

No. 701,683.

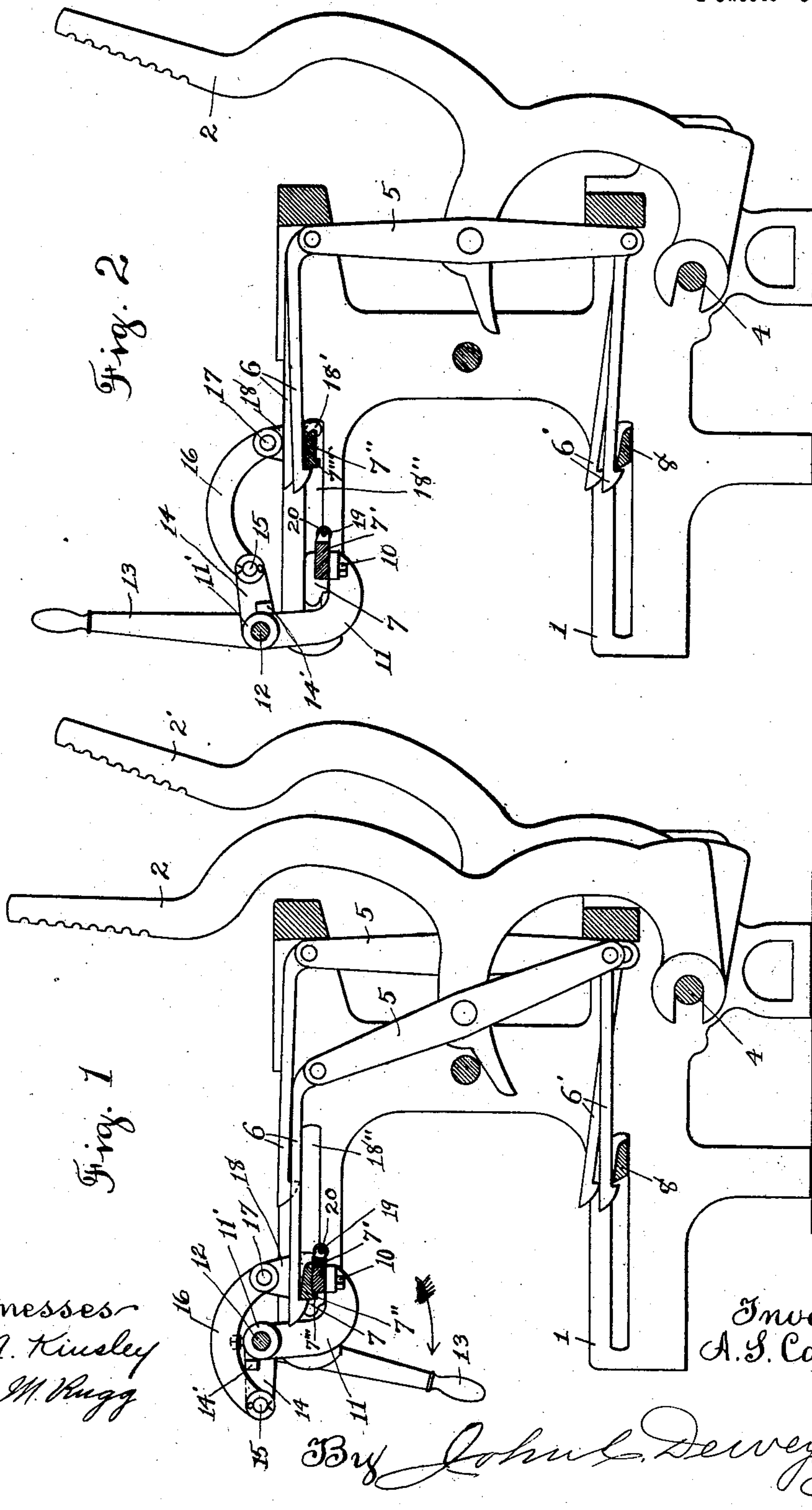
Patented June 3, 1902.

A. S. COWAN.
LOOM HARNESS EVENER.

(Application filed Feb. 21, 1902.)

2 Sheets— Sheet 1.

(No Model.)



Witnesses
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Inventor
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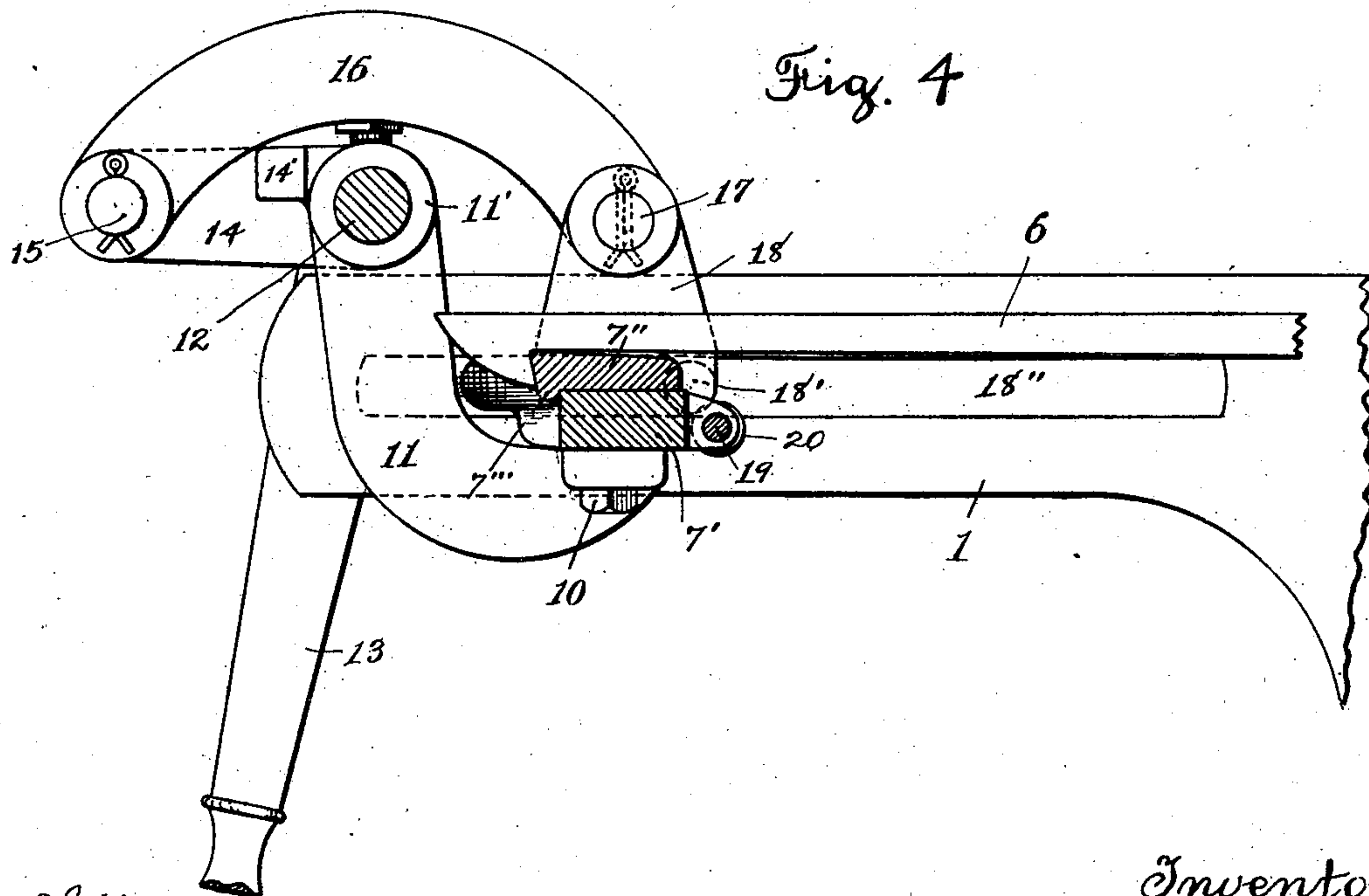
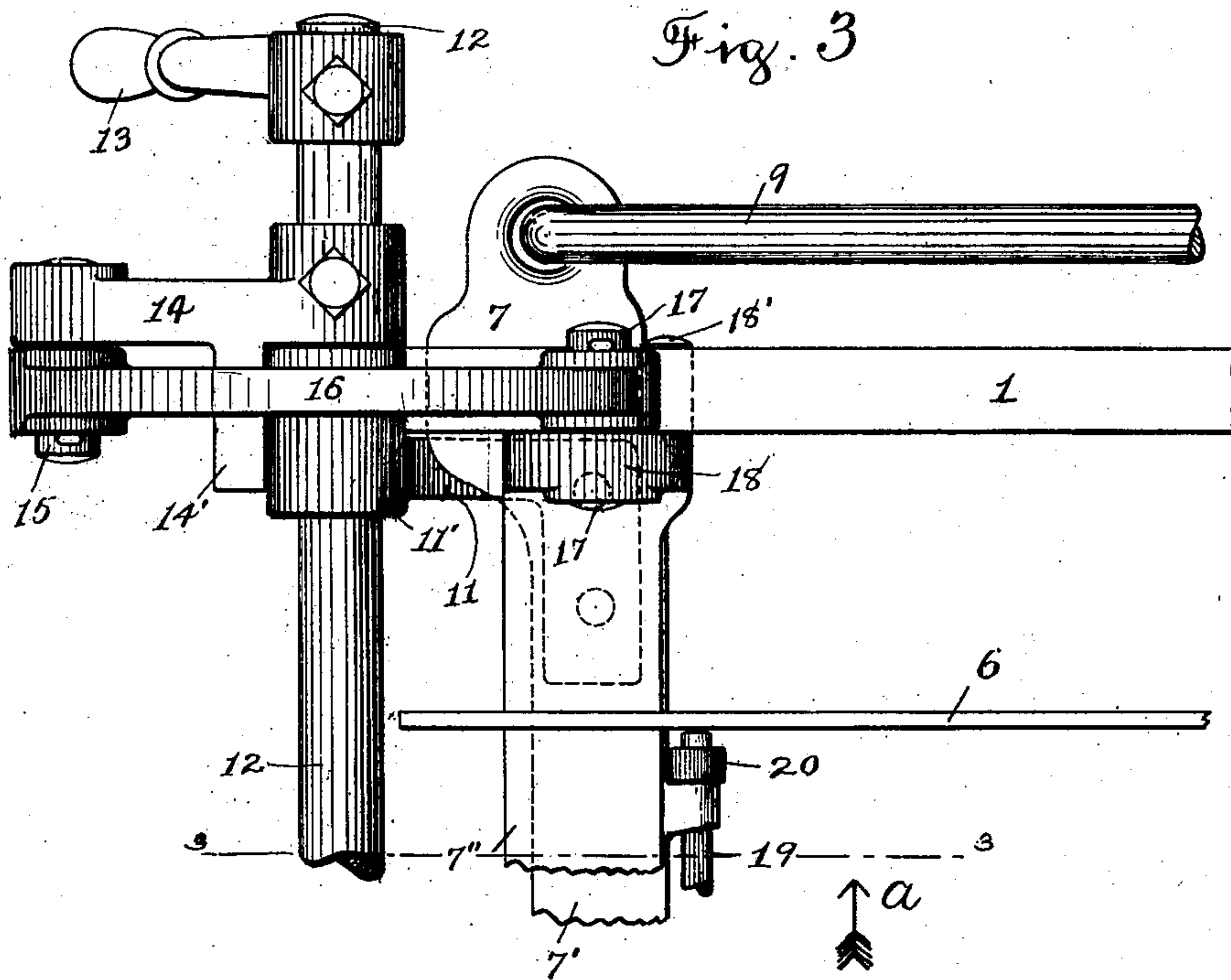
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UNITED STATES PATENT OFFICE.

ARTHUR S. COWAN, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO
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LOOM-HARNESS EVENER.

SPECIFICATION forming part of Letters Patent No. 701,683, dated June 3, 1902.

Application filed February 21, 1902. Serial No. 95,011. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR S. COWAN, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Loom-Harness Eveners, of which the following is a specification.

My invention relates to a loom-harness evener or mechanism combined with the dobby mechanism of a loom for evening all the harnesses or lowering all the harnesses which are not in their lowered position when the loom is stopped for any purpose.

The object of my invention is to provide a harness-evening of the class above referred to of simple construction and which can be readily combined with or applied to a dobby mechanism of ordinary construction and operation.

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

I have only shown in the drawings sufficient portions of a dobby mechanism of ordinary construction and operation with my improvements applied thereto to enable those skilled in the art to which my invention belongs to understand the construction and operation thereof.

Referring to the drawings, Figure 1 is a sectional side elevation of a portion of a dobby with my improvements applied thereto, showing two harness levers or jacks, one in its raised and the other in its lowered position. Fig. 2 corresponds to Fig. 1, but shows the opposite position of my improvements and the raised jack shown in Fig. 1 in its lowered position. Fig. 3 is, on an enlarged scale, a plan view of my improvements shown at the left in Fig. 1; and Fig. 4 is a section on line 4-4, Fig. 3, looking in the direction of arrow *a*, same figure.

In the accompanying drawings, 1 is the frame of the dobby.

2 and 2' are harness levers or jacks pivoted at their lower ends on a transverse rod 4. The connectors 5 are pivoted on the jacks 2 and 2' and have pivoted to their ends the

hooked jacks 6 and 6', which are adapted to engage the lifter-bars 7 and 8 (said hooks controlled by the pattern mechanism, not shown,) and be moved by said lifter-bars 7 and 8 to move the harness-jacks 2 and 2', connected with the harnesses (not shown) in the usual and well-known way.

All of the above-mentioned parts may be of the ordinary construction except the upper lifter-bar 7.

I will now describe my improvements or mechanism for evening the harness-jacks and harnesses connected therewith. (Not shown.)

The upper lifter-bar 7 is made in two parts or sections, comprising the lower bar 7', to which is attached the ordinary link or connector (shown at 9 in Fig. 3) for operating the lifter-bar 7 in the usual way, and the upper bar 7'', which is engaged by the upper hooked jacks 6 in the usual way. The lower bar 7' has rigidly secured thereto at each end upon its under side, in this instance by a bolt 10, the lower end of a stand 11. The upper end of the stand 11 has a bearing 11' for a transverse rocking shaft 12. On the outer end of the shaft 12 is fast an operating-handle 13. Also fast on the shaft 12 is a crank-arm 14, having a side projection 14', which acts as a stop to engage the front edge of the stand 11 on the forward movement of the crank 14.

To the outer end of the crank 14 is pivoted on a stud 15 one end of a link 16. The other end of the link 16 is pivoted on a stud 17 in the upper end of an ear or lug 18 on the end of the upper bar 7''. At the lower front part of the ear or lug 18 is a pin 18', which extends into and travels in the slot 18''.

The upper bar 7'' has a downwardly-extending lip or projection 7''' on its rear edge, which is adapted to extend over the rear upper edge of the lower bar 7', as shown in Figs. 1 and 4, and hold the two bars together and cause them to move back and forth as a single lifter-bar in the normal operation of the loom.

The front edge of the lower bar 7' has in a lug extending out therefrom a rod 19, on which are mounted small rolls 20, which the downwardly-extending lip 7''' on the upper bar 7''

will engage and travel on when the bar 7'' is moved forward to extend over the bar 7'.

It will be understood that on the opposite end of the dobby (not shown) the parts of my improvements are duplicated, except there may be only one operating-handle 13.

The operation of my improvements will be readily understood from the above description in connection with the drawings. If it is desired to even the harnesses or to lower those that are in their raised position, the handle 13 is moved in the direction of the arrow, Fig. 1. This will rotate or turn the shaft 12 and through crank 14, link 16, lug 18, and pin 18', extending in the slot 18'', raise the rear edge of the upper bar 7'', the pin 18' acting as a pivot, and disengage the lip 7''' thereon from the lower bar 7' and move the bar 7'' to its extreme inward position (shown in Fig. 2) and allow the upper hooked jack 6 to move with it and the jack 2 and harness (not shown) connected therewith to be moved into its lowered position. When the loom is started, the moving outwardly of the lower lifter-bar 8 will move inwardly the lower section 7' of the upper lifter-bar 7 and cause it to pass under the upper section 7'', the rolls 20 engaging the lip or projection 7''' on the section 7''. The movement of the handle 13 in the opposite direction will return the bar 7'' to its position on the bar 7' in case the loom is not started up and raise the harness-jacks 2.

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-harness evenner, the combination with the lifter-bar, made in two parts or sections, one part adapted to extend over and engage the other, so that both parts will move together, in the operation of the loom, of means for disengaging the part engaged by the hooked jacks, from the other part, allowing it to move inward, to lower the harnesses, substantially as shown and described.

2. In a loom-harness evenner, the combination with the lifter-bar, made in two parts, one part adapted to extend over the other, and provided with a lip or projection on its rear edge to hold the parts together, of means for disengaging the upper part from the lower part, and allowing it to move inward, to lower the harnesses, substantially as shown and described.

3. In a loom-harness evenner, the combination with the lifter-bar, made in two parts or sections, one part adapted to extend over and engage the other, so that both parts will move together in the operation of the loom, of means for disengaging the part engaged by the hooked jacks, from the other part, and allowing it to move inward, to lower the harnesses, said means comprising a rock-shaft, means for rocking said shaft, a crank on said shaft, a link connected with said crank, and with the part of the lifter-bar engaged by the hooked jacks, and a pin engaging the slot in which the lifter-bar slides, substantially as shown and described.

ARTHUR S. COWAN.

Witnesses:

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