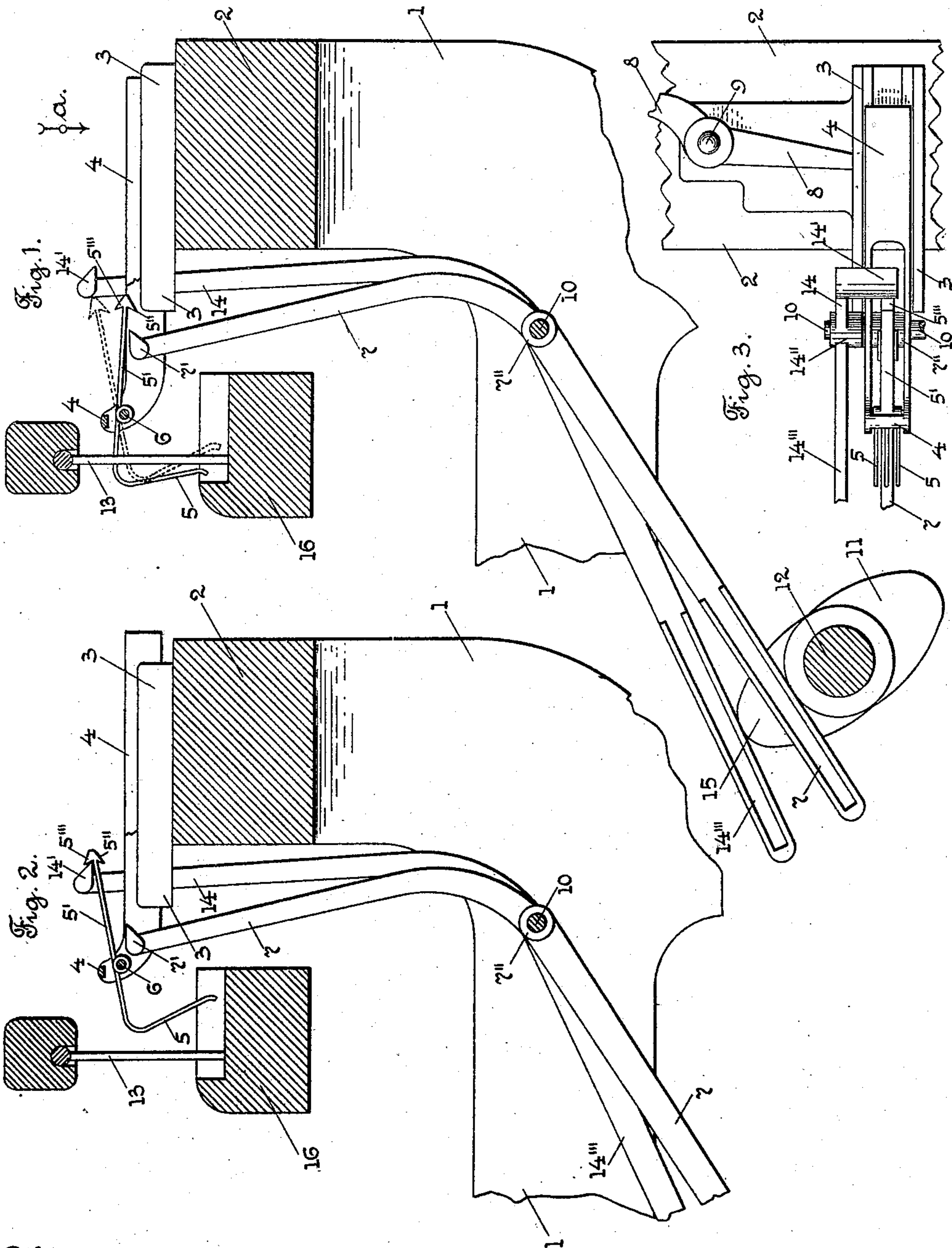


C. PARTLOW.
SIDE FILLING STOP MOTION FOR LOOMS.
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915,472.

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SIDE-FILLING STOP-MOTION FOR LOOMS.

No. 915,472.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHILDS PARTLOW, a citizen of the United States, residing at Rockhill, in the county of York and State of South Carolina, have invented certain new and useful Improvements in Side-Filling Stop-Motions for Looms, of which the following is a specification.

My invention relates to a stop motion for looms, to stop the loom on the failure of filling, and my invention particularly relates to improvements in the filling stop motion of a loom, ordinarily termed a side filling stop motion.

Side filling stop motions are intended to stop the loom every second pick, in case there is no filling, but not to stop the loom in case the filling, which runs from the shuttle to the selvage of the fabric, is laid before the reed, or the grate, which takes the place of the reed. The filling fork of the side stop motion feels against the weft or filling, and causes a hook to be raised, to prevent it from being engaged by a lever which operates the stop motion. In case of breakage or failure of filling, at the next pick of the shuttle to the opposite side of the loom, there will be no filling to hold the filling fork, and it will pass through the dents of the reed, or the grate, and will not cause the hook to be raised, but allow it to be engaged by a lever, and operate the slide on which the fork is carried, to stop the loom. If the filling fork or feeler wire is bent out of shape, so that it will not pass through the reed, or grate, or if any loose filling threads or wool fiber, or dust on the lay beam, clog the reed or grate, and prevent the filling fork or feeler from passing through the reed or grate, then the fork or feeler will be moved the same as if there were filling from the shuttle to move it, and the loom will not be stopped on the failure of the filling.

The object of my invention is to improve upon the construction of the ordinary filling fork or feeler, and to cause it to be operated to stop the loom, in case of the failure of filling, and when for any reason the filling fork or feeler does not pass through the reed or grate, as it should.

My invention consists in certain novel features of construction of my improvements as will be hereinafter fully described.

In my improvements as herein shown, I

provide the filling fork or feeler, with a double hook, one hook above the regular hook. The second or extra hook will be caught by a second lever, to stop the loom when the active shuttle is on the opposite side of the loom from the filling stop motion.

I have only shown in the drawings a detached portion of a loom, and a side filling stop motion of the usual construction, with my improvements combined therewith.

Referring to the drawing:—Figure 1 is a vertical cross section through a detached portion of a loom, showing a side filling stop motion with my improvements combined therewith. Fig. 2 corresponds to Fig. 1, but shows some of the parts in a different position, and, Fig. 3 is a plan view of the filling stop motion slide, looking in the direction of arrow *a*, Fig. 1.

In the accompanying drawing, 1 is a portion of the loom side or end frame, 2 the breast beam, having the side filling stop motion mounted thereon, and consisting of a guide plate 3, the stop motion slide 4, having the filling fork 5 loosely mounted on a stud in the rearwardly extending end of the slide 4. The forwardly extending portion 5' of the filling fork 5 is provided with a downwardly extending hook 5'' which is adapted to be engaged by the head 7' on the upwardly extending end of a cam lever 7, on the forward movement of said lever, in the case of the failure of filling, to move the slide 4, and operate a lever 8 pivotally mounted on a stud 9, see Fig. 3, on the breast beam, to stop the loom, in the usual way. The rear end of the filling fork 5 is adapted to pass through the reed or grate 13, on the lay 16, in case of failure of filling, on the forward stroke of the lay 16. The cam lever 7 has its hub 7'' loosely mounted on a stud 10, and has its other arm extend rearwardly and downwardly in the path of, and to be operated, at every other pick, by a cam 11 secured upon the bottom shaft 12. All of the above mentioned parts, except the filling fork 5, may be of the usual and well known construction.

I will now describe my improvements. The forwardly extending end 5' of the filling fork 5 has a second hook 5''' thereon in this instance located on the upper side of the end 5', and directly above the lower hook 5''. The upper hook 5''' is adapted to be moved into the path of, and be engaged by the end or extension 14' of an upwardly extending

lever 14. The hub 14'' of the lever 14 is in this instance pivotally mounted on the stud 10, alongside of the hub 7'' of the lever 7. The rearwardly extending arm 14''' of the lever 14 extends downwardly and in the path of and adapted to be engaged at every other pick, by a second cam 15, on the bottom shaft 12. The cam 15 extends oppositely to the cam 11, and operates the cam lever 14 to stop the loom, when the shuttle is on the side of the loom opposite from the filling fork mechanism.

From the above description in connection with the drawings, the operation of my improvements will be readily understood by those skilled in the art.

In the normal operation of the loom, the filling in front of the reed or grate 13 will engage the filling fork 5 on the forward beat of the lay, at every other pick, and hold the hook end of said fork out of the path of engagement with the end 7' on the cam lever 7, and the end 14' on the cam lever 14 will not be in position to engage said fork, as shown by broken lines in Fig. 1, but on the failure of filling, the filling fork 5 will pass through the reed or grate 13, and allow the hook end 5' to drop down, so that the hook 5'' will be in the path of the extension 7' on the lever 7, as shown by full lines in Fig. 1, and be engaged by said extension, to cause the slide 4 to move forward and operate the lever 8, and stop the loom in the usual way.

In case the filling fork 5 gets bent, or the reed or grate 13 is clogged, then the filling fork is prevented from passing through the reed or grate on the failure of filling, so that on the forward beat of the lay, the filling fork 5 is raised at every pick, as shown in Fig. 2, and the upper hook 5''' thereon will extend in the path of, and be engaged by the extension 14' on the cam lever 14, when the shuttle is on the opposite side of the loom from the filling fork mechanism. Through the movement of said cam lever 14, the slide 4 will be moved forward, and the lever 8 operated to stop the loom, in the same manner described above in connection with the failure of filling.

The operator may then straighten the filling fork, or remove the dust or other material which has clogged the reed or grate 13.

The advantages of my improvements will be readily appreciated by those skilled in the art. They are of very simple construction, and can be readily applied to and used in connection with the ordinary side filling stop motions, and if for any reason the filling fork is prevented from passing through the reed or grate, when the shuttle is on the opposite side of the loom from the filling fork mechanism, the loom will be stopped.

It will be understood that the details of construction of my improvements may be varied if desired.

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

1. In a loom, the combination with a side filling stop motion, of mechanism connected therewith to automatically stop the loom when the shuttle is on the opposite side of the loom from the filling stop motion, and the filling fork of said motion is prevented from passing through the reed or grate.

2. In a loom, a side filling stop motion having a slide, and a fork thereon with a double, or two hooks, for the purpose stated.

3. In a loom, a side filling stop motion having a slide, and a fork thereon with a double, or two hooks, one of said hooks, through operating mechanism, adapted to move said slide to stop the loom when the shuttle is on the opposite side of the loom from the filling stop motion.

4. A loom side filling stop motion having a pivotally mounted fork, and mechanism cooperating therewith to stop the loom when the fork is not tilted, and mechanism cooperating therewith to automatically stop the loom when the fork is tilted, on alternate picks.

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Witnesses:

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