

M. H. MALONEY.
PICKING MECHANISM FOR LOOMS.
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1,136,824.

Patented Apr. 20, 1915.

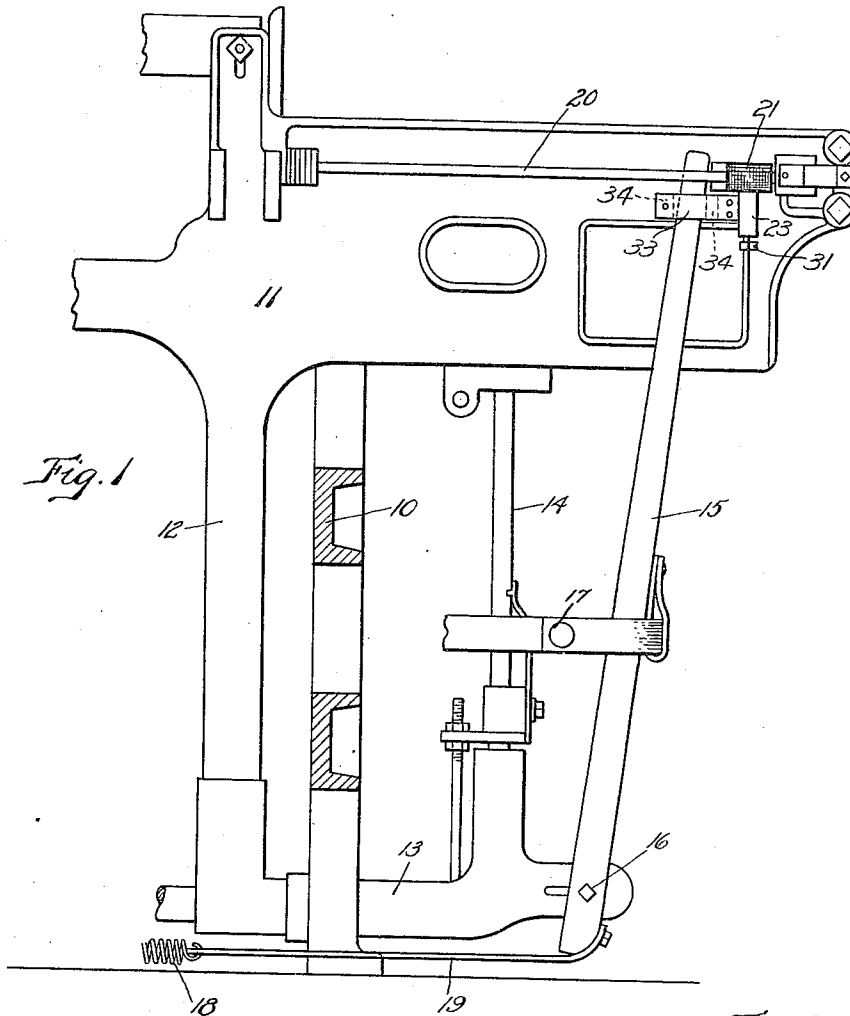


Fig. 2

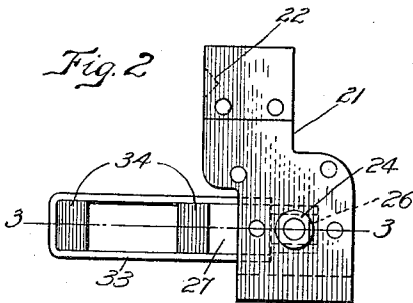
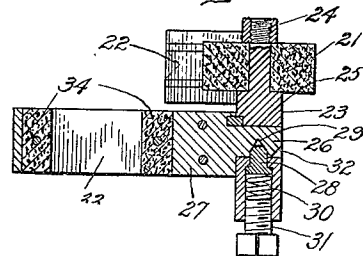


Fig. 3



Witnesses:

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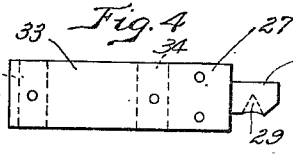


Fig. 4

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UNITED STATES PATENT OFFICE.

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PICKING MECHANISM FOR LOOMS.

1,136,824.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, MICHAEL H. MALONEY, a citizen of the United States, and resident of Plymouth, county of Plymouth, Commonwealth of Massachusetts, have invented an Improvement in Picking Mechanisms for Looms, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts in each of the several views.

This invention relates to mechanism for controlling the movement of a picker in a loom as it reciprocates on the picker spindle, such reciprocation being usually and as herein suggested, in its forward direction, a rapid power actuated one, and its return movement being spring actuated.

One prime object of the invention is to provide improved means whereby when from any cause the picker is obstructed or unduly retarded in its forward movement, the power actuating devices acting on the picker stick may disconnect it from the picker, the disconnecting provision being in the nature of a releasable connection, the parts of which are adapted to separate upon undue strain and to be quickly and conveniently re-connected.

In accordance with my invention this disconnecting means is preferably of a nature so as to permit a very slight yield normally, attaining a sort of cushion action or elastic pull whereby liability of crystallization of the parts which would result in time from the rapid vibration with an absolute unyielding pull, is avoided.

A further object is to provide improved means whereby a proper and reliable connection between the picker stick and the picker is provided of a character that at once eliminates the lost motion heretofore present in types where strap connections are employed, and also avoids the damage to the picker which has heretofore resulted from the hammering, wearing action against the same where the picker stick or some other positively acting member engages directly therewith.

The above and other objects and features of the invention will be better understood from the following detailed description taken in connection with the accompanying drawings and will be thereafter pointed out in the appended claims.

Referring to the drawings: Figure 1 is a

side elevation of a part of a loom showing my invention embodied therein; Fig. 2 is an enlarged plan view showing my improved picker and strap separably connected therewith; Fig. 3 is a sectional view on line 3-3 of Fig. 2; and Fig. 4 is an elevation showing the picker strap detached.

A side frame of a loom is indicated at 10, the usual lay at 11, the lay-sword at 12, and the rocker-iron secured on the lay-sword shaft and guiding the rod 14 which supports the shuttle-boxes, at 13. A picker stick is indicated at 15 adjustably fulcrumed at 16 to an extension on the rocker iron 13. This stick receives operative movement from a link 17 connected with a usual or suitable mechanism (not shown) for quickly pulling the stick or lever 15 over on its operative stroke, *i. e.*, to the left as shown and then releasing it and permitting it to be returned by suitable means shown as a spring 18 secured at one end to a suitable fixed anchor and connected with an extension 15 beyond its fulcrum by means of a strap 19.

The picker spindle is indicated at 20 suitably mounted at the front of the shuttle box and has slidably fitted thereon a picker member 21. This picker may be of usual or known type made of rawhide or like durable and wear-resisting but not too hard material with a shuttle engaging projection 22.

In accordance with my invention the metallic operating pin or post 23 which is passed transversely through the picker and clamped thereto as by a nut 24, has a transverse hole 25 parallel with the extension 22 in which is fitted a reduced shank 26 of a picker strap 27. The picker strap shank 26 which fits the hole 25 is yieldingly held therein by a spring pressed detent 28 with a conical end engaging a conical recess 29 in the side of the shank.

The detent 28 is slidably fitted to a bore in the end of the pin or post 23 with a head to prevent its slipping out and the tension of the spring 30 which presses it forward is regulated by a screw plug 31 threaded into the end of the bore. The end of the shank 26 may be beveled off slightly as seen at 32 adjacent the recess 29 to facilitate insertion of the shank in its receiving hole.

The strap 27 which has its body portion of metal, has at the ends of its elongated picker stick receiving slot 33, blocks or pads 34 preferably of rawhide. The length of

the slot 33 is such and the rawhide blocks 34 are so spaced apart so that while the upper end of the picker stick 15 has ample clearance for swinging movement therein, there is little or no play of the stick in said slot wherefrom it results that a steady pressure is exerted on the blocks and on the picker in both directions with no noticeable or injurious hammer blow.

By virtue of this construction it will be understood that whenever the picker meets any obstruction that unduly impedes its movement on the operative stroke, the picker stick will merely pull out the strap 27, the detent 28 yielding for this purpose and then said strap will slide along down the picker stick and rest on the link 17 in convenient position for lifting up and reinserting by the operator. It will be further noted that the engagement of the strap 27 with the picker being through the yielding conical detent 28, there is normally a very slight yield giving the effect of an elastic pull on the picker which is important in that while this yielding is not enough to effect the operation, it is enough to prevent the crystallization of material that would otherwise be apt to result from the rapid operation of the parts with positive absolutely unyielding operating connections. It will be noted that the provision of the picker lever receiving slot 33 with the rawhide blocks 34 provides wear-resisting, impact-deadening, engaging surfaces on the picker, that at the same time are not subject to great wear since there is relatively little impact or hammering thereon and these blocks or straps 34 can be quickly and cheaply renewed, whereas with prior constructions where the swinging stick engaged the picker at each movement, the picker is soon worn and becomes unserviceable in a relatively short period.

In accordance with my invention with the picker strap extending beneath the picker proper and with the picker stick engaging therewith as shown, a stronger leverage is obtained putting less strain on the picker stick and making the parts more quickly responsive and reliable in action. My improved construction is also relatively simple and compact, the same swinging stick serving for moving the picker forward and re-

turning it with the elimination of flexible straps and a plurality of sticks as has heretofore been usual.

I am aware that the invention can be embodied in other specific forms without departing from the spirit of the invention and I therefore desire the present embodiment to be considered as illustrative and not restrictive, referring rather to the appended claims to indicate the scope of the invention.

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

1. A picker mechanism, comprising a spindle, a picker slidably fitted thereto, positive operating means therefor, and a connection between said operating means and said picker formed for releasing disengagement under excess operating strain, and for convenient manual reassembly.

2. A picker mechanism, comprising a spindle, a picker slidably fitted thereto, positive operating means therefor, and a member connecting said operating means with said picker having connection with the picker by means of a yielding detent adapted to permit disconnection of said member, and convenient reassembly of said member with the picker.

3. A picker mechanism, comprising a spindle, a picker slidably fitted thereto, positive operating means therefor, a member connecting said operating means with said picker, and means for connecting said picker and said member yieldingly together consisting in a spring pressed conical detent in one of said members engaging correspondingly formed recess in the other.

4. A picker mechanism, comprising a spindle, a picker slidably fitted thereto having a depending post, a strap extending horizontally from said post below the picker having yieldingly disengageable connection therewith, and a picker stick arm engageable with said strap for actuating the picker.

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

MICHAEL H. MALONEY.

Witnesses:

CLYDE L. ROGERS,

FRED B. THOMPSON.