

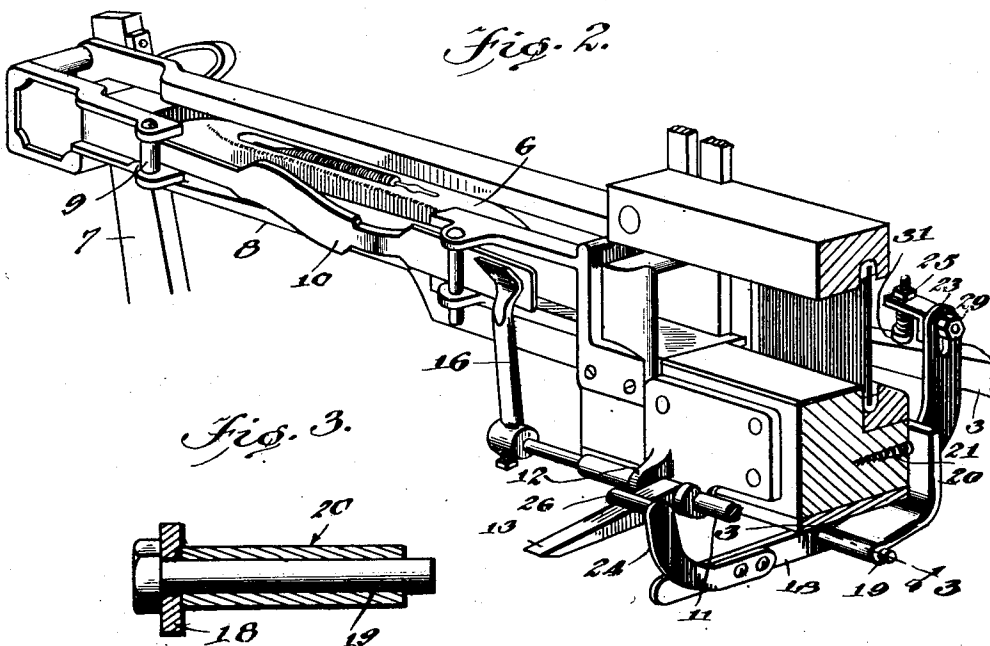
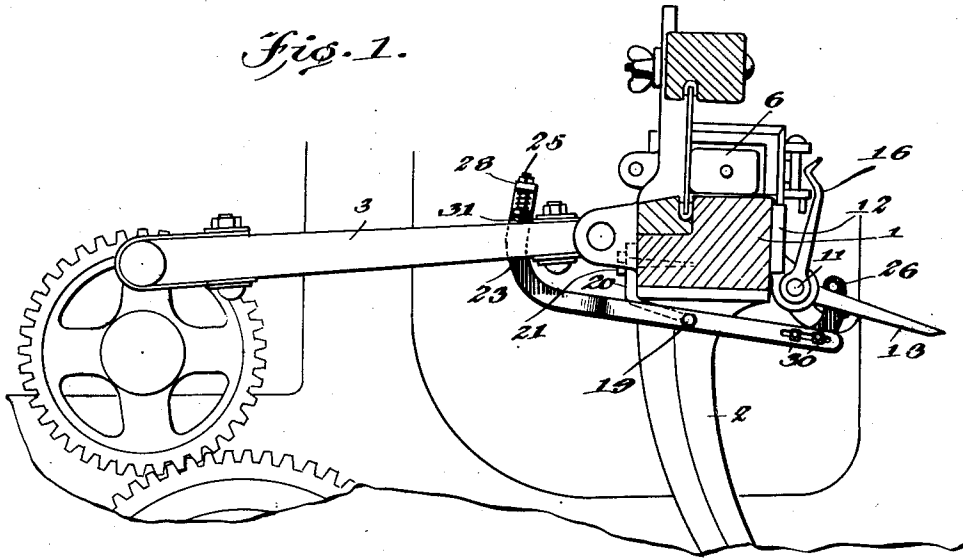
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LOOM ATTACHMENT

Filed March 30, 1925 2 Sheets-Sheet 1



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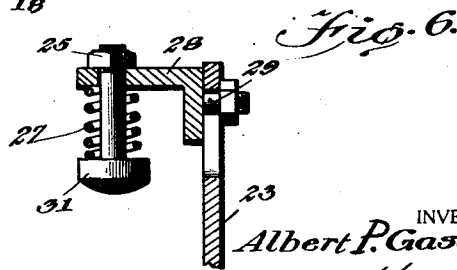
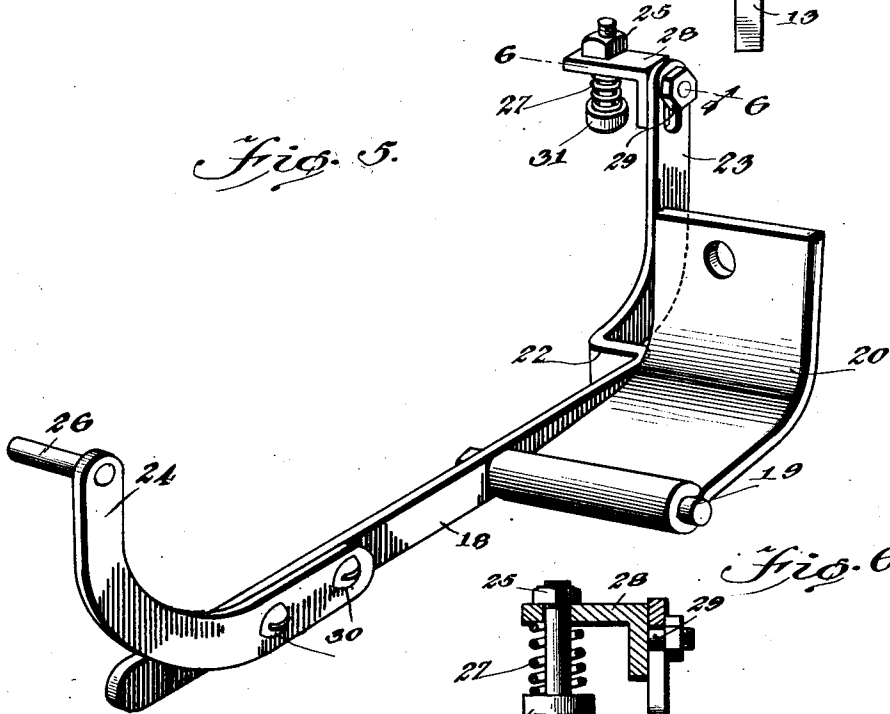
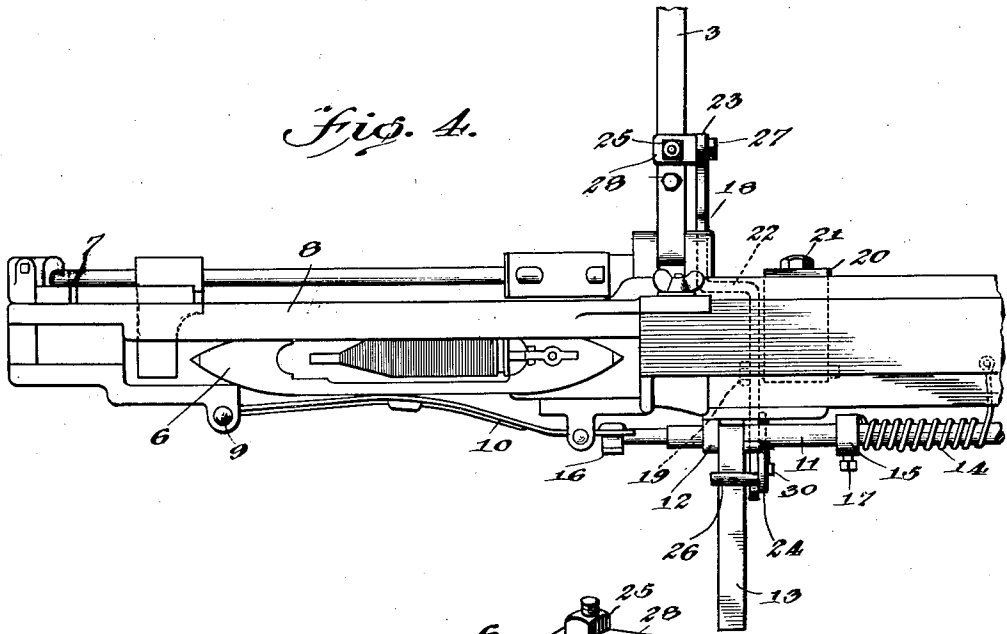
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LOOM ATTACHMENT

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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE.

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LOOM ATTACHMENT.

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This invention relates to improvements in looms and consists of the constructions, combinations and arrangements herein described and claimed.

5 An object of the invention is to remove the pressure on the shuttle at the proper time while boxed at either end of the lay, said proper time occurring when the picker stick is about to impart a blow to the shuttle to send it across the shed, thereby reducing the force required for the execution of the picker motion and greatly reducing the wear on all parts concerned.

15 Another object of the invention is to utilize the lay arm and lay motion to actuate the protector rod for the purpose of relieving the pressure on the shuttle preparatory to the execution of the picker motion.

20 Other objects and advantages appear in the following specification, reference being had to the accompanying drawings, in which—

25 Figure 1 is a sectional view of enough of a woolen loom to illustrate the application of the lever through which the protector rod is actuated by the lay arm and beam.

30 Figure 2 is a detail sectional perspective view of a shuttle box, again illustrating the position of the lever in relationship to the lay arm and protector rod.

Figure 3 is a detail sectional view on the line 3—3 of Figure 2.

35 Figure 4 is a detail plan view of the shuttle box at one end of the lay, again illustrating the application of the lever.

40 Figure 5 is a detail perspective view of the complete attachment including the lever and bracket by means of which it is mounted.

Figure 6 is a detail sectional view on the line 6—6 of Figure 5.

45 The existing loom construction should be briefly considered first so that the application of the invention may be understood more readily. Each end of the lay 1 is supported by a sword 2, pivotally mounted at the bottom, rocking motion being imparted to the lay upon its pivots by the reciprocation of the pitman or lay arm 3 which is connected between a crank 4 and a suitable bearing 5 on back of the lay. In practice there are two pitmen or lay arms, one at each end, the two operating together, but only one attachment is employed in each loom, either lay arm being suitable.

The attachment is made either right or left handed, permitting application to either lay arm.

60 The shuttle 6 is thrown from one end to the other of the lay 1 by picker sticks 7 of which one is shown in Figure 2. Each end of the lay terminates in an extension 8 known as the box. The blows imparted by the picker sticks drive the shuttle from one box to the other, the action of the picker sticks being known as the picker motion.

70 Pivoted at 9 at one side of the box 8 is a binder 10 which engages the side of the shuttle 6 when properly boxed. Ordinarily a leaf spring is provided to press the binder in against the shuttle, but this spring is removed when the invention is applied. A protector rod 11 extends across the front of the lay 1, being supported in suitable bearings 12.

80 The protector rod has a dagger 13 which coacts with the protector motion as in the ordinary manner. The protector motion includes a knock-off lever (not shown) with which the dagger 13 is engageable to stop the loom should the shuttle 6 fail to properly box at either end of the lay.

85 A spring 14 (Fig. 4) connected between the lay and a collar 15 on the protector rod presses a finger 16 on the extremity of the rod against the extremity of the binder 10. The collar 15 is adjustable by means of a set screw 17, and inasmuch as the usual binder spring is removed, the tension of the spring 14 is increased to some extent to compensate for the omission.

90 The invention is for the purpose of temporarily removing the pressure of the binder 10 against the side of the shuttle 6 at the time when the picker stick 7 is about to impart a blow to the shuttle to send it across the lay 1. The invention is well termed a pick-ease which, although sounding like a trade-name well describes its purpose.

95 It consists of a lever 18 which is pivotally mounted at 19 to a bracket 20 by means of a bolt 21 to the back of the lay 1. As stated before, only one of the levers 19 is employed on each loom.

100 An offset 22 in the lever 18 fits around the sword and compensates for the difference in position between the lay arm 3 (Fig. 4) and dagger 13. These elements are immediately involved in the operation of the so-called

pick-ease. To this end, one extremity of the lever 18 is bent up at 23, the other carrying an elbow 24. The end 23 extends somewhat higher than the end 24. The ends carry
 5 abutment means to be engaged by the respective lay arms 3 and dagger 13, the means employed for illustration being studs 25 and 26. The stud 25 which is suitably headed
 10 at 31 is yieldingly supported by a spring 27 upon a bracket 28 which in turn is adjustable at 29 upon the end 23. The elbow can be adjusted outwardly upon the opposite end of the lever as at 30. In practice,
 15 the offset 22 may be sufficient to situate the bent end 23 at the other side of the lay arm 3, in which event the bracket 28 is placed on the opposite side of the bent end in order to bring the stud over the lay arm.

20

The operation.

Upon raising of the lay arm 3 (Fig. 1) as in rocking the lay 1 forward, the engagement of the stud 25 causes rocking of the lever upon its pivot 19 so that the stud 26
 25 pushes down upon the dagger 13 of the protector rod 11. This action moves the finger 16 away from the binder 10 so that the pressure formerly imparted by the spring 14 is removed from the shuttle 6.

30 It is at this time that the picker stick 7 imparts a blow to the shuttle 6, sending it across to the box at the opposite side of the lay. Pressure against the shuttle having been suspended at this time makes it easier
 35 to drive the shuttle across. The pressure remains suspended while the shuttle is traversing the lay.

It is to be noted that the function of the lever is a natural one. The upward motion
 40 of the lay arm 3 occurs at the proper time to depress the dagger 13 and remove pressure against the side of the shuttle 6. The natural motion of the lay arms is utilized to actuate the protector rod for the purpose
 45 of relieving pressure against the shuttle while boxed.

I claim:—

50 1. A device for the purpose described comprising a lever which is bent at one extremity to be disposed beside the pitman, a

bracket by which the device is attached to the lay of a loom, means by which the lever is pivotally mounted upon the bracket, said lever having an offset to avoid the sword of the lay, means mounted upon one extremity
 55 of the lever being formed to be disposed over the pitman and carrying yieldable means in the path of the pitman, and means including an elbow adjustably carried by the other extremity of the lever having a
 60 stud for engagement with the dagger of a protector rod.

2. In combination with the reciprocatory arm, rockable lay and turnable protector rod of a loom, said rod carrying a dagger; a
 65 lever mounted upon the lay, means at one end of the lever disposed in position to be engaged by said arm and being capable of limited yielding action upon contact by the lay arm to move the lever upon its mount-
 70 ing, and means including a stud extending from the other end of the lever disposed in the path of and being contactible by said dagger for turning the protector rod.

3. A loom attachment comprising a lever
 75 bent up at one end, means by which the lever is pivotally mounted upon the lay-beam of a loom, a yieldable abutment, means by which it is adjustably mounted upon the bent up end in position for periodic contact
 80 by a lay arm, and an abutment adjustably mounted on the other end of the lever in position to engage a protector rod dagger.

4. A loom attachment comprising a lever
 85 consisting of a straight bar being offset and bent up at the adjacent end, means comprising a bracket providing a pivotal mounting for the lever, a bracket adjustably
 90 mounted upon the bent up end of the lever, said bracket including a portion extending from said end at right angles, a stud movably carried by said last bracket and having
 95 a head, a spring interposed between said bracket and the head permitting yielding of the stud upon engagement of the head by a pitman, an upturned elbow carried by the opposite end of the lever, and a stud extending from said elbow for engagement with a dagger.

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