No. 742,695. PATENTED OCT. 27, 1903.

H. W. MARCY.

PICKER STICK SAFETY FASTENER FOR LOOMS.

APPLICATION FILED JUNE 10, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

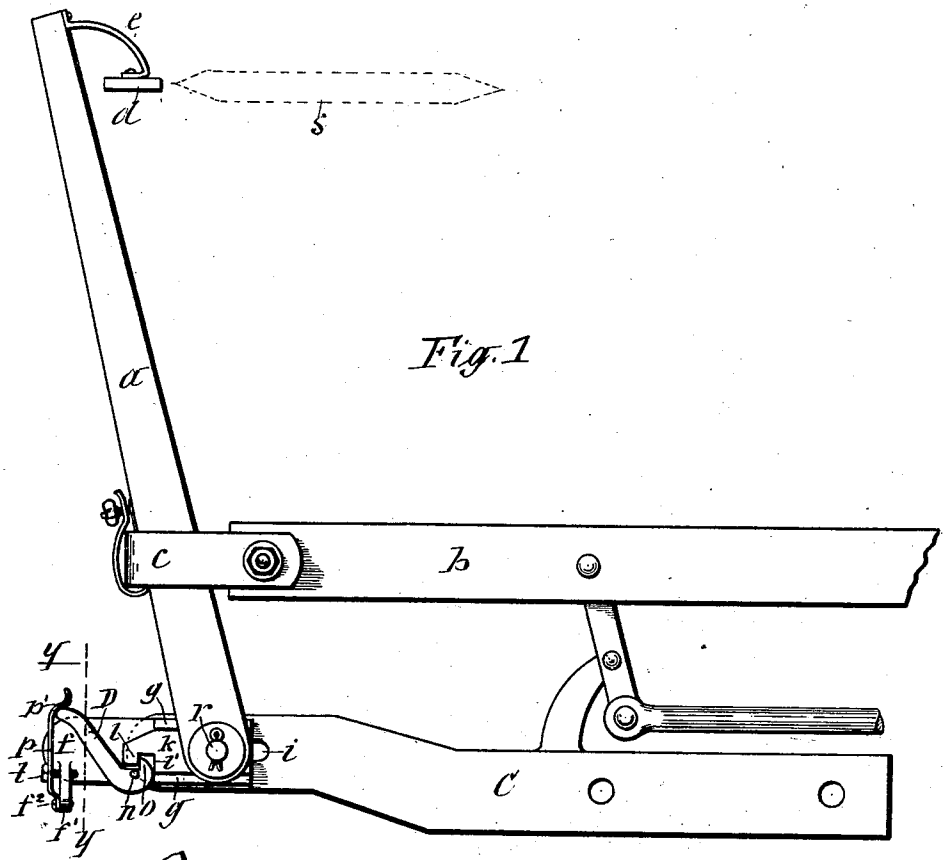


Fig. 1

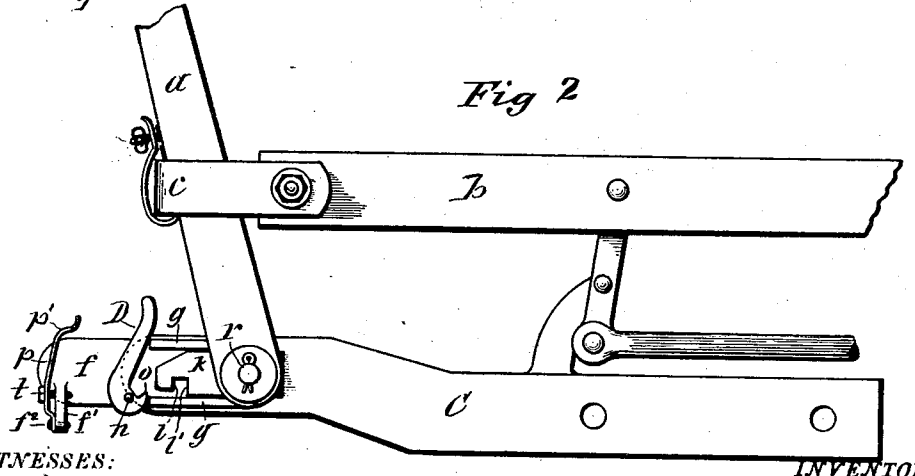


Fig 2

WITNESSES:

J. J. Laass.

W. H. Meier Jr.

INVENTOR

Henry W. Marcy

By E. Laass

ATTORNEY.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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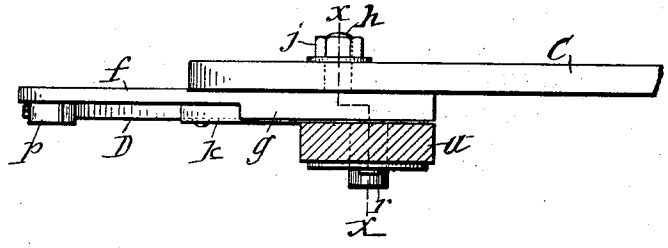
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Fig. 3



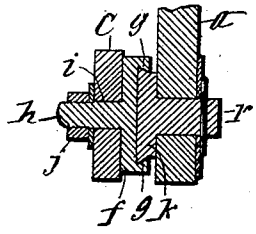


Fig. 4

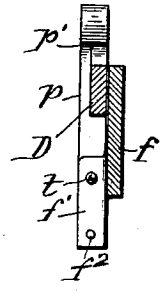


Fig. 5

WITNESSES:

J. J. Laasz

H. H. Meier Jr.

INVENTOR

Henry W. Marcy

By E. Laasz

ATTORNEY.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 742,695. Patented October 27, 1903.

UNITED STATES PATENT OFFICE.

HENRY W. MARCY, OF UTICA, NEW YORK.

PICKER-STICK SAFETY-FASTENER FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 742,695, dated October 27, 1903.

Application filed June 10, 1903. Serial No. 160,849. (No model.)

To all whom it may concern:

Be it known that I, HENRY W. MARCY, a citizen of the United States, and a resident of Utica, in the county of Oneida, in the State of New York, have invented new and useful Improvements in Picker-Stick Safety-Fasteners for Looms, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to the so-called "picker-stick" which is employed mechanically on looms for the purpose of casting the shuttle across the warp.

In practical experience in the operation of looms it has been found that the aforesaid picker-stick is liable to be broken and rendered inoperative by the picker getting caught through the defective working of the box-motion and other causes. Said accident to the picker-stick usually produces serious results, in that it prevents the forward motion of the upper or free end of the picker-stick, by which motion the shuttle is thrown across the warp. The disabled picker-stick is also liable to break the sweep-arm, the drop-box, box-jacks, and box-chain, and to slip the time-gear, all of which parts are well understood by persons familiar with the operation of looms. The aforesaid accident to the picker-stick also causes the shuttle to be smashed or a portion of the warp to be torn out owing to the collision of two shuttles on the race and its preventing the box from dropping to its required position.

The object of this invention is to prevent the aforesaid accidents; and to that end the invention consists in the novel construction of the picker-stick safety-fastener hereinafter described.

In the accompanying drawings, Figure 1 is a side view of a picker-stick safety-fastener embodying my invention. Fig. 2 is a side view showing the said safety-fastener in the position which prevents the hereinbefore-mentioned accident to the picker-stick. Fig. 3 is an enlarged top plan view of the support of the picker-stick. Fig. 4 is a transverse section on the dotted line X X in Fig. 3, and Fig. 5 is an enlarged transverse section on line Y Y in Fig. 1.

a represents the picker-stick, which is pivotally supported at its lower end and receives intermittent oscillatory motion from a reciprocating bar *b*, to which it is suitably connected at *c* in the usual and well-known manner.

d denotes the so-called "picker," usually formed of rawhide and hung on a strap *e*, attached to the upper end of the picker-stick, by the inward thrust of which the picker *d* is caused to throw the shuttle *s* across the warp.

My invention resides in the pivotal support of the picker-stick; and it consists of the following construction and combination of elements, to wit: To a stationary member C of the loom-frame is secured adjustably a supplemental member *f*, preferably by means of a screw-threaded stud *h*, passing through a horizontal slot in *i* the member C and provided with a nut *j*, which clamps the member *f* on the member C. The supplemental member *f* has projecting from it horizontal guides *g g*, which are undercut longitudinally and sustain between them a longitudinally-movable plate *k*, which has projecting from it at right angles the pin *r*, on which the picker-stick *a* is pivoted. One end of the plate *k* is formed with shoulders or abutments *l l'* for engaging the latch D, by which the said plate is controlled in its position. This latch is pivoted at one end to the supplemental frame member *f*, as shown at *n*, and is formed at said end with a projection *o*, which is shaped to enter between shoulders *l l'* and engage the same, so as to confine the plate *k* in its normal or proper operating position, as shown in Fig. 1 of the drawings. To sustain the latch in its said engagement, I employ a spring-plate *p*, which is attached at its lower end to a lug *f'*, formed on the supplemental frame member *f*, as shown at f^2. The upper end of said spring-plate is formed with an offset or catch *p'*, which engages the outer or free end of the latch D, so as to hold said latch in its aforesaid engagement with the shoulders *l l'* of the plate *k*. To accurately graduate the force of the spring-plate so as to cause it to automatically release the latch under a predetermined strain, a screw *t* is passed through a perforation in the spring-plate and inserted into a screw-threaded eye in the lug *f'*. The outer end of said screw is provided with a head which bears on the spring-plate.

The operation of the described safety-fastener of the picker-stick is as follows, to wit: The plate *k* is retained in its requisite position on the stationary member of the loom by the interlocking of the shoulders *l l'* of said plate with the projection *o* on the latch D, held in said engagement by the spring-plate *p*, as shown in Fig. 1 of the drawings. In case the picker-stick *a* is subjected to abnormal strain during its operation a correspondingly-increased inward force is exerted on the plate *k*. This force overcomes the resistance of the spring-plate *p* and causes the latch to yield to the pressure of the shoulder *l* on the projection *o*, thus releasing the plate *k* from the latch and allowing it to slide on the frame member *f* to the position shown in Fig. 2 of the drawings. This movement of the plate *k* obviates the danger of breaking the picker-stick, as hereinbefore stated.

What I claim as my invention is—

1. The combination, with a loom, of a stationary frame member, a plate mounted movably on said member, a pivot on said plate, the picker-stick mounted on said pivot, a latch connected to the stationary member and movable to and from a position to lock the movable plate in its normal position, and a spring sustaining said latch in its locking position and graduated in tension to automatically release the latch from its locking position under a predetermined strain as set forth.

2. The combination, with a loom, of a stationary frame member, a guide attached to said member, a plate sustained movably on said guide and provided with shoulders, a pivot projecting from said plate, the picker-stick mounted on said pivot, a latch pivoted to the stationary frame member and provided with a projection disposed to engage the aforesaid shoulders and thereby sustain the aforesaid movable plate in its normal position, and a spring holding the latch in its aforesaid engagement and graduated in tension to automatically release the latch under a predetermined strain as set forth.

3. The combination, with a loom, of a stationary frame member, a guide attached to said member, a plate sustained movably on said guide and formed with shoulders, a pivot projecting from said plate, the picker-stick mounted on said pivot, a latch pivoted at one end to the stationary member and formed at said end with a projection engaging the aforesaid shoulders, a spring-plate sustained at one end on the stationary member and provided at its opposite end with a catch engaging the free end of the latch, and a screw adjusting the tension of the spring-plate as set forth.

HENRY W. MARCY. [L. S.]

Witnesses:
HENRY BOWMAN,
DANIEL W. MARCY.