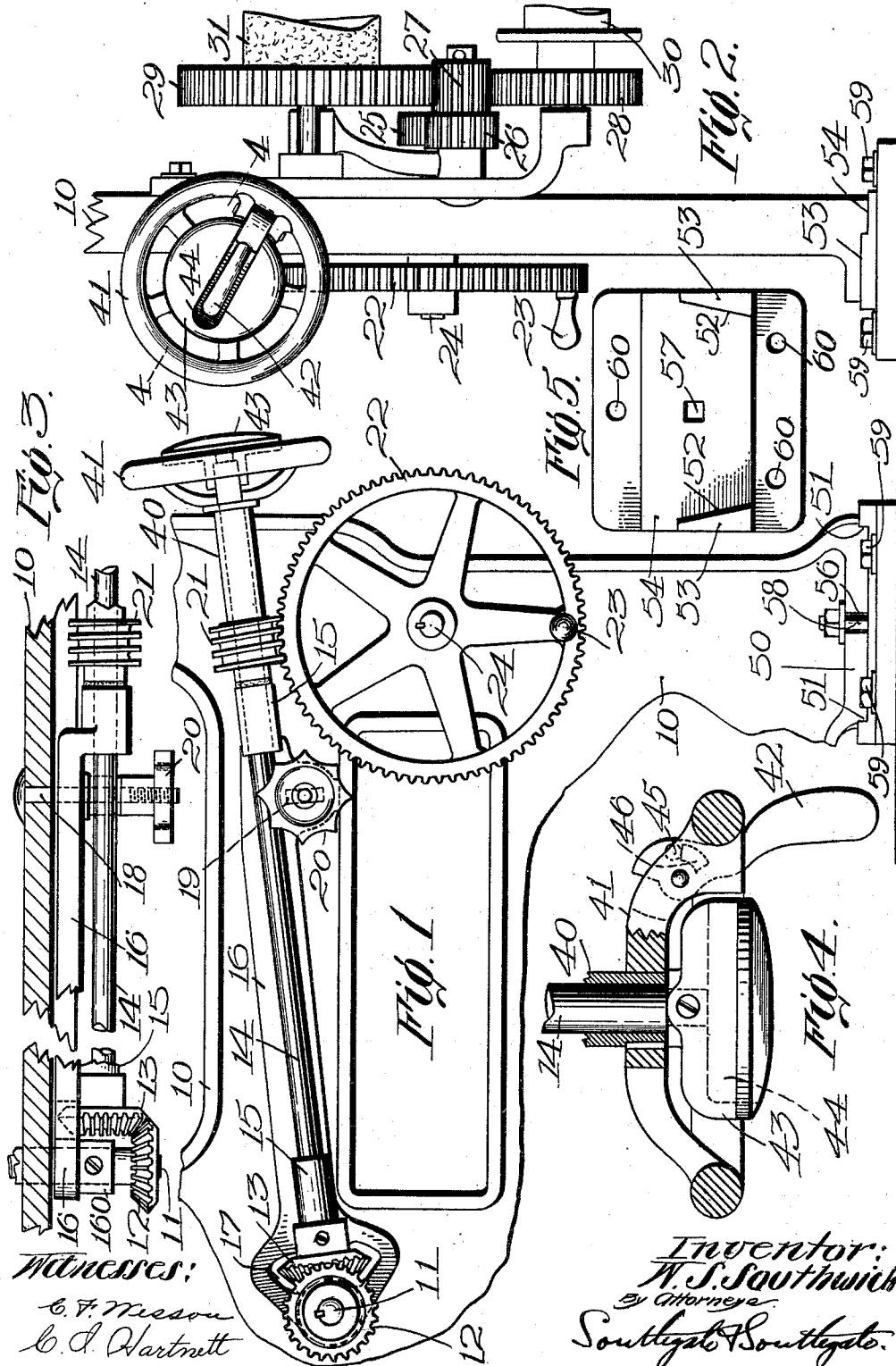


W. S. SOUTHWICK.
TAKE-UP FOR LOOMS.
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1,006,015.

Patented Oct. 17, 1911.



Witnesses:

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UNITED STATES PATENT OFFICE.

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TAKE-UP FOR LOOMS.

1,006,015.

Specification of Letters Patent.

Patented Oct. 17, 1911.

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To all whom it may concern:

Be it known that I, WILLIAM S. SOUTHWICK, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Take-Up for Looms, of which the following is a specification.

This invention relates to improvements in take-up mechanisms for looms, and to details of construction thereof.

The principal object of the invention is to provide a construction in which the shaft for driving the take-up worm gear is so arranged that it can be moved so that the worm thereon will come out of mesh with the worm-gear, thus permitting the latter to be operated by hand to turn the cloth roll back; also to provide the take-up mechanism with a safety device whereby the weavers cannot stretch the cloth without detection.

Further objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawings, in which—

Figure 1 is an end view of a portion of the frame of a loom showing certain features of this invention applied thereto; Fig. 2 is a front view of the same; Fig. 3 is a plan of the same with the frame in section; Fig. 4 is a sectional view on the line 4—4 of Fig. 2; and Fig. 5 is a plan of the details of the adjustable foot device.

The invention is shown as applied to the frame 10 of a loom of ordinary construction. On this frame is mounted a shaft 11 which receives power from the driving shaft of the loom (not shown) and which, so far as the mechanism herein shown is concerned, acts as the driving shaft. It is shown as usual as provided with a bevel gear 12 driving a bevel gear 13 on an intermediate shaft 14. In the present instance this intermediate shaft is journaled in bearings 15 on a frame 16 which is provided with an opening 17 for the bevel gear 13 and extends beyond this opening so as to be journaled on the hub of the shaft 11. A collar 160 is fixed to the hub to hold the frame against the loom side. On this account this intermediate shaft and its frame are movable about the shaft 11 as a pivot. In order to hold this shaft and frame in the desired positions, the frame

is provided with a fixed bolt 18 which extends through a slot 19 in the frame 16, so that the frame can be moved up and down. The frame is adapted to be fixed in position on the loom frame by means of a finger-head 20 having a screw thread fitting the thread of the bolt 18 and having a neck for engaging the frame 16 when screwed up. The shaft 14 is also provided with a worm 21 meshing with a take-up worm-gear 22. This gear is provided with a handle 23 thereon for turning it by hand, and is mounted on a shaft 24 having a gear 25 thereon meshing with the gear 26 on the stud which carries also a pinion 27 meshing with the gears 28 and 29 which directly operate the cloth roll 30 and the sand roll 31 respectively.

From what has been described so far it will be seen that when the cloth roll is to be operated by power from the shaft 11, the worm 21 is lowered into engagement with the worm gear, and the wheel 20 tightened up so that the parts will operate in the regular way. If it is desired to turn back the cloth roll by hand independently of the power (as for picking out or other purposes) the wheel 20 is loosened, the frame 16 raised, and the wheel tightened if desired to hold the worm 21 out of contact with the take-up worm gear which is then operated by hand.

It is well known that weavers sometimes turn up the cloth-roll while the machine is running so as to stretch the cloth and get credit for more cloth than they have actually produced. For the purpose of preventing this without omitting the usual means whereby the cloth roll can be turned up for adjustment if desired, the following mechanism is shown. The worm 21 is not mounted directly on the shaft 14, but on a sleeve 40 thereon. On this sleeve is fixed a hand-wheel 41 on which is pivotally mounted a handle 42 by which the hand wheel can be turned. On the end of the shaft 14 is fixed a head 43 having a single diametrical pocket 44 deep enough to receive the handle when the latter is turned back out of operative position as shown in Fig. 2. Now when it is desired to let back the cloth roll to pick out when the loom is stopped, all that is necessary to do is to swing the handle from the position shown in Fig. 2 to that shown in Fig. 4 where the back of it comes against the

rim of the hand-wheel. Now the shaft is entirely disconnected from the sleeve 40, and the hand wheel together with the worm 21 can be rotated having the desired effect.

- 5 When the loom is running it is a very difficult matter to get the handle out of the deep pocket, and if it can be taken out, this and putting it back would take so much time, that the practice of pumping would be
10 stopped. The handle 42 has a spring pressed pin 45 which slips over the opposite sides of a lug 46 on the hand wheel to yieldingly hold the handle either in or out. It will be seen that the driving of the worm wheel
15 takes place through the handle 42 because the shaft 14 is not capable of driving the worm 21 except when connected with it by this handle.

For the purpose of simplifying the setting
20 up of a loom, and securing the loom to the floor very firmly, each of the feet 50 is provided with two opposite surfaces 51 which converge toward each other and enter between two similar converging surfaces 52 on
25 a pair of lugs 53 which are integral with a bottom plate 54 on which the foot rests. These lugs are located on opposite ends of said plate so as to receive the surfaces 51 between them. The foot is provided with a
30 perforation 56 and the plate with a registering perforation 57, one of which is large enough to afford a slight play for receiving a fastening bolt 58. In setting up the frame two plates 54 at one end are driven up to fit
35 the slanting surfaces on two feet and the nut on the bolt 58 tightened up. Then these two plates are fastened to the floor by bolts 59 passing through openings 60 in the plate. During this time the opposite feet rest on
40 two corresponding plates and when the first two feet have been fastened the other two plates are driven up tight and fastened in the same way. This affords a very simple way of setting the frame up on the floor,
45 and as the surfaces 52 on opposite sides or ends of the loom are set up oppositely it will be seen that they brace against each other thus assisting in holding the frame firmly in position.

- 50 While I have illustrated and described a preferred embodiment of the invention I am aware that many modifications can be made therein by any person skilled in the art without departing from the scope of the invention as expressed in the claims. Therefore,
55 I do not wish to be limited to all the details of construction herein shown and described, but

What I do claim is:—

- 60 1. The combination with a frame, of a shaft extending through the same, a frame pivoted on said shaft and extending at right

angles therefrom, an intermediate shaft journaled on said pivoted frame and geared to the first named shaft, a worm on the intermediate shaft, a take-up worm gear adapted to be driven by the worm, means for securing the pivoted frame in fixed position on the first named frame, a sleeve on the intermediate shaft on which sleeve said
65 worm is fixed, a hand wheel on said sleeve, a head fixed to the intermediate shaft and located adjacent to the hand wheel and provided with a single deep pocket therein, and a handle pivoted on the hand wheel and
70 movable entirely within said pocket in one position of the hand wheel with respect to the shaft to lock the shaft and hand wheel together.

2. The combination of a shaft, a sleeve
80 rotatably mounted thereon, a worm on said sleeve, a take-up worm gear adapted to be operated by the worm, means whereby said shaft can be moved to a position in which the worm will not be in engagement with
85 the teeth of the worm gear, and for fixing the shaft in that position, a hand wheel on said sleeve, a handle pivoted on the hand wheel on an axis perpendicular to the axis of said shaft for turning the hand wheel and
90 sleeve, and a head on the shaft having a pocket in which said handle will be received when the pocket registers with said handle to lock the shaft and hand wheel together.

3. The combination of a shaft, a sleeve
95 rotatably mounted thereon, a worm on said sleeve, a take-up worm gear adapted to be operated by the worm, a hand wheel on said sleeve, a handle pivoted on the hand wheel on an axis perpendicular to the axis of said
100 shaft for turning the hand wheel and sleeve, and a head on the shaft having a pocket in which said handle will be received when the pocket registers with said handle to lock the shaft and hand wheel together.

4. The combination of a shaft, a sleeve
105 rotatably mounted thereon, a hand wheel on said sleeve, a handle pivoted on the hand wheel on an axis perpendicular to the axis of said shaft for turning the hand wheel and
110 sleeve, and a head on the shaft having a pocket adapted to receive said handle when the pocket registers with said handle to lock the shaft and hand wheel together, whereby the handle will not project beyond the sur-
115 face of the wheel.

In testimony whereof I have hereunto set my hand, in the presence of two subscribing witnesses.

WILLIAM S. SOUTHWICK.

Witnesses:

A. E. FAY,
C. FORREST WESSON.