W. Potter & A. W. Sheldon.

Dressing Warps.

No. 51,082. Patented Nov. 21, 1865.

Fig. 1.

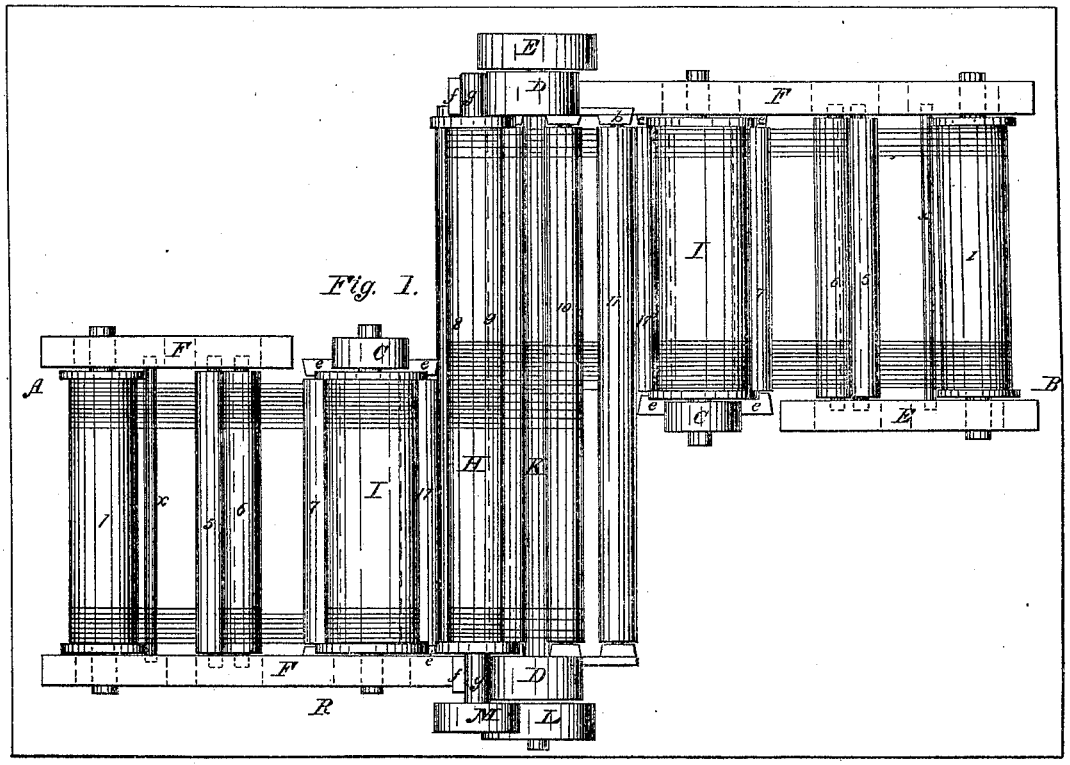
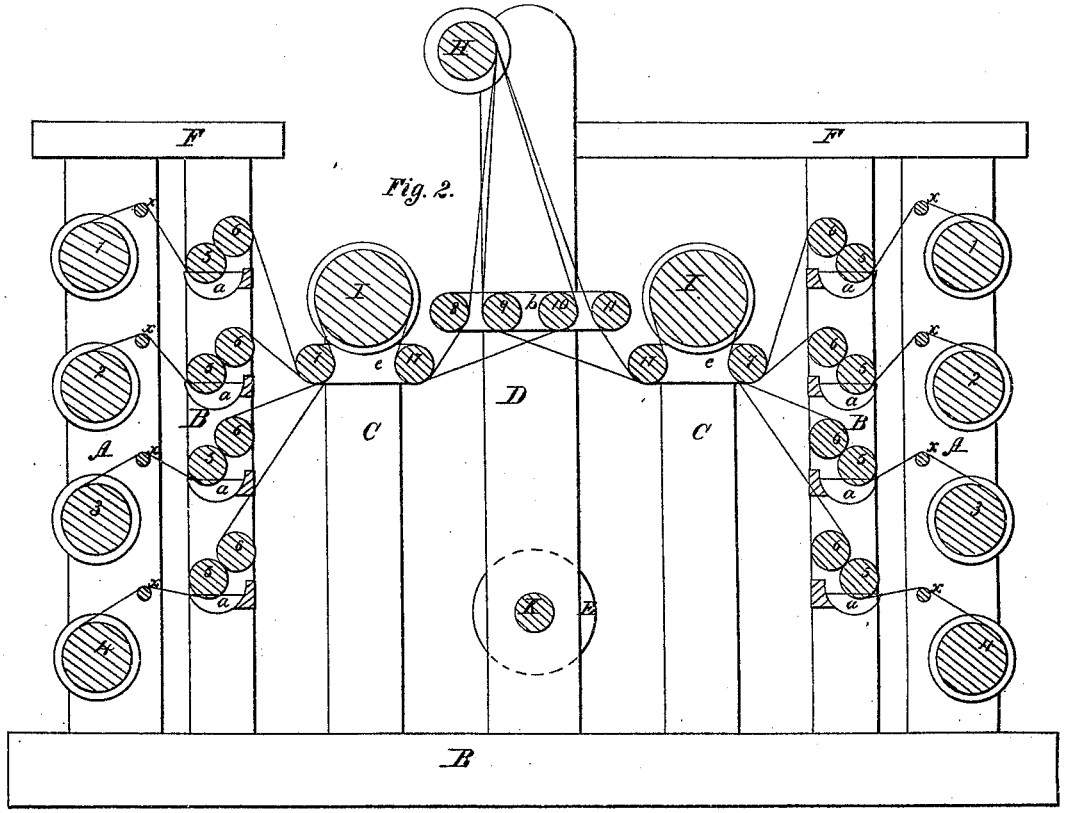


Fig. 2.



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UNITED STATES PATENT OFFICE.

WM. POTTER AND ABIAL W. SHELDON, OF LOWELL, MASSACHUSETTS.

IMPROVEMENT IN MACHINES FOR DRESSING AND BEAMING WARPS.

Specification forming part of Letters Patent No. **51,082**, dated November 21, 1865.

To all whom it may concern:

Be it known that we, WILLIAM POTTER and ABIAL W. SHELDON, both of Lowell, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Machines for Dressing and Beaming Warps for Broad Looms; and we do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a plan or top view of one of our improved machines. Fig. 2 is a longitudinal vertical section in the line A B of Fig. 1.

Similar letters of reference indicate corresponding parts in both figures.

Our invention consists in arranging a center frame between two or more dresser-frames, and which frame is two or more times as long as each dresser-frame, and when only two dresser-frames are used in connection with the center frame one of the said dresser-frames stands opposite one half the length of the center frame and the other dresser-frame opposite the other half of the length of the center frame, each dresser-frame delivering yarn to one-half of the length of the yarn-beam, which is hung on the center frame near the top of it; also, in the employment of four guide-rolls arranged in bearings on the center frame to guide the yarn to the yarn-beam.

In the drawings, A A are the usual supports for the section-beams 1 2 3 4, and serve, also, to hold the guide-rolls *x x x x*. The supports B B are connected with supports A A at the top by girts F F, and at the bottom by being fastened to the floor R.

The sizing-rolls 5 5 5 5 and 6 6 6 6 revolve on bearings in supports B B. Size-boxes *a a a a* are secured to the same beneath the bottom sizing-rolls, 5 5 5 5, and of sufficient height to allow the said rolls to come in contact with the size which the said boxes contain, all as clearly shown in Fig. 2.

Drying-cylinders I I revolve in bearings near the top of stands C C, and binder-rolls 7 17 are placed at each side of and beneath the drying-cylinders, and revolve on journals in plates or bearings *e e*.

The center frame, D D, contains the driving-shaft K near the bottom of the same. Pulleys E and L are on the ends of the said shaft.

The yarn-beam H rotates on journals *g g*, in stands or bearings *f f*, near the top of the frame D D, and receives motion by a belt running from pulley L to pulley M, as shown in Fig. 1.

Guide-rolls 8 9 10 11 are arranged on bearings in plates or stands *b b*, Fig. 1, and *b*, Fig. 2, and in a proper position to guide the yarn from the binder-rolls 17 17 to the yarn-beam H.

In the ordinary mode of dressing and beaming warps for broad looms several spools of yarn are placed in a creel, the yarns go through the dressing-frame, over one or more drying-cylinders, and are brought together in a large strand and wound or run onto a reel between two rows of pins. Several sets of spools of yarn are thus run onto the reel until a sufficient length of the reel has been covered to correspond with the length of a yarn-beam. A long yarn-beam is then placed on bearings or stands near the floor and back of the reel, and all the yarn run off from the reel onto the long yarn-beam. The numerous operations of this process of warping long beams render it quite expensive; besides, it is difficult to obtain the same tension to the yarn in the different large strands. The yarn on a beam warped by this process will be light in some places and slack in others, and when drawn into a loom for weaving will not produce so even a web of cloth as a beam of yarn where the tension of all the yarn is equal.

In carrying out our improvement, instead of winding several sets of spools of yarn onto a reel and then running the said yarn from the reel onto a yarn-beam, we hang four section-beams, 1 2 3 4, on each side of our machine, on supports A A, in bearings made to receive them, each section-beam being filled or covered with yarn. The ends of the yarn are conveyed from section-beams 1 2 3 4 on each side of our machine, over guide-rolls *x x x x*, to sizing-rolls 5 5 5 5, passing under the said rolls and up over sizing-rolls 6 6 6 6; thence forward and under binder-rolls 7 7, upward and over drying-cylinders I I, downward and under binder-rolls 17 17. Leaving the said binder-rolls, the yarns are separated, one half of them passing under guide-rolls 8 and 10, and the other half of them under guide-rolls 11 and 9, and thence upward to the yarn-beam H, to which they are all secured. Motion is given to the yarn-beam H by a belt running from pulley L to pulley M, and all the yarn is run off from the section-beams, through the sizing and dressing apparatus, and onto the yarn-beam H, all at one

operation. Friction is applied to the section-beams 1 2 3 4 on both sides of our machine, to insure an even tension to all the yarns as they are drawn off from the section-beams through the dressing apparatus and onto the yarn-beam H, by which means we are enabled to dress and warp a long beam of yarn and preserve a more equal tension to all the yarns than by the ordinary mode. All the yarns receive a proper amount of sizing in passing through the size in the size-boxes under the sizing-rolls, and are dried by passing over the drying-cylinders I I, which are heated by steam.

Motion may be given to the yarn-beam H by gears, instead of a belt, if desired.

Warps are sometimes used when dressing is not required, and when such warps are beamed on our improved machine the dressing may be dispensed with.

The object of our invention will be readily seen. When two or more narrow sections of yarn are passing from two or more dressing-frames onto the long yarn-beam H the operator may easily reach to any part of either section to perform all necessary operations by passing between the sections, and a yarn-beam of any length may be filled with yarn by employing a sufficient number of dressing-frames on each side of the frame D D, each dressing-frame delivering yarn to that portion of the length of the yarn-beam H opposite itself, and the tension of all the yarns will be nearly equal.

We are aware that the dressing-frames have been placed on opposite sides of a center frame, and all of them of the same length, for dressing and beaming warps for narrow looms. This we do not claim; but

What we do claim as new, and desire to secure by Letters Patent, is—

1. The combination and arrangement of the long center frame, D D, with two or more dressing-frames of ordinary length, substantially as herein described and shown, and for the purpose specified.

2. Four guide-rolls, 8 9 10 11, or their equivalents, arranged as herein specified, for the purpose set forth.

WILLIAM POTTER.
A. W. SHELDON.

In presence of—
JOHN E. CRANE,
J. L. WHITNEY.