G. G. BISHOP.

Cloth-Friezing Machine.

No. 161,588. Patented April 6, 1875.

Fig: 1.

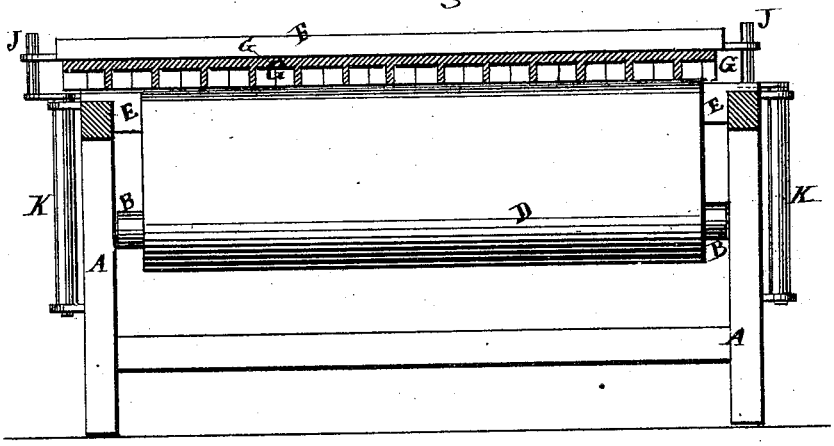


Fig: 2.

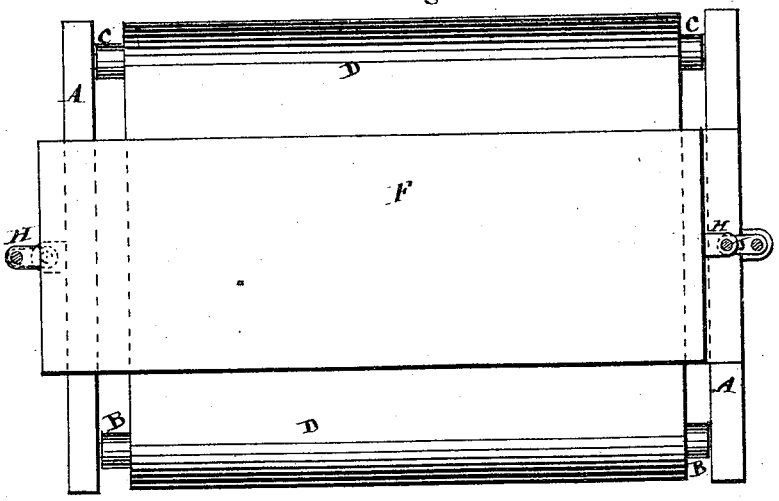
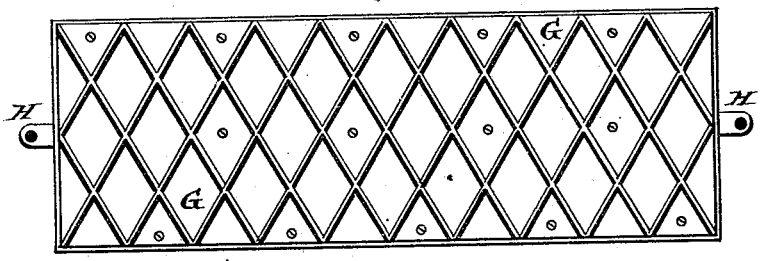


Fig: 3.



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UNITED STATES PATENT OFFICE.

GEORGE G. BISHOP, OF NORWALK, CONNECTICUT, ASSIGNOR TO THE UNION MANUFACTURING COMPANY, OF SAME PLACE.

IMPROVEMENT IN CLOTH-FRIEZING MACHINES.

Specification forming part of Letters Patent No. **161,588**, dated April 6, 1875; application filed March 15, 1875.

To all whom it may concern:

Be it known that I, GEORGE G. BISHOP, of Norwalk, Fairfield county, State of Connecticut, have invented an Improvement in Friezing-Machines, of which the following is a specification:

The object of my invention is to frieze or curl the nap of woolen or other cloths, so as to produce a shaggy finish or appearance.

But to enable others to understand the nature and extent of my invention, I will refer to the accompanying drawings forming a part of this specification, the same letters of reference wherever they occur referring to similar parts.

Figure 1 is a front elevation of the machine, showing the improved friezer in combination therewith. Fig. 2 is a plan view of the machine. Fig. 3 is a face view of the friezer.

Letter A represents the frame of the machine. Across its front and back ends are secured, in suitable bearings, cloth beams or rollers B and C. On the roller B a piece of cloth, D, is tightly wound. Its outer end is then carried over a solid bed-board, E, arranged transversely of the middle of the machine, and thence secured, by tenter-hooks, to the face of the roll C, so that, by any suitable gearing and pulley-belts, the cloth will be tightly and firmly stretched over the upper surface of the bed, and at the same time progressively carried forward from one roll to the other, as required for the friezing operation. This operation is effected by means of a vibrating platen, F, of about twelve to fifteen inches in width, and of sufficient length to extend across the width of the web of cloth, having firmly secured to its lower surface an elastic friezer, G. This friezer is made of vulcanized india-rubber or other vulcanizable gum or substance possessing similar elastic properties. Its lower surface is formed by a series of diamond or other similarly-shaped cavities or compartments, separated by elastic walls or partitions. The thickness of the walls are about one-sixteenth of an inch and about three-eighths of an inch in depth, having their bisecting points solidly joined together, so as to form the lower surface of the friezer into a series of independent countersunk compartments, which are about one and one-half inch long by about three-quarters of an inch wide, but may be varied in shape and dimensions according to the material operated on without impairing its utility so long as the edges of the elastic walls may have full effect upon the cloth to produce a shaggy curled appearance of the nap in consequence of the vibratory motion given to the friezer. To obtain this vibratory motion perforated lugs H are formed on or attached to the ends of the platen, and engage with cranks J on the upper ends of two vertical rotating rods, K, secured in suitable bearings on each side of the frame of the machine, to which any suitable propelling power is applied. Thus a rapid vibratory motion is given to the friezer upon the surface of the cloth while it is being drawn forward over the bed.

Having described my invention, I claim—

The combination of the platen with a vulcanized gum-elastic friezer having its surface divided into numerous small angular cavities by means of elastic bisecting walls or partitions, substantially as described, and for the purposes set forth.

GEORGE G. BISHOP.

Witnesses:

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