2 Sheets--Sheet 1.

W. V. GEE.

Filling Guides for Looms.

No. 154,601. Patented Sept. 1, 1874.

Fig. 1

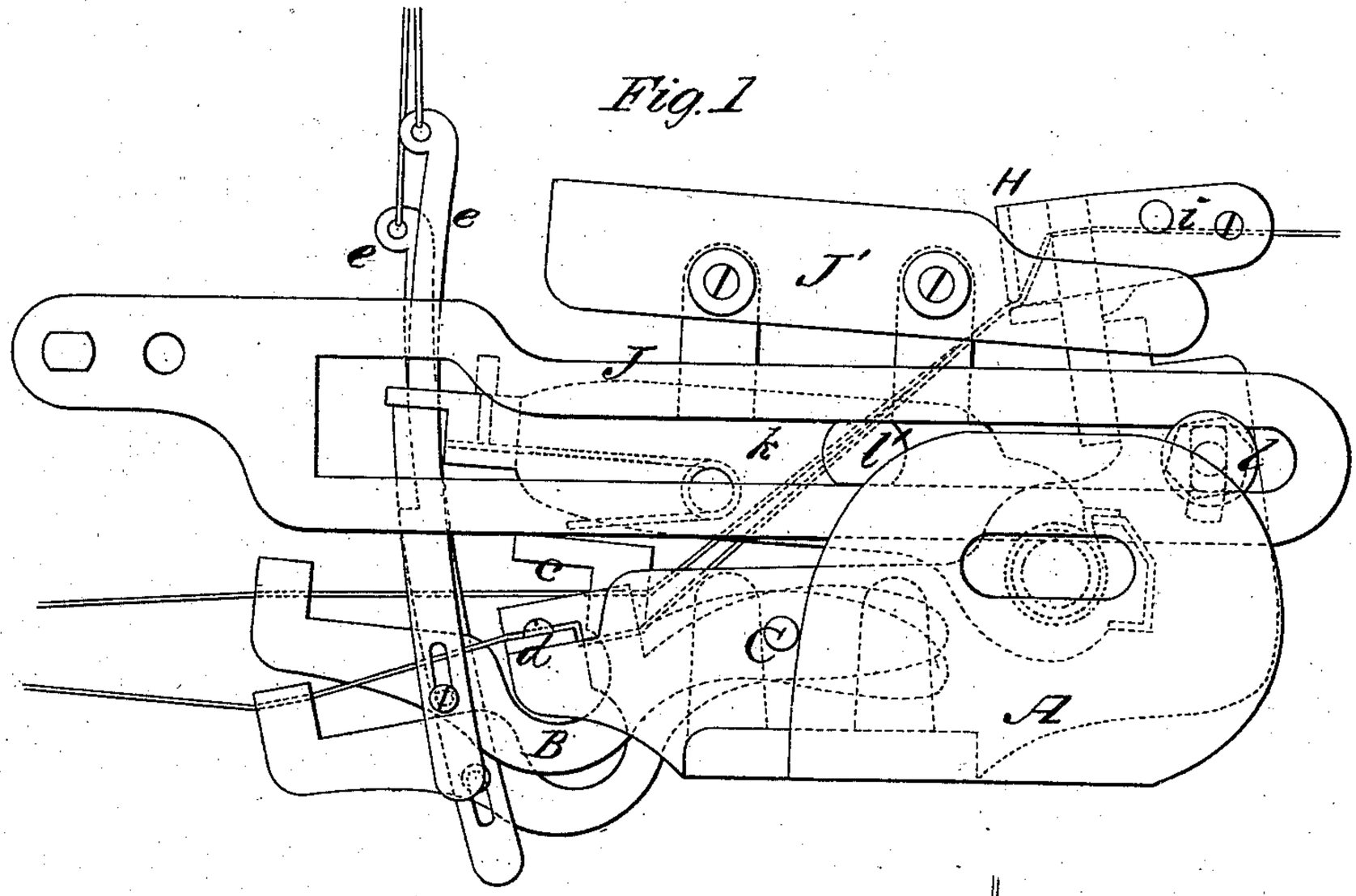
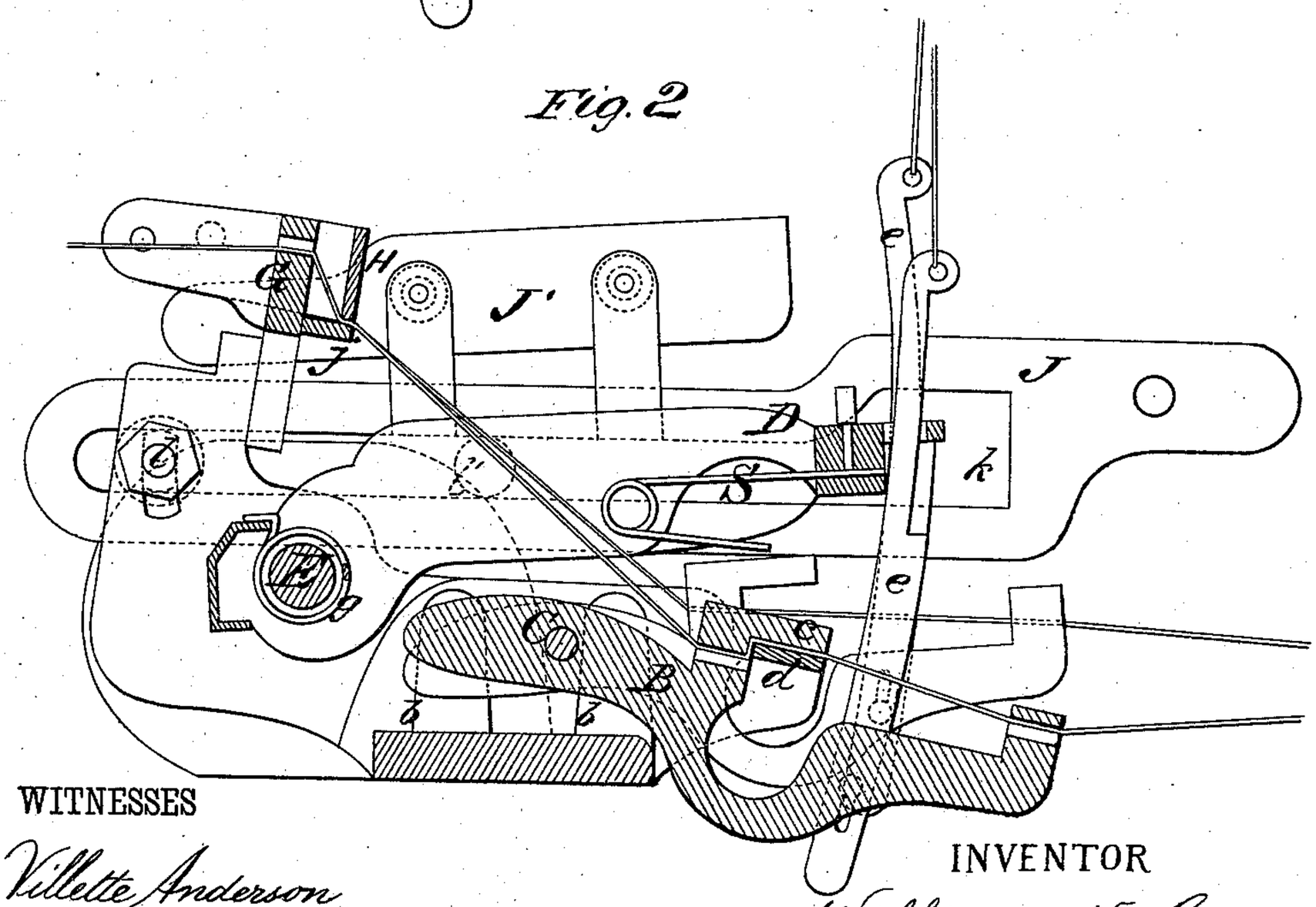


Fig. 2



WITNESSES

Villette Anderson

E. A. Bates

INVENTOR

William V. Gee,

Chipman Bowen & Co.,

Attorneys

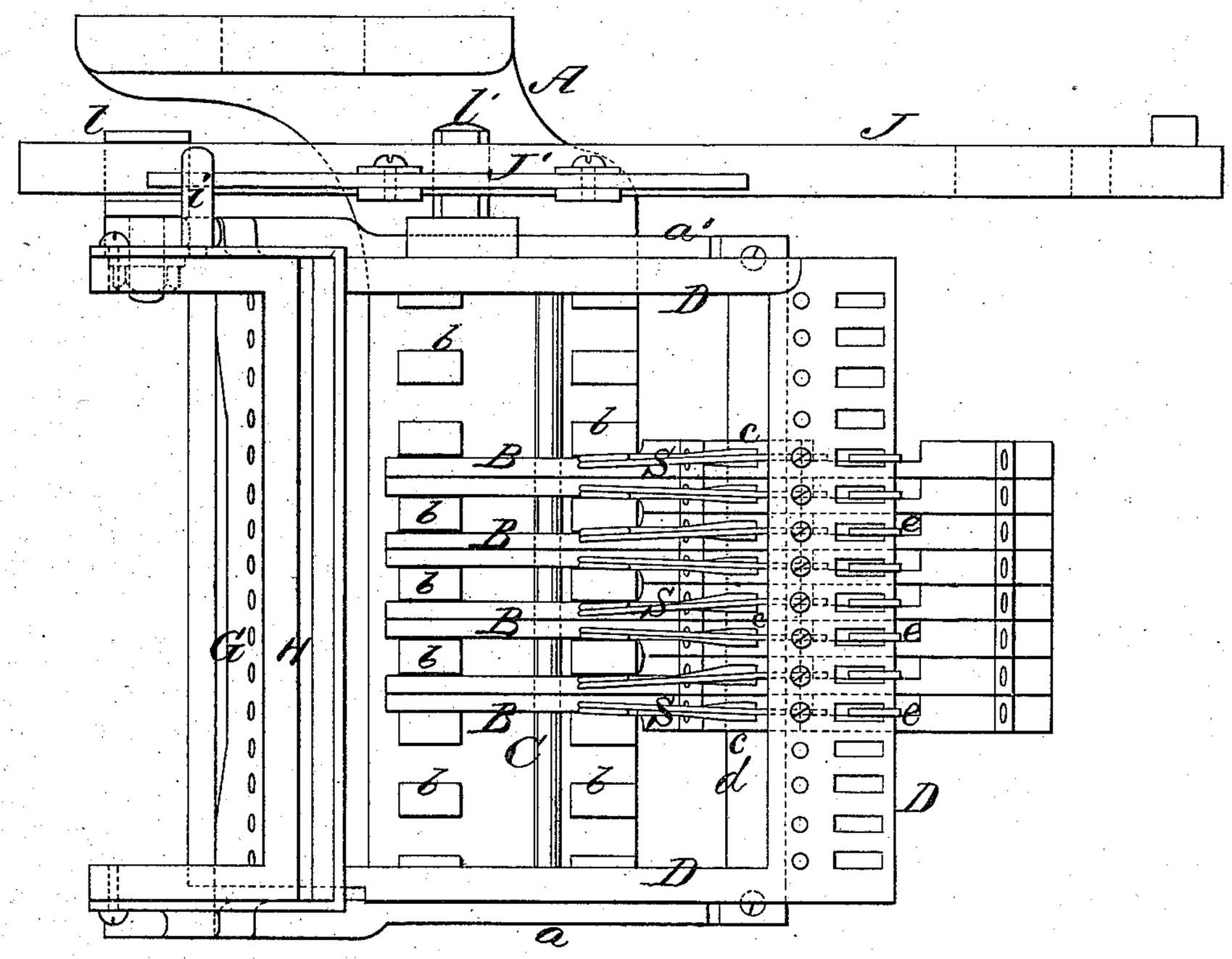
2 Sheets--Sheet 2.

W. V. GEE.

Filling Guides for Looms.

No. 154,601. Patented Sept. 1, 1874.

Fig. 3.



WITNESSES

Villette Anderson

E. A. Bates

INVENTOR

William V. Gee.

Chipman & Fosmer & Co

Attorneys

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

UNITED STATES PATENT OFFICE.

WILLIAM V. GEE, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN FILLING-GUIDES FOR LOOMS.

Specification forming part of Letters Patent No. **154,601**, dated September 1, 1874; application filed July 11, 1874.

To all whom it may concern:

Be it known that I, WILLIAM V. GEE, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and valuable Improvement in Filling-Guide for Looms; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a side view of my device. Fig. 2 is a sectional view of the same, and Fig. 3 is a plan view.

This invention has relation to filling-guides for looms, in which a jacquard is used for raising different weft-threads to be carried through the shed, in the process of weaving figured carpets and other fabrics. In carrying out my invention, I employ the reciprocating finger and reciprocating hook, such as are used in the machine for which Letters Patent of the United States were granted to me on the 31st day of October, 1871, wherein the strands of weft are taken from the guides by means of the finger, and wound about halfway across the shed, thence taken by the hook and carried completely across the shed and delivered to a crochet-needle, which makes the knit selvage. My improvement consists in combining, with each one of the guides through which the weft passes from the bobbins, two tension devices, one of which is brought into action when the weft has been carried nearly across the shed, and the other is brought into action during the stretching of the weft to draw it tight, whereby a close or solid selvage is produced, as will be hereinafter more fully explained.

The following is a description of my invention.

In the annexed drawings, A designates the frame of my improved device, which is rigidly but adjustably secured to the inner side of one of the uprights of the loom-frame. The bed of the frame A is horizontal, and it is constructed with two side cheeks, *a a'*, and it has rising from its horizontal part guides *b b*, between which vertically-vibrating arms B, carrying perforated weft-clamps *c*, are free to play. These arms B play freely on a fulcrum-rod, C, which is rigidly secured at its ends to the cheek-plates *a a'*. It will be seen from the annexed drawings, Fig. 3, that the arms B are guided both in front and in rear of the fulcrum-rod C. Each arm B is provided with a rectangular clamping-finger, *c*, which at certain times clamps and produces the tension on the weft, by pressing the latter upon a flat inclined tension-strip, *d*, which is rigidly secured by its ends to the front upper edges of the cheeks *a a'*. The rising portion of each tension-clamp or clamping-finger *c* is perforated to receive through it the weft as it passes between the clamps and tension-strip. Beneath the clamps *c* the arms B are curved so that they can be raised by means of the lifters *e*, connected with and controlled by the jacquard.

For the purpose of compactness of arrangement the arms B are cut away in front of their guides *b*, so that, by means of slots and screws, the said lifters *e* may be attached to them. D designates a rectangular frame, which is free to vibrate on a transverse rod, E, fixed at its ends to the two cheeks *a a'*, and which is raised by means of a helical spring, *g*, coiled around the said rod E. The front transverse portion of this frame D is slotted to receive through it the upper portion of the lifters *e* and afford guides therefor. In rear of each lifter *e* a spring, S, is rigidly secured by one end to the said front transverse portion of frame D, the free end of which spring will bear on the clamping portion of its arm B when frame D is down and hold the clamp down upon the tension-strip *d*. When the frame D is up all the arms B are released from their springs S. In rear of the front tension-clamps *c* is a horizontal perforated bar, G, which is secured to and raised above the cheeks *a a'* of the frame A, and through the perforations in which the weft-yarns pass from the bobbins. To this bar G and parallel to it a tension or pressure bar, H, is pivoted by its bent ends, which bar by its own gravity presses the weft-yarns upon a ledge, *j*, formed on the perforated guide-bar G, and serves as an auxiliary tension device to the tension-clamps *c*, and acts uniformly on all of the yarns, so as to produce

even tension on all of them. The tension on the yarn as it passes between the clamps *c* and cross-strip *d* can be adjusted according to the strength of each yarn by increasing or diminishing the force of the different springs S. J designates a longitudinally-reciprocating bar, which is connected by a link to the lay, so as to be actuated thereby. This bar J has a slot, *k*, through it, the front portion of which is enlarged to allow the frame D to rise and free all of the arms B from the pressure of the springs S. This bar J slides on a guide-stud, *l*, fixed to the cheek *a'* of the frame A, and in front of this stud *l* is a pin, *l'*, which is fixed to the side of frame D and received into the slot *k* of bar J. On top of, and secured rigidly to, the slotted bar J is a cam-plate, J', on which bears a stud, *i*, which is fixed to one end of the pressure-bar H. The cam-plate J' is so constructed that when the lay is drawn fully back and the greatest amount of tension is required on the weft to allow the stretch to be put into it the pressure-bar H is allowed to descend and firmly hold the yarns upon the ledge *j*, so that they will not slip. When the bar H is down the clamps *c* will also be down, and thus each yarn will be held at two points.

What I claim as new, and desire to secure by Letters Patent, is—

1. The vibrating arms B carrying the perforated clamps *c*, the guides *b*, and the tension-strip *d*, in combination with the perforated bar G, having the ledge *j*, and the hinged pressure-bar H, substantially as described.

2. In combination with the vibrating clamps *c* and the vibrating slotted frame D, carrying the springs S and guiding the lifters *e*, the bar J, slotted, and actuated substantially as described.

3. In combination with the perforated guide-bar G, having the pressure-bar H, the reciprocating bar J, provided with the cam-plate J', substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

WILLIAM V. GEE.

Witnesses:

WM. NEILL,

H. DIENELT.