

(No Model.)

2 Sheets—Sheet 1.

J. E. WINDLE.
CLOTH GUIDING MACHINE.

No. 472,203.

Patented Apr. 5, 1892.

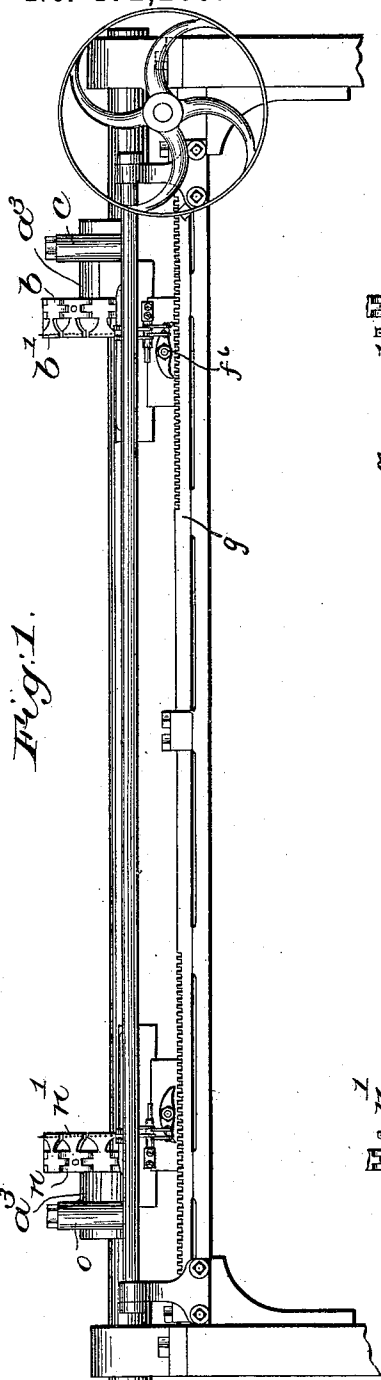


Fig. 1.

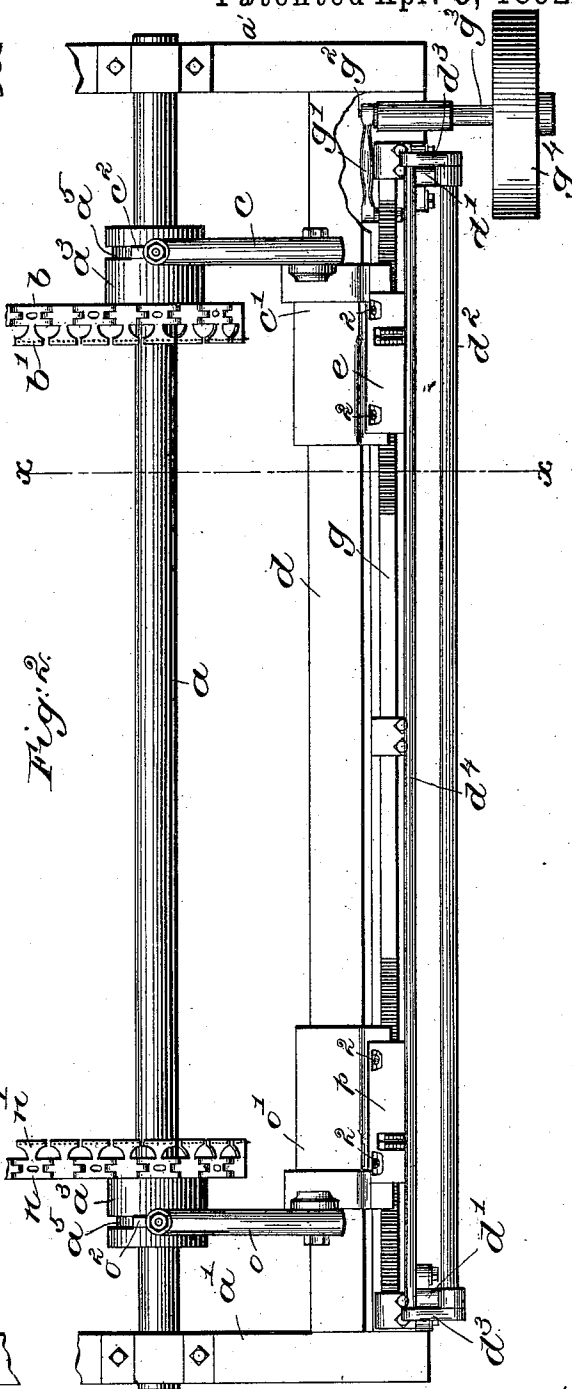


Fig. 2.

Witnesses.
Fred S. Greenleaf.
Edward F. Allen.

Inventor.
John E. Windle.
by Lemby Gregory attys.

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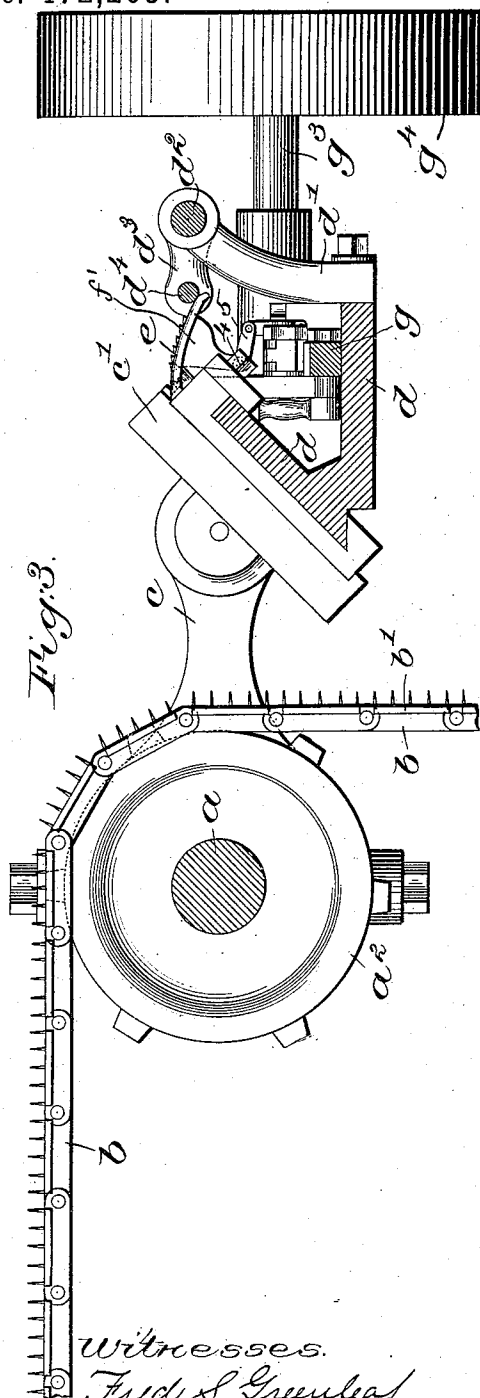
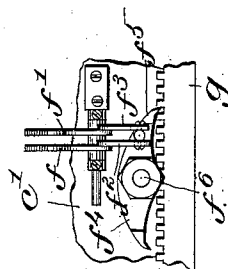


Fig. 3.

Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN E. WINDLE, OF WORCESTER, MASSACHUSETTS.

CLOTH-GUIDING MACHINE.

SPECIFICATION forming part of Letters Patent No. 472,203, dated April 5, 1892.

Application filed November 12, 1891. Serial No. 411,674. (No model.)

To all whom it may concern:

Be it known that I, JOHN E. WINDLE, of Worcester, county of Worcester, State of Massachusetts, have invented an Improvement in Cloth-Guiding Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters and figures on the drawings representing like parts.

In cloth finishing, drying, tentering, and kindred machines feeding belts or chains are provided for feeding the cloth, and in most instances said feeding belts or chains carry tenter hooks or spurs. It is intended that these feeding-chains shall engage the edge of the web, and as the web varies slightly in width and as its line of feed to the machine varies the said feeding-chains must be moved laterally or transversely to the line of feed or they will release their hold on the cloth or will engage the cloth at some distance from the edge, and thereby injure the cloth. In all instances, so far as I am aware, these feeding-chains have been moved transversely to the line of feed by hand and require constant watching, as well as very careful manipulation.

This invention has for its object to construct an attachment for cloth-finishing or kindred machines whereby the feeding chains or belts are moved transversely to the line of feed automatically and independently of each other.

My invention consists, broadly, in feeding-chains for cloth-finishing and kindred machines movable automatically and independently transversely to the line of feed, and also in certain general forms of construction of parts whereby the feeding-chains may be moved automatically and independently transversely to the line of feed, which movement is controlled by the cloth.

Figure 1 shows in front elevation an attachment for cloth-finishing and kindred machines embodying this invention. Fig. 2 is a plan view of the parts shown in Fig. 1; Fig. 3, an enlarged cross-section of the parts shown in Fig. 2, taken on the dotted line *xx*; and Fig. 4, an enlarged detail to be referred to.

The shaft *a*, having its bearings in the side

frames *a' a'* of the machine, has loosely mounted upon it two sprocket-wheels, as *a²*, which are secured to hubs or collars *a³*, provided, as shown, with circumferential grooves *a⁵*. Feeding-chains *b n* are fed over the sprocket-wheels *a² a²*, they being herein shown as ordinary sprocket-chains provided at one side with tenter-hooks *b' n'*; yet, so far as my invention is concerned, any other form of feeding-chain may be employed. Links *c o* are secured at one end to blocks *c' o'* and at the other end are formed as yokes to embrace the hubs *a³*, suitable spurs or projections *c² o²* being provided on the arms of the yokes, which enter the circumferential grooves *a⁵*. The blocks *c' o'* are dovetailed, as shown in Fig. 3, and mounted on and adapted to slide freely on a stationary frame or bar *d*, secured at each end to the side frames *a' a'*. At or near each end of the stationary frame *d* a suitable support *d'* is erected, which furnishes bearings for a rod or bar *d²*, to the ends of which are rigidly connected short links *d³ d³*, the outer ends of which are connected by a rod or bar *d⁴*, arranged parallel to the rod or bar *d²*. The rod or bar *d⁴*, which serves as a presser-bar, as will be described, is hence pivotally connected to the supports *d' d'*.

The rod or bar *d⁴* rests upon the extreme edge of two plates *e p*, which are secured by screws 2 or otherwise, respectively, to the blocks *c' o'*, said plates having curved surfaces, as shown in Fig. 3, and being each provided with two parallel slots extending transversely to the length of the plates.

Two feelers *f f'* are pivotally connected to the block *c'* at 4, the upper ends of which are provided with a series of teeth, which just protrude through the slots in the plate *e*, and arms 5 are formed integral with or secured to the feelers, which arms are connected by links *f² f³* to one end of a plate made to represent and acting as two oppositely-extended pawls *f⁴ f⁵*, pivoted at *f⁶*. As herein represented, the pawl *f⁵* has a post or stud on it, to which both the links *f² f³* are connected. The plate *o'* is also provided with two feelers having arms, which are connected by links to a plate made to act as two oppositely-extended pawls, the same as the parts *f*

$f' f^2 f^3 f^4 f^5$, (shown in Fig. 4,) and connected to the block c' .

A rack-bar g is mounted on the stationary frame d , which rack-bar is connected at one end by a crank-arm g' to a crank-pin or eccentric stud g^2 on a shaft g^3 , carrying a pulley g^4 . As the pulley g^4 is revolved the rack-bar g is reciprocated longitudinally.

The pawls $f^4 f^5$ on each block $c' o'$ are adapted to engage and disengage the rack-bar g , and when in engagement the said rack operates to move the blocks, and hence the rack, reciprocated continuously, as shown, constitutes a power-driven operating mechanism for moving the blocks, while the pawls and feelers serve as connections between the blocks $c' o'$ and the rack. The cloth is fed forward over the rod d^2 and under the rod d^1 , so that the edges will follow along over the feelers and be engaged by the tenter-hooks or other feeding-chains. When the edge of the cloth engages the feeler f only, the pawls $f^4 f^5$ are held out of engagement with the reciprocating rack g ; but if the edge of the cloth should be worked or moved over onto the feeler f' the pawl f^5 will be lifted so high as to throw the pawl f^4 into engagement with the rack, and as the said rack reciprocates the block c' will be moved toward the end frame a' until the cloth leaves the feeler f' and covers only the feeler f , and if the cloth should work or move off of the feeler f the pawl f^5 will fall into engagement with the rack g , and as the said rack reciprocates the block c' will be moved in the opposite direction or away from the end frame a' . Hence it will be seen that the feelers are controlled by the moving cloth and serve as the devices which determine when the blocks shall be moved and in which direction. The operation of the feelers connected to the block o' is the same. It will be observed that the blocks c' and o' are thus moved automatically and entirely independently of each other, and the feeding-chains connected therewith will be correspondingly moved, which movement is transverse to the line of feed.

I do not desire to limit myself to the particular construction shown of the connecting mechanism between the feeding-chains and blocks, nor between the blocks and power-driven mechanism; nor, in fact, do I desire to limit my invention to any particular construction by which automatic and independent motion transversely to the line of feed may be given to the feeding-chains.

I claim—

1. In a cloth-finishing or kindred machine, a feeding-chain and a carrier which is movable transversely to the line of feed, combined with mechanism to move said carrier transversely and devices controlled by the cloth which determine when said carrier shall move and in which direction, substantially as described.

2. In a cloth-finishing or kindred machine,

a feeding-chain, a carrier which is movable transversely to the line of feed, and mechanism to move said carrier, combined with an intermediate connection controlled by the cloth between said mechanism and carrier, substantially as described.

3. In a cloth-finishing or kindred machine, two feeding-chains, independent carriers for said chains movable transversely to the line of feed, and mechanism to move said carriers independently, combined with intermediate connections controlled by the cloth between said mechanism and each carrier, substantially as described.

4. In a cloth-finishing or kindred machine, two feeding-chains, independent supports therefor, power-driven operating mechanism comprising a reciprocating bar, and independent connections between said bar and chains to move one or both of them with the bar transversely to the line of feed, substantially as described.

5. In a cloth-finishing or kindred machine, two feeding-chains, independent carriers therefor movable separately and transversely to the line of feed, and a power-driven mechanism to move the carriers, combined with connections intermediate said mechanism and each carrier, controlled by and partially supporting the cloth, substantially as described.

6. In a cloth-finishing or kindred machine, a cloth-feeding chain and a transversely-movable block with which said chain is connected, combined with a power-driven operating mechanism and two feelers controlled by the cloth carried by said block intermediate it and the power-driven operating mechanism and adapted to automatically engage and disengage the said power-driven operating mechanism when the cloth contacts with both or only one of the feelers, substantially as described.

7. In a cloth-finishing or kindred machine, two cloth-feeding chains and blocks with which they are connected, combined with a power-driven operating mechanism and two feelers controlled by the cloth and carried by each block intermediate it and the operating mechanism and adapted to automatically engage and disengage the said power-driven mechanism when the cloth contacts with both or only one of said feelers, respectively, substantially as described.

8. In a cloth-finishing or kindred machine, two feeding-chains, blocks with which they are connected, a cloth-supporting plate on each block, and a presser, combined with power-driven mechanism for moving said blocks and two feelers carried by each block and controlled by the cloth, which control the connection of the blocks with the power-driven mechanism, substantially as described.

9. In a cloth-finishing or kindred machine, two chains and blocks to which they are connected, combined with two feelers

carried by each block and controlled by the cloth, and two oppositely-extended pawls also carried by each block, with which the pair of feelers are connected, and a reciprocating
5 rack with which the said pawls co-operate and by which the blocks are moved, substantially as described.

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

JOHN E. WINDLE.

Witnesses:

GEORGE A. DRURY,
E. J. SOMERS.