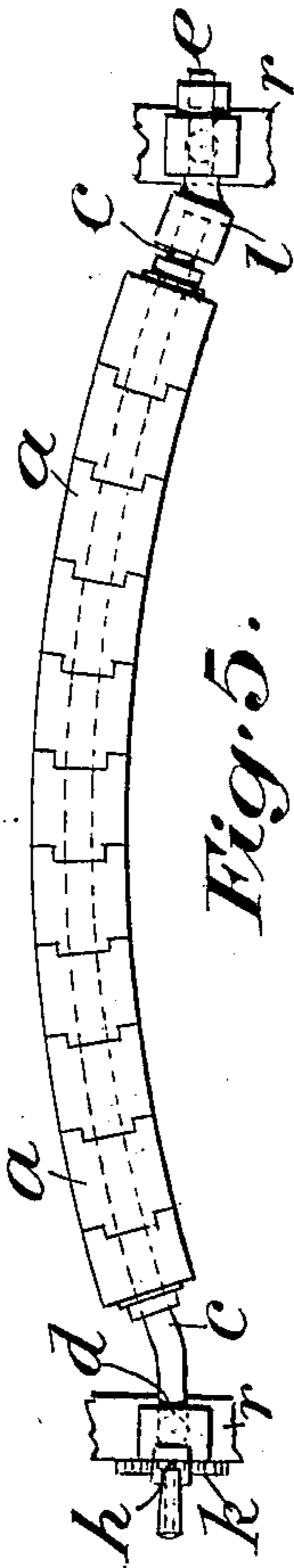


Fig. 5.

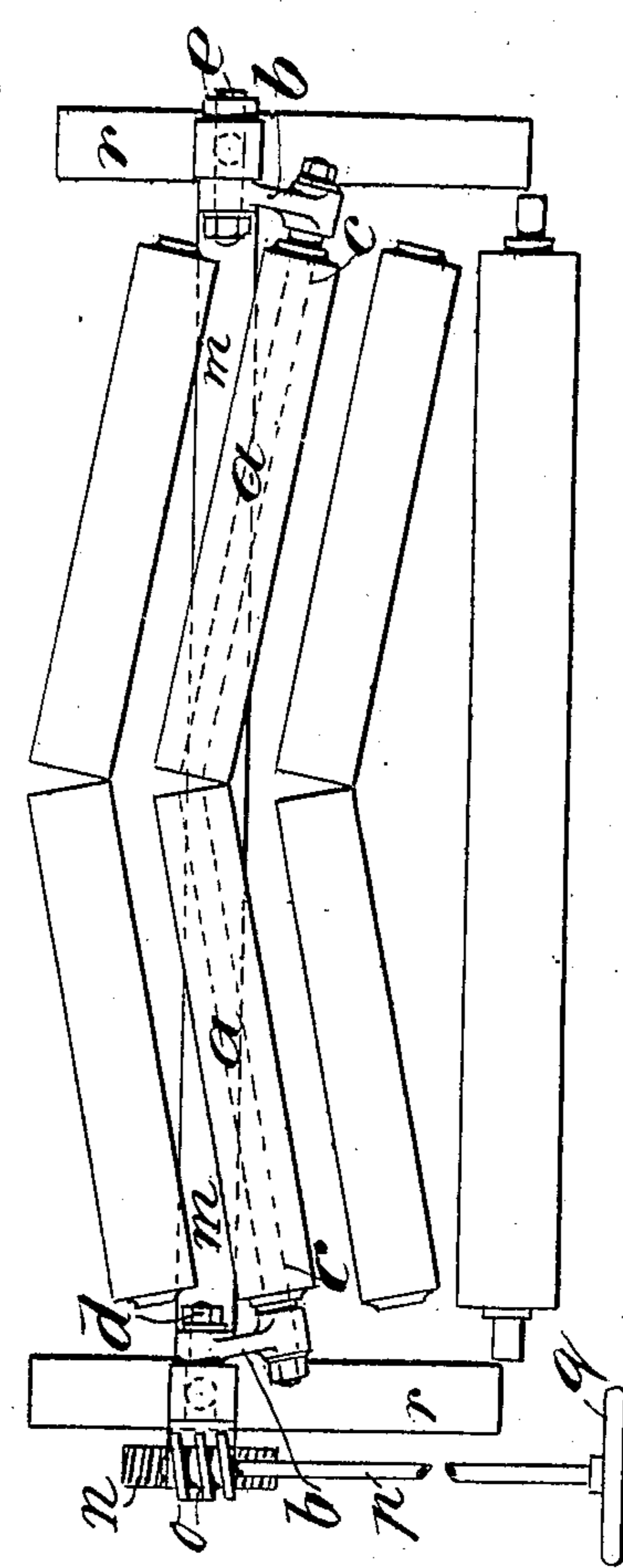
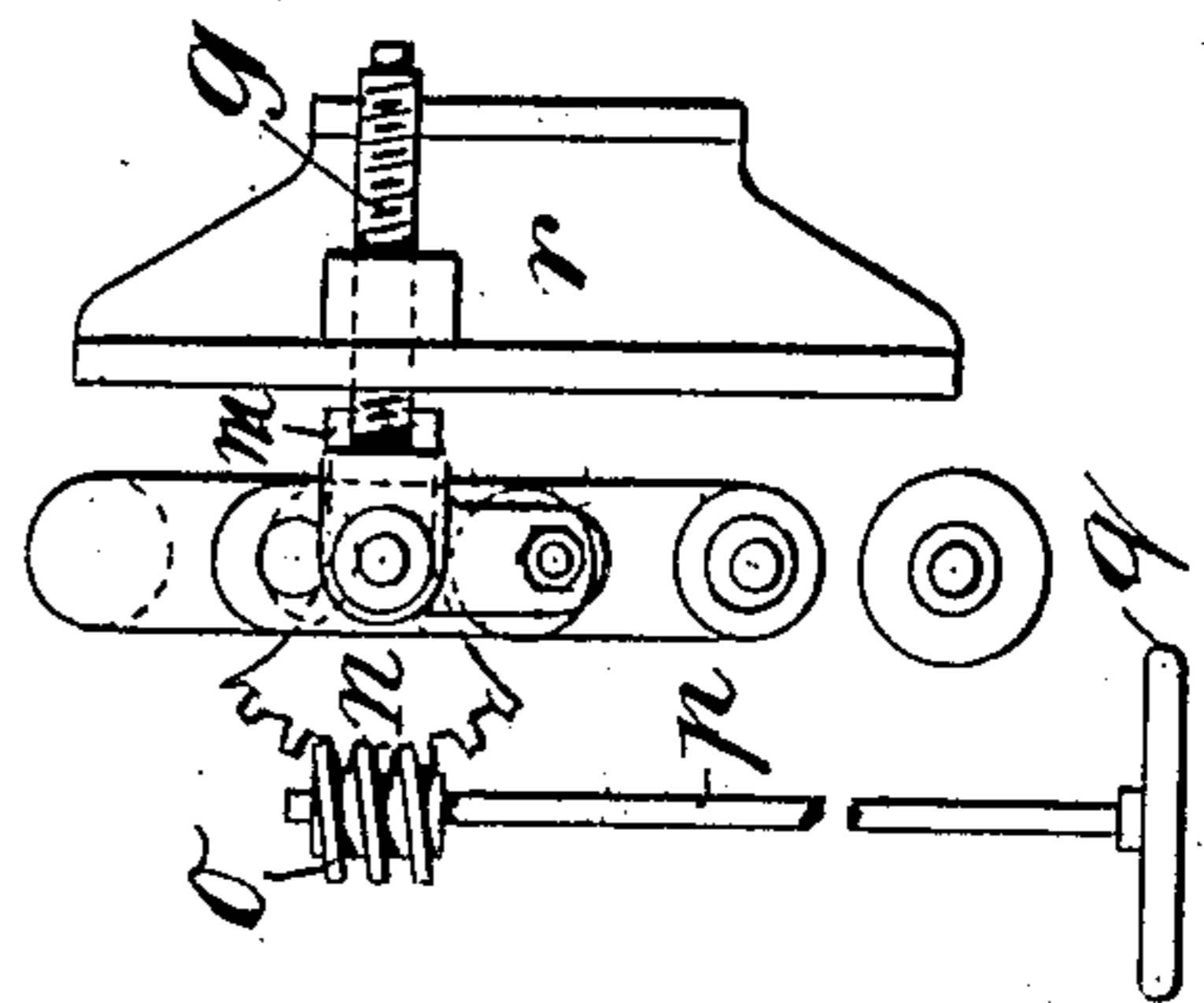


Fig. 4.



Witnesses:
Alfred Boshardt,
Stanley Brumall

Inventor.
Frank Farnworth.
Per J. Boshardt & Co.
Attorney.

UNITED STATES PATENT OFFICE.

FRANK FARNWORTH, OF RAMSBOTTOM, ENGLAND.

APPARATUS FOR STRETCHING TEXTILE FABRICS.

No. 920,122.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FRANK FARNWORTH, subject of Great Britain, residing at Ramsbottom, in the county of Lancaster, England, Kingdom of Great Britain, have invented new and useful Improvements in Apparatus for Stretching Textile Fabrics, of which the following is a specification.

My invention relates to that type of apparatus for stretching textile fabrics in which a series of rollers, bobbins or tapered cones revolving on bent shafts or on shafts arranged at an angle are employed and the object is to provide means whereby the tension roller of the said series of rollers can be so raised above a horizontal plane as to cause its middle to lower and its ends to rise, or so lowered below the same as to cause its middle to rise and its ends to lower and thereby simultaneously decrease in the middle and increase at the selvages the tension of the fabric or vice versa respectively, for the purpose of straightening the weft while the fabric is being stretched. I attain this object by the means illustrated in the accompanying drawing, in which—

Figures 1 and 4—2 and 5 are end views and plans respectively, and Fig. 3 a detached plan of various embodiments of my invention.

Similar letters refer to similar parts throughout the various views.

Referring to Figs. 1 and 2, in this case the invention is shown as applied to a curved tension roller *a* composed of revolving bobbins. In this example the shaft *c* of the roller *a* is rigidly clamped to the arms *b* and the latter are rigidly held by the pins or rock shafts *e* and *d*. These pins or rock shafts are rotatably mounted in bearings *f* which may have screw-threaded shanks *g* rotatably attached and held in screw-threaded bearings on the frame ends *r* to permit of vertical adjustment of the bearings *f* or the latter may form part of the frame ends *r*. One of the said pins or rock shafts, say *d*, has rigidly secured a handle *h* carrying a spring bolt *i* and the respective bearing *f* has rigidly secured a notched segment *k*. The said handle serves to raise and lower the arms *b* and thus also the roller *a* and the said spring bolt is adapted to engage in one of the notches of the said segment, and thereby lock the said lever and thus the pins or rock shafts *d* and *e* and arms *b* in the desired position of the roller *a*.

The fabric to be stretched passes through

the apparatus as shown in dotted lines and in the direction indicated by the respective arrow in Fig. 1.

When moving the handle *h* in the direction indicated by the respective arrow, that is to say, when lowering it, the middle of the roller *a* is lowered and the ends thereof are simultaneously raised, thus simultaneously taking tension off the middle and putting tension on the selvages of the fabric as may be required. By moving the handle *h* in the opposite direction, that is to say, when raising it, the middle of the roller *a* rises and the ends thereof are lowered, the opposite effect is exercised on the fabric, that is to say, the tension is taken off the selvages and put on the middle of the fabric.

Referring to Fig. 3, which shows my invention also applied to curved tension rollers composed of bobbins revolving on a shaft *c*, in this case the aforesaid radial arms are dispensed with and the pin *e* has a socket *l* cranked to receive the respective end of the roller shaft *a* which is secured thereto while the other end of the roller shaft *a* is correspondingly cranked to form the pin *d*. In this example one of the pins *d*, *e* is also provided with a handle *h* carrying a spring bolt and the respective bearing with a notched segment, such as shown in Figs. 1 and 2.

Referring to Figs. 4 and 5, which show my invention applied to tension rollers *a* made in two parts set at an angle a radial arm *b* is also secured to each outer end of the roller shafts *c* and secured upon a pin *d*, *e* mounted in bearings *f*, as shown in Figs. 1 and 2. To permit of rocking the pins *d*, *e* and arms *b* simultaneously the latter are connected together by a bar *m* and in lieu of a handle *h* and notched segment, such as shown in Figs. 1, 2 and 3, a toothed quadrant *n* may be secured upon the pin *d* in gear with a worm *o* on a shaft *p* suitably mounted and having a hand wheel *q*.

I claim:

1. In an apparatus for stretching textile fabrics of the character described, a curved shaft, a curved tension roller on the said shaft, a bearing adjacent to each outer end of the said tension roller shaft, a pin rotatably mounted in each of the said bearings, means rigidly connecting each inner pin with the outer ends of the said tension roller shafts and means for turning the said pins to raise or lower the middle of the said roller below or above the horizontal plane in which its ends

lie and means for locking the same in position, all combined substantially as and for the purpose set forth.

2. In an apparatus for stretching textile
5 fabrics of the character described, a shaft, a tension roller on the said shaft, a bearing adjacent to each outer end of the said tension roller shaft, a pin mounted in each of the said bearings, means rigidly connecting each in-
10 ner pin end with the outer ends of the said tension roller shafts and means for turning the said pins to raise or lower the said roller below or above a horizontal plane and for locking the same in position, the said means
15 comprising a lever secured to the outer end of the said pins, a notched disk secured to the respective bearing and a spring bolt carried by the said lever adapted to engage in the said notches, all combined substantially as
20 and for the purpose set forth.

3. In an apparatus for stretching textile

fabrics of the character described, a curved shaft, a curved tension roller on the said shaft, a bearing adjacent to each outer end of the said tension roller shaft, a pin mounted in 25 each of the said bearings, a radial arm secured to the inner end of each pin and its free end to the ends of the said tension rollershaft and means for the joint rotary adjustment of the said pin and arms, to raise or lower the 30 middle of the said tension roller below or above the horizontal plane in which its ends lie, all combined substantially as and for the purpose set forth.

In testimony whereof I have signed my 35 name to this specification in the presence of two subscribing witnesses.

FRANK FARNWORTH.

Witnesses:

ALFRED BOSSHARDT,
STANLEY E. BRANALL.