G. N. FORNEY & G. W. BANGE.

Bolting Screen or Sieve.

No. 219,242. Patented Sept. 2, 1879.

Fig. 1.

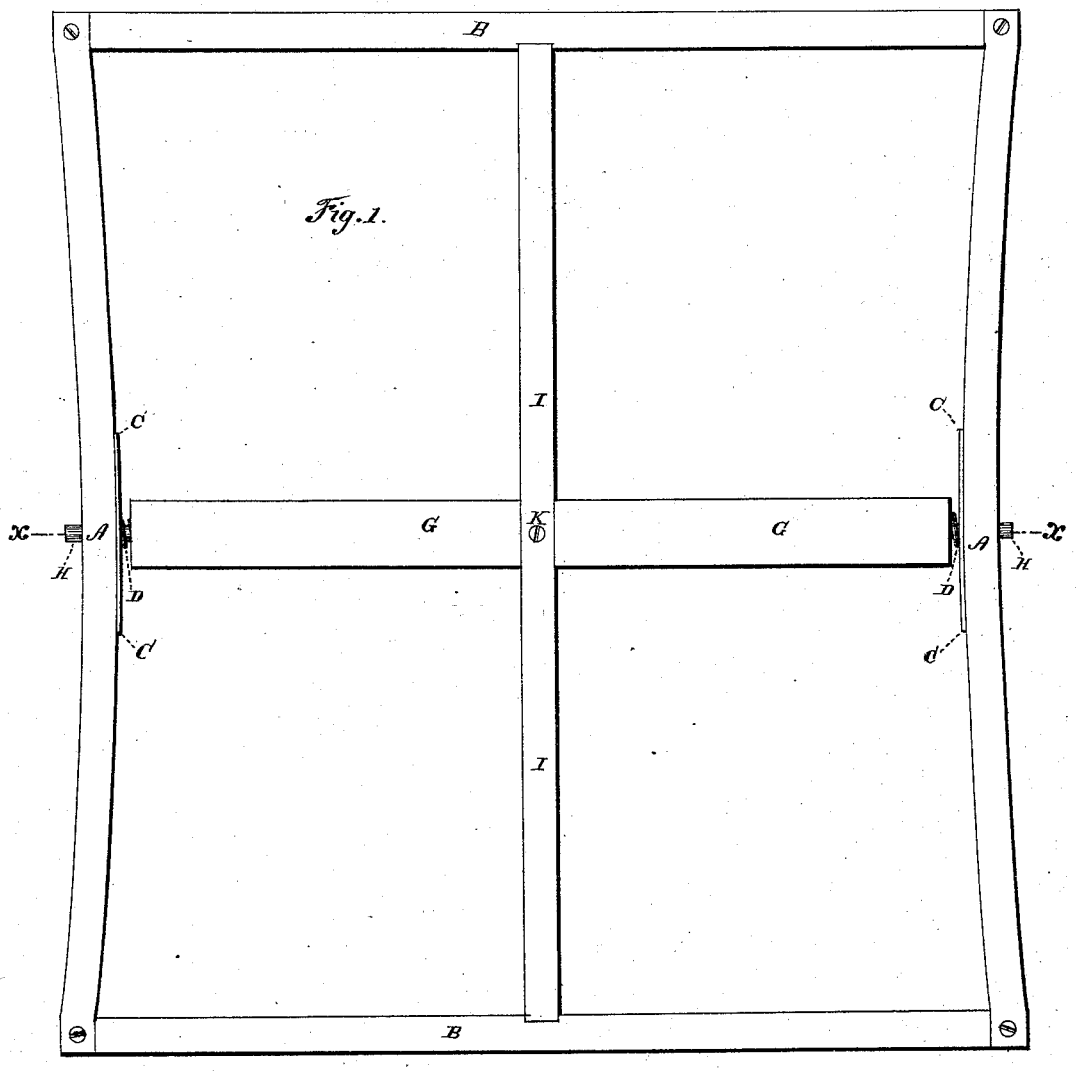


Fig. 2

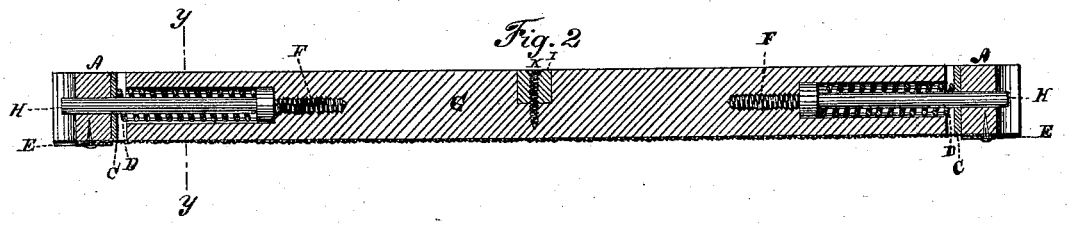
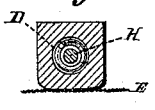


Fig. 3.



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UNITED STATES PATENT OFFICE.

GEORGE N. FORNEY AND GEORGE W. BANGE, OF HANOVER, PA.

IMPROVEMENT IN BOLTING SCREENS OR SIEVES.

Specification forming part of Letters Patent No. **219,242**, dated September 2, 1879; application filed June 18, 1879.

To all whom it may concern:

Be it known that we, GEORGE N. FORNEY and GEORGE W. BANGE, of the town of Hanover, in the county of York and State of Pennsylvania, have invented certain new and useful Improvements in Bolting Screens or Sieves; and we 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, which form a part of this specification.

In the accompanying drawings, Figure 1 represents our device attached to the frame of a bolting-screen. Fig. 2 is a vertical sectional view of the device itself from *x* to *x*. Fig. 3 is a vertical section of Fig. 2 at *y y*.

The same letters of reference indicate the same parts.

This invention relates to an improved device for correcting automatically and immediately the "slack" of bolting-cloth or other materials used for similar purposes, occasioned by use and the weight of matter resting upon and passing over it.

The device consists of springs attached to a cross-bar at each end in such a manner as to exert pressure in two directly opposite directions. These springs bear from within outward against the two opposite sides of the screen-frame, the two sides being curved either inward or outward, so as to be either of a concave or convex shape. Thus a stretching force is developed between these two sides which not only keeps tense the bolting-cloth attached to the frame, but which, in consequence of the sides being curved, exerts itself most where the slack is most likely to occur—*i. e.*, in the middle portion of the material which is attached to the screen-frame.

The action of this device is automatic and instantaneous, inasmuch as the spring force can be utilized only as the bolting-cloth or other material stretches or sags, and is utilized or applied at the very instant when the stretch occurs without additional or special adjustment.

Referring to the drawings, A A B B represent a four-sided screen-frame. G represents the cross-bar, of wood or other material, into either end of which a socket is bored to receive the iron rods H H, one end of which terminates in screws F F, and the other is allowed to project sufficiently to pass entirely through the curved sides of the screen-frame at the points A A.

The axes H H are passed into the sockets at either end of the cross-bar G, and are held firmly in place by means of the terminal screws F F entering the material of which the cross-bar G is made. Within these sockets, and around the axes H H, are coiled spiral springs D D, which press against the bearing-surfaces C C, attached to the curved sides A A, represented in the drawings as concaved, but which may also be curved in the opposite direction.

The action of the device is as follows: The cross-bar G has screwed into it the iron rods H H, with the springs D D coiled around them. The cross-bar is then put into the frame A A B B by inserting the projecting ends of the axes H H into the transverse holes bored midway through the sides A A, and is held in place, mainly, by a screw, attaching it to the stanchion I I at the point K. The sides A A are then sprung into curve, not sawed, thus making them elastic, and the bolting-cloth E, or other material, is fastened upon them while thus curved, as well as upon the other two sides, B B.

In consequence of the inward curvature of the sides A A, which shape we prefer to an outward curve, though desiring to embrace, broadly, both curves also in this patent, the springs D D are compressed. They exert, consequently, an outward pressure upon the sides A A of the screen-frame, by means of which a tension is communicated automatically and instantaneously to the bolting-cloth or other material attached to the frame, and which, in four-sided frames, is greatest where the slack is most likely to occur, in consequence of the two opposite sides being curved.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

The above-described sieve-frame, having the opposite curved elastic sides A and pressure-springs D, supported and acting within the frame against the sides A and bolting-cloth E, substantially as described.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in presence of two witnesses.

GEORGE N. FORNEY.
GEORGE W. BANGE.

Witnesses:
L. F. MELSHEIMER,
S. KEEFER.