

### An Improved Picker Stick Attachment.

The new attachment comprises a combination of parts to replace the sweep strap, and power strap, now commonly used in connection with looms.

THE OBJECTS aimed at in connection with the new attachment are to provide a positive connection between the picker staff and the sweep stick so that there will be no lost motion on the forward stroke of the picker, and to provide a cushion for the back stroke of the picker staff, sweep stick and connections.

ILLUSTRATIONS. In order to explain the construction, application and working of the new attachment, the accompanying two illustrations are given and of which Fig. A is a detail view of the new attachment, in place on its picker stick *P*, only the upper portion of said stick being shown, since it is this part to which the new attachment refers to, the connection to the lower portion of the stick being of usual construction, *i. e.*, the stick is pivoted to the rocker iron of the loom frame and has attached to its lower back a foot strap, which in turn is connected in the usual way to what is known as the power spring, by which the picker stick is brought back after delivering its blow to the shuttle or picker. Fig. B is a detail view of the adjustment band and picker stick, taken on line X-X of Fig. A.

THE NEW ATTACHMENT SUBSTANTIALLY CONSISTS of the adjustment band 1, the back piece 2, the head 3 and the two straps 4 (one on each side of head 3).

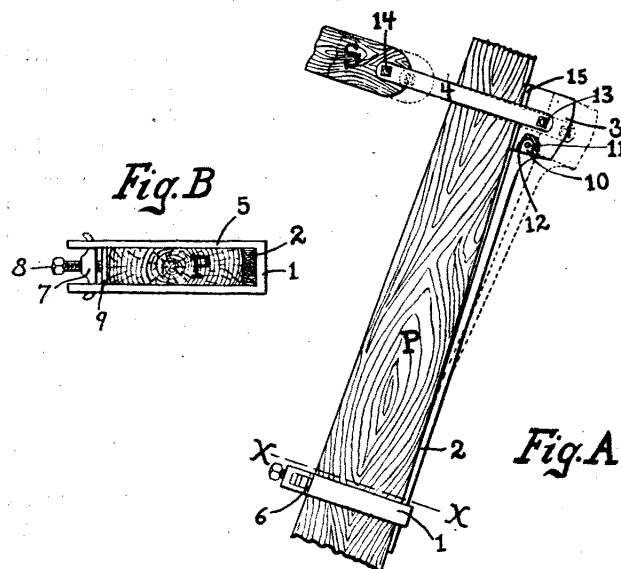
Considering adjustment band 1, the same consists (see detail illustration Fig. B, drawn somewhat enlarged to Fig. A; in order to show the details of said band more clearly) of the U shaped strap 5, which is of a width equal to the width of an ordinary picker stick and somewhat longer than the depth of the picker stick. Near the open end are square openings 6 through which pass the curved shoulders of brace 7. A bolt 8 passes through brace 7 and against a bearing plate 9 interposed between it and picker stick *P*. By this construction the bolt 8 can be loosened and the whole device can be slid up or down upon picker stick, and it may be clamped in any position by tightening bolt 8. In so shifting the positions of the parts, the band 1 may be moved up or down, the back piece 2 may be moved up, or down or both may be moved together as desired. In this way more or less power is given to the blows of the picker stick and picker, and the elasticity of back piece 2 may be increased or diminished.

The advantage of the construction shown is, that

by loosening bolt 8 and separating the legs of strap 5, brace 7 may be withdrawn and strap 5 may be readily removed and attached to a new picker stick.

The back piece 2 consists of a strip of springy wood of a size at the bottom to slide through band 1, when bolt 8 is loosened. The top of back piece 2 is extended into a tongue 10 which fits into a suitable mortise in head 3. The latter, and tongue 10, are held together by a pin 11. A shoulder 12 on back piece 2 helps to make the union firm.

The head 3 is of fibre, and is pivoted by a metal stud 13, to the metal straps 4, which are pivoted at their other end to the sweep stick *S* by a stud 14. On the face of head 3, which is next to the picker stick is fastened a sheet of leather 15, as that is the part which receives the weight of the blow. Since head 3 is made of fibre, and stud 13 of metal, no oil is needed to lubricate the bearing and the wear is reduced to a minimum.



THE OPERATION OF THE NEW ATTACHMENT IS AS FOLLOWS:—Starting with the picker stick at rest, at the required time, the picker stick is driven forward by the action of sweep arm and sweep stick *S*, acting through straps 4 and head 3. The action of the spring in back piece 2, keeps head 3 pressed close against picker stick, so that there is no lost motion. After the blow is delivered, the foot strap throws picker stick back, carrying with it in close contact the head 3 and thereby sweep stick and sweep arm. When the top of the picker stick strikes its buffer or check, the momentum acquired carries along the sweep arm and sweep stick, thereby forcing back, head 3 and back piece 2, as shown by the dotted lines in Fig. A. When the momentum of these parts is exhausted, by working against the spring of back piece 2, the spring of said back piece brings head 3 back into contact with the picker stick and keeps it there so that there will be no lost motion upon the next forward stroke. The action between picker stick and back piece 2 is such that as picker stick is held firmly in one place by its pivot, foot strap and its puffer, all three not shown, but of usual construction, the back piece 2 will always bring head 3 up to

the picker stick, which brings sweep stick *S* and its sweep arm back to just the same place, for every stroke. At the same time spring 2 will take up the force of the blow, which is usually given to the picker stick by the end of sweep stick *S* on the back stroke.

CLAIM. The inventor of the new attachment, Mr. H. E. Taplin, claims that the action of the picker stick is smooth and positive, which saves much wear on the parts, more especially on the picker and the free end of the picker stick which strikes the picker. Again, that since the position of head 3 can be adjusted on the picker stick to a small fraction of an inch, it is not necessary to weaken the picker stick by adjustment holes for the power strap. Another claim is that since none of the parts are of leather or other pliant material, they cannot stretch or get out of place.