W. J. THORN.

PICKER CUSHION FOR LOOMS.

No. 62,087. Patented Feb. 12, 1867.

Fig. 1.

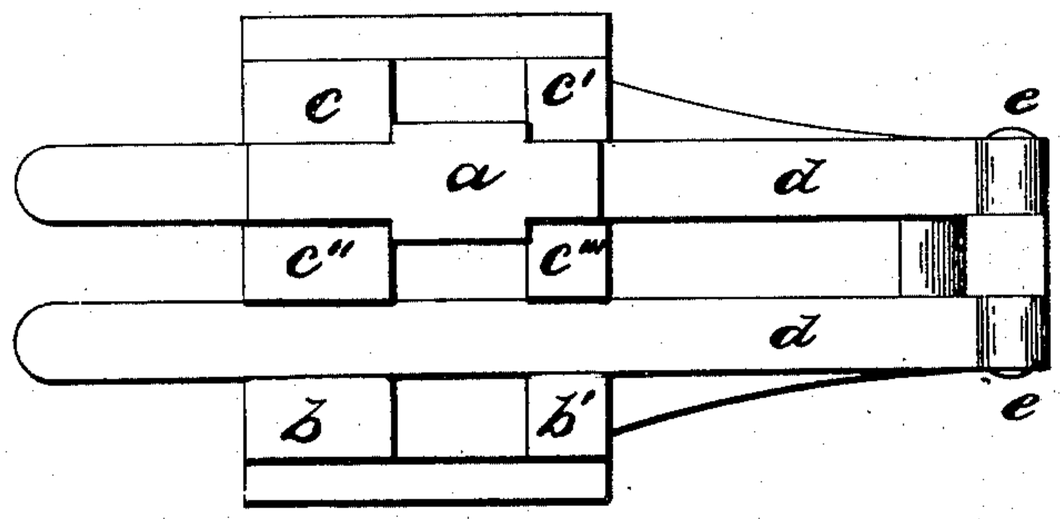
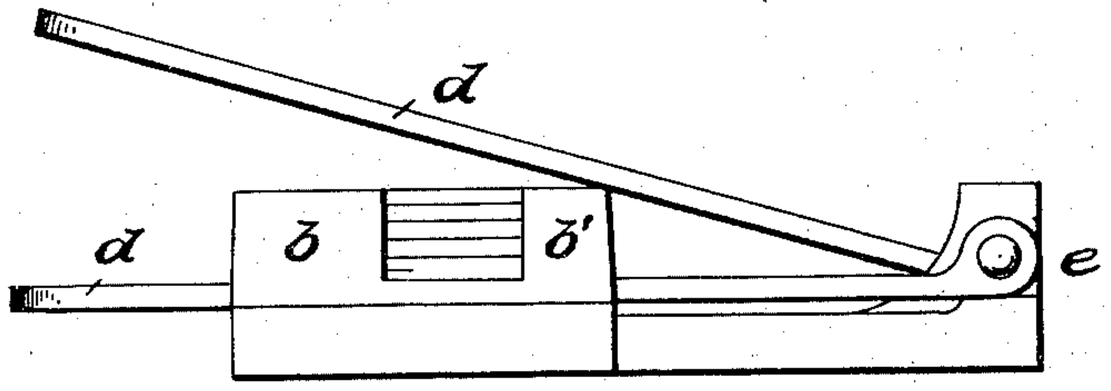


Fig. 2.



Witnesses:

William H. Clifford

Henry C. Houston

Inventor:

William J. Thorn

United States Patent Office.

WILLIAM J. THORN, OF WESTBROOK, MAINE, ASSIGNOR TO HIMSELF AND F. A. BETTS, OF SAME PLACE.

Letters Patent No. 62,087, *dated February* 12, 1867.

IMPROVEMENT IN PICKER-CUSHIONS FOR LOOMS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, WILLIAM J. THORN, of Westbrook, in the county of Cumberland, and State of Maine, have invented a new and useful manner of preparing the Picker-Cushions of Weaving-Looms; and I hereby declare the following to be a full, clear, and exact description thereof, which will enable others to make and use my invention, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 shows a top plan of the form in which the cushion is pressed.

Figure 2, a side elevation of the same.

Considerable difficulty and inconvenience have been experienced in practice to procure a suitable cushion or shield to the picker-staffs of looms. In consequence of the rapidity of the staff's vibratory motion, and the frequency of its blows upon the end or point of the shuttle, the cushion is apt to become worn and perforated by the end of the shuttle. A hole so made in the cushion, irregularly or to one side, immediately destroys the usefulness of the cushion. These have ordinarily been made of pieces of leather laid together, united by pegs, and then strapped to the picker-staff. These cushions have been rudely made, and have lasted but for a short time. The result of this is that not a little expense has attended the use of the cushions, besides their inconvenience and ill adaptation to the purpose.

It is the purpose of my invention to produce a cushion which shall be firm, sufficiently elastic, of increased durability and economy of construction. Heretofore, the common picker-cushion has been cut with a head or shoulder at the upper end for the sake of convenience in attaching it to the staff by the strap passing around both staff and cushion. This has caused a waste of the leather from which the cushion is manufactured. I obviate this objection by dispensing with the head, so that the leather for the cushion can be cut without waste. Instead of the head to retain the strap, the strap is fastened to the cushion by a screw. As hereinafter stated, several layers of leather are first soaked in water sufficiently to soften the substance thereof. The sides to be placed in contact with each other of the different pieces of leather are then covered with a thin layer of cement. I do not claim any particular description of cement; any that is strongly adhesive, and which becomes somewhat rigid upon drying, will answer the purpose. These layers, thus soaked and cemented, are then placed in the form, as seen in fig. 1.

a shows a cushion placed in position. The layers of leather must project above the parts *c c′ c″ c‴* of the form, in order to receive the pressure to which they are intended to be submitted. I will now proceed to describe the form or mould in which the cushions or leathers are thus placed. It consists of a bed or bottom upon which are the raised portions or vertical projections *c c′ c″ c‴*, *b* and *b′*. These are so arranged as to form spaces to receive the leathers, of the form shown by *a*, as illustrated in the drawing. Into these spaces the leathers are, as aforesaid, placed and submitted to pressure. I commonly employ an ordinary screw-press. The projections *c c′*, &c., being all the same altitude, the cushions, after compression, are, of course, of the same thickness, and being of the same thickness before compression, are, when finished, of the same density. Thus the former irregularity in the thickness and consistency of picker-cushions is wholly avoided. Pegs may be driven through the cushions in one or two places, if desired, after the compression. The combined effect of the soaking, cement, and compression is to render the cushions not only uniform in size, but firm, solid, and very durable, and enables them to endure the percussion of the shuttle many times longer than cushions of leather as usually made. *d d̄* show arms turning on pivots at *e*, and resting longitudinally in the spaces between the projections *c c′*, &c. The use of these is to remove the cushions from their beds or forms after compression, as is illustrated in fig. 2, which would otherwise be a matter of difficulty, owing to the adhesion of the cushions to the sides of the form and the uprights *c c′*, &c. Allowed to remain in the form under pressure for a few moments, the cushions are, when taken out, firm, rigid, and of uniform size and toughness, as far as the nature and quality of the stock permits of the same, and can then be placed for drying. In consequence of the pressure to which the cushions are submitted, the wear of the shuttle is uniform thereon, the successive layers of leather being of the same or nearly the same density. The cushion, when made without cement, allows the shuttle to pierce it with greater rapidity than when the cement is used, and often the upper layer of the cushion breaks out after the wear of a certain

time. Also the hole worn by the shuttle into the cushion becoming slanting or irregular, the cushion quite soon becomes useless. The irregularity of the hole is caused by the varying degrees of resistance which the point of the shuttle meets with on the cushion, since the cushion, as ordinarily made, is not of the same density throughout. Thus the point of the shuttle will be turned away from a hard or solid part of the leather, and continue to penetrate where it is softer or more porous. In my invention this is obviated by the pressure which reduces the cushion to the same or nearly the same density throughout, so that the point of the shuttle will penetrate all parts of the cushion equally, or rather meet with the same or nearly the same resistance from all parts of the cushion. These, in connection with the economy of cutting and increased durability, are the advantages which I claim for my invention.

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

A tanned leather picker-cushion for weaving-looms, manufactured and prepared in the manner herein set forth.

WILLIAM J. THORN.

Witnesses:

WILLIAM H. CLIFFORD,

HENRY C. HOUSTON.