J. B. BANCROFT.

Warping-Machines.

No. 135,619. Patented Feb. 11, 1873.

Fig. 1.

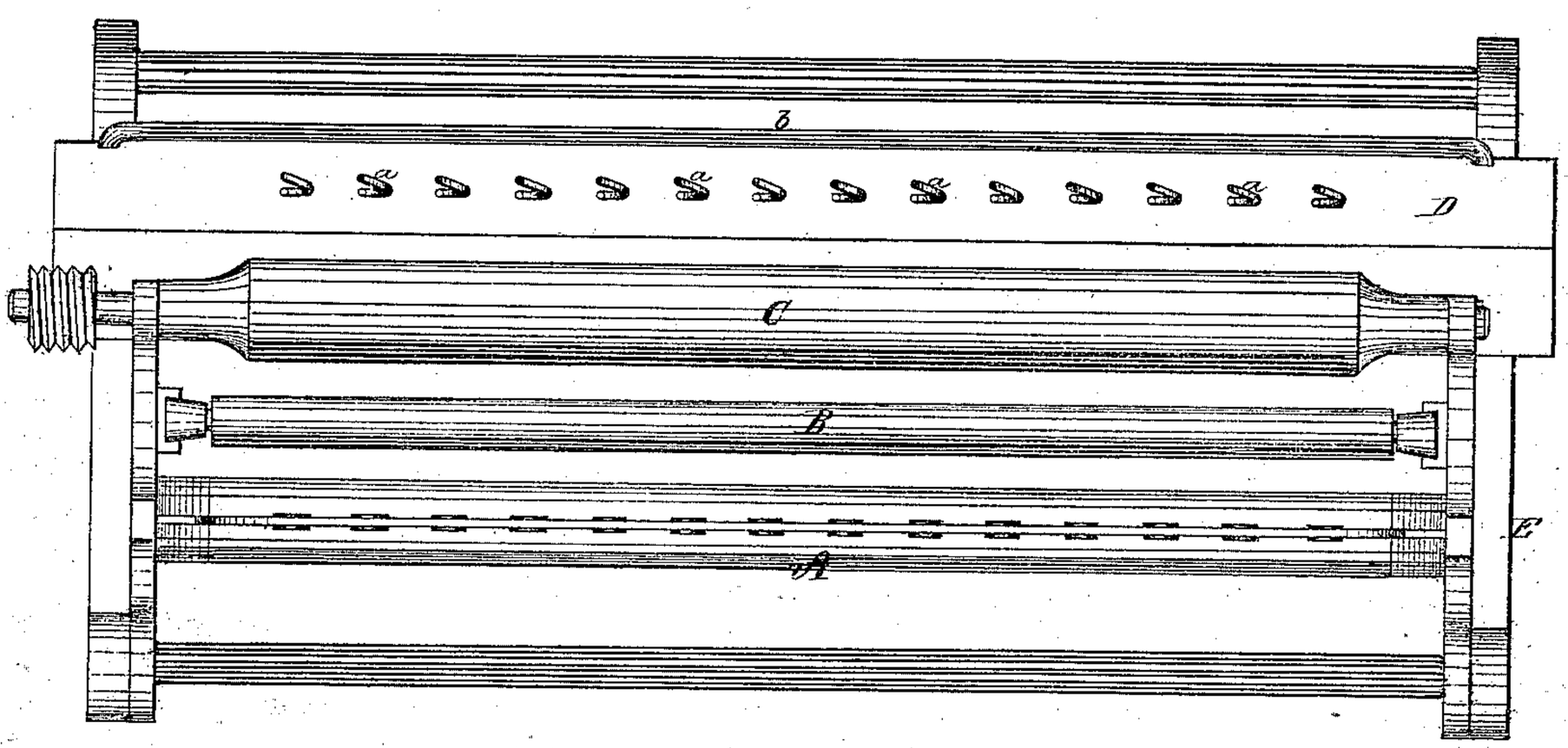
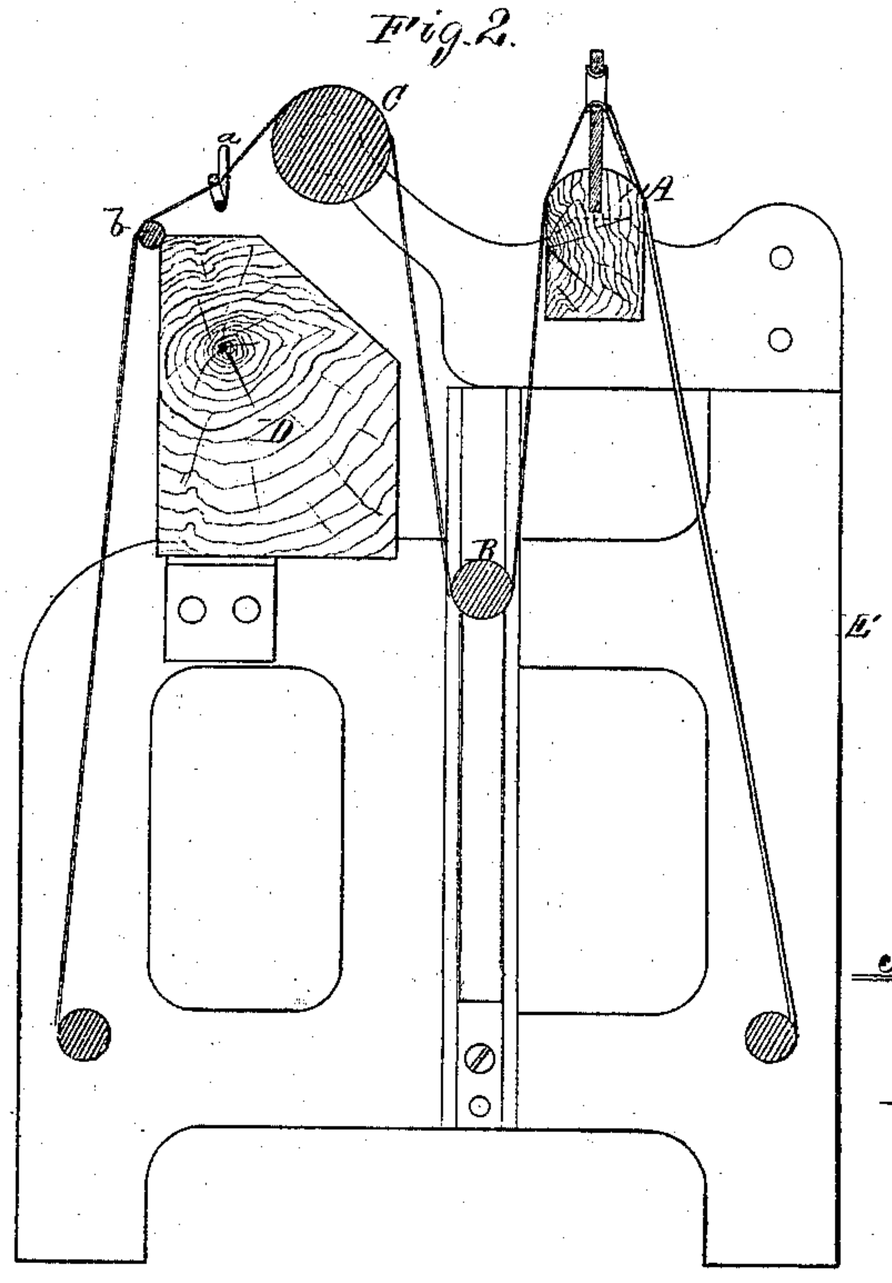


Fig. 2.



Witnesses.

S. N. Pope.

L. N. Möller.

Joseph B. Bancroft.

by his attorney

R. Uhler

UNITED STATES PATENT OFFICE.

JOSEPH B. BANCROFT, OF HOPEDALE, MASSACHUSETTS.

IMPROVEMENT IN WARPING-MACHINES.

Specification forming part of Letters Patent No. **135,619**, dated February 11, 1873.

To all whom it may concern:

Be it known that I, JOSEPH B. BANCROFT, of Hopedale, of the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Warpers; and do hereby declare the same to be fully described in the following specification and represented in the accompanying drawing, of which—

Figure 1 is a top view, and Fig. 2 a vertical and transverse section of a warper including my invention, in the carrying out of which the measuring-roll is arranged between the drop-wire box and the "rising" or "drop" roll, as the case may be, without any intervening roll for the yarn to pass around in going from the rising or drop roll to the measuring-roll.

In the construction of a warper it is very desirable to have it as narrow as possible, in order for an attendant to be able without difficulty to reach across and beyond the reed for the purpose of piecing up a warp-yarn. Many persons attending ordinary warpers find it very inconvenient to reach over the measuring-roll and beyond the reed the necessary distance. My arrangement narrows the warper by making the measuring-roller answer its usual purpose, and that of the guide-roller generally employed for the yarn to pass over in going from the rising or drop roller to the measuring-roller.

In the drawing, A denotes the reed or guide; B, the drop-roller; C, the measuring-roll; and D, the drop-wire box, with its drop-wires *a a* extending above it as usual.

Instead of the roller B being what is termed a drop-roll, it may be what is termed a rising-roll—that is, it may be so applied to the frame E as to be capable of falling or dropping below the measuring-roller; or it may be applied so as to be capable of rising above such measuring-roller, the yarn in the former case, in its passage from the reed or guide to the measuring-roller, being made to run under the drop-roller; but when the rising-roller is used the yarn runs over it, all of which will be well understood by those skilled in the use of warpers.

The drum for supporting and revolving the warp-beam is placed below the drop-wire box, the yarn, after passing over the rail *b* of the said box, being carried down to the beam, which, with its operative drum, is not shown in the drawing.

The passage of the yarn through the reed or guide, and thence under the drop-roll, and thence to and over the measuring-roll, thence through the eye of the wire *a* of the drop-wire box, is indicated at D, it being carried under instead of over the measuring-roll, when a rising-roll is employed instead of a drop-roll. The object of the rising or falling roll is to take up the slack of the yarn.

I make no claim to the improvement in warpers as shown and described in the patent No. 126,358, granted April 30, 1872, to the Hopedale Machine Company as the assignees of William Welch, the inventor.

I claim as my invention or improvement in a warper—

The measuring-roll C, the drop-wires or their box D, the slack-take up roller B, and the reed or guide A, arranged in manner, relatively to each other, substantially as shown and described.

JOSEPH B. BANCROFT.

Witnesses:

E. D. BANCROFT,

W. S. BANCROFT.