

(No Model.)

H. WYMAN.
DRIVING MECHANISM FOR LOOMS.

No. 423,103.

Patented Mar. 11, 1890.

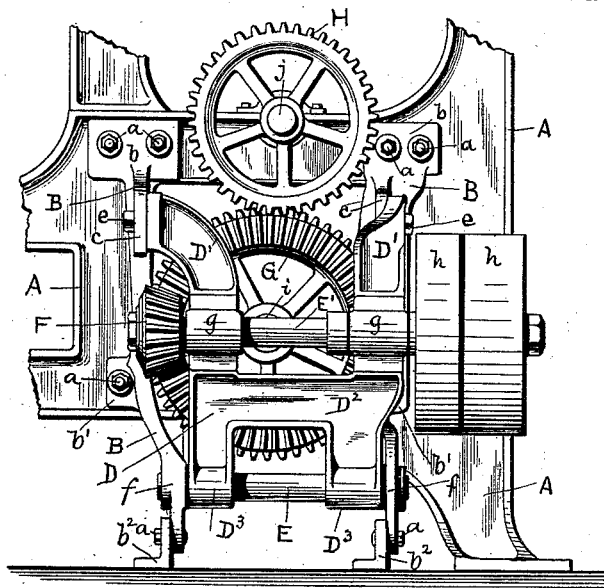


Fig. 1.

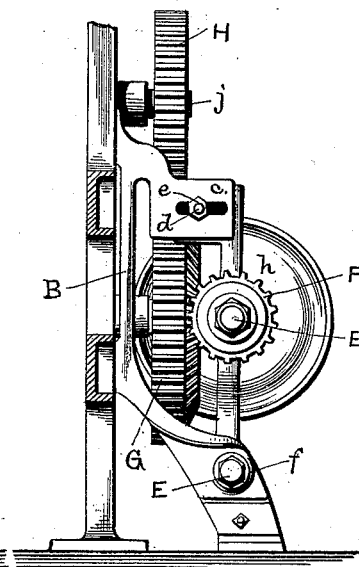


Fig. 2.

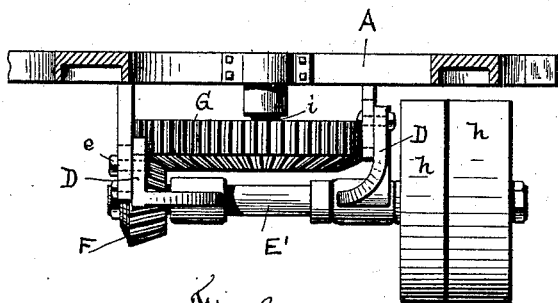


Fig. 3.

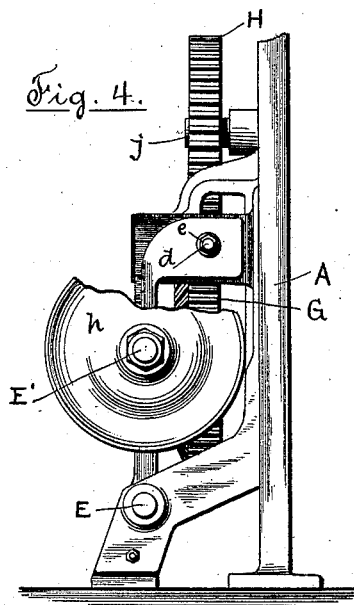


Fig. 4.

Witnesses

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UNITED STATES PATENT OFFICE.

HORACE WYMAN, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO THE
CROMPTON LOOM WORKS, OF SAME PLACE.

DRIVING MECHANISM FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 423,103, dated March 11, 1890.

Application filed May 1, 1889. Serial No. 309,226. (No model.)

To all whom it may concern:

Be it known that I, HORACE WYMAN, a citizen of the United States, residing at Worcester, in the county of Worcester and Commonwealth of Massachusetts, have invented certain new and useful Improvements in the Driving Mechanism for Looms; and I do hereby declare the following to be a full, clear, and exact description of my invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to the class of looms operated by power transmitted from a main driving-shaft to a cross driven shaft and thence to a crank-shaft, and has for its object to provide a means of quickly changing the driving-gear so as to vary the relative speed of the cross driven shaft. To obtain this I combine with the main shaft and the cross driven shaft an adjustable frame provided with rigid boxes to support the driving-shaft, and thereby I am not only enabled to quickly change the driving-gear and vary the relative speed of the driven shaft, but I also secure a firm support for the driving-shaft in the different positions in which it may be fixed, and also am able to keep the boxes of the shaft in proper alignment, and to provide a strong and unyielding support against the side-thrust of the bevel-gearing connecting the shafts.

The construction of the frame and its supports is economical, and great accuracy in fitting the same is secured.

In the drawings which accompany this specification and make a part thereof, Figure 1 is a side elevation of my invention attached to a loom-frame, only partially shown. Fig. 2 is a front elevation. Fig. 3 is a plan view. Fig. 4 is a rear elevation with a portion of the driving-pulleys broken away.

In the drawings like letters refer to similar parts.

In the drawings, A represents a loom-frame, to which are attached the two stands B B, each provided with three feet $b\ b'\ b^2$, secured by bolts and nuts a , or in any other suitable manner.

D is an adjustable frame, composed of two side pieces D' , connected by the cross-piece D^2 . To provide for the adjustment of the said frame, one end thereof is pivoted to suitable

supports or brackets, the other end being held to other brackets by bolts passing through slots in the brackets last mentioned and projecting portions of the frame D.

In the embodiment of my invention represented in the accompanying drawings I have pivoted the adjustable frame at its lower side and applied the bolts referred to at its upper side. Thus in the drawings $D^3\ D^3$ are feet formed at the lower side of the frame D, and E is a fulcrum-pin passing through the said feet and fulcrum-hubs $f\ f$ in the legs of the stands B B. The cross-piece D^2 , as is apparent, may be extended so as to cover the fulcrum-pin. The stands B B are provided with ears $c\ c$, slotted to receive the bolts d , set into the upper portion of frame D, the bolts being screw-threaded to fit the nuts e , whereby the frame D is secured in any desired position.

The adjustable frame D is fitted with rigid boxes $g\ g$, made as a part of the frame, to receive the driving-shaft E' . On one end of the shaft suitable driving-pulleys $h\ h$ may be arranged, and on the other end the pinion F is fitted to engage the bevel-gear G on the driven shaft i , which in turn engages the gear H on the crank-shaft j . The gear H is properly the same size as the bevel-gear G.

When it is desired to put a pinion in place, the nuts e on the bolts d are loosened, so as to permit the adjustable frame to be moved outwardly on the fulcrum, the gear F is secured to the shaft, the frame is pressed inward until the teeth of the gear F properly engage the teeth of the bevel-gear G, and the nuts e on the bolts d are tightened sufficiently to hold the adjustable frame rigidly in place.

Upon necessity requiring a change in the speed of the loom, the adjustable frame is loosened and pressed outward, as before, a suitable pinion is substituted for the one on the shaft, the frame is pressed back so that the gears F and G properly engage, the nuts on the bolts moving in the slots are tightened, and the loom is ready to be started.

It is readily seen that this may be very quickly done. As the sides of the adjustable frame D are rigidly connected by the cross-piece D^2 , it is apparent that the boxes being properly bored in the frame and the shaft E being properly hung the shaft cannot get out of

alignment, as it is made to assume the different positions before described.

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

1. The combination, with a cross-shaft having a gear thereon, a driving-shaft having a gear in engagement with the gear on the cross-shaft, and supporting-stands, of an adjustable frame provided with rigid boxes for said driving-shaft made integrally with it, one end of the said frame being pivoted to the said supporting-stands, and bolts passing through slots in the said adjustable frame and the supporting-stands and serving to hold the frame in adjusted position, as and for the purposes described.

2. The combination, with a cross-shaft having a gear thereon, a driving-shaft having a gear in engagement with the gear on the cross-shaft, and supporting-stands, of an adjustable frame composed of two side pieces connected by a cross-piece and provided with rigid boxes for said driving-shaft made integrally with it, one end of the said frame being pivoted to the said supporting-stands, and bolts passing through slots in the said adjustable frame and the supporting-stands and serving to hold the frame in adjusted position, as and for the purposes described.

3. The combination of the loom-frame, stands secured thereto, the main driving-

shaft and a cross driven shaft, with their intermediate gears, and an adjustable driving-shaft frame composed of two side pieces connected by a cross-piece and provided with rigid boxes to support the driving-shaft, one end of the side pieces of the adjustable frame turning on a fulcrum-pin and the other end secured by bolts fitted to be moved in slots to the said stands, as and for the purposes described.

4. The combination, with the loom-frame, a cross-shaft having a gear thereon in engagement with the gear on the cross-shaft, two supporting-stands, each provided with three feet for the purpose of attaching the stands firmly to the loom-frame and the floor, and fastening-bolts, of an adjustable frame provided with rigid boxes for said driving-shaft made integrally with it, one end of the said frame being pivoted to the said supporting-stands, and bolts passing through slots in the said adjustable frame and the supporting-stands and serving to hold the frame in adjusted position, as and for the purposes described.

In testimony whereof I have hereunto set my name, in the presence of two witnesses, this 25th day of April, 1889.

HORACE WYMAN.

Witnesses:

HENRY W. KING,
M. L. POTTER.