(No Model.)

D. McGUINESS.

PICKER STAFF CHECK FOR POWER LOOMS.

No. 307,212. Patented Oct. 28, 1884.

Fig. 1.

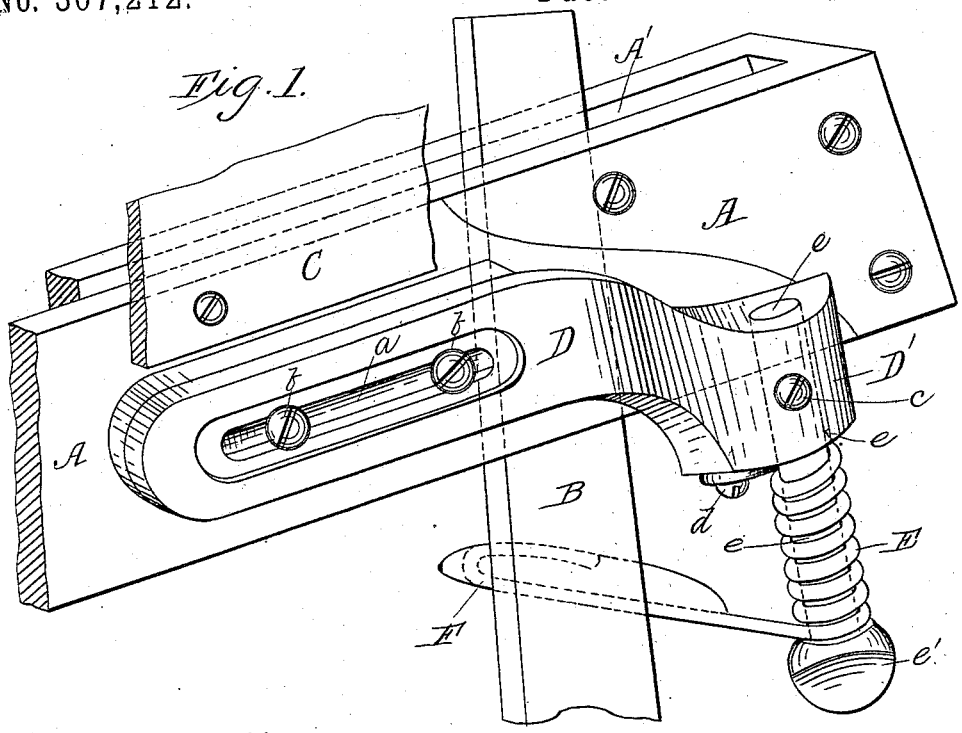
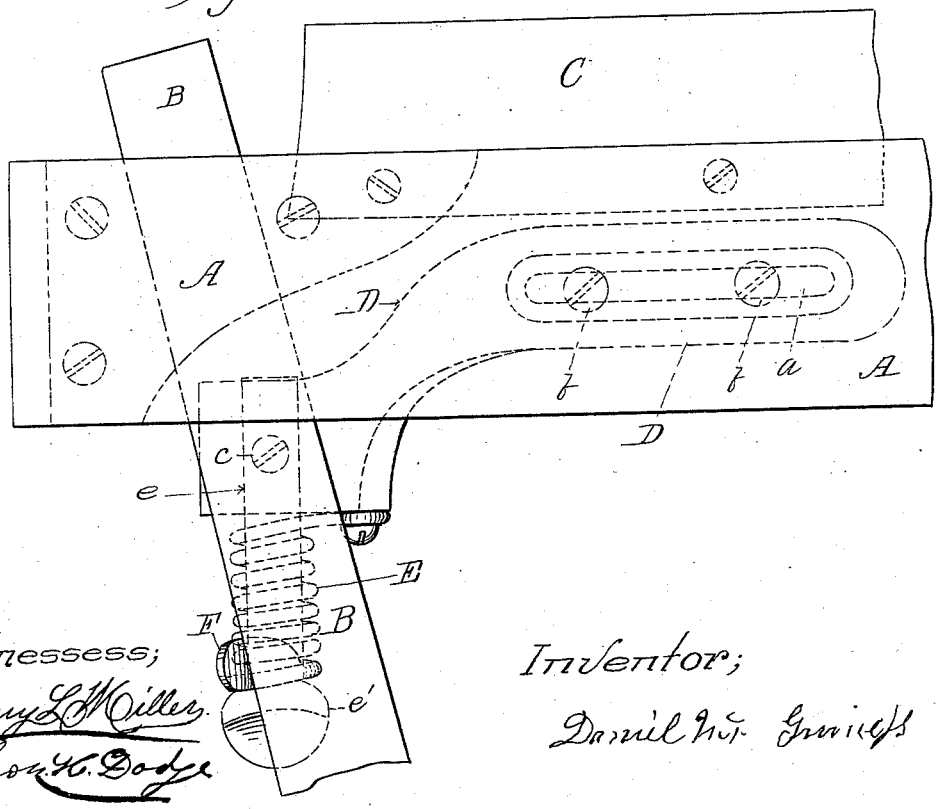


Fig. 2.



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UNITED STATES PATENT OFFICE.

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PICKER-STAFF CHECK FOR POWER-LOOMS.

SPECIFICATION forming part of Letters Patent No. 307,212, dated October 28, 1884.

Application filed September 20, 1883. (No model.)

To all whom it may concern:

Be it known that I, DANIEL McGUINESS, of Grafton, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Picker-Staff Checks for Power-Looms; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings and letters of reference marked thereon, forming a part of this specification, and in which—

Figure 1 represents a perspective view of so much of a power-loom with my improvement applied thereto as is necessary to illustrate my invention; and Fig. 2 represents an opposite view of the parts shown in Fig. 1, the relative positions of some of the parts being, however, different for the purpose of illustrating the action of my invention more fully, as will be hereinafter described.

To enable those skilled in the art to which my invention belongs to make and use the same, I will proceed to describe it in detail.

In the drawings, the part marked A represents a section of so much of one end of the lay of a power-loom as is necessary to show the construction and operation of my invention, and B the upper end of the picker-staff, which passes through an opening, A′, in the lay in the usual manner.

C represents a section of one side of the shuttle-box; but as the lay, picker-staff, and shuttle-box may be made in any of the well-known modes of making looms now in common use, no further detailed description of the construction of these parts is necessary, and I shall therefore confine my description to the added new device which I have invented, to be used in combination with the picker-staff of a power-loom. This device, which I shall call a "picker-staff check," consists of a curved slotted piece, D, and which piece is secured to the side of the lay by screws *b b*, which pass through slot *a*, as fully indicated in the drawings.

To the lower projecting end, D′, of the piece D is secured a spindle or stud, *e*, provided with a head, *e′*, and which stud may be held in place by a set-screw, *c*, or otherwise.

Between the head *e′* and the bottom of piece D′ is arranged a spiral spring, E. The upper end of spring E is provided with an eye, through which a screw, *d*, passes into the bottom of the part D′, while the lower end of said spring extends out, and has secured to it a curved finger or buffer, F, which receives the blow of the picker-staff when it is thrown back by the force of the shuttle, and of course serves to check and stop the shuttle with an easy spring motion, thereby preventing not only the rebound of the shuttle, but the "knocking off" of the filling, which so often results from the shuttle being stopped suddenly, as is the case when the end of the picker-staff is allowed to strike against the end of the lay without some spring device interposed to check its force.

Those skilled in the art will observe that the stud *e*, being arranged in a vertical position, permits of spring E being also arranged in a vertical position, and so as to encircle it quite loosely, whereby when the pressure is applied to the finger or buffer F by the back motion of the picker-staff the resistance is effected by the gradual contraction of all the coils in the spring, thereby producing an easy and gentle stoppage of the picker-staff, which motion is very important, since if the spring acted upon the picker-staff by a sudden resistance the liability, under such circumstances, is to knock off the filling, the same as if no picker-staff check were used. It will also be further observed, in addition to the action of the spring, as above described, which results from its peculiar arrangement and combination with the other parts of the picker-staff check that, by means of the slotted piece D and adjusting-screws *b b*, a very delicate adjustment can be made to give a very little more or a little less resistance to the picker-staff, and that this adjustment can be made without any change in the tension of the spring; and, further, that the picker-staff and spring are independent of each other, and that the spring does not act upon the picker-staff until at the very extreme part of its throw. These adjustments are very important, inasmuch as the picker-staffs of some looms in the same room require a little more resistance than others, and by my invention the arrangement is so simple that the operative of each loom can adjust it in such a manner as to obtain just

the resistance required, which is a great desideratum in the operation of power-looms.

From the foregoing description it will be seen that my improved picker-staff check is very simple in construction, and can be adjusted by an operative, since all that has to be done is to loosen the screws *b* and move the part D toward the end of the lay to lessen the resistance of the spring finger or buffer F, and in toward the middle of the lay to increase the resistance of said spring-buffer, and then tighten up screws *b* again. Of course, spring E can be made from any desired size of wire.

My invention can be applied to "box" looms with the same convenience and useful results as to the common plain loom.

Those skilled in the art will, furthermore, observe that said device can be held in position by the holding-screws not set so tight but that the slotted piece D can be adjusted by a simple blow or tap upon either end thereof; and, furthermore, that when the adjustment is made, whether much or little, the buffer or resisting finger always stands at the same angle with the lay of the loom, and that the end of the finger is not moved by the adjustment any farther forward or back than is the central spindle which supports the spring, by which construction the same resistance is always presented to the picker-staff when it first strikes upon the finger, and the finger always stands at right angles, or nearly so, to the lay of the loom, in whatever position it may be adjusted, and which adjustment is always in a horizontal direction.

The combination of a picker-staff-check finger with a bolt having a spring coiled around the same, and arranged in a holding-frame for attaching the same to the lay of the loom, as shown and described in the patent granted to Cyrus A. Hooper, October 17, 1871, I hereby disclaim; and a picker-staff check for looms, having a body composed of a single piece of wire provided with a friction-roll at its outer or loop end, and with a spring or springs at its inner or attaching end, in combination with means for attaching it to the lay of the loom, and with devices for regulating the tension of said check, as shown and described in the patent granted to John S. Richardson, June 19, 1883. I also hereby disclaim; but

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

A picker-staff check for power-looms, consisting of the slotted horizontally-adjustable piece D, holding-screws *b*, headed spindle or stud *e e'*, supported by piece D, vertically-arranged spiral spring E, arranged on spindle *e*, and buffer-finger F, all constructed and arranged to operate in combination, substantially as and for the purposes set forth,

DANIEL MCGUINESS.

Witnesses:
HENRY L. MILLER,
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