

(No Model.)

F. H. STETSON.

PICKER STAFF CHECK FOR LOOMS.

No. 304,042.

Patented Aug. 26, 1884.

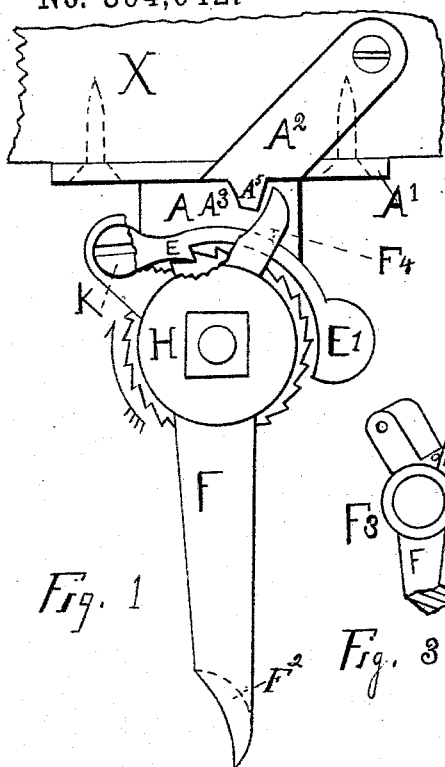


Fig. 1

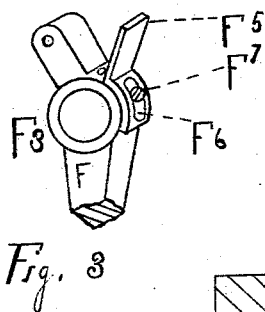


Fig. 3

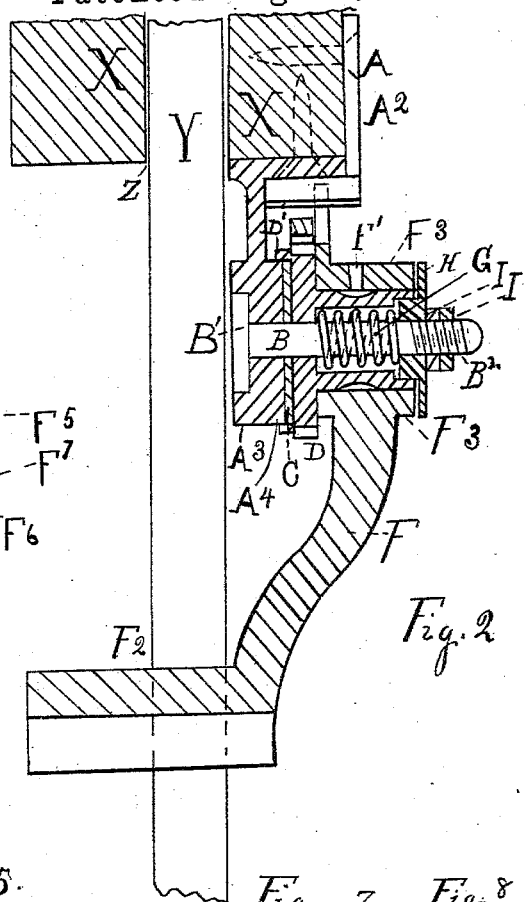


Fig. 2

Fig. 4

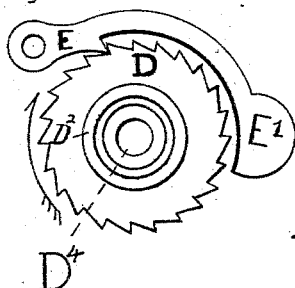


Fig. 5

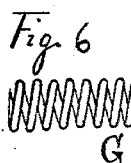
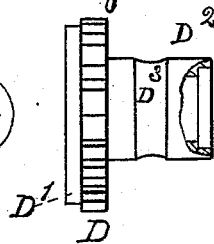


Fig. 6

Fig. 7

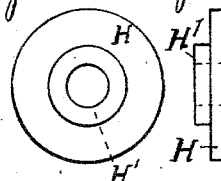


Fig. 8

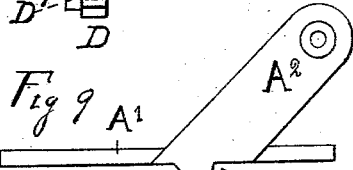


Fig. 9

Witnesses.
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UNITED STATES PATENT OFFICE.

FRANK H. STETSON, OF LOWELL, MASSACHUSETTS, ASSIGNOR OF THREE-FOURTHS TO EARL A. THISSELL AND FRANK A. ROBINSON, BOTH OF SAME PLACE.

PICKER-STAFF CHECK FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 304,042, dated August 26, 1884.

Application filed June 12, 1882. (No model.)

To all whom it may concern:

Be it known that I, FRANK H. STETSON, of Lowell, in the county of Middlesex and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Picker-Staff Checks for Looms, of which the following is a specification.

My invention relates to picker-staff checks or devices for gradually retarding the motion of a picker-stick caused by the shuttle striking the picker attached to said picker-stick in the usual manner; and it consists in the combinations hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a front elevation of my device attached to the under side and front of the shuttle-box or lay of a loom, a part of which is shown, some of the parts being broken away to show the pawl. Fig. 2 is a vertical transverse section of the same. Fig. 3 is an oblique view of the upper part of the lever. Fig. 4 is a front view of the ratchet and pawl. Fig. 5 is a side view of the ratchet, a part of the hub of the same being broken away to show the counterbores therein. Fig. 6 is a side view of the spiral spring. Figs. 7 and 8 are, respectively, views of the rear and edge of the washer. Fig. 9 is a front view of the upper end of the lever and of a part of the stand, showing the stop on said lever and the lug on the stand against which the stop strikes.

A is the stand, the bracket A' of which is secured by screws to the under side of the lay or shuttle-box X, the part A² being screwed to the front of the lay, and the part A³ hanging down to sustain the operative parts of the picker-staff check. The part A³ is drilled and counterbored through from the back to admit the stud B, and to allow the head B' of said stud to come flush with the back part of the stand A³. Around the stud B is placed a washer, C, of leather, paper, cloth, wood, or other fibrous material, this washer C resting against a circular part, A⁴, of the stand. A ratchet, D, turns on the stud B, and may be provided with a circular flange, D', which surrounds the washer C, to prevent the washer from spreading out far enough to interfere with the

pawl E, and hinder said pawl from engaging with the teeth of the ratchet. The ratchet is provided with a cylindrical hub, D², which serves as a bearing for the lever F, and an annular groove, D³, on the hub D² receives and retains oil introduced through the oil-hole F' in the lever F, and decreases the friction between said lever and hub. The hub D² is counterbored from the front centrally to receive the spiral spring G, which surrounds the stud B and rests against the annular shoulder D⁴ at the rear end of said spring. A washer, H, of metal, surrounding the stud B, is forced against the front end of the spring by a nut, I, which fits a screw-thread, B², cut on the front end of said stud, and this nut is prevented from turning on the stud by a check-nut, I'. 50 55 60 65

To steady the ratchet on the stud, the washer H is provided on its rear face with a central cylindrical part or hub, H', which enters the hub B² of the ratchet, and the hub of the ratchet may be a second time counterbored, as shown in Figs. 2 and 5, to receive the hub H, to give the parts a larger bearing on each other and increased steadiness. The lever F has a hub, F³, provided with a circular opening to receive and turn upon the hub D² of the ratchet. The lower part of the lever F is curved back under the shuttle-box, and is provided with a horizontal backwardly-projecting arm, F², beneath and at right angles to the slot Z, (through which the picker-stick Y reaches up into said shuttle-box.) To the upper end of the lever F, at K, is pivoted the pawl E, which takes into the teeth of the ratchet D, and to make the action of the pawl quicker and more certain the pawl, Figs. 1 and 4, is extended over the ratchet in a curve, and its free end is thickened or weighted, as at E'. A lug, A⁵, cast on the bracket A' of the stand, and a stop, F⁴, which may be cast on the lever F, limit the swing of the lever in one direction. 75 80 85 90

The operation of the device is as follows: When the picker is thrown backward (by the shuttle striking the picker in the usual manner) the picker-stick strikes against the arm F² and causes the lower end of the lever F to swing outward and the pawl attached to the

upper end of said lever to turn the ratchet in the direction shown by the arrow in Fig. 1. The friction between the washer C (which should turn with the ratchet) and the part A⁴ of the stand is so great that the picker-stick is retarded and gradually stopped. When the picker-stick moves away from the arm F² in throwing the shuttle, the lever F is brought by its own weight to a nearly vertical position, as shown in Fig. 1, the pawl sliding back over the teeth of the ratchet.

The friction between the washer C and the stand may be regulated by tightening and loosening the nut I, and thus varying the tension of the spring between the washer H and the shoulder D⁴ in the hub of the ratchet.

The stop F⁴ on the lever F may be a separate piece, as shown at F⁵ in Fig. 3, having a part curved to fit the hub F³, the curved part being provided with a slot, F⁶, through which a screw, F⁷, passes into the hub F³, so that by loosening the screw the stop may be adjusted to vary the swing of the lever.

I claim as my invention—

1. The combination of the bracket A' and the stud B, with the ratchet D, provided with a hub, D², having a central counterbored opening, the rear end of said opening adapted to turn upon said stud, and the washer H, provided with the hub H', adapted to enter the opening in the hub of said ratchet, and having itself an opening to receive said stud, as and for the purpose specified.

2. The combination of the stand A, provided with the lug A³, with the lever F, the stop F⁵, provided with a slot, F⁶, and the screw F⁷, as and for the purpose specified.

3. The combination of the stud B, and the ratchet D, provided with a counterbored hub, D², with the spring G, surrounding said stud within the hub of said ratchet, the washer H, and means for pressing said washer against said spring, as and for the purpose specified.

FRANK H. STETSON.

Witnesses:

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FRANK ROBINSON.