L. M. BOWES.

LOOM PICKER.

APPLICATION FILED JAN. 15, 1908.

907,961. Patented Dec. 29, 1908.

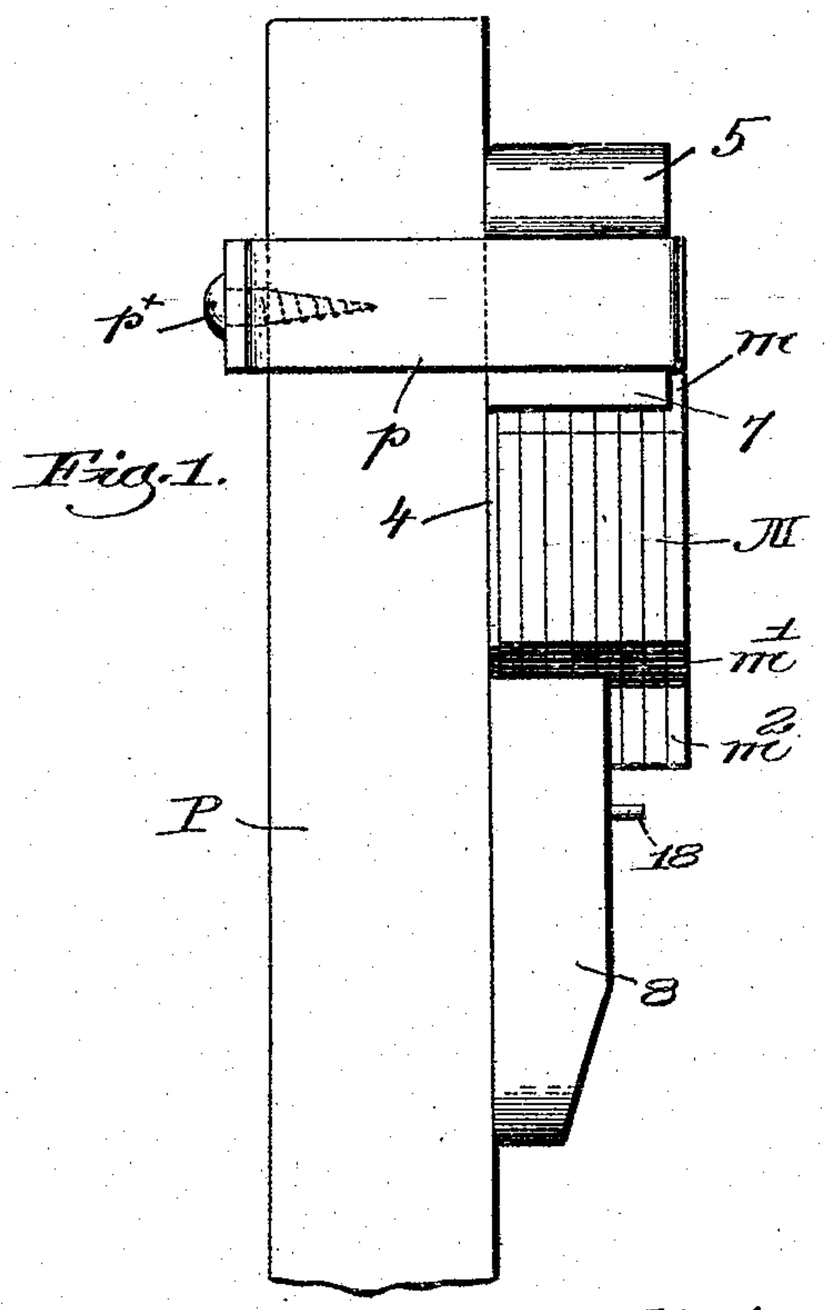

Fig. 1.

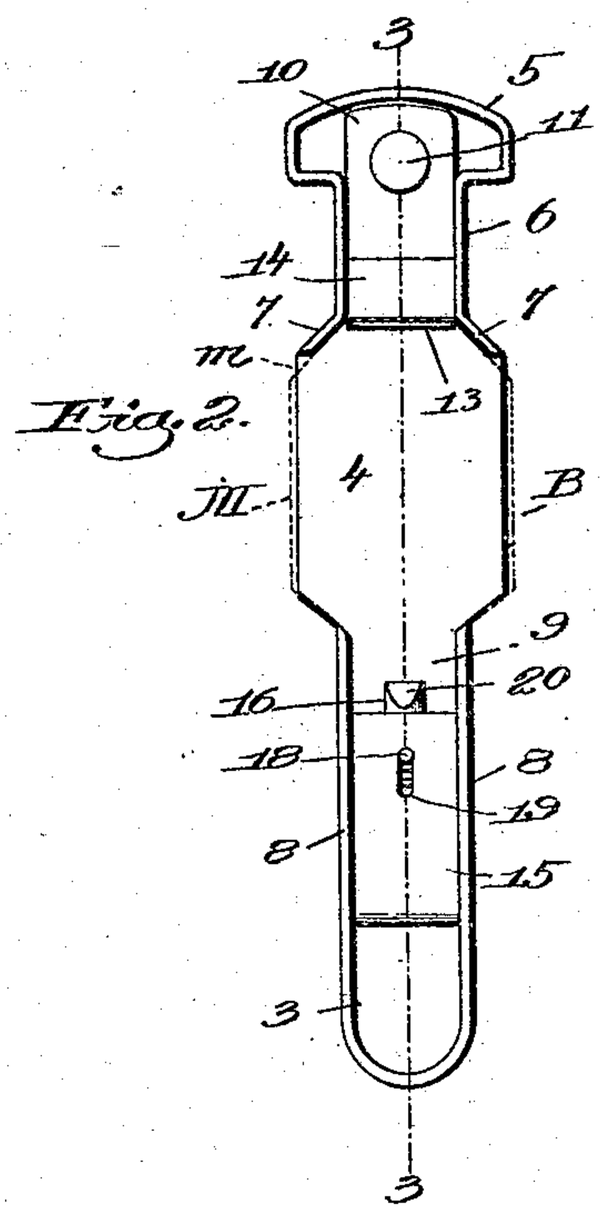

Fig. 2.

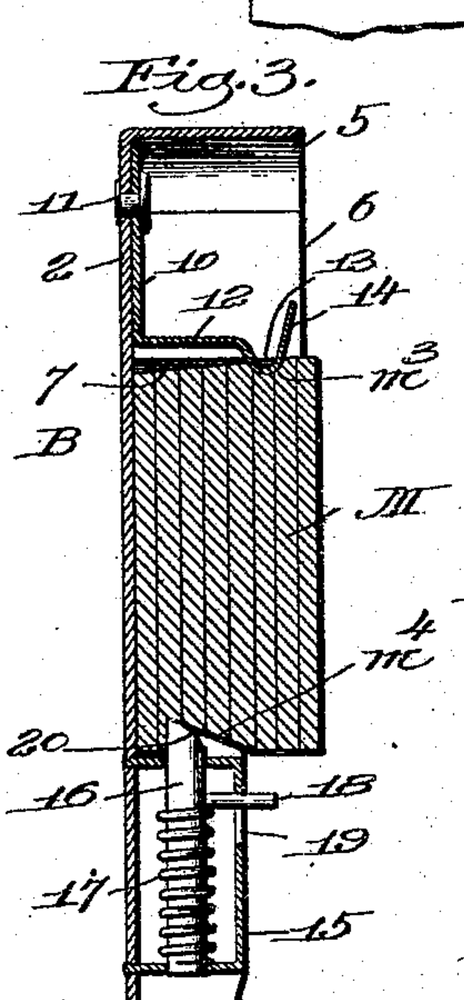

Fig. 3.

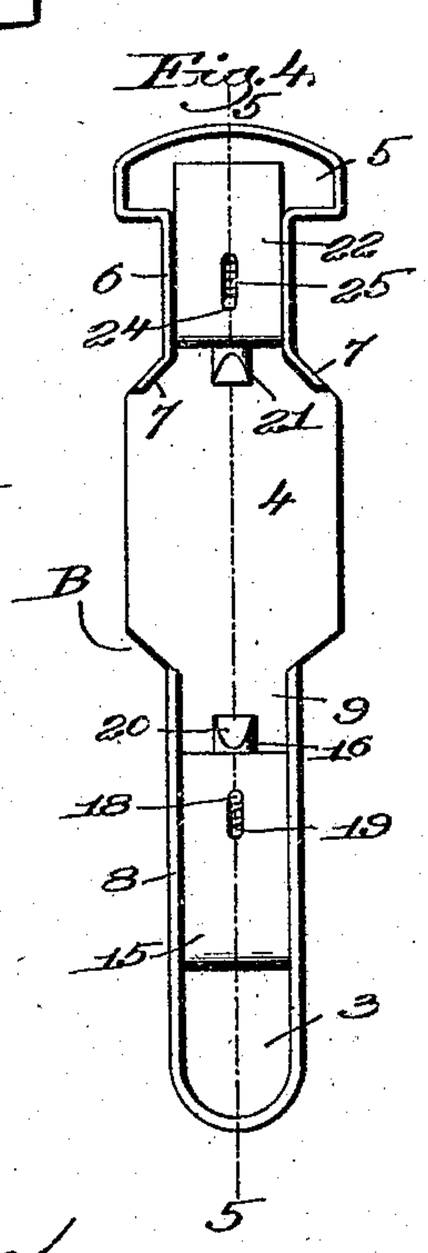

Fig. 4.

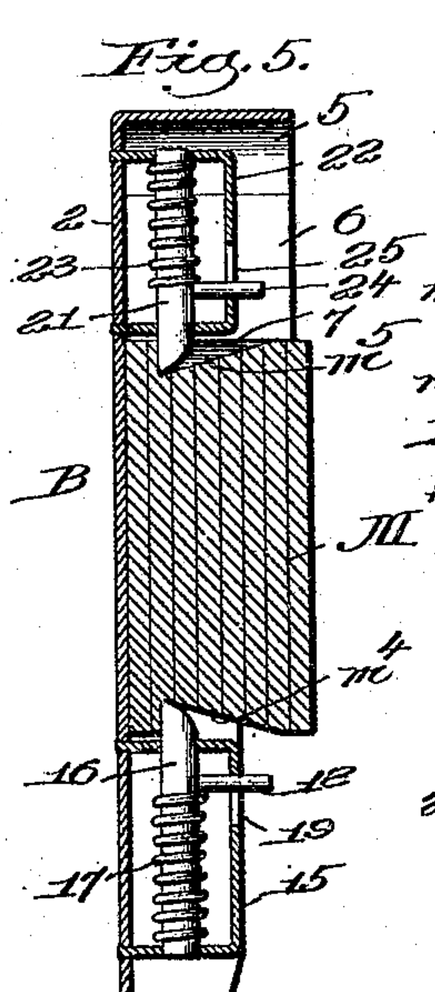

Fig. 5.

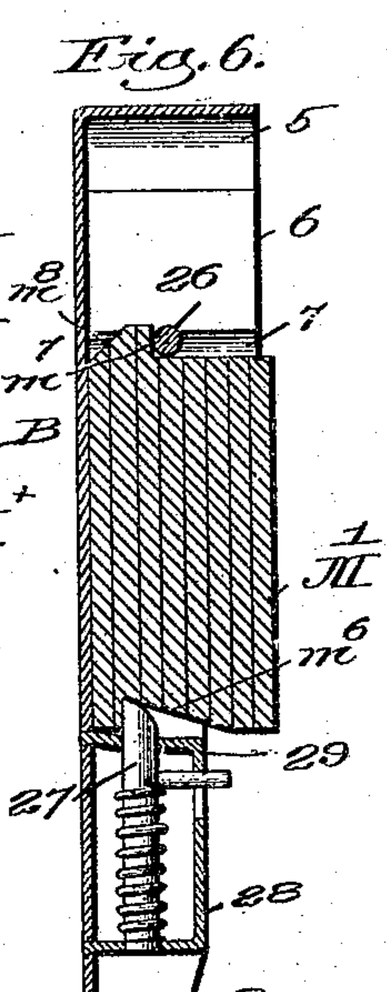

Fig. 6.

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UNITED STATES PATENT OFFICE.

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LOOM-PICKER.

No. 907,961. Specification of Letters Patent. Patented Dec. 29, 1908.

Application filed January 15, 1908. Serial No. 410,876.

To all whom it may concern:

Be it known that I, LOUIS M. BOWES, a subject of the King of Great Britain, and resident of Winthrop, county of Suffolk, and State of Massachusetts, have invented an Improvement in Loom-Pickers, of which the following description, in connection with the accompanying drawing, is a specification, like letters on the drawing representing like parts.

This invention relates to pickers for use in looms for weaving, and it has for its object the production of a picker so constructed that the impact member, which engages the tip of the shuttle, can be easily and quickly renewed from time to time as it becomes worn, and whereby the maintenance cost due to the employment of the expensive leather pickers now in very extended use may be very greatly reduced.

The leather picker now in general use is made of strips or plies of heavy leather of high grade, cemented and compressed together to form an elongated block, having an enlarged impact portion and suitably shaped to be held in place on the picker-stick by a loop or band. When the enlarged impact portion of such a picker becomes worn the picker must be discarded, and as such wear is relatively rapid the item for pickers in a good sized weaving mill is high, due to the high cost of the leather used in the manufacture of the picker.

In my present invention the picker comprises a supporting or holding member, preferably made of sheet metal and adapted to be permanently attached to the picker-stick, and an impact member of about the size of the impact portion of the usual leather picker, held seated on the supporting member by simple and efficient automatically acting locking means.

The impact member, by reason of its reduced dimensions, can be made of scrap leather of a thoroughly suitable grade, but at a very small cost, and when one impact member becomes too much worn for further use it can be instantly removed from the supporting member and a new one substituted.

By making the supporting members of metal they can be made at a small cost initially and their life is practically unlimited, as they are not subjected to wear, and after the initial attachment of a pair to the picker-sticks of a loom they are not removed therefrom except for breakage of the stick or accidental injury to the member itself, new impact members being inserted as required.

I prefer to make the impact member of superposed plies of the scrap leather, cemented together and compressed, to form a stiff and sufficiently hard block to resist the constant blows of the point or tip of the shuttle, the block being shaped to seat upon the supporting member or casing and be engaged by locking means thereon.

The various novel features of my invention will be fully described in the subjoined specification and particularly pointed out in the following claims.

Figure 1 is a side elevation of a loom-picker embodying one form of my invention, showing the supporting member attached to the picker-stick of a loom and with the impact member in its operative position. Fig. 2 is a front elevation of the supporting member or casing, the impact member being indicated only by dotted lines; Fig. 3 is a longitudinal section of the picker taken on the line 3—3, Fig. 2, but showing the impact member locked in position; Fig. 4 is a view similar to Fig. 2, but showing a modified form of locking means for the impact member; Fig. 5 is a longitudinal section on the line 5—5, Fig. 4, with the impact member locked in position; Fig. 6 is a longitudinal sectional view similar to Fig. 5, but illustrating a modification of the locking means.

In carrying out my invention I take suitable sheet metal, such as mild steel, and subject the same to the action of suitable dies to form a supporting member or casing presenting an elongated, flat body B, narrow at its upper and lower ends, as at 2, 3, and broadened between such narrow portions at 4, Figs. 2 and 4, to constitute thereat the bottom of a pocket. The edge of the part 2 is upturned to form a flange shaped to present a laterally extended head 5, and a narrow neck 6, the ends of the flange at the base thereof being made to diverge at 7, to constitute a guide forming the upper end of the pocket. A flange is formed on the sides and lower end of the part 3 of the body, as at 8, to provide an elongated socket 9 open at its upper end and constituting thereat a guide for the lower portion of the impact member, as will be described.

Referring to Fig. 1 it will be seen that the flat body B of the supporting member or casing rests squarely upon the inner face of the picker-stick P, being permanently attached thereto by a loop or strap p secured in any suitable manner, as by a screw $p^{\times}$, to the picker-stick and embracing the neck 6 between the head 5 and the guide 7, 7. The laterally enlarged head rests upon the upper edge of the loop p and prevents downward displacement of the casing, while the divergent portions 7 of the flange prevent any lifting thereof. In the open pocket formed by the guides and the part 4 of the body B I insert the impact member M, preferably formed of superposed plies of leather cemented together and compressed, the upper end of the said member being beveled at m to fit into and against the guide 7, 7 and its lower end being also beveled, as at m', Fig. 1, and prolonged to form a tail m^2 which enters the guide formed by the upper end of the socket 9. By so shaping the impact member it can be inserted in the pocket of the casing by a direct movement, without interfering with the holding strap p, as will be manifest from an inspection of Fig. 1.

In order to retain the impact member seated in place I have provided locking means which automatically engage said member when inserted in the pocket, the guides laterally positioning the impact member on the casing. Referring to Figs. 2 and 3 I have shown a leaf-spring 10 seated within the head and neck and secured by a rivet 11, the lower end of the spring being upturned at 12 and provided with a downward bend 13, the free end of the spring being upwardly inclined, at 14, the bend 13 being the only part of the spring exposed below the strap p when the casing is attached to the picker stick. A transverse notch m^3 is made in the upper end of the impact member M, see Fig. 3, into which the bend 13 snaps when said member is inserted in the pocket, the inclined part 14 of the spring being engaged by the impact member as it is inserted, to flex the spring readily at such time. Between the parallel sides of the flange 8 I insert and secure a housing 15 in the socket 9, to support a longitudinally movable latch 16, controlled by a spring 17 and having a short pin 18 extended through a slot 19 in the top of the housing. The pin limits longitudinal movement of the latch, prevents rotation thereof, and affords means whereby said latch may be retracted to release the impact member. The upper end of the latch is beveled at 20, and projects into the upper end of the socket 9, to engage and enter a transverse notch m^4 in the lower end of the tail m^2 of the impact member, the bottom of the tail striking the beveled end of the latch to retract it when the impact member is inserted in the casing, as will be obvious.

To insert the member M it is grasped by the fingers of the operator and pushed directly into the pocket, the locking devices yielding or being retracted momentarily until the bend 13 snaps into the notch m^3 and the latch 16 snaps into the notch m^4, securely locking the impact member in place. The locking means engage said member below its impact surface or face, as will be seen from an inspection of Fig. 3, and well out of the way of the striking point of the shuttle at any time, so that the impact member can be worn as deeply as desired without interference with the locking means. To remove the impact member the spring-latch 16 is retracted by means of the pin 18, and the impact member can then be withdrawn by a straight outward pull, the end 12 of the leaf-spring 10 yielding for the purpose. The insertion or removal of the impact member is but the work of a moment, so that there is practically no loss of production on the loom by so doing.

As shown in Figs. 1 and 3 the flange forming the head and neck of the casing is of greater depth than the flange 8 at the foot, in order to give greater strength and stiffness where needed, at the point of attachment to the picker-stick and at the upper part of the impact member.

In Figs. 4 and 5 the spring-latch 16 and its housing in the foot of the casing is the same as shown in Figs. 1 to 3, the casing itself being precisely the same, but instead of the upper locking device I have provided a second spring-latch, 21, mounted in a housing 22 secured in the neck 6 and provided with a spring 23, the latch also having a pin 24 extended through a slot 25 in the housing. The only change required in the impact member $M^{\times}$ is the location and shape of the notch m^5 in its upper end, to properly coöperate with the end of the latch 21 which normally projects into the space between the guide portions 7 of the flange forming the neck.

To remove the impact member both latches 16 and 21 are retracted by means of their pins 18 and 24, and the impact member $M^{\times}$ is thereby released and can be lifted out, the insertion of said member being effected by pushing it into place, the latches retracting until the notches m^4 and m^5 are brought opposite their beveled ends.

In Fig. 6 I have shown another modification of the locking means, a transverse fixed abutment, shown as a cross-bar 26 is extended across the casing at the base of the neck, and a spring-latch 27, such as before described, is mounted in the socket 9 at the foot of the casing. The housing 28 has its upper end 29 concaved on an arc having the abutment 26 as its center, the lower end of the impact member M′ having a transverse notch m^6 to receive the latch. At its upper end the member M′ is cut away to leave a

transverse shoulder m^7 which extends under the abutment, as shown, the adjacent corner of the impact member being cut away at m^8.

To insert the member M' it is tipped to insert the shoulder m^7 under the abutment and then swung down about the abutment as a center, until the latch 27 snaps into the notch m^6, the concaved end 29 of the housing permitting such swinging movement. When removing the impact member the reverse movement is effected after the latch has been retracted.

The construction of the casing B is the same in all the different cases, wherein the locking means is modified, and the ready removal and insertion of the impact member, and its secure locking in place is provided for irrespective of the variations in the locking devices.

My invention is not restricted to the precise construction and arrangement herein shown and described, as the same may be modified or varied in different particulars by those skilled in the art without departing from the spirit and scope of my invention as set forth in the following claims.

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

1. A loom-picker comprising a metallic casing having a laterally enlarged head and a pocket below the head, a non-metallic impact member removably seated in the pocket, and spring-controlled means to lock said member in the pocket.

2. A loom-picker comprising a metallic casing adapted to be attached to a picker-stick and provided with a pocket, a removable non-metallic impact member, and means mounted on the casing to automatically lock said member seated in the pocket when inserted therein.

3. A loom-picker comprising a metallic casing adapted to be attached to a picker-stick and provided with a pocket, a removable non-metallic impact member, and locking devices at the upper and lower ends of the pocket to automatically engage adjacent portions of the impact member and hold the same seated in the pocket.

4. A loom-picker comprising a metallic casing adapted to be attached to a picker-stick, an impact member adapted to be applied to or removed from the casing while the latter is in its operative position, and manually released means on the casing to automatically lock the impact member in position when applied to the casing.

5. A loom-picker comprising a metallic support adapted to be permanently attached to a picker-stick, a non-metallic impact member, and spring-controlled means on the support to engage and lock said member thereto.

6. A loom-picker comprising a metallic support adapted to be permanently attached to a picker-stick, oppositely located guides thereon, a non-metallic impact member adapted to seat upon the support between the guides, and automatically acting, manually retracted locking means on the support to engage and normally retain the impact member in operative position between the guides.

7. A loom-picker comprising a metallic support adapted to be permanently attached to a picker-stick, oppositely located guides thereon, a non-metallic impact member adapted to seat upon the support between the guides, and means, including a manually retracted spring latch, to engage the impact member and normally retain it seated upon the support between said guides.

8. A loom-picker comprising a sheet-metal casing having an elongated, flat body and upturned flanges thereon to form a neck and a foot, the flanges diverging at the base of the neck, a non-metallic impact member shaped to enter between the divergent portions of the neck flanges and the upper ends of the flanges forming the foot, and locking means to detachably engage the upper and lower ends of the impact member and normally retain it seated upon the casing.

9. A loom-picker comprising a sheet-metal casing having an elongated, flat body and upturned flanges thereon to form a neck and a foot, the flanges diverging at the base of the neck, a non-metallic impact member shaped to enter between the divergent portions of the neck flanges and the upper ends of the flanges forming the foot, and locking devices located at the base of the neck and upper end of the foot, respectively, to engage and hold the impact member in place, one of said devices being spring-actuated and adapted to be retracted manually to release the impact member.

10. In a loom-picker, a sheet-metal casing having an elongated flat body adapted to rest upon and be attached to a picker-stick, upturned flanges on the body presenting a guide having divergent sides and an opposite guide having parallel sides, to receive between them and operatively position an impact member, and locking devices carried by the casing and located between the sides of the two guides.

11. In a loom-picker, a sheet-metal casing having an elongated flat body to rest upon the picker-stick, upturned flanges at the upper end of the body forming a laterally enlarged head, and a neck to receive and position an attaching loop, the flanges at the base of the neck diverging to form a guide, a flange upturned around the lower end of the body to form a socket having parallel sides, a longitudinally movable spring-latch in the socket adjacent its open upper end, and a coöperating locking member between the divergent flanges forming said guide.

12. A loom-picker comprising a sheet-metal casing having a flat body and flanged to present a head and a narrow, loop-engaging neck at its upper end and an elongated socket at its lower end, leaving an open-sided pocket between the base of the neck and the upper end of the socket, an impact member formed of superposed and connected plies of non-metallic material to seat in the pocket, the upper and lower ends of said member being shaped to enter the base of the neck and the upper end of the socket, to position said member on the casing, and locking means to engage the upper and lower ends of the impact member and normally retain it seated in the pocket.

13. A loom-picker comprising a metallic member adapted to be secured to a picker-stick and having opposite upper and lower guides thereon, a detachable impact member transversely notched at its ends and adapted to be seated between the guides and positioned thereby, and manually released locking means on said metallic member to normally enter the notches in and retain the impact member seated.

14. A loom-picker comprising a metallic member adapted to be secured to a picker-stick and having opposite upper and lower guides fixed thereon, a detachable impact member adapted to be seated between the guides and positioned thereby, and yielding locking means to normally engage and retain the impact member seated.

15. A loom-picker comprising a metallic supporting member adapted to be secured to a picker-stick and having opposite upper and lower guides fixed thereon, a detachable impact member adapted to be seated between the guides and positioned thereby, and locking means on the supporting member, including a device to engage one end and a spring-latch to engage the other end of the impact member, to normally lock it upon the metallic member.

16. A loom-picker comprising a supporting member adapted to be permanently attached to a picker-stick, an impact member composed of superposed and united plies of non-metallic material, means on the supporting member to laterally position the impact member thereon, and locking means on the supporting member to engage the impact member back of its face and lock it upon the supporting member.

17. A loom-picker comprising a supporting member adapted to be permanently attached to a picker-stick, an impact member composed of superposed plies of leather compressed and cemented together and transversely notched at its ends, positioning means on the supporting member, and locking devices on the latter to enter the notches and lock the impact member in place between the positioning means, one of said locking devices being spring-actuated.

18. A loom-picker comprising a sheet-metal member having an elongated, flat body widened near its upper end to form the bottom of a pocket, upright guides on the body at the upper and lower ends of the widened portion, forming therewith an open-sided body, a block-like impact member adapted to be seated in such pocket, and means on the metallic member to automatically engage and hold the impact member in the pocket when inserted therein.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

LOUIS M. BOWES

Witnesses:

GEORGE P. WILDER

JOHN C. EDWARDS.