Oct. 6, 1931. A. A. GORDON 1,826,311

LOOM DOBBY

Filed Feb. 21, 1930 2 Sheets-Sheet 1

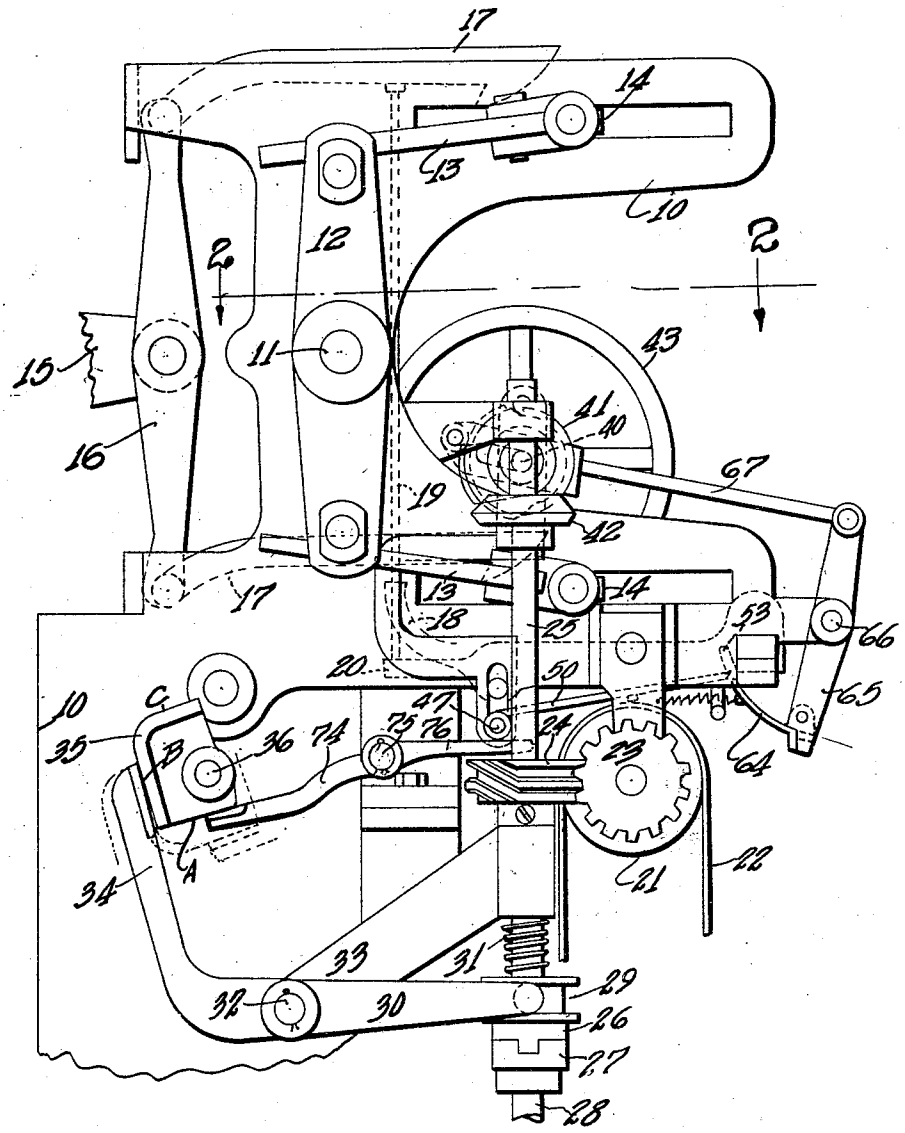


Fig. 1.

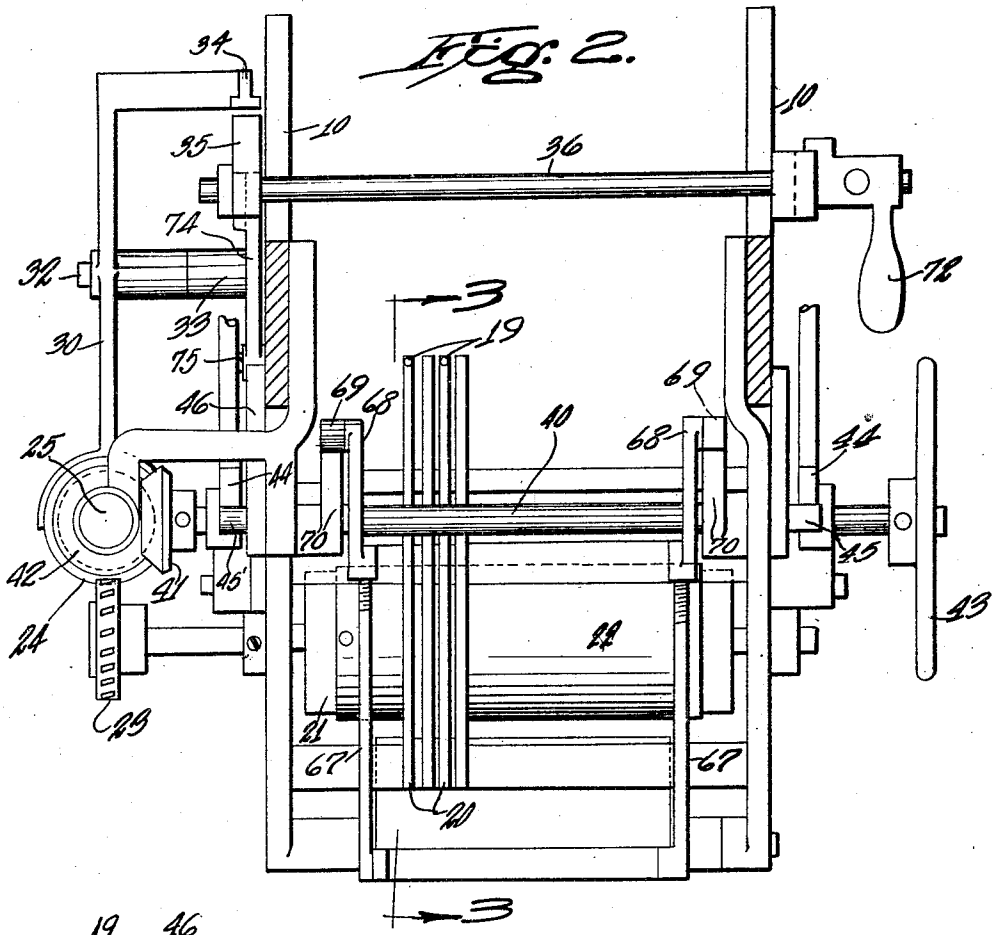
Inventor:—
Albert A. Gordon
Southgate Fay & Hawley
Attorneys

Oct. 6, 1931. A. A. GORDON 1,826,311

LOOM DOBBY

Filed Feb. 21, 1930 2 Sheets-Sheet 2

Fig. 2.



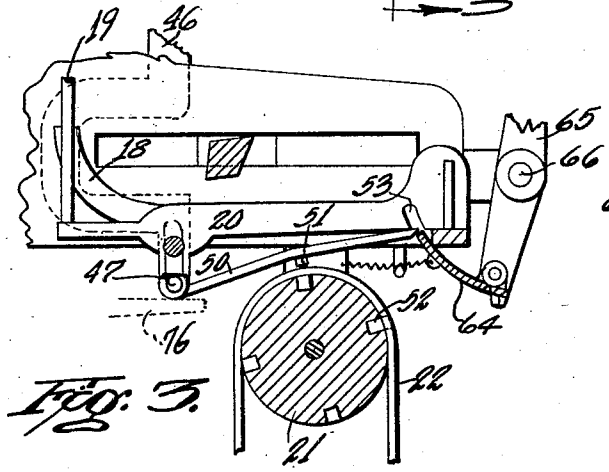


Fig. 3.

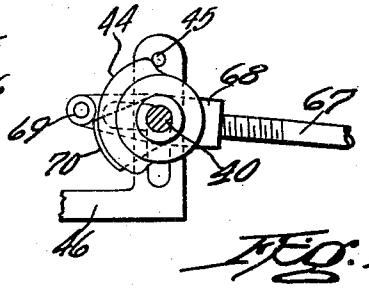


Fig. 4.

Inventor:—
Albert A. Gordon
Coulthgate Gage Hawley
Attorneys

Patented Oct. 6, 1931 1,826,311

UNITED STATES PATENT OFFICE

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

LOOM DOBBY

Application filed February 21, 1930. Serial No. 430,419.

This invention relates to a loom dobby of the general type disclosed in my prior application Serial Number 385,507, filed by me August 13, 1929. In that application, I have shown a construction by which a dobby may be indicated from a perforated pattern sheet and in which the occurrence of a perforation renders the corresponding indicating finger inoperative to initiate a harness change.

It is the object of my present invention to provide an attachment for such dobbies by which the entire set of indicating fingers may be rendered inoperative when it is desired to reset the harnesses or pattern or to turn the loom or the pattern cylinder backward or forward for any purpose.

A further object is to provide a connection by which the pattern mechanism will be disconnected from the driving shaft whenever the indicating fingers are rendered inoperative as above described.

My invention further relates to arrangements and combinations of parts which will be hereinafter described and more particularly pointed out in the appended claims.

A preferred form of the invention is shown in the drawings, in which

Fig. 1 is a side elevation of my improved dobby;

Fig. 2 is a sectional plan view thereof, taken substantially along the line 2—2 in Fig. 1;

Fig. 3 is a partial sectional side elevation, taken along the line 3—3 in Fig. 2; and

Fig. 4 is a detail side elevation to be described.

Referring to the drawings, I have shown a loom dobby comprising a frame 10 supporting a rock shaft 11 continuously oscillated from a suitable source of power (not shown) and effective to actuate a rock arm 12 connected by links 13 to upper and lower knife bars 14. Harness jacks 15 are provided with levers 16 to which are connected upper and lower dobby hooks 17. The lower hooks are positioned for direct engagement by the upturned rear ends of lifter levers 18 and the upper hooks are engaged by lifter rods 19 resting on the rear ends of additional lifter levers 20.

A pattern cylinder 21 supports a perforated pattern sheet 22 and is provided with a worm gear 23 engaged by a worm 24 on an upright shaft 25. A clutch member 26 is keyed to and slidable on the shaft 25 and is adapted to engage a clutch member 27 on a driving shaft 28, aligned with the upright shaft 25.

The clutch member 26 has an annular groove 29 which receives studs on the end of a yoke lever 30 by which it may be raised against the pressure of a spring 31. The lever 30 is pivoted at 32 on a fixed bracket 33 and has an upwardly projecting portion 34 positioned adjacent an irregular cam 35 mounted on a cross shaft 36 supported in bearings in the frame 10. The construction and mode of operation of the cam 35 will be hereinafter described.

A cross shaft 40 is mounted in bearings in the frame 10 and is connected to the upright shaft 25 by bevel gears 41 and 42. A hand wheel 43 is also provided for manual rotation of the shaft 40.

Cams 44 on the shaft 40 engage studs 45 on supporting members 46 suitably guided for vertical movement and having a cross shaft 47 (Fig. 3) secured in their depending lower ends.

Indicating members 50 are pivoted on the cross shaft 47 and are provided with studs 51 adapted to engage perforations in the record sheet 22 and also to extend into openings 52 in the pattern cylinder 21.

The lifter levers 18 and 20 are provided with segmental slots 53 (Fig. 3) in which the upper edge of a segmental knife bar 64 may be received. The knife bar 64 is mounted at the lower end of rocking levers 65 pivoted at 66 and connected by links 67 (Figs. 1 and 2) to slotted heads 68 (Fig. 4) supported by and slidable across the shaft 40 and provided with studs or rolls 69 engaging additional cams 70 on the shaft 40.

In the ordinary operation of the machine, the rock shaft 47 is raised, withdrawing the studs 51 in the indicating members 50 from the pattern sheet 22; the pattern cylinder is then advanced ninety degrees; the cross shaft 47 is returned to its lower position and the knife bar 64 is then oscillated, engaging the beveled ends of such indicating members 50

as are supported on unperforated portions of the record sheet. Such engagement causes the corresponding lifter levers 18 or 20 to be raised with resultant movements of the harnesses associated therewith.

The mechanism thus far described is largely the same as that disclosed in my prior application and for a detailed description of the construction and operation of the parts thus far described, reference is made to said application.

The shaft 36 is provided with a handle 72 (Fig. 2) by which it may be given a quarter turn, thus moving the cam 35 from the full line to the dotted line position indicated in Fig. 1.

A lever 74 is mounted on a rock shaft 75, supported in fixed bearings, and the end of the lever 74 is positioned for engagement by one face of the cam 35. Fingers 76 on the rock shaft 75 extend under the cross rod 47 on which the indicating members 50 are pivoted.

When it is desired to rotate the pattern cylinder 21 in either direction without causing any of the hooks 17 to be engaged by the knife bars 14, the handle 72 is swung over to move the cam 35 from the full line to the dotted line position indicated in Fig. 1.

The cam 35 is provided with three faces A, B and C. The lever 74 normally rests agains the face A and upon movement of the cam is brought into engagement with the face B, thus forcing the lever downward and raising the cross shaft 47 and indicating members 50, so that the depending studs 51 on the indicating members are held free of the pattern sheet 22.

At the same time, the portion 34 of the lever 30 is shifted from engagement with the cam face B to engagement with the cam face C, thus rocking the lever 30 to raise and disconnect the clutch collar 26. This leaves the upright shaft 25 free to be rotated in either direction by the hand wheel 43. The pattern sheet may then be moved forward or backward as desired so that any desired change in relationship between the pattern sheet and the harnesses may be effected. Or conversely, the loom may be operated and the shaft 11 and rocker arm 12 may be oscillated without causing engagement of the knife bars 14 with any of the hooks 17 and consequently without causing movement of the harnesses. The parts may be restored to operative relation by returning the cam 35 to the full line position in Fig. 1.

Having thus described my invention and the advantages thereof, I do not wish to be limited to the details herein disclosed, otherwise than as set forth in the claims, but what I claim is:—

1. In a loom dobby, a series of indicating members, a perforated pattern sheet effective to determine operative or inoperative positions for said members, driving mechanism therefor, and a manually operated device by which all of said indicating members may be rendered inoperative and by which said driving mechanism may be simultaneously disconnected.

2. In a loom dobby, a series of indicating members, a perforated pattern sheet effective to determine operative or inoperative positions for said members, driving mechanism therefor, and a single cam effective to render all of said indicating members inoperative and to disconnect said driving mechanism.

3. In a loom dobby, a series of indicating members, a perforated pattern sheet effective to determine operative or inoperative positions for said members, driving mechanism therefor, and a single cam effective to render all of said indicating members inoperative, to disconnect said driving mechanism, and to hold said parts locked in inoperative positions.

4. In a loom dobby, a knife bar, a series of dobby hooks, lifter levers therefor, a series of indicating members for said lifter levers, a pattern cylinder, a perforated pattern sheet on said cylinder effective to determine operative and inoperative positions for said members, driving mechanism for said pattern cylinder, automatic means for intermittently moving all of said indicating members to inoperative position, means acting through the operatively positioned indicating members and corresponding lifter levers for positioning the associated dobby hooks in the path of the knife-bar, and an additional manually operated device by which all of said indicating members may be rendered temporarily inoperative independent of said automatic means.

In testimony whereof I have hereunto affixed my signature.

ALBERT A. GORDON.