2 Sheets—Sheet 1.

G. D. KING.

Machine for Stretching Cloth.

No. 205,489. Patented July 2, 1878.

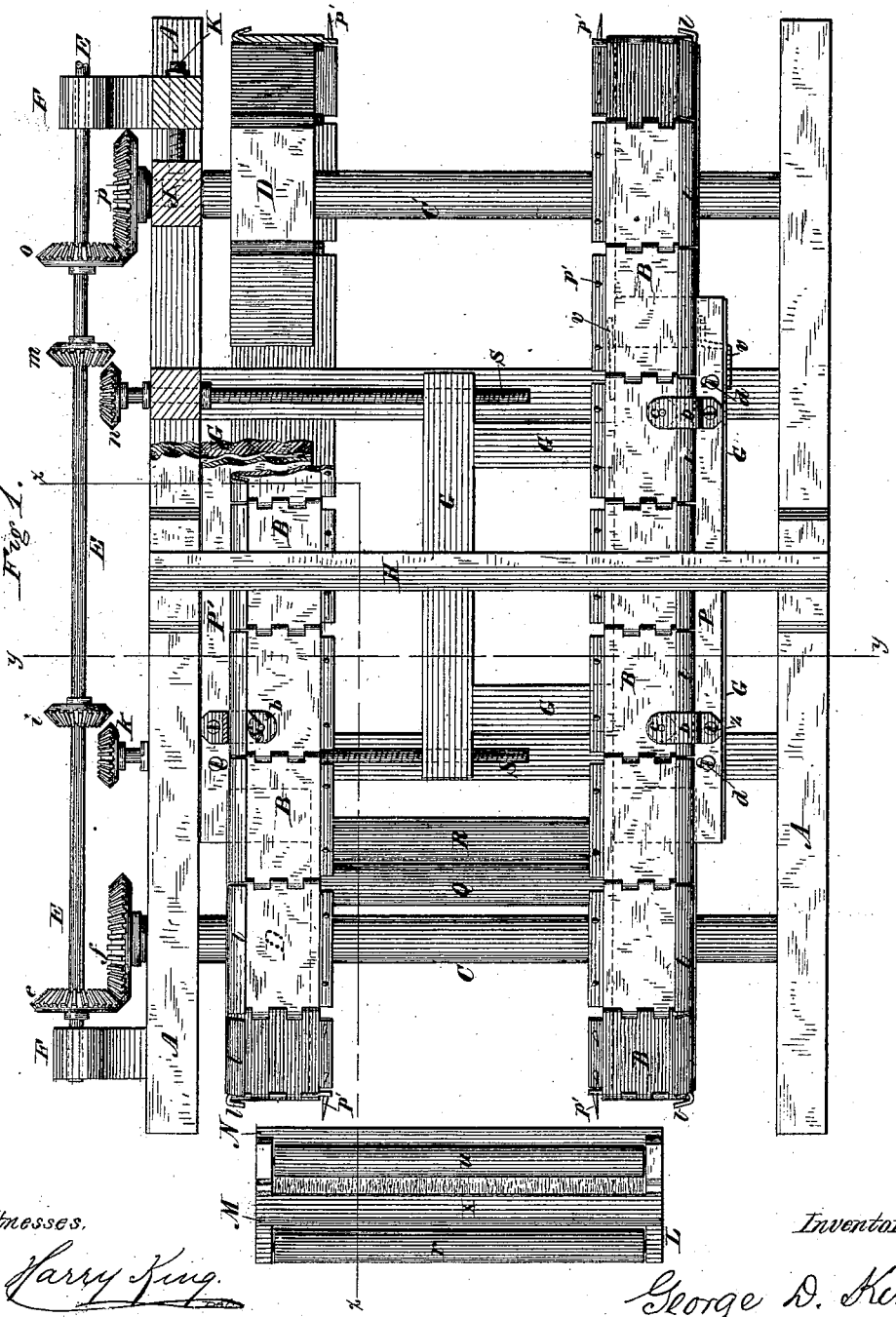

Fig. 1.

Witnesses.

Harry King.

D. P. Cowl.

Inventor.

George D. King,

By his Attorneys,

Stansbury & Munn.

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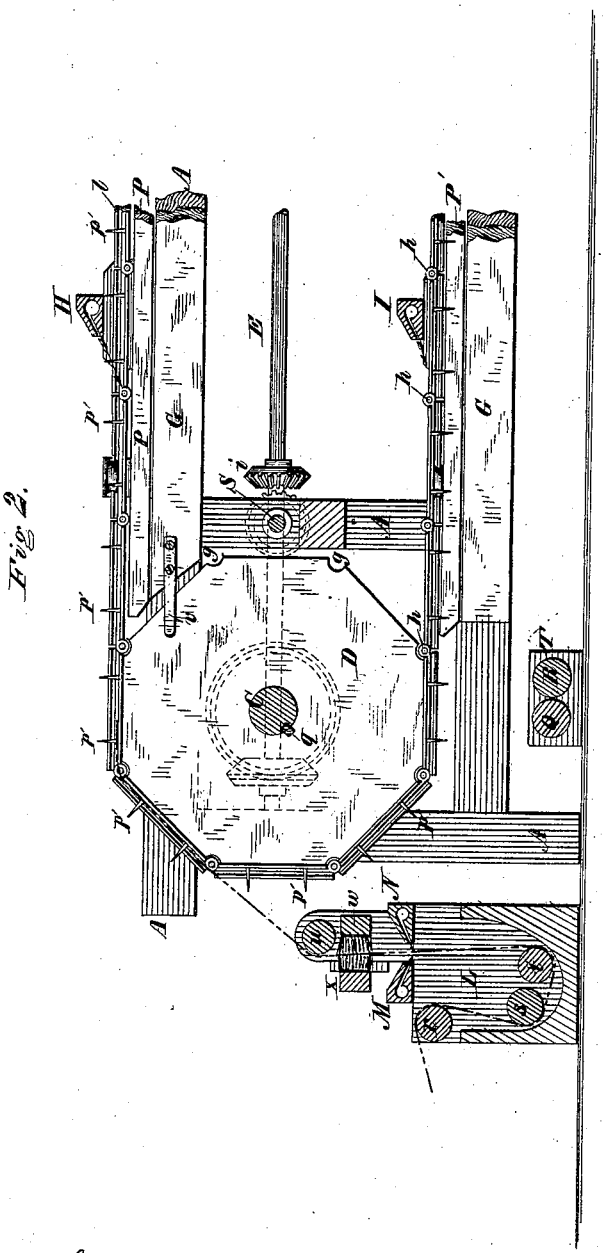

Fig. 2.

Witnesses.

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Inventor.

George D. King,

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Stansbury & Munn

UNITED STATES PATENT OFFICE.

GEORGE D. KING, OF OSWEGO, NEW YORK, ASSIGNOR TO MARSHALL C. THOMPSON, OF SAME PLACE.

IMPROVEMENT IN MACHINES FOR STRETCHING CLOTH.

Specification forming part of Letters Patent No. **205,489**, dated July 2, 1878; application filed January 29, 1878.

To all whom it may concern:

Be it known that I, GEORGE D. KING, of Oswego, in the county of Oswego and State of New York, have invented certain new and useful Improvements in Machines for Stretching and Drying Cloth; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 is a top or plan view of my improved machine, and Fig. 2 is a vertical section on line *x x* of Fig. 1.

The same letters indicate the same parts in both the figures.

My invention relates to improvements in machinery for sizing, stretching, and drying cloth for curtains and for other purposes.

It consists in devices for adjusting the path of motion of the endless chain belts on which the cloth is carried, and in automatic lateral adjustment of the chains relatively to each other, so as to adapt them to cloth of different widths, all as hereinafter more particularly set forth.

In the drawings, A marks the frame of the machine, which may be of indefinite length. Upon transverse shafts C C′ are placed octagonal wheels D, which receive, support, and give motion to the links B of the endless chains, to which the cloth to be operated upon is attached. These links are made of metal, large and flat, and are hinged together at *h*, the eyes of the hinges being arranged on the under side of the chain, so as to be received into grooves *g*, made at the angles of the wheels D, as clearly shown in Fig. 2. On the inner edges of the links B are placed pins *p′*, on which the edges of the cloth are impaled. The outer edges of the links run under adjustable guides *b*, provided with friction guide rollers or sheaves *c*, which receive the edge of a lip, *l*, turned up on said outer edges of the links. The guides *b* are attached to plates P P′, which are adjustably attached to the frame by screws *d d* passing through slots in the plates, as shown in Fig. 1. By this adjustment the chains can be placed, if desired, at a slight inclination to each other, so as to impart an increasing lateral tension to the cloth as it is carried through the machine.

The power for driving the machine is applied to the main shaft E, which may be of indefinite length, and provided with any number of bevel-gears, as *e o*, for meshing into and driving gears *f p* on the ends of the shafts C C′ of the octagonal wheels, which support and carry the endless chains. The shaft E is hung in the brackets F on the side framing.

As the cloth to be sized varies in width, usually from three to six feet, it is necessary to provide a means of adjusting the distance of the chains from each other to correspond with the width of the cloth. This I effect by attaching the plates P to an adjustable frame, G, to which also the wheels D on one side of the machine are held by means of the side bars *v*. The wheels D slide on feathers *q* on their shafts. The frame G is supported and slides laterally on the transverse bars of the frame, and is adjusted by means of the screws S S, provided at their outer ends with bevel-gears *k n*, which, when change of adjustment is required, are made to engage with bevel-gears *i m* on main shaft E by an endwise movement of said shaft, throwing gears *e* and *o* out of engagement with gears *f* and *p*. Thus the lateral adjustment of the entire line of chain is simultaneously effected.

The tension of the endless belts is regulated by the adjusting-screws K, which govern the position of the journal-boxes of the shaft C′ of the wheels D, which carry one end of the belts.

L denotes the tank in which the size is contained. It is provided with the rollers *r*, *s*, *t* and *u*, and with brushes *x w*, around and between which the cloth passes on its way to the belts, in the path shown by the dotted line in Fig. 2.

M and N are two blowers or air-distributing slotted pipes, extending the whole width of the tank, and sending out a current of air upon each side of the sized cloth as it comes from the tank. The air may be supplied by a condensing-fan operating in the usual way.

Similar blowers H and I are placed at in-

tervals above and below, as shown in Fig. 2. These air-blasts serve to dry the sizing. The rollers Q R, hung in frame T, receive the cloth as it passes from the machine, and impart to it the desired surface-finish.

The operation of the machine is sufficiently indicated by the description of its construction. The cloth, having been passed through the size-tank, is attached to the chain by being impaled upon the pins *p'*. The chains, being set at a slight angle to each other, stretch the cloth more and more as it passes through the machine. The air-currents dry the size, and the rollers Q R impart to it the desired finish.

I am aware that endless belts made of india-rubber, gutta-percha, or its equivalent, so as to be perfectly flexible, have been used for carrying the cloth; but these I do not claim.

What I do claim is—

1. The combination of the shaft E, gears *i m k n*, screws S S, and sliding frame G, in the manner and for the purpose stated.

2. The combination of the angular adjustable wheels D and endless chain composed of the links B with the adjustable plate P, sliding frame G, and intermediate mechanism connecting the same, for operation as and for the purpose set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

GEORGE D. KING.

Witnesses:
H. B. MUNN,
GEO. F. GRAHAM.