

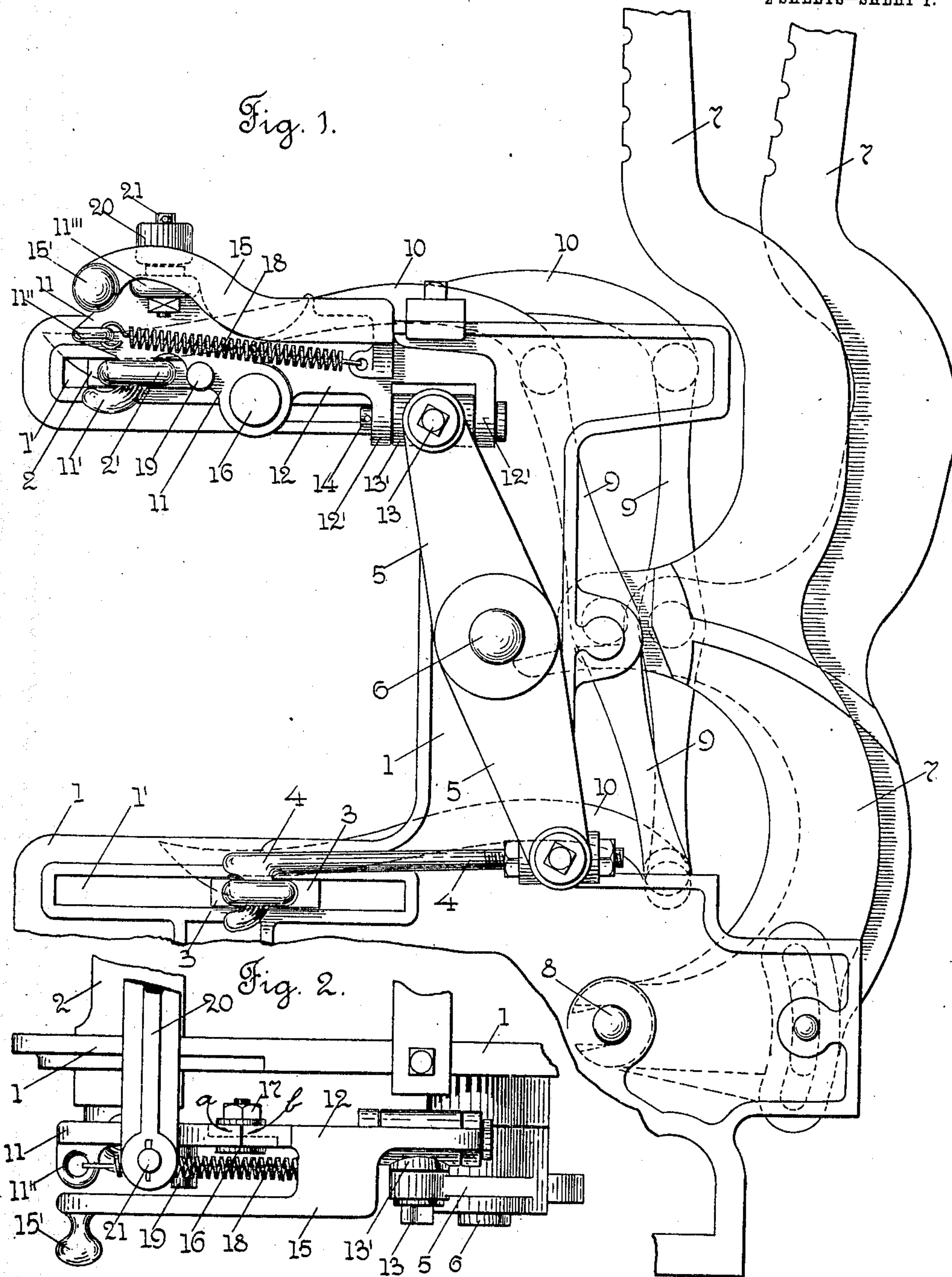
No. 871,398.

PATENTED NOV. 19, 1907.

A. A. GORDON, JR.
LOOM SHEDDING MECHANISM.

APPLICATION FILED NOV. 22, 1905.

2 SHEETS—SHEET 1.



Witnesses
M. Bredt.
W. H. Hae.

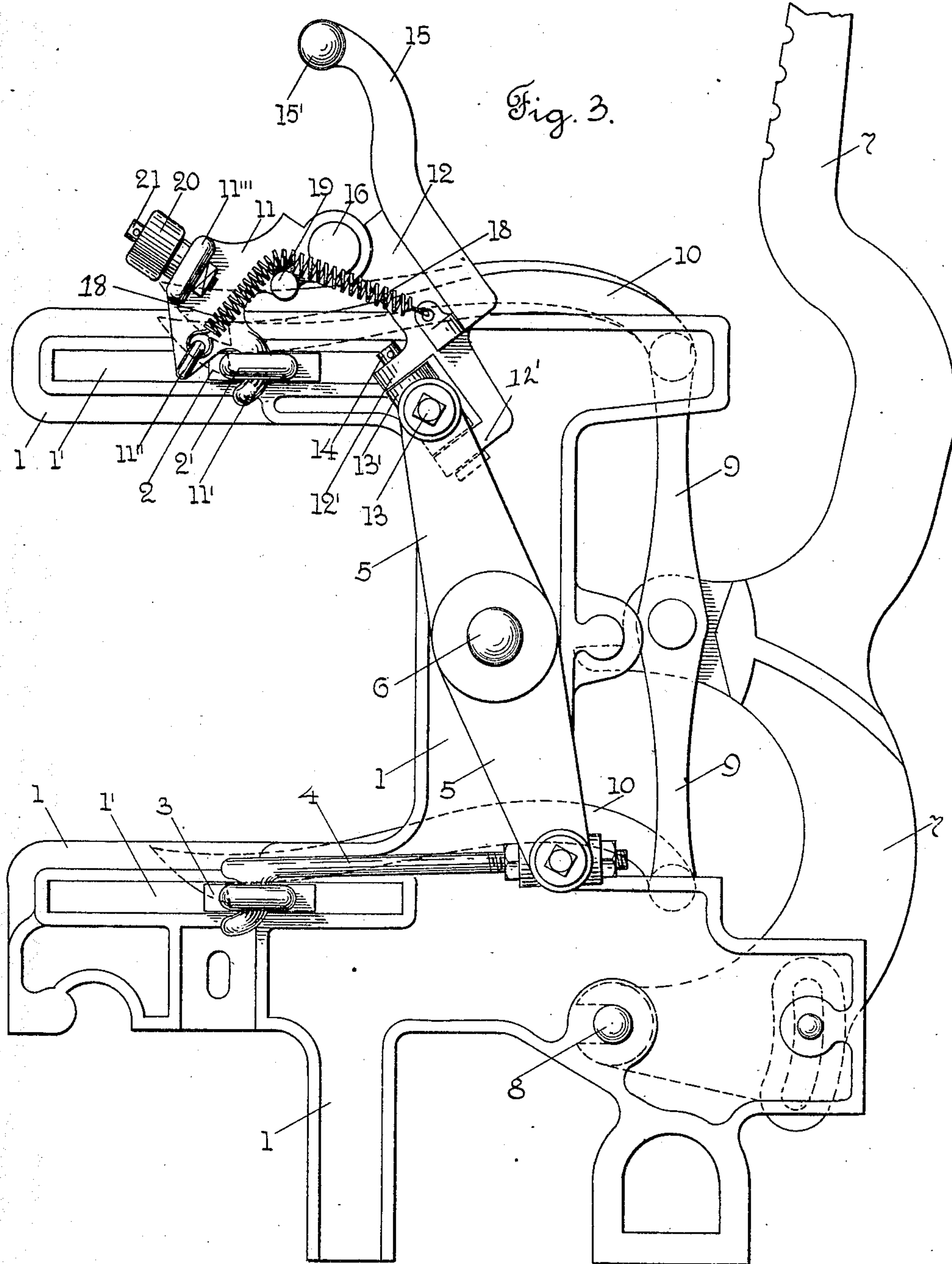
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A. A. Gordon jr.
By John E. Dewey
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UNITED STATES PATENT OFFICE.

ALBERT A. GORDON, JR., OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO CROMPTON & KNOWLES LOOM WORKS, A CORPORATION OF MASSACHUSETTS.

LOOM SHEDDING MECHANISM.

No. 871,398.

Specification of Letters Patent.

Patented Nov. 19, 1907.

Application filed November 22, 1905. Serial No. 288,510.

To all whom it may concern:

Be it known that I, ALBERT A. GORDON, Jr., 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 Shedding Mechanism, of which the following is a specification.

My invention relates to the shedding mechanism of a loom of the "dobby" type, and more particularly to a harness evener mechanism, combined with a dobby shedding mechanism.

The object of my invention is to provide a harness evener mechanism of simple construction and operation, and adapted to be applied to and combined with the ordinary parts of a dobby shedding mechanism, by means of which all the harnesses may be evened, and the warps brought into the same plane, for picking out, etc.

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 a detached portion of a dobby shedding mechanism, sufficient to illustrate my improvements applied thereto.

Referring to the drawings:—Figure 1 is a front view of parts of a dobby shedding mechanism, and of my improvements applied thereto. Fig. 2 is a plan view of my improvements shown at the left in Fig. 1, and, Fig. 3 corresponds to Fig. 1, but shows the opposite position of my improvements.

In my improvements, the two levers fast on the rocking shaft, and connected with and operating the lifter bars which engage and move the hooks on the connectors on the harness jacks, are connected at one end with a lifter bar, in this instance the upper lifter bar, by a jointed or hinged connection, which in its normal extended position acts as the ordinary connector between the levers on the rocking shaft and the lifter bar.

My hinged connection is made in two parts, provided with abutting surfaces on their inner contiguous ends, to limit the downward movement of the parts, and said parts are so shaped and constructed, that the center of the hinge joint, when the connection is fully extended and in its normal position, will be in a plane below the plane of the outer attached ends of the connection. By this construction, the two parts of the

hinged connection are held or locked in their extended position. I also provide a strong tension spring, preferably attached to the two parts of the connection, so as to exert a tension in a plane above the center of the hinge joint, and thus act to hold the two parts of the connection in their extended position.

The hinged connections between the rocking levers and the lifter bar, one at the front of the dobby, and one at the rear, are connected together by a transverse bar, which is pivotally attached at each end to one part of the connection, to cause the two connections to move together, and at the same time to allow of a slight difference in movement, caused by the different positions of the two ends of the lifter bars, in case of an angular shed.

On one of the parts of the hinged connections, below the spring, is a stud or pin, which is adapted to engage the spring and acts to change the position of the line of tension, and increase the tension thereof.

The hinged connections, between the rocking levers and the lifter bar, are moved on their hinged joint by an operating handle or handles, to release the lifter bar with which they are connected, and cause it to move inwardly, and allow the hooks to the connectors on the harness jacks to move inwardly, and also allow the harness jacks to move inwardly, to even the harnesses, all as will be hereinafter fully described.

In the accompanying drawings, 1 is a portion of a dobby frame, having the two horizontal slots or openings 1' therein for the horizontally reciprocating lifter bars 2 and 3. The lower lifter bar 3 is connected, through the hook connector or wire 4, with the lower end of the rocking lever 5, fast on the shaft 6, which is mounted in suitable bearings on the frame 1, and has a rocking motion communicated thereto, through mechanism, not shown, in the usual and well known way.

The harness jacks or levers 7 are pivotally mounted at their lower ends on a transverse rod 8, and each jack 7 has pivotally mounted thereon the connector 9, which has pivotally attached to each end thereof a hook latch 10, the hooked end of which, in this instance, extends over and is adapted to engage the outer edge of the upper and lower lifter bars 2 and 3.

All of the above mentioned parts may be of the usual construction and operation.

I will now describe my improvements.

Instead of the ordinary hook connector or 5 wire, similar to the connector 4, for the upper lifter bar 2, at each end thereof, I provide a jointed or hinged connection, made in this instance in two parts, and consisting of a bar or plate 11, having a hook 10 11' on its lower edge to engage a ring 2' on the end of the lifter bar 2 in the usual way, and a second bar or plate 12, having two downwardly extending projections 12' at its inner end; forming a yoke to receive the 15 tubular shaped head 13' on the pivot bolt 13, attached to the upper end of the lever 5. A stud 14 extends through the tubular head 13' of the bolt 13, and secures it in the forked end of the bar 12. On the bar 12 is an operating handle 15 with a knob 15' thereon. 20

The two bars 11 and 12, forming the connection between the upper end of the lever 5 and the upper lifter bar 2, are pivotally connected at their inner ends, in this instance by a bolt 16 and nut 17, to form a hinge joint, the center of which when the connection is extended, is in a plane, below the plane of the attached ends of the connection, see Fig. 1.

30 The inner ends of the bars 11 and 12 are provided with abutting surfaces *a*, and *b*, see Fig. 2, which limit the downward movement of the parts at their hinge joint. A spirally coiled tension spring 18 is attached 35 at one end to the inner end portion of the part 12, and at its other end to an eye 11'' on the front portion of the part 11, and preferably extends in a plane above the plane of the hinge joint between the parts 11 and 40 12, when said parts are in their extended position, and acts to hold said parts of the connection extended. A stud or pin 19 extends out from the lower part of the bar 11, below the spring 18, and is adapted to 45 engage said spring, and acts to change the position of the line of tension and increase the tension thereof, when the parts 11 and 12 are moved towards each other on their hinge joint.

50 A hinged connection, corresponding to the hinged connection above described, is located at the rear of the dobby, not shown, and connected with the lifter bar 2, and a lever 5, at the rear of the dobby.

55 A transversely extending bar 20 extends between the hinged connections, at the front and rear of the dobby, and is pivotally secured at each end on a stud 21, secured in a projection 11''' on the bar 11. By means 60 of the bar 20, pivotally attached at each end, the two hinged connections are moved simultaneously, and a slight difference in movement of each end of the lifter bar may be obtained.

The operation of my improvements in 65 harness evener will be readily understood by those skilled in the art.

When the shedding mechanism is operating normally, the two parts 11 and 12 of each hinged connection to the upper lifter 70 bar 2, are in their extended position, as shown in Fig. 1, with the handle 15 in its lowered position. When it is desired to even the harnesses and bring the warp threads into one plane, to pick out or for any other purpose, 75 the handle 15 on each connection is raised, causing the bars 11 and 12 of each connection to move on their hinge joint towards each other, and the upper lifter bar 2 to be moved inwardly, and allow the hook 80 latches 10, and the upper harness jacks 7 to move inwardly, from the position shown at the left in Fig. 1, to the position shown in Fig. 3, and the harnesses attached to said jacks to be lowered into the same plane as 85 the other harnesses. When the loom is started, the parts 11 and 12 are moved downwardly on their hinge joint, into their extended position, shown in Fig. 1.

It will be understood that the details of 90 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:— 95

In a dobby shedding mechanism having a rocking lever, and two lifter bars operated by said lever, the combination with said rocking lever and one of the lifter bars, of a jointed connection having an operating 100 handle, and pivotally attached at one end to one end of the rocking lever, and at its other end to one end of a lifter bar, and comprising two parts hinged together, and having their hinged connection in a plane 105 below their attached ends, when the connection is extended, and abutting surfaces to limit the movement of the two parts of said connection in one direction, and a spring attached at one end to one of said 110 parts, and at its other end to the other of said parts, and exerting a tension in a plane above the plane of the hinged joint, when the connection is extended, and a stud on one part adapted to engage said spring, and 115 change the position of the plane of tension of said spring, and cause it to exert a tension in a plane below the plane of the hinged joint, when the parts are moved towards each other, and a bar connecting said hinged 120 connection at the front of the dobby with a hinged connection at the rear of the dobby, said bar being pivotally attached at each end.

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Witnesses:

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