

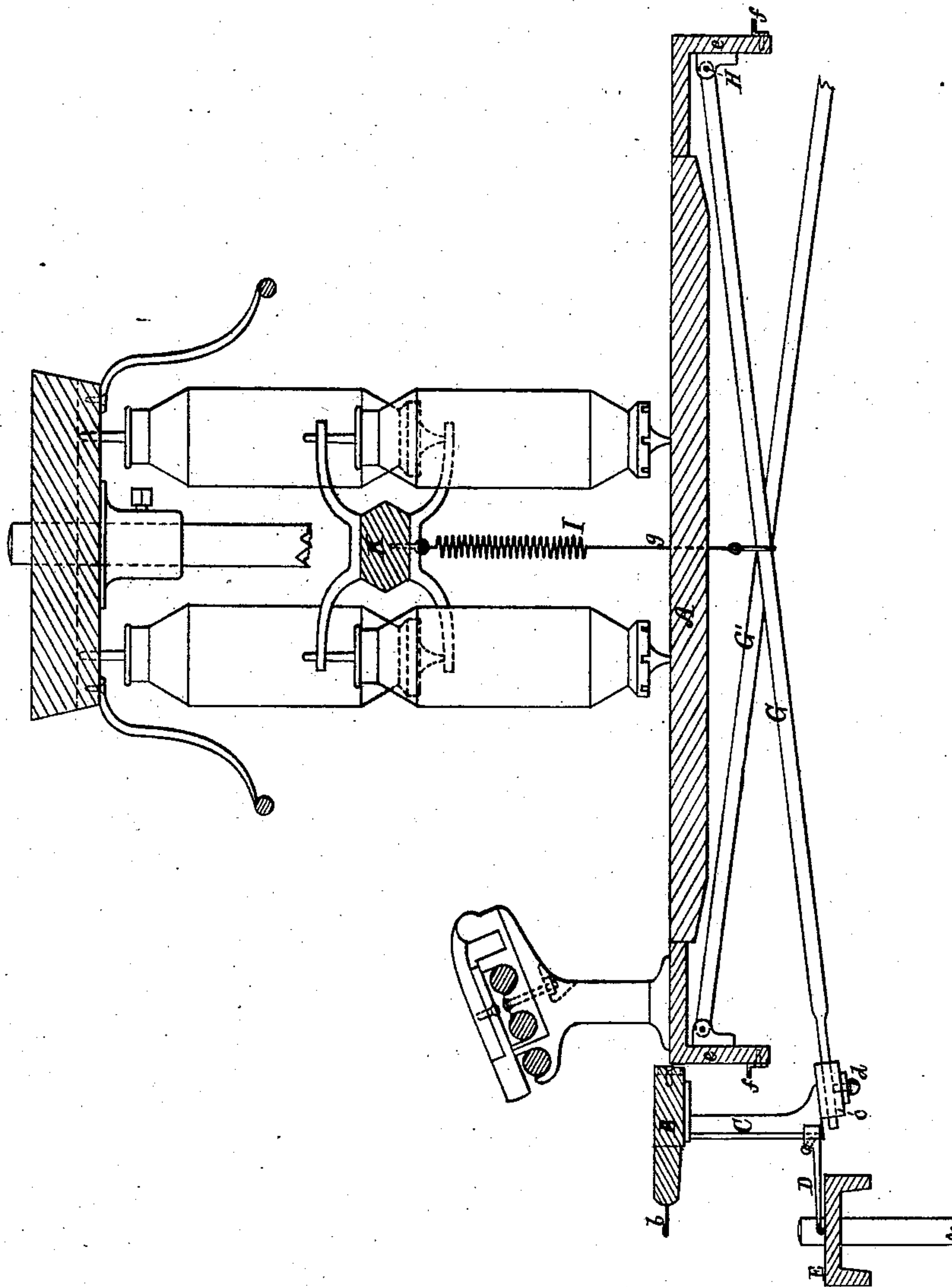
(No Model.)

J. BIRKENHEAD.

YARN GUIDE SUPPORT FOR RING SPINNING FRAMES.

No. 260,360.

Patented July 4, 1882.



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN BIRKENHEAD, OF MANSFIELD, MASSACHUSETTS.

YARN-GUIDE SUPPORT FOR RING-SPINNING FRAMES.

SPECIFICATION forming part of Letters Patent No. 260,360, dated July 4, 1882.

Application filed April 3, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN BIRKENHEAD, of Mansfield, in the county of Bristol, of the State of Massachusetts, have invented a new and useful Improvement in the Yarn-Guide Supports for Ring-Spinning Frames; and I do hereby declare the same to be described in the following specification and represented in the accompanying drawing, which exhibits a transverse section of the upper part of a ring-spinning frame provided with my invention, the nature of which is defined in the claim hereinafter presented.

In practice it has been found objectionable to sustain the yarn-guide rail by vertical guides, and to apply to such rail or its supports one or more counterbalancing-springs, in manner as represented and described in Letters Patent No. 214,749, granted to me on April 29, 1879, for the friction attendant on the upward movement of the yarn-guide and its supports has proved an obstacle to the starting thereof by the ring-rail acting against the arm extending from the supporting standard or standards of the yarn-guide, the result of such obstacle being a more or less uneven laying of the yarn on the bobbin. My present improvement is to avoid this difficulty, and in carrying it out I combine with the machine-frame and each of the thread-guide boards and its sustaining-standards, provided with adjustable arms to extend from it over the ring-rail, counterbalancing-springs and pivoted supporting-arms, the said arms being extended from the guide-rail standards across the machine-frame, and pivoted at their rear parts thereto, and supported by the counterbalancing-springs suspended from the creel. At its ends the thread-guide board may be furnished with friction-wheels to bear against the next adjacent vertical ends of the frame.

In the drawing a thread-guide is shown at *b* and its carrying-board at *B*, the latter being supported near each of its ends by a standard, *C*, from which there projects over the ring-rail *E* an arm, *D*, applied to the standard so as to be adjustable vertically thereon. The lower part of the standard has a tubular projection, *e*, provided with a set-screw, *d*, such projection being to receive in its bore the supporting-arm *G*, which extends across the frame *A* in manner as shown, and is pivoted to it, as represented at *H*.

G' is one of the supporting-bars of the opposite yarn-guide board. By means of the tubular projection *e* and its set-screw *d* the standard *C* may be fastened to the arm *G*, and be adjusted thereon, so as to bring the guide-board *B* at its proper distance from the front portion, *e*, of the frame *A*, there being fixed to the said portion *e* a rest, *f*, to receive and sustain the yarn-guide board *B* when at its lowest position.

Each yarn-guide board is to have to each of its supporting-standards *C* an arm, *G*, and there should be over such arm a counterbalancing spiral spring, *I*, which, suspended from the creel *K*, should be connected with the arm by suitable means—as, for instance, a cord, *g*. The springs *I*, when the guide-board *B* is upon the rest or rests *f*, should operate with a lifting-power sufficient to or about to counterbalance the weight of the arms *G*, and the thread-guides, the guide-board *B*, its standards *C* and their arms *D*, and the tubes *e* and their screws *d*, in order that on the ring-rail rising and impinging against the arms *D* it shall meet with little, if any, resistance to effect the starting upward of the guide-board.

In the place of the spring *I* and cord *g* to each of the arms *G*, I sometimes make use of a cord going about a pulley, and fixed at one end to the arm and at the other to a weight, the arms and their adjuncts being counterbalanced by the weights. The hinge-pin of the arm *H*, I usually arrange at an altitude which shall be in a horizontal plane situated midway of the rise of the lower face of the board *B* above the rest *f*.

I would remark that I do not herein claim the mode represented in my patent aforesaid of sustaining a yarn-guide board and counterbalancing-springs with it.

What I claim as my present invention is as follows, viz:

The combination, with the frame of a ring-spinning machine, and with each of its yarn-guide boards and its supporting standards, of pivoted arms and counterbalancing-springs, arranged and applied substantially as set forth, the standards being provided with adjustable arms to extend from them to and over the ring-rail, as represented.

JOHN BIRKENHEAD.

Witnesses:

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