

(No Model.)

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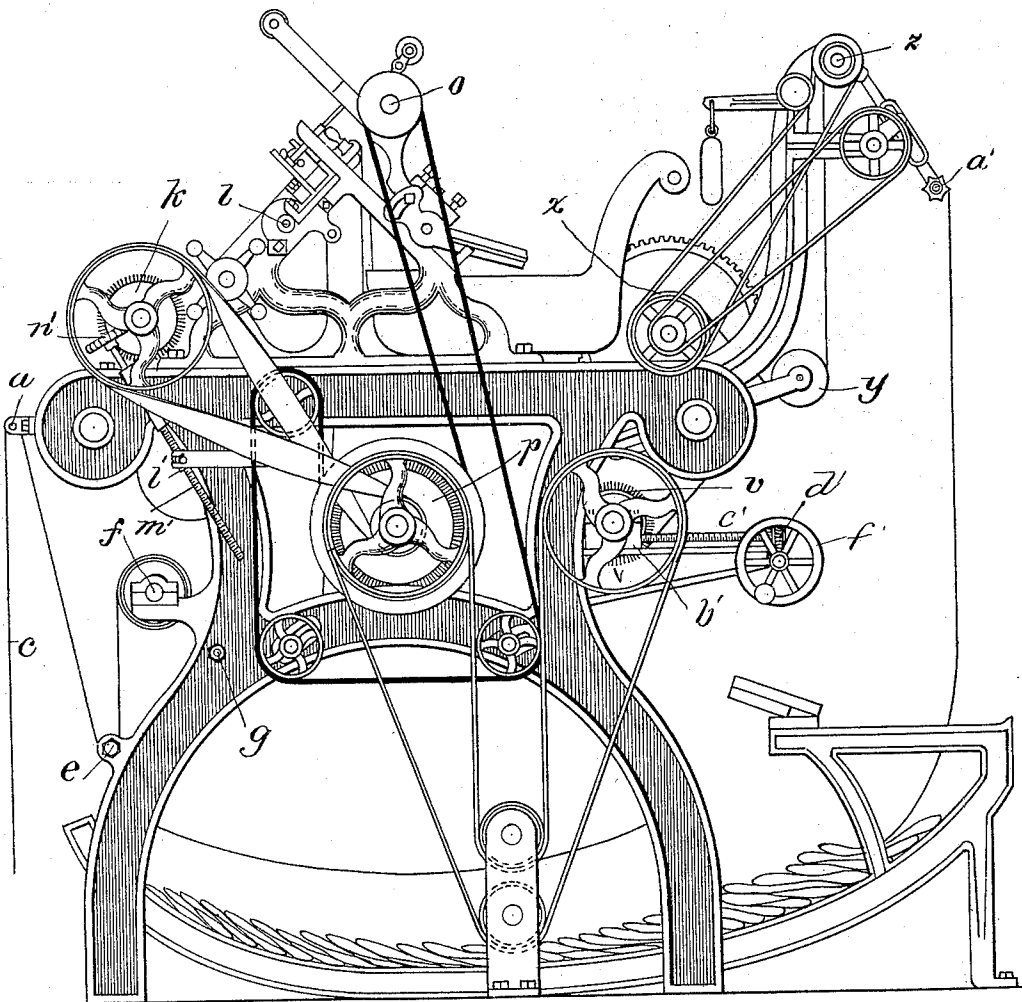
H. S. GREENE.

COMBINED GIGGING AND SHEARING MACHINE.

No. 469,502.

Patented Feb. 23, 1892.

Fig. 1.



WITNESSES.

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by
Wm. Brown Crossley.
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(No Model.)

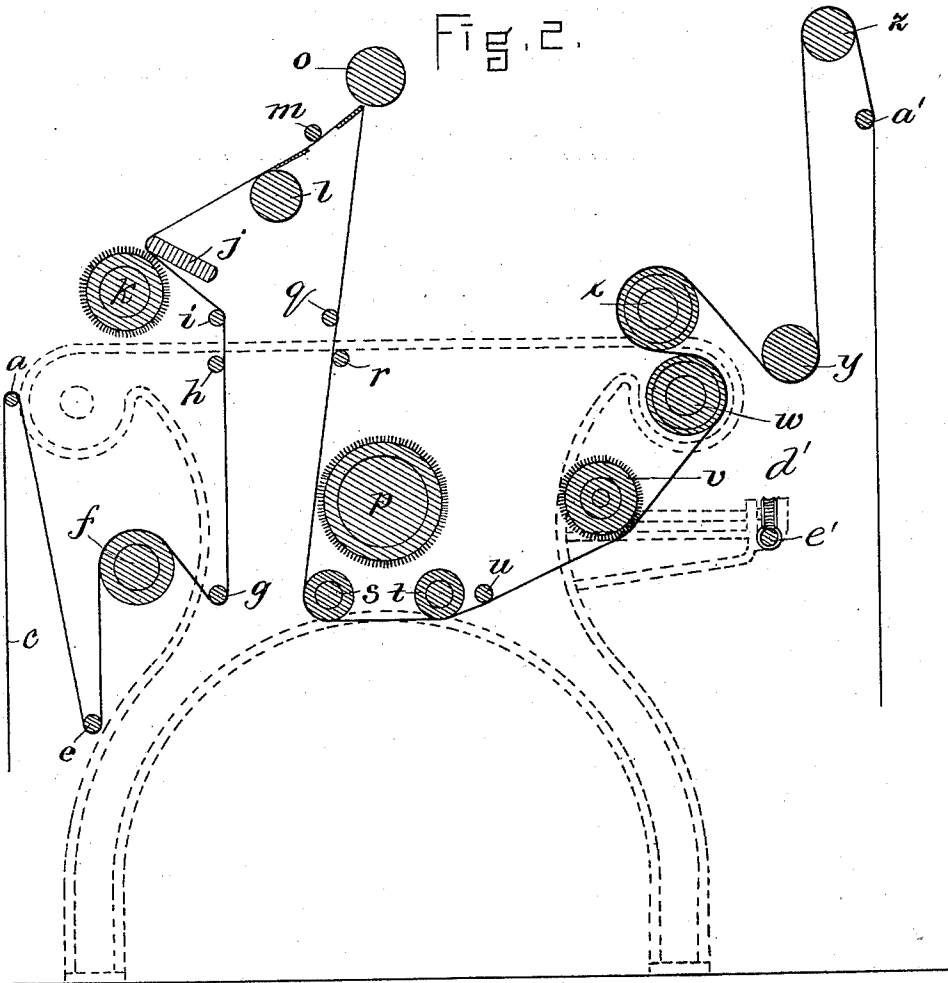
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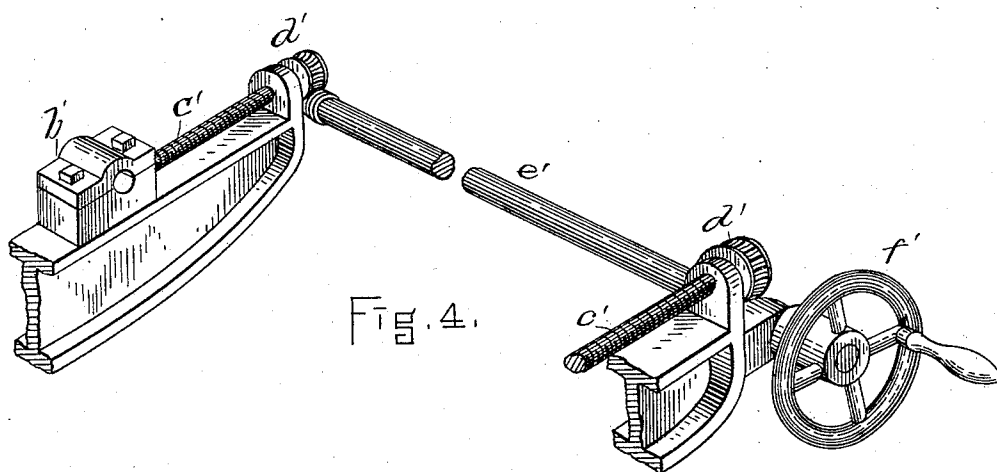
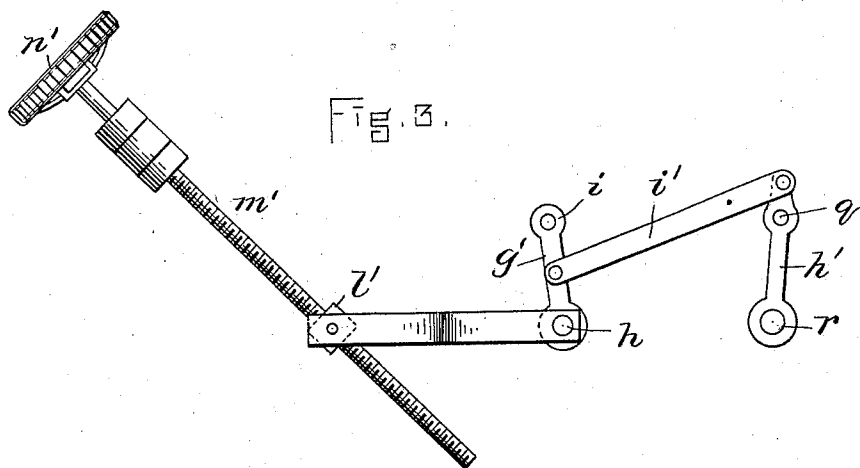
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UNITED STATES PATENT OFFICE.

HENRY S. GREENE, OF LAWRENCE, ASSIGNOR OF ONE-HALF TO THOMAS H. GREENE, OF LOWELL, MASSACHUSETTS.

COMBINED GIGGING AND SHEARING MACHINE.

SPECIFICATION forming part of Letters Patent No. 469,502, dated February 23, 1892.

Application filed February 16, 1891. Serial No. 381,695. (No model.)

To all whom it may concern:

Be it known that I, HENRY S. GREENE, of Lawrence, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Combined Gigging and Shearing Machines, of which the following is a specification.

The invention has relation to machines for finishing cloth; and it has for its object the simplification of such machinery, as well as the enhancement of its capacity and efficiency.

The invention consists of a machine for finishing cloth, comprising in its construction a shearing mechanism for cutting the nap, a roll or cylinder for drawing the cloth through the machine, guide rolls, bars, or rods for guiding the cloth through the machine and putting it under proper tension, and a carding or gigging cylinder having adjustable bearings, as hereinafter described, to gig or tease the cloth after the same has passed the shears.

The invention will be described in view of the annexed drawings, forming a part of this specification, and then be pointed out in the claims.

In the drawings, Figure 1 is a side elevation of my improved machine. Fig. 2 is a vertical central sectional view of the same. Fig. 3 is a detail view of what I term a "swivel-jointed adjuster" for adjusting the guide-rods, so as that the tension on cloth shall be varied, and so that it may be moved nearer to or farther from the axis of one of the brushes or card-rolls. Fig. 4 is a detail view showing the manner of adjusting the bearings or boxes of one of the carding or gigging rolls.

Similar letters of reference designate similar parts or features, as the case may be, wherever they occur.

In the drawings, *a* designates the frame of the machine, from the box or base-table *b* of which the cloth *c* is led around guide and tension rods *d e* over roll *f*, under rod *g*, up in contact with guide and tension rods *h i*, around the edge of the rest or bar *j*, and in contact with the brush *k*, which raises the nap for the shears, over roll *l*, under rod *m*, and around the edge of the cloth rest or support *n*, where it is operated upon by the rotary shear *o*, which properly shears the same. From the

shears the cloth passes down to the brush or card cylinder *p*, being guided by the guide and tension rods *q r*, and from the cylinder *p* the cloth passes under rolls *s t* and rod *u* in contact with the carding or teasing cylinder *v*, and from thence around the roll *w* and draft-rolls *x*, thence under the roll *y*, over roll *z* to the folder *a'*, which lays it in convolutions or folds on the box or base-table *b*. In its passage through the machine the cloth, after being acted upon by the shears, is gigged or teased by the cylinders *p v*, so that it is unnecessary to pass it to a second machine for that purpose.

Movement is imparted to such rolls and other parts as it is desired should be rotated or moved by means of belts and gears, as is clearly shown in Fig. 1, and need not be described in detail herein.

It will be seen that the driving means of cylinders *p v* may be so belted as to be rotated at a very high speed, so as to effect a thorough gigging of the cloth by the operation of said two cylinders only, and in some instances the use of one of said cylinders may be dispensed with.

In order to adjust the gigging-cylinder *v* so as to cause the same to act with greater or less violence upon the cloth, I mount the same in sliding bearing-boxes *b'*, adapted to move on the frame, the said bearing-boxes having the screw-rods *c'* tapped therein. To the outer end of the screw-rods are affixed worm-gears *d'*, which are engaged by worms on the worm-shaft *e'*, to the outer end of which is connected a hand-wheel *f'*. By turning the hand-wheel *f'* the bearing-boxes *b'* may be adjusted horizontally to cause the cylinder *v* to bear with greater or less force against the face of the cloth, as before explained. It will be seen that a line drawn from the rod *u* to the roll *w* is inclined to the horizontal path of adjustment of the gigging-cylinder *v* and the cloth between said rod and roll passes in an inclined direction. Therefore a certain amount of adjustment of the gigging-cylinder in a horizontal direction will effect the action of said cylinder on the cloth to a less degree than if the cloth passed in a vertical direction, resulting in capabilities of finer adjustment. This is an important feature of the invention,

The swivel-jointed adjuster before mentioned is connected with the guide-rods *h r* and serves to so adjust the position of the same as to vary the tension on the cloth in the machine and permit the cylinder *p* to act on the face of the goods with more or less force. The rods *h r* are journaled in the lower ends of pendent levers *g' h'*, pivoted at their upper ends upon the rods *i q*. The lever *h'* is extended above the rod *q*, and with the end of this extension there is pivotally connected one end of a bar or pitman *i'*, the opposite end of which is pivotally connected with the lever *g'* below the bar *i*.

k' designates a bar or pitman, which is pivotally connected at its inner end upon the bar *h* and at its opposite end with a block *l'*, through which passes the screw-threaded end of a rod *m'*, suitably supported in bearings in the machine and provided on its upper end with a hand-wheel *n'*.

It will now be seen that by turning the screw-rod *m'* the rods *h r* may, through the medium of pitmen *k' i'* and pendent levers *g' h'*, be adjusted nearer to or farther from each other, varying the tension on the cloth by varying the angle at which the same will be guided to and from the rods *q r* on its passage from the shears to the cylinder *p*, and also varying the force with which it is made to bear on the surface of the cylinder *p*.

Various changes may be made in the form and arrangement of parts comprising my improvements without departing from the nature or spirit of the invention.

Having thus explained the nature of my improvements and described a way of construct-

ing and using the same, I declare that what I claim is—

1. A cloth-finishing machine comprising in its construction guide rods or rolls mounted in the frame, with the plane uniting their axes inclined, and a horizontally-adjustable gigging-cylinder to act with greater or less violence on the cloth, as set forth.

2. A cloth-finishing machine comprising in its construction guide rods or rolls mounted in the frame, with the plane uniting their axes inclined, a gigging-cylinder, horizontally-sliding boxes in which the journals of the said gigging-cylinder bear, and a screw-rod to engage the said sliding boxes to move and adjust the same, as set forth.

3. The combination, with the frame of a gigging and shearing mechanism, of the rods *i q*, supported by said frame, the levers *g' h'*, pivoted upon the said rods and pendent therefrom, the lever *h'*, having a projection above its fulcrum, a pitman connecting said projection with the lever *g'* below its fulcrum, the rods *h r*, having bearings in the lower ends of said levers, the screw-rod *m'*, supported by the frame, the block *l'*, adjustable on said rod, and the pitman *k'*, connecting said block with the bar *h*, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 7th day of February, A. D. 1891.

HENRY S. GREENE.

Witnesses:

ARTHUR W. CROSSLEY,
A. D. HARRISON.