

(No Model.)

J. C. POTTER.

PICKER STAFF CHECK FOR LOOMS.

No. 333,332.

Patented Dec. 29, 1885.

Fig. 1.

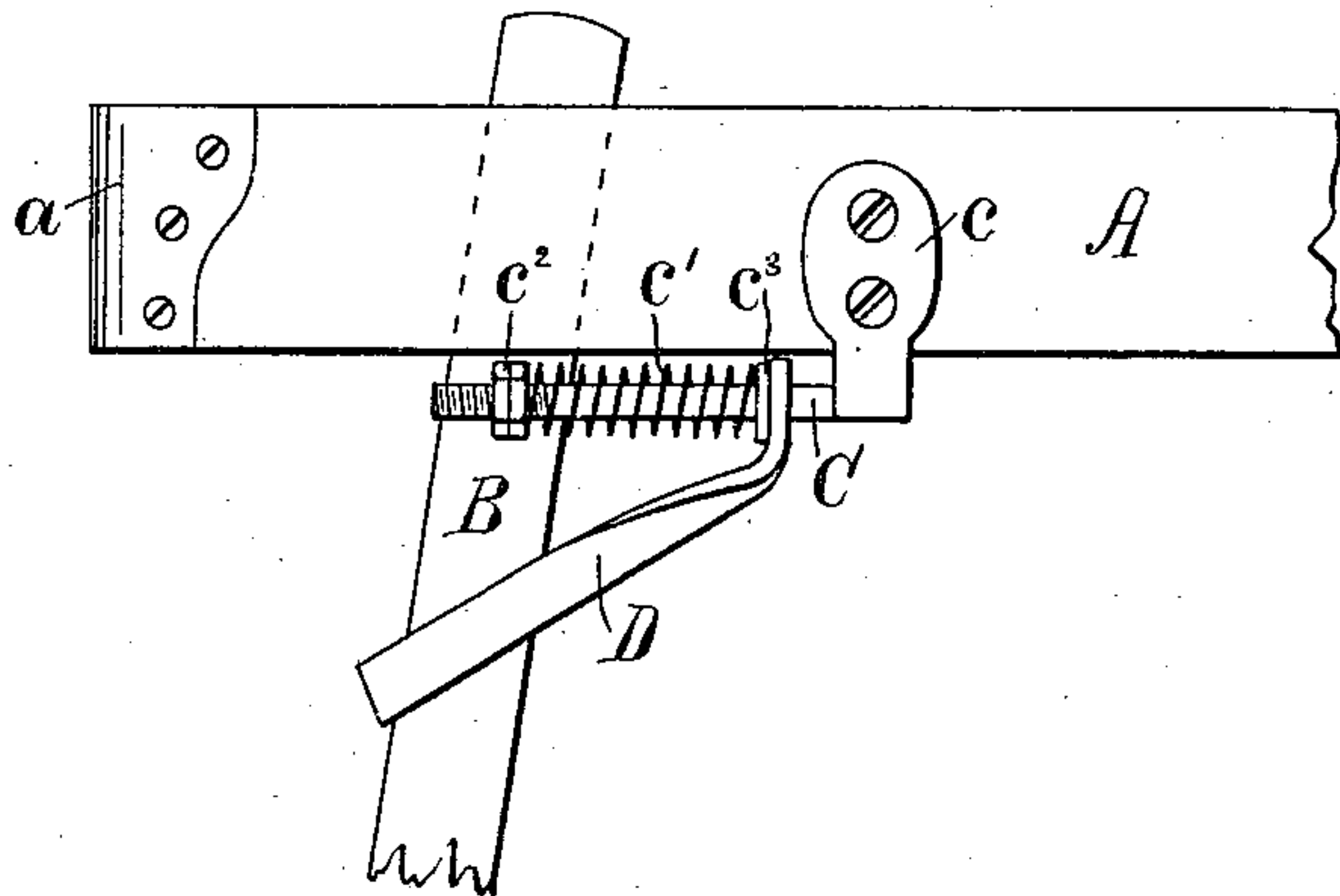


Fig. 2.

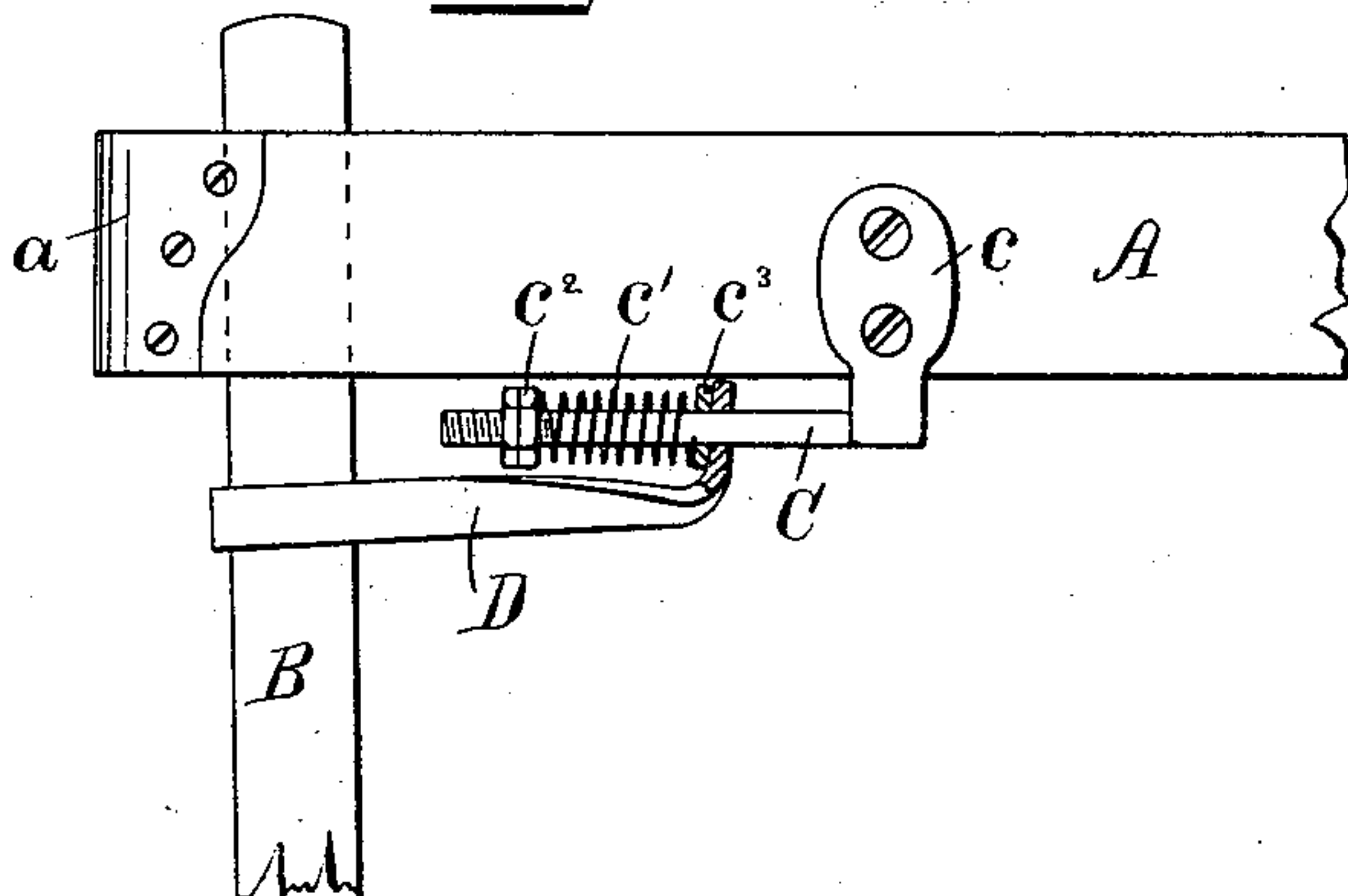
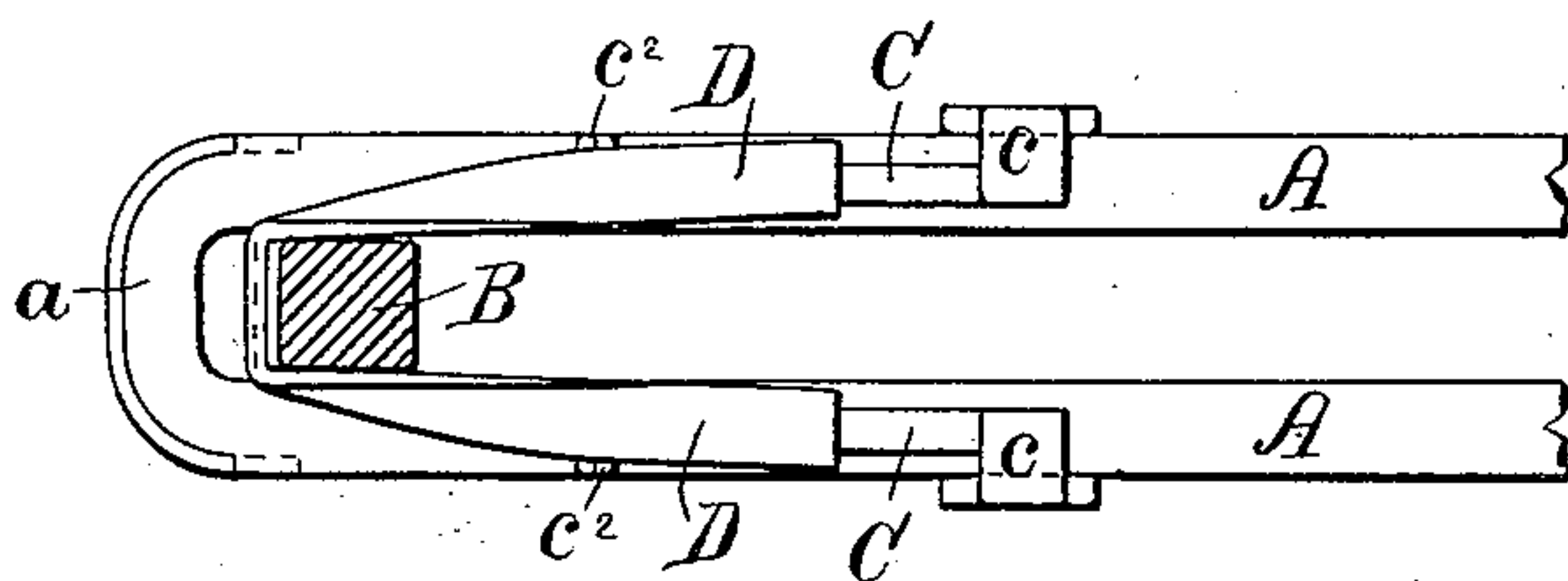


Fig. 3.



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JOHN C. POTTER, OF PROVIDENCE, RHODE ISLAND.

PICKER-STAFF CHECK FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 333,332, dated December 29, 1885.

Application filed October 21, 1884. Serial No. 146,086. (No model.)

To all whom it may concern:

Be it known that I, JOHN C. POTTER, of the city and county of Providence, and State of Rhode Island, have invented a new and useful
5 Improvement in Picker - Staff Checks for Looms, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

10 My invention relates to that class of devices which are located near the ends of the lay-beams of looms, and which, by acting against the picker-staffs, serve indirectly to stop the shuttle at the limit of its travel in one direc-
15 tion.

As heretofore constructed and arranged this class of devices have been defective, for the reason that the concussion of the shuttle against the staffs is not eased and deadened
20 sufficiently to avoid jarring and rebound, which seriously vary the tension of the filling-threads, and thus render the woven fabric imperfect.

The object of my invention is to produce an
25 attachment for looms designed to act upon the picker - staffs, which shall act to gradually though quickly arrest the movement of the shuttle, and to stop the shuttle when the same is in contact with the shaft, thus avoiding all
30 jar and preventing all rebound of the shuttle out of the shuttle-box.

To the above purpose my invention consists in the peculiar and novel construction and arrangement of the picker-staff check, as here-
35 inafter described and claimed.

In order that my invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

40 Figure 1 is a side elevation of one end of the lay-beam of a loom and part of a picker-staff with my improved check applied thereto. Fig. 2 is a similar view of the same, partly in section, the picker-staff being shown in a different
45 position. Fig. 3 is an under side plan view of the same, partly in section.

As my invention does not relate to any particular form of mechanism for vibrating the picker-staff, no arrangement for this purpose
50 is illustrated in the drawings, my improved check being adapted for use in connection with any of the various kinds of actuating mechan-

ism. Neither does my invention relate to any particular form of race, or shuttle, or staff, almost any form of these parts being contemplated by the scope of my invention. 55

In the said drawings, A designates the lay-beam; *a*, the end of a lay-beam where the shuttle-box is located, and B a picker-staff, said parts being constructed and arranged in the
60 usual or any preferred manner.

C C designate two rods, each of which is secured at one end to a bracket, *c*, which is attached to the lay-beam A, the arrangement being such that the rods C extend horizontally
65 beneath the beam and project toward the end thereof.

c' designates one of two spiral springs, each of which surrounds one of the rods C, (one only of said springs being shown in Fig. 2. Each
70 of these springs is confined upon its rod by a nut, *c''*, and a washer, *c'''*, the nut being screwed upon the threaded outer end of the rod, and the washer being placed movably around the rod, so as to slide freely thereon. 75

D designates a band, which is preferably of leather; but which may be of fabric, paper, or metal, or of any other suitable material. This band is secured at each of its ends to one of the rods C beyond the washer *c'''* in such man-
80 ner as to surround the rod and to slide thereon. The band D also passes across the outer side of the picker-staff and in contact therewith. Now, assuming the staff to be in the position illustrated in Fig. 1, the shuttle will
85 be thrown along the shuttle-race by the opposite staff, and will rush against the staff shown in Fig. 1 and will come into contact therewith. The initial effect of the contact of the shuttle with the staff will be to produce a tension
90 upon the band D, which will cause said band to grip at its ends upon the rods C and at its bend upon the outer side of the staff. This gripping action is due to the oblique direction of the strain of the band upon the rods and upon
95 the staff. This gripping of the band will only partially arrest the momentum of the shuttle, and will prepare the band to act frictionally upon the rods and staff. By virtue of the acquired momentum of the shuttle the staff will
100 be pushed from the position illustrated in Fig. 1 to that illustrated in Figs. 2 and 3, and during this movement the ends of the band will slip, or rather rub, along the rods from the

position illustrated in Fig. 1 to that illustrated in Figs. 2 and 3, and the bend of the band will slip or rub upon the staff from the position illustrated in Fig. 1 to that illustrated in Fig. 2. These movements of the band are rapid; but as the friction between the band and the rods and staff constantly increases the momentum of the shuttle is quickly but gradually lessened till the shuttle is brought to a full stop, with the staff in the position illustrated in Fig. 2. Thus all jarring is avoided, and by the time the shuttle is stopped it does not possess sufficient momentum to produce any backlash in the picker-staff, or to rebound of itself from said staff out of the shuttle-box. During these movements of the band its ends will have compressed the springs c' , which compression acts, in connection with the friction of the band, to resist the motion of the shuttle. This fact is due to the tension of the springs, which should have been properly adjusted to this purpose by turning the nuts c^2 . When the springs have become fully compressed, they will have accumulated sufficient expansive power to hold the staff in contact with the shuttle, so that when the staff is thrown forward again into the position illustrated in Fig. 1 it will not pound upon the

shuttle, but will push it out of the shuttle-box and throw it clear along the race with an even movement of the shuttle. Thus the shuttle is not only stopped, but is started again without any jarring. As the staff moves from the position illustrated in Fig. 2 to that illustrated in Fig. 1 the band will drop easily at its bend and the springs c' will easily push the ends of the band to their original position.

The material of which the rods and staffs are constructed may be such as to insure the proper frictional action of the bands, or the contact-surfaces of such rods and staffs may be such as to secure this effect.

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

The combination, with the lay-beam having the brackets c , the rods C , carrying the springs c' and the nuts c^2 and washers c^3 , and the staff B , of the band D , secured at its ends movably upon the rods and embracing the staff and acting frictionally upon said rods and staff, as set forth.

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Witnesses:

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