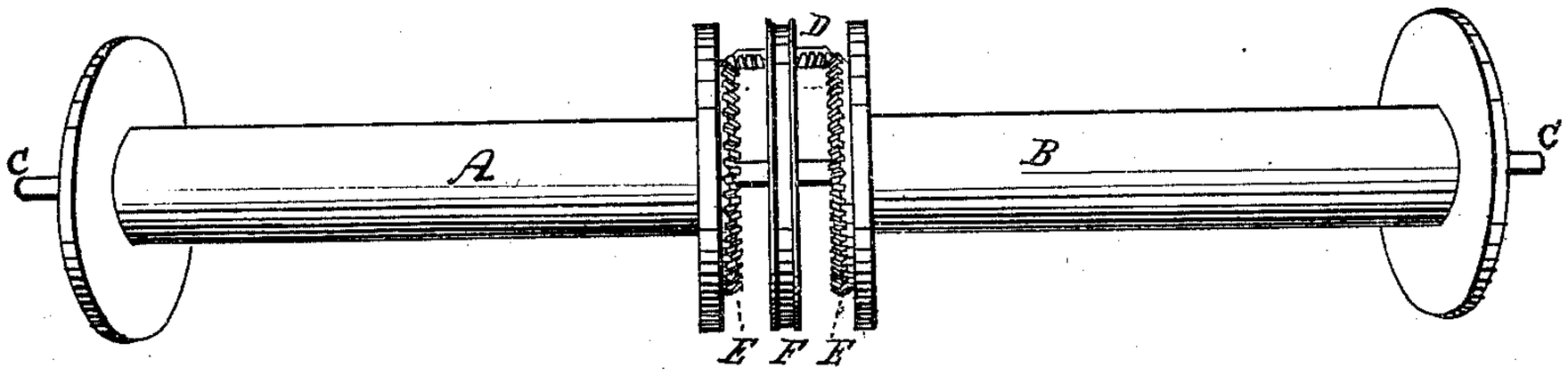
B. G. Dawley.

Loom Beam.

No. 16,306. Patented Dec. 23, 1856.



UNITED STATES PATENT OFFICE.

B. G. DAWLEY, OF NORTH PROVIDENCE, RHODE ISLAND, ASSIGNOR TO Z. ALLEN, OF NORTH PROVIDENCE, RHODE ISLAND.

LOOM.

Specification of Letters Patent No. 16,306, dated December 23, 1856.

To all whom it may concern:

Be it known that I, BENJAMIN G. DAWLEY, a citizen of the United States, residing in the town of North Providence, in the State of Rhode Island, have invented a new and useful Improvement in Connecting Two Separate Yarn-Beams in One Loom for Weaving Wide Cloths from Two Combined Warps, a full and exact description of which is herein given, accompanied by a drawing thereof.

In the process at present adopted for weaving cloths of the width of more than five or six quarters of a yard, the web is composed of two or more sections of warp combined together in the loom. These sections of the warp are made thus narrow for the convenience of the workmen in reaching over the selvages to mend the threads that may become broken in the operation of sizing and dressing the yarn. It is practically found to be impossible to wind precisely an equal length of yarn upon each beam in the process of dressing. Consequently, when the warp yarn is unwound and given off therefrom, during the operations of weaving, one side of every piece of wide cloth, thus composed of two or more combined sections, has a loose, bagging selvage. Attempts to remedy this imperfection have hitherto proved unsuccessful; and for this reason such wide cloths are less valuable, and nearly unfit for certain uses, such as painted floor cloths, oil cloths, sheets for beds &c. In addition to this disadvantage, the unequal tension on the tighter sections of the warp causes the threads to break more frequently while being woven into the fabric, and the labor and cost of weaving are thereby enhanced.

To obviate these imperfections in weaving wide cloths, is the object of the improvement herein specified.

The two yarn beams are represented in the drawing by A and B; which are slipped over a stout iron rod, C, C, that serves as a common axis for both of them. These two beams are connected together by a small intermediate bevel wheel, D, the teeth of which are designed to be simultaneously engaged with the teeth of each of the bevel wheels E, E, attached to the approximated heads of the two yarn beams. This intermediate bevel wheel, D is sustained between the geared heads of the two yarn beams by a circular plate or disk of cast iron, F, which has freedom of motion to revolve with the yarn beams on the common axis C.

To produce the reaction necessary to hold back the warp yarn during the process of weaving, a friction strap or cord may be applied to the plate F,—or any other contrivance adapted for this purpose.

By means of the intermediate wheel, D, the two yarn beams A and B, are so peculiarly connected together that the resistance of the friction on the plate F, is distributed equally to the threads of the warp yarn wound on each of them, whereby both of the combined sections of the warp yarn are let off evenly, to produce uniform selvages of the fabric, although there may be a difference in the circumference of the beams.

What I claim as my invention and desire to secure by Letters Patent, is—

The use of an intermediate wheel, D, or wheels, to balance and regulate the tension in the delivery of the warp from two or more yarn beams combined together to form one webb of wide cloth, substantially as above described.

Providence, July 1st, 1856.

BENJN. G. DAWLEY.

Witnesses:

WILLIAM D. ELY,

PHILIP SCOTT.