W. Rouse,

2. Sheets, Sheet 1.

Picker Staff for Looms.

No. 107,412. Patented Sept. 13, 1870.

Fig 1.

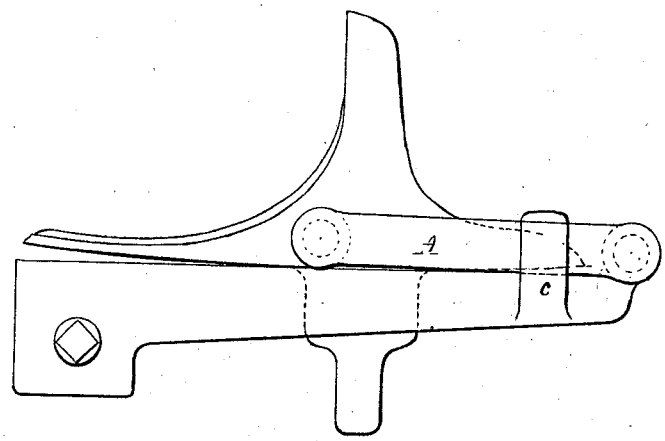


Fig 2.

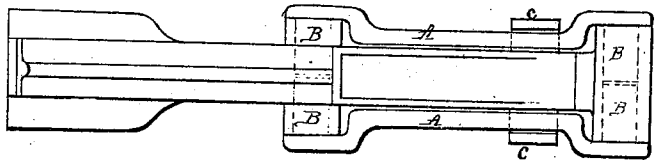


Fig 3

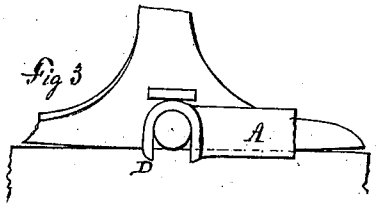
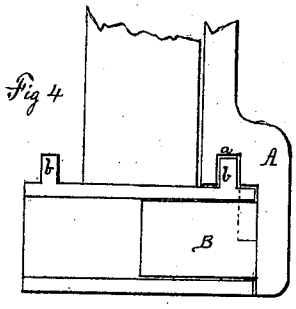


Fig 4



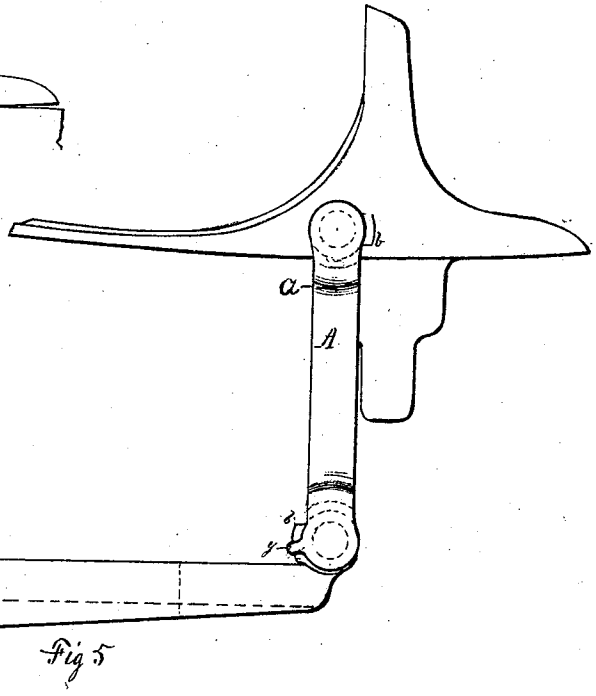


Fig 5

Witnesses.
N. B. Atherton
N. A. Tully.

Inventor.
Wanton Rouse

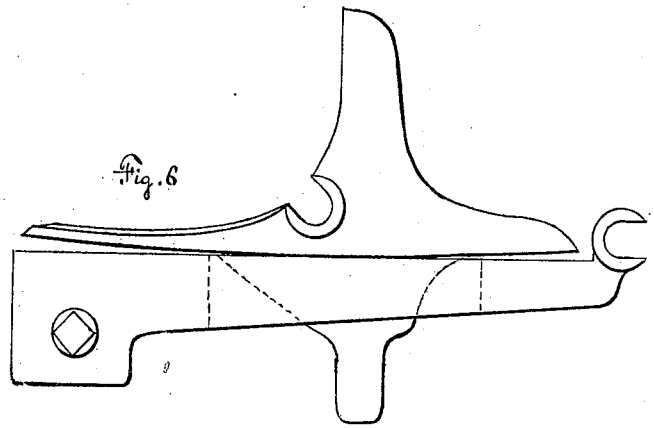
W. Rouse,

2. Sheets Sheet 2.

Picker Staff for Looms.

No. 107,412, Patented Sept. 13, 1870.

Fig. 6



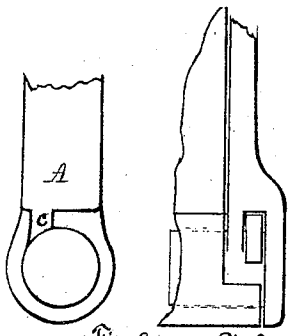


Fig. 8.

Fig. 9.

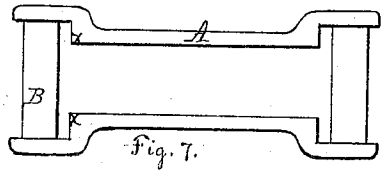


Fig. 7.

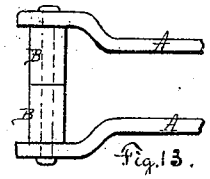


Fig. 13.

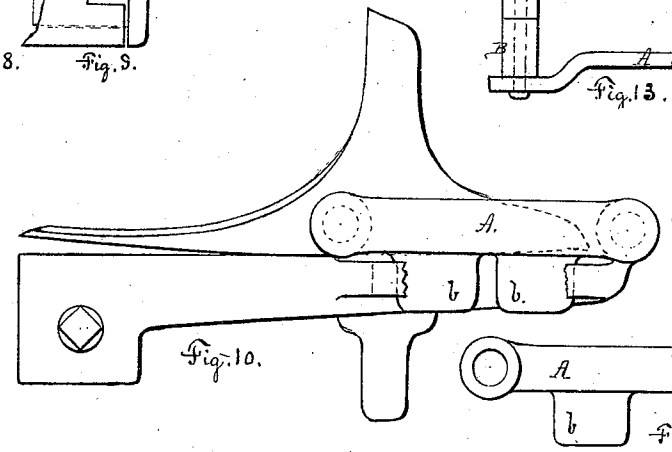


Fig. 10.

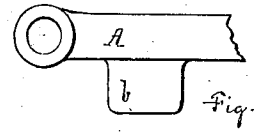
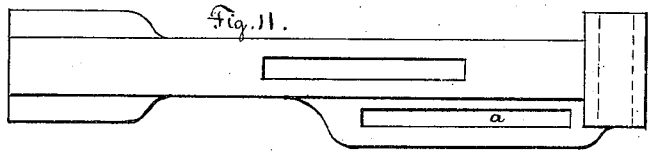


Fig. 12.

Fig. 11.



Witnesses.

A. B. Atherton

A. A. Fuller

Inventor.

Wanton Rouse

United States Patent Office.

WANTON ROUSE, OF TAUNTON, MASSACHUSETTS.

Letters Patent No. 107,412, *dated September* 13, 1870.

IMPROVEMENT IN OPERATING THE PICKER-STAFF OF LOOMS.

The Schedule referred to in these Letters Patent and making part of the same.

I, WANTON ROUSE, of Taunton, in the county of Bristol and State of Massachusetts, have invented certain Improvements in Picker-staff Motions for Looms, of which the following is a specification.

The first part of my invention relates to the combination of a connecting-arm, lying on one side of the rocker, with the rocker and bed, and a stop, so arranged that the stop will, when the mechanism is ready for use, prevent the sidewise motion of the arm necessary to draw the journals out of, or place them endwise in their boxes, and yet will allow this sidewise motion of the arm in taking the mechanism apart, or in putting it together, when the rocker is raised from the bed; and

The second part of my invention relates to the combination of the journals with their open boxes, so that the journals and their open boxes will be locked together when the mechanism is ready for use.

In the drawing—

Figures 4 and 5 are views of a picker-staff mechanism embodying my invention, and the other figures represent various modifications of the same.

In figs. 4 and 5 the connecting-arms A A have each a journal, B B, upon each end, which journals enter boxes, one in the rocker and the other in the bed, thus connecting the rocker with the bed.

There is a small slot, *a*, in each arm, so formed in relation to the stops *b* that, when the arms are in place, and the rocker rests upon the bed, the stops are within the slots; but when the rocker is lifted from the bed, as in fig. 5, these stops become disengaged from the slots.

These stops operate to prevent any sidewise movement of the arm away from the rocker when the rocker is in place upon the bed, but are so arranged in relation to the arm that, when it is raised with the rocker, as shown in fig. 5, the arm can be moved sidewise to and from the rocker, thus allowing the journals to be inserted endwise in their boxes, or the boxes to be put onto the journals in the same manner.

In figs. 4 and 5 the journals at the bed end of the arms are shown in open boxes, and these journals are locked in these boxes by means of a shoulder, *y*, which lies outside of the open box when the rocker and arm are in place, and is arranged in such relation to the journal and its open box that, when the journal is in place inside the box, the shoulder shall lie outside of the open box, and so that a portion of the box shall lie between the journal and its shoulder, so as to prevent the journal from being thrown out of the open box through the opening, while, at the same time, they can be readily inserted in and removed from their open boxes through the opening, by bringing the parts in such relation that the shoulder does not prevent it.

These figures also show a third subordinate feature of my invention, namely, a divided link for the purpose of connecting the rocker and the bed.

They also show a fourth subordinate feature, namely, making the arm of such a shape that it will of itself operate as a shoulder to lock the journals in their open boxes. These shoulders are marked X X.

The principle of the first part of my invention consists in having some portion of the connecting-arm in such relation to a stop that, when the rocker and arm are in place ready for operation, a portion of the arm will lie between the rocker and the stop; and so arranging the rocker and stop relatively to each other that the arm cannot move sidewise away from the rocker until the stop is out of the way.

It is obvious that this principle may be applied to a great number of modifications of the mechanism shown in figs. 4 and 5.

Thus I have contemplated the application of this principle as shown in Figures 1 and 2, where a portion of the connecting-arm lies between the ear or horn *c*, which projects upward from each side of the bed and the rocker; or these ears or horns may be formed upon the rocker and project downward in such manner that the connecting-arm lies between these ears or horns and the rocker.

Also, as shown in Figures 10 and 11, when the outer wall of the slot *a* forms the stop, and an ear, *b*, which is a portion of the connecting-arm, lies between that wall of the slot *a* and the bed and rocker.

Also, as shown in Figures 8 and 9, when the stop forms a part of the journal-box, and a portion of the connecting-arm, the fin *c* lies between it and the rocker. When this latter mechanism is put together, the fin *c* passes sidewise through a slot in the box, until the journal is in place, and the arm is then turned upon the journal as a center, which causes the fin *c* to enter a slot in the box at right angles to the first slot, thus locking the arm, as already explained.

It is obvious that this part of my invention is not confined to connecting-arms bearing journals, but may equally well be applied to such arms bearing boxes, as will be plain from Figures 3 and 12, both of which show connecting-arms A bearing boxes instead of journals, but held in place precisely as the arms in the other figures showing this part of my invention.

I am aware that a connecting-arm has been inserted within a long slot in the rocker and in the bed, as in Letters Patent granted to Wright, October 29, 1867, and to Rollins, March 11, 1862; also that the journals have been connected together by an arm from each end, thus forming a four-sided link, as in Letters Patent to Mason, June 2, 1868, in all of which mechanisms the connecting-arm or arms were prevented from moving sidewise when the mechanism was ready

for use, the rocker, or the bed, or both, acting as a stop; but in none of these mechanisms is it possible to insert the journals in their boxes endwise, but in all the journals are laid in their boxes sidewise, which is obvious from the fact that open boxes must necessarily be used in all these mechanisms, while in my mechanism this is a matter of choice, as the stop is so arranged with regard to the arm and rocker that the journal can always be inserted in or drawn from the box, while its axis is coincident with the axis of the box when the rocker is lifted from its place.

I disclaim, therefore, all the devices and combinations shown in any of said Letters Patent, as the principle of this part of my invention, as before explained, relates only to preventing the endwise motion of the journals in their boxes while the mechanism is in use, and at the same time allowing this endwise motion when the rocker is raised from its bed, as above described.

The principle of the second part of my invention consists in using a shoulder in such relation to the journal that a portion of the wall of the open journal-box will lie between the shoulder and journal, so that the journal will be prevented from escaping through the opening of the box when the mechanism is in use.

It is also obvious that this principle may be applied in various modified forms of mechanism. Thus, in Figures 6 and 7, the shoulder is produced by the shape of the connecting-arm, and in fig. 3 the shoulders are formed, one upon the rocker, and the other upon the bed, as the boxes are upon the connecting-arm.

A single arm may be used, as shown in figs. 10, 11, and 12, but I prefer to use two arms.

Open boxes, though they have many advantages, are liable to serious objections, and the first part of my invention is intended more especially for motions where the boxes are closed. When both boxes are open, the first part of my invention is of secondary importance, as the arms may be connected by the journals, making a common form of motion, in which the rocker and bed are connected by a link, the inside lines of which form a parallelogram.

Fig. 7 shows this link, but made in accordance with the second part of my invention.

The two connecting-arms, also, which compose this link, are each made with shoulders, lying parallel with the journal of the link, said shoulders being marked *x x*, and each in accordance with the fourth part of my invention.

The third part of my invention, the divided link, may be used without the first or second parts of my invention, as the parts of the link may be prevented from sidewise movement away from the rocker by other means than those shown; for instance, a wire may be passed through the journals, and riveted, as shown in Figure 13, or the two arms may be secured together after they are in place, in any other suitable manner.

Heretofore the width of the rocker and of the bed determined the length of the journal-boxes in all motions in which the rocker and bed were connected together, either by one or two arms, from the ends of which journals projected, and, as it is important to make both the rocker and the bed quite narrow, these boxes are never long enough to give a sufficient bearing. To remedy this difficulty I construct my rocker and bed with the journal-boxes projecting, and am thereby enabled to secure as long a bearing as may be desired without making the rocker or the bed too bulky.

I do not claim combining the rocker and bed by means of an arm or arms, nor do I claim combining them by means of a link.

What I do claim is—

1. The combination of the connecting-arm, the rocker, the bed, the stop, and the journal and its box, as above described, in order to prevent the endwise motion of the journal in its box when the rocker is in its place, and to allow this endwise motion when the rocker is raised.

2. The combination of the open box, journal, and shoulder, when constructed so that the journal will be locked in its open box, the whole combination being and operating substantially as described.

3. The divided link, constructed and operating substantially as specified, in combination with the rocker and bed.

4. The connecting-arm, when formed with a shoulder substantially parallel with the journal projecting from it, in combination with a projecting box, a portion of the walls of which lie between the journal and shoulder.

WANTON ROUSE.

Witnesses:

JAMES R. HUSBAND,

JAMES P. ELLIS.