

B. SAUNDERS.
WARP DRESSER.

No. 81,826.

Patented Sept. 1, 1868.

Fig. 1.

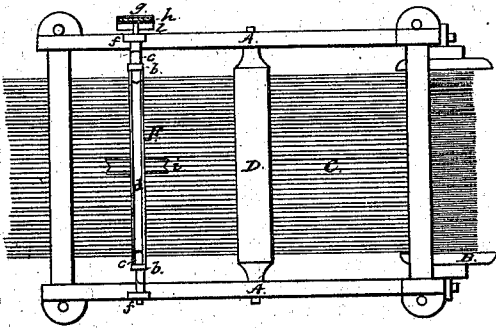


Fig. 4.

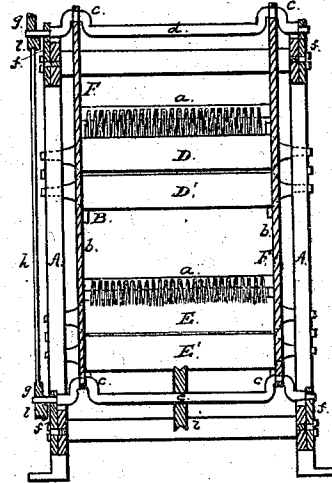


Fig. 5.



Fig. 2.

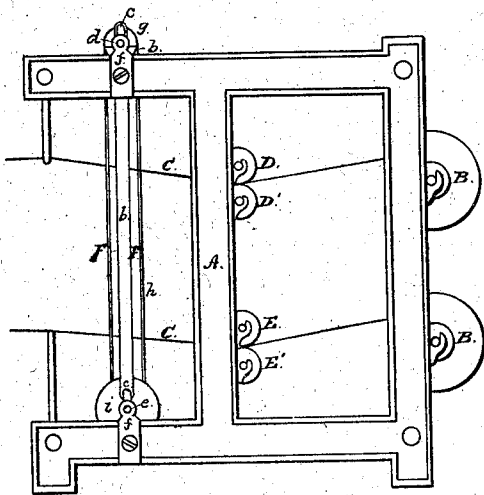
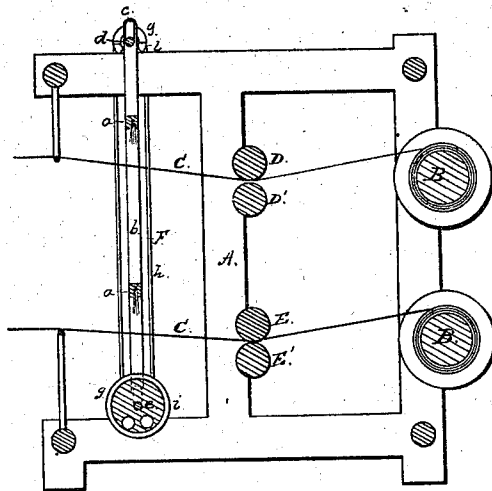


Fig. 3.



Witnesses:

L. N. Pipes.
L. N. Moellen

Inventor.

Benj. Saunders
by his attorney
R. M. Eddy

United States Patent Office.

BENJAMIN SAUNDERS, OF NASHUA, NEW HAMPSHIRE, ASSIGNOR TO HIMSELF AND ALBERT H. SAUNDERS.

Letters Patent No. 81,826, dated September 1, 1868.

IMPROVEMENT IN WARP-DRESSERS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL PERSONS TO WHOM THESE PRESENTS MAY COME:

Be it known that I, BENJAMIN SAUNDERS, of Nashua, in the county of Hillsborough, and State of New Hampshire, have invented a new and useful Improvement in Warp-Dressers; and 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 top view,

Figure 2 a side elevation,

Figure 3 a vertical and longitudinal section, and

Figure 4 a transverse section of a warp-dresser having my invention applied to it.

The purpose of such invention is to cause the sizing-brush frame to operate with little or no jar or undue vibration.

In the drawings, A denotes the dresser-frame, B B the warp-beams or rollers, C C the warps, and D D', E E' the guide-rollers of such warps. F is the brush-frame, carrying two brushes, *a a*. The vertical side-bars, *b b*, of such frame, F, are supported at their ends on four bell-cranks, *c*, of two horizontal and parallel shafts, *d e*, which are duly sustained in bearings *f*, and are arranged in manner as represented.

A driving-wheel or pulley, *g*, is fixed on the front end of each of the said shafts. An endless band or cord, *h*, travels about the two wheels *g*, and serves to transmit movement from the lower to the upper of them. A driving-pulley, *i*, is fixed on the middle of the lower shaft, and is to be revolved by a band duly applied to it. When such pulley, *i*, is in revolution, it will revolve the lower shaft, which will impart to the brush-frame its proper motions, relatively to the warps, so as to cause the brushes to act on them in the desired manner.

In carrying out my improvement, I counterbalance the brush-frame and its cranks by means of weights *ll*, applied to the driving-pulleys, or by making each of such pulleys heavier on one side than on the other. In fig. 1, the balancing-weight of the upper pulley *g* is shown at *l*, an inner side view of such pulley being represented in Figure 5. The lower pulley *g* is made like the upper one, and provided with such a counterbalance-weight.

The driving-pulley of the lower shaft may also have holes made through it, on one side of its centre, so as to render it heavier on the other side, the holes being arranged on the same side of the centre or axis as the cranks are, the whole being, with the weights of the other pulleys, to effect the counterbalancing of the brush-frame and its operative cranks and brushes.

I have found that when the brush-frame and its operative cranks are so counterbalanced, it will work very smoothly, and with little or no noise or undue vibration, such as will shake the frame of the dresser, as results when the parts are not counterbalanced. Furthermore, that small bands or cords only are necessary to effect the movements of the pulleys of the brush-frame shafts, whereas, without the counterbalancing mechanism, very short and wide belts become requisite.

I claim, in a dresser-frame, the combination of the counterbalance with the brush-frame, its operative cranks and pulleys, as described.

BENJAMIN SAUNDERS.

Witnesses:

E. P. EMERSON,
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