

UNITED STATES PATENT OFFICE.

WILLIAM TUCKER, OF BLACKSTONE, MASSACHUSETTS.

SHUTTLE FOR LOOMS.

Specification of Letters Patent No. 9,507, dated December 28, 1852.

To all whom it may concern:

Be it known that I, WILLIAM TUCKER, of Blackstone, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Shuttles for Looms for Weaving; and I do hereby declare that the same is fully described and represented in the following specification and the accompanying drawings, letters, figures, and references thereof.

Of the said drawings Figure 1 denotes a top view, Fig. 2 a side view, Fig. 3 a vertical central, and longitudinal section of my improved shuttle.

The object of my improvement is to prevent the weaving of "bad places" in cloth, or the consequences that generally result from the breakage of one of the warp threads. When this occurs the movements of the lay so entangle the loose broken warp threads in the adjacent warp as to cause the latter to make an improper decussation whereby what weavers term a "bad place" will be woven or made in the cloth until the broken warp thread is repaired.

In the drawings A represents a shuttle as made in the usual form and being provided with a bobbin spindle B for the reception of the cop C. To the upper side of the shuttle I apply a bent spring D which I confine to the shuttle at one end by a screw E. The other end of the spring is bent downward into the recess of the shuttle and into a small recess *a* made down in a horizontal shelf *b* that is placed with its upper surface in or about in the plane of axis of the cop spindle when such spindle is closed down into its lowest position within the shuttle. The thread F from the cop is carried toward the bent or nearly vertical part of the spring D, and is bent around it at or nearly at a right angle and is thence carried through a hole or passage *c* made through the side of the shuttle in the ordinary way all as seen in the drawings. A long slot *d* is made to extend through the side of the shuttle and in a direction toward the cop or spindle as seen in the drawings.

Below the bent spring D and down into the shuttle there is a mortise *f* made in which mortise a dog or elevator *g* is placed and made to turn freely on a horizontal pin *h* carried transversely through the shuttle as seen in Fig. 4 which is a transverse sec-

tion taken through the dog and shuttle. An inner side view of this dog is seen in Fig. 5. The said dog or elevator consists of a piece of metal having two cams *i*, *k* and a flat space *l* formed upon it. It also has a projection *m* extended above it and above the top of the shuttle as seen in the drawings. When this projection stands in a vertical position the bent spring rests on the flat place or part *l* of the dog or catch so as to allow the spring to extend into the little recess *a* of the platform. Now when the dog or catch is moved on its supporting pin so that the projection stands in an inclined position, either one or the other of the cams *i*, *k*, will be so brought into action against the bent spring as to raise it out of and entirely above the said recess of the said platform so as to allow the thread to escape from the bent spring and pass under it and take the position as represented in Fig. 1 by the dotted line *o*, it being seen there to bear or be drawn against the inner end of the slot *d* made through the side of the shuttle.

While the warp threads remain whole or unbroken or disentangled the shuttle passes freely through their shed or opening, the said shed or opening be supposed to be sufficient to permit the projection of the elevator to stand and remain in a vertical position during the passage of the shuttle over the race beam. When however a warp thread breaks and becomes entangled with the others so as to injure their decussation the projection of the elevator during the throw or next or a succeeding throw of the shuttle will come in contact with the depressed warps and be thrown down into an inclined position whereby the spring D will be elevated so as to set the thread free from the spring and allow it to be drawn into the position represented at *o* where it will not unwind from the cop and will be instantly broken by the force of throw of the shuttle, and thereby no more filling can be laid in the warps until the broken ones are repaired and the filling thread passed around the bent spring in the manner hereinbefore set forth, it being understood that the said bent spring is to be so arranged that the filling thread when passed around will readily draw from the cop in the usual manner. It is well known that when the true line of

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Heading Screws and Rivets.

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Fig. 1.

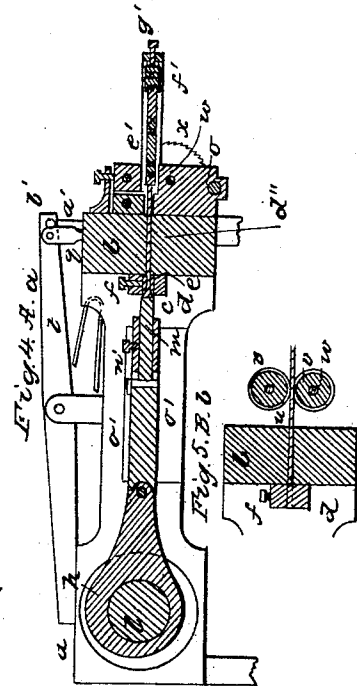
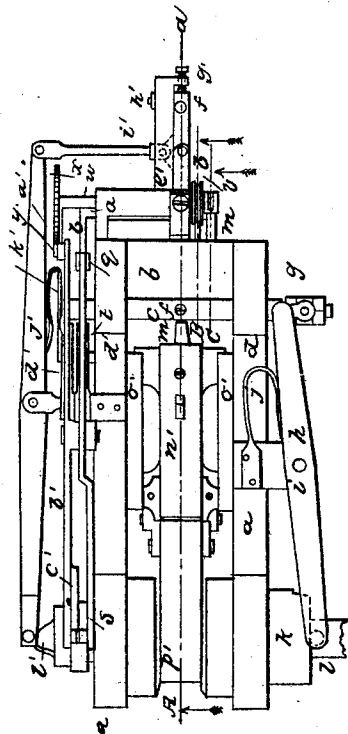


Fig. 3.

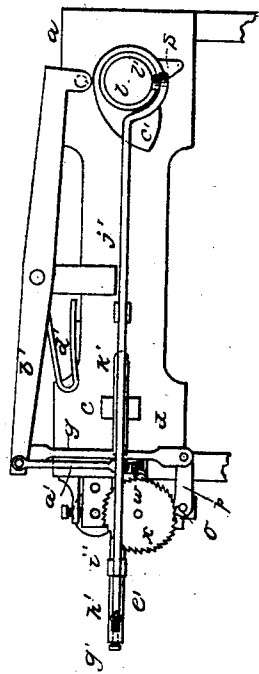


Fig. 4.

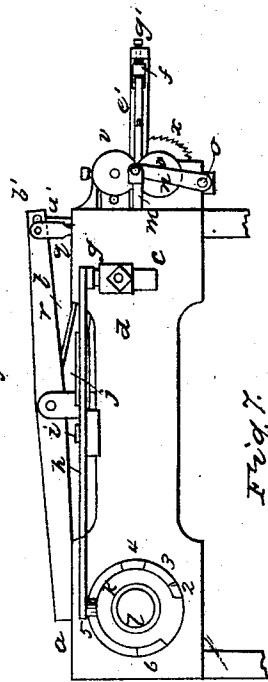


Fig. 5.



