

(No Model.)

J. H. PAIGE.

PICKER STICK AND SHUTTLE CUSHIONER FOR LOOMS.

No. 361,444.

Patented Apr. 19, 1887.

Fig. 1.

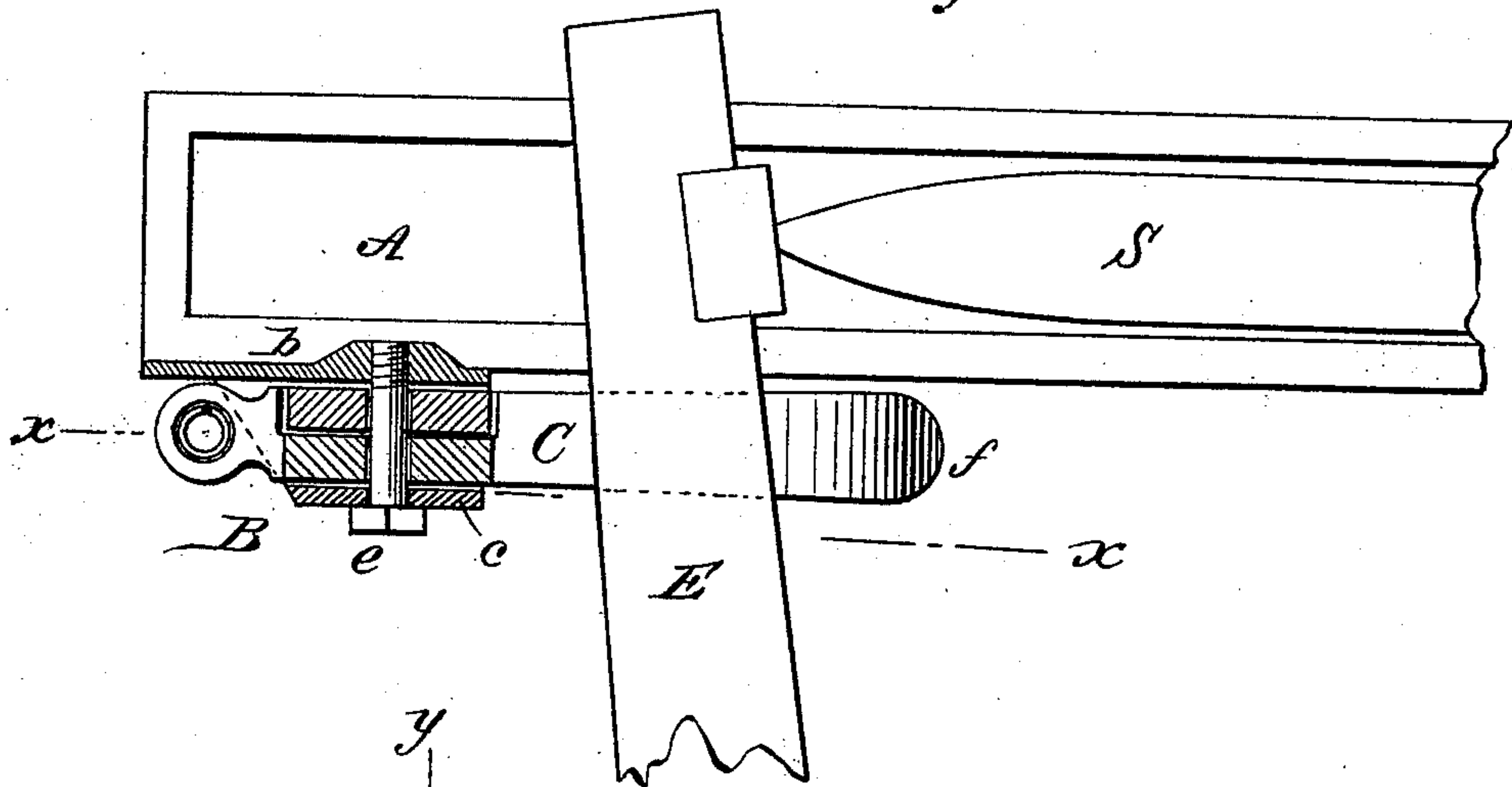


Fig. 2.

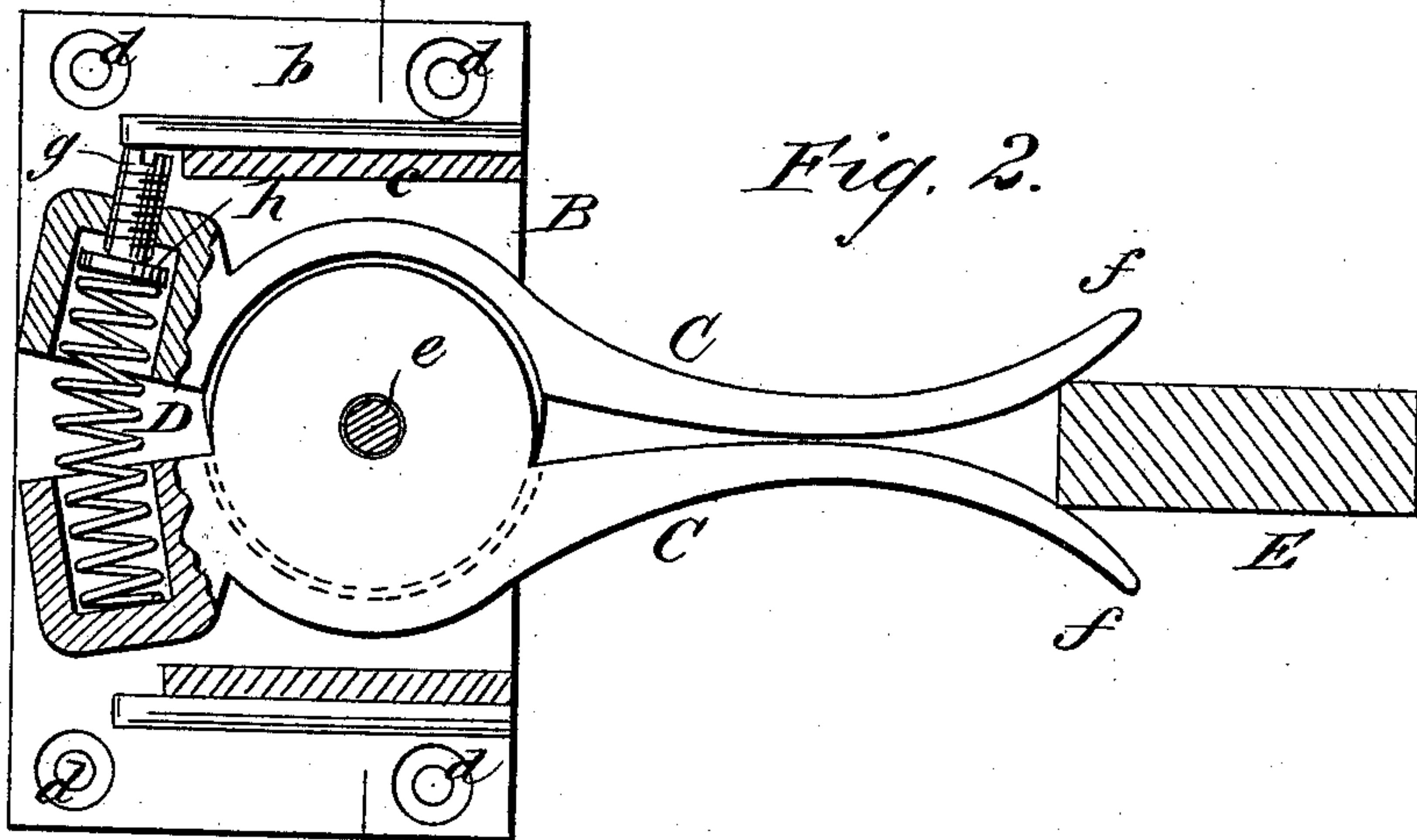
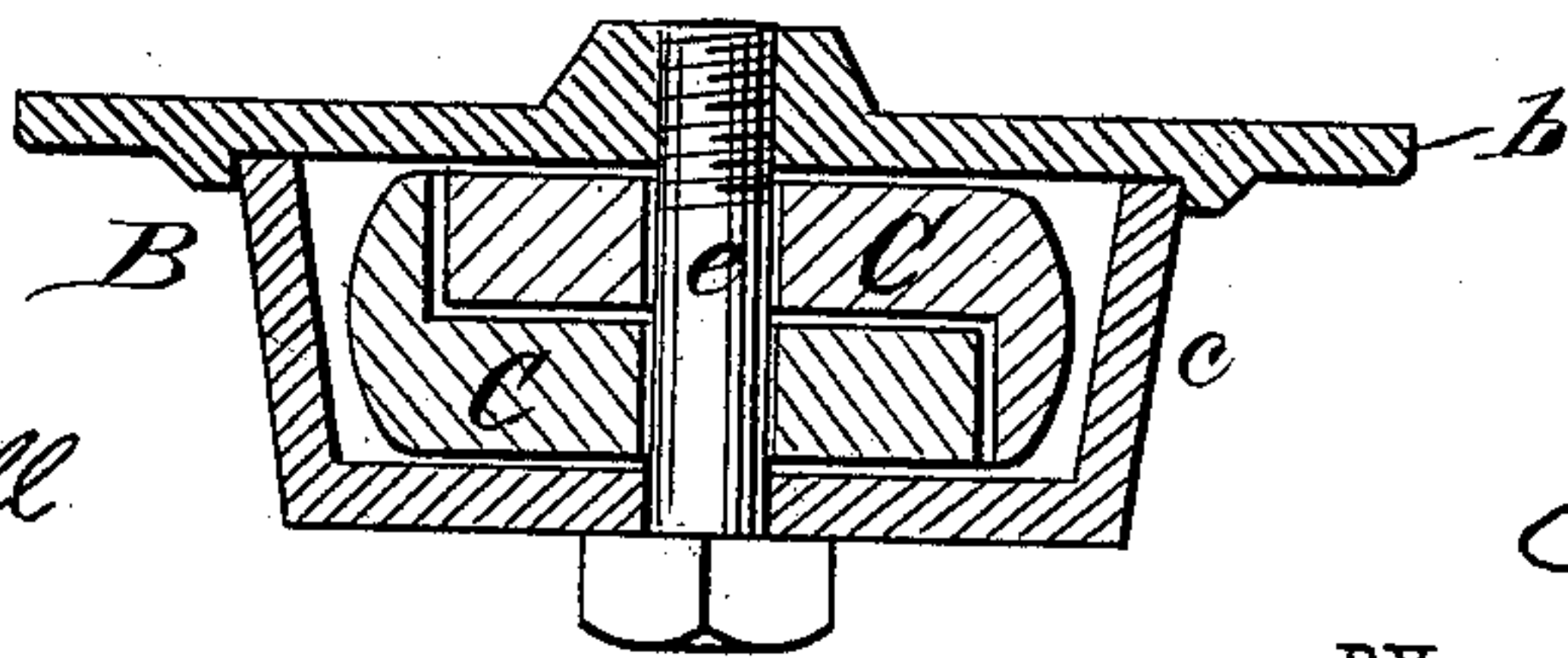


Fig. 3.



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JAMES H. PAIGE, OF SALIDA, COLORADO.

PICKER-STICK AND SHUTTLE-CUSHIONER FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 361,444, dated April 19, 1887.

Application filed August 31, 1886. Serial No. 212,305. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. PAIGE, of Salida, in the county of Chaffee and State of Colorado, have invented a new and Improved Picker-Stick and Shuttle-Cushioner for Looms, of which the following is a full, clear, and exact description.

My invention, which is applicable to power-loom of different kind employed in the weaving of woolen, silk, and cotton goods, has for one of its objects the avoiding of that waste of filling which is occasioned by the picker-stick resting in a dead or solid manner against the "lathe-block," thereby causing the filling, which is carried on a tapering spindle or bobbin, to be thrown off. To remedy this and other defects, various appliances have before been proposed; but these have essentially differed from my invention, which possesses several advantages and uses, as hereinafter explained, and which consists in a combined power-loom picker-stick and shuttle-cushioner of peculiar construction, substantially as hereinafter described, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 represents a longitudinal elevation of a shuttle-box and shuttle, in part, with a picker-stick in part applied, and showing also, in partial section, the cushioner in its relation with the shuttle-box and picker-stick after the picker-stick has been driven into the cushioner by the return of the shuttle from the opposite side of the loom. Fig. 2 is an inverted sectional plan on a larger scale, upon the irregular line *x x* in Fig. 1, omitting the shuttle-box, and showing the picker-stick in position before it is driven into the cushioner by the return of the shuttle. Fig. 3 is a sectional view of the cushioner upon the line *y y* in Fig. 2.

The cushioner, which is made of metal, is secured to the under side of the shuttle-box A—that is, one cushioner for each shuttle-box—for the picker-sticks to rest against. Said cushioner is composed in part of a finger-carrier or stand, B, which may be made in two pieces—namely, a plate, *b*, and box or strap part *c*, the plate *b* serving to hold the cushioner by means of screws passing through apertures *d* to the under side of the shuttle-box, and the strap part *c* serving, in conjunction with the plate, to carry the working parts of the cushioner, which is further composed, in part, of two working fingers, C C, and a spring, D.

The fingers C C are constructed with a divided joint to separately turn or work upon a stud, pivot, or screw, *e*, which may also serve, as shown, to secure the two parts *b c* of the finger-carrier together. Said fingers, which occupy a horizontal position, or approximately so, project in front of the carrier B, beneath the shuttle-box, and are of reversely-bowed form, so that when closed they will present inclined or convexed inner surfaces, terminating in forward flaring portions *f f*, to receive and pass the picker-stick E within them. The fingers are held closed by the spiral spring D, which is here shown applied to projecting back ends of the fingers, and which is adjusted, as by a screw, *g*, and follower *h*, to adjust the tension of the fingers as required; but the spring may be otherwise applied to hold the fingers in front closed, and either have a fixed or adjustable tension, as desired. It will be advisable, however, in most or all cases to make the tension adjustable.

The operation is as follows: When the picker-stick E comes back, after throwing the shuttle S, it rests against and within the mouth or flaring front end portions of the fingers C C, as shown in Fig. 2, and the shuttle upon its return forces the picker-stick gently back between said fingers against the pressure of the spring controlling them, so as to cause the fingers to grip or hold the picker-stick until the next beat of the loom, as shown in Fig. 1. In this way the spring-actuated finger attachment makes a perfect cushioner, and also prevents any recoil of the shuttle. Consequently slack filling, which makes kinks in cloth, is avoided. This prevention of the recoil of the shuttle is a conspicuous feature which distinguishes the invention from others that only partially cushion.

My improved cushioner is, in fact, a very complete one, and the picker-stick, by never resting upon a dead solid stop, prevents the cutting away of the picker-stick by the blow

of the shuttle. It enables the loom, too, to be run with less power and at a higher rate of speed, from the fact that the shuttle-boxes can be run much looser; and by so doing I overcome the troubles occasioned by atmospheric changes, which often cause the filling to be broken.

I do not restrict my invention to the precise construction herein shown and described, but design that it include all changes that properly or fairly fall within the scope, spirit, and principle of my invention, as described.

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

1. In a combined picker-stick and shuttle-cushioner, the combination of the finger-car-

rier B, the fingers C C, made flaring at their forward ends, the screw, pivot, or stud e and the adjustable spring D, and means for the adjustment of the latter, essentially as herein described.

2. The finger-carrier B, constructed in separate sections or parts b e, in combination with the spring-actuated fingers C C and the screw e, whereby said screw serves to form both a pivot to the fingers and to hold the sections of the finger-carrier together, substantially as specified.

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Witnesses:

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