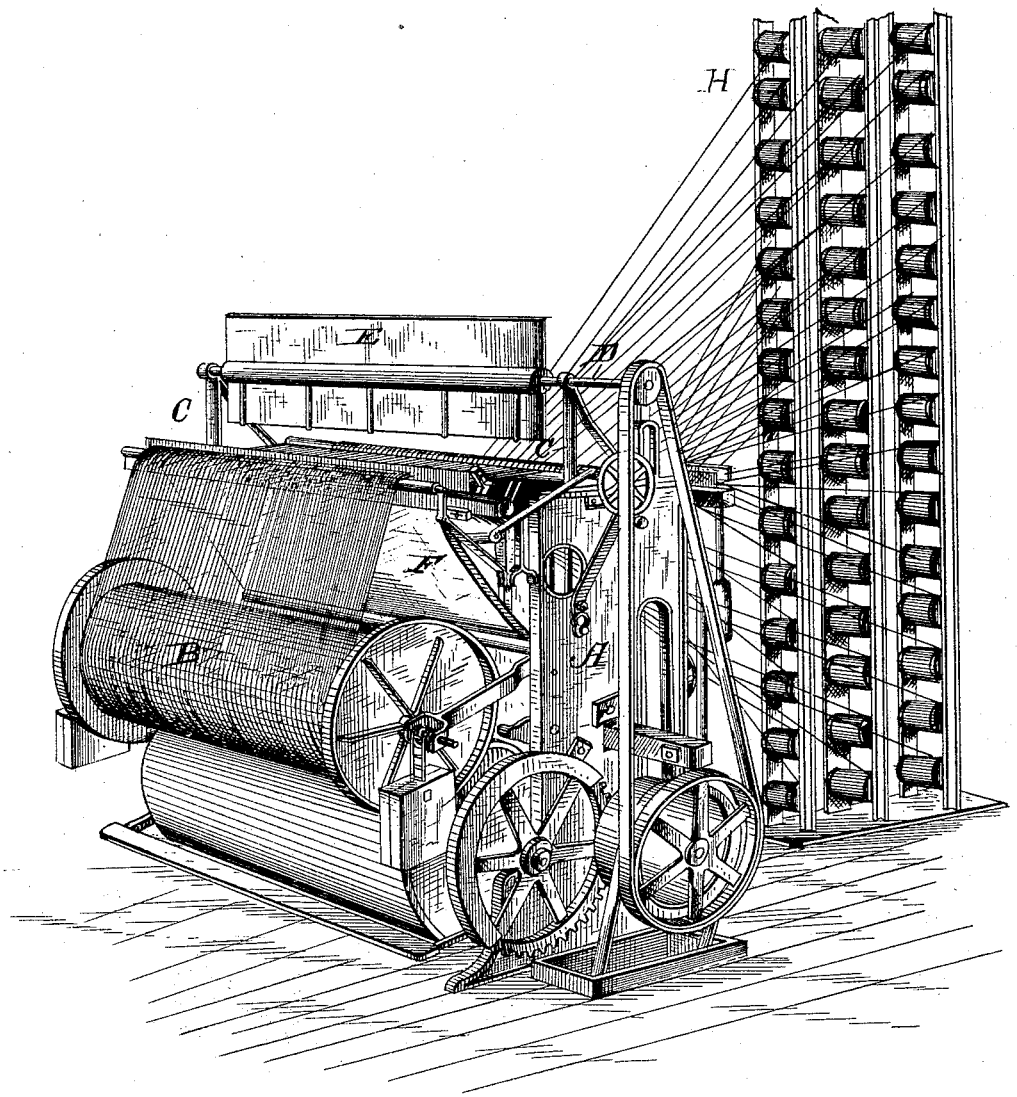
(No Model.)

A. E. KINGSLEY.

WARPING MACHINE.

No. 342,210. Patented May 18, 1886.



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ALBERT E. KINGSLEY, OF SACCARAPPA, MAINE.

WARPING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 342,210, dated May 18, 1886.

Application filed September 25, 1884. Serial No. 143,973. (No model.)

To all whom it may concern:

Be it known that I, ALBERT E. KINGSLEY, a citizen of the United States of America, residing at Saccarappa, in the county of Cumberland and State of Maine, have invented certain new and useful Improvements in Warping-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to warping-machines; and it consists in the combination, with a warping-machine, of a fan located above the yarn and an apron or guide located under the yarn, for carrying the dirt to the floor or to a receptacle provided for the purpose.

The accompanying drawing represents a perspective view of a warping-machine, showing my invention.

A represents the frame of the machine, which carries the reel B, adjacent to which is mounted the frame or creel H, which carries the spools.

The warping-machine is provided with the usual mechanical means for carrying out the warping of the yarn, and as such apparatus forms no part of my invention a detailed explanation of the same is unnecessary. Above the frame or sides A thereof are mounted suitable brackets, C C, having journals upon the upper portions of the same, which journals serve to support a shaft, D, which extends transversely across the machine above and between the ravel and heck box. Upon this shaft is mounted a fan, E, or blower, which is preferably provided with but two wings, as shown. The end of the shaft D to which the fan is secured extends beyond one of the side frames, so as to be on a line with the driving-pulley from which the warping-machine is actuated, the end of the shaft D being provided with a small pulley, over which the driving-belt passes. Under the yarns or threads is secured rigidly to two rods of the frame of the apparatus an inclined guide, F, which is preferably composed of sheet metal. This guide or plate is for the purpose of receiving the refuse matter which is removed from the yarn by the fan, and carries the same to the floor or a receptacle located at the bottom thereof. The inclined carrier F is at all times stationary, and is rigidly secured to rods of the sides A A or other suitable portion of the warping-machine. In practice I prefer to employ a fan having but two wings, as shown, as a fan thus constructed will take up but little space, and is not in the way of a person attending to the machine when mending broken threads or yarns.

As shown in the accompanying drawing, the fan is located above that portion of the warping-machine where the yarns or threads pass horizontally through the same, and a blast or current of air is passed between said yarns when the machine is in operation with sufficient force to remove foreign matter—as waste, seeds, lint, &c.—from the yarns and drop-wires, which improves the quality of the yarn, and frees the same from accumulations, and at the same time removes the waste from the drop-wires and prevents them from becoming clogged so as to become inoperative.

It will be noticed that as the fan is driven from the pulley on the driving-wheel shaft it will remain at rest when the apparatus is thrown out of gear.

I do not confine myself to the particular form of fan or means for driving a blast of air through the yarn or upon the drop-wires, as the form of construction may be varied without departing from the spirit of my invention.

It will be obvious that the improvements described may be embodied in any of the forms of warping-machines. A good form for such application is disclosed by the United States Patent No. 266,330, of J. Walmsley, dated October 24, 1882, or that of J. T. Walmsley, No. 108,856, dated November 1, 1870, or that of J. Walmsley and S. Lang, No. 251,324, dated December 20, 1881, to either of which patents reference may be had for a general understanding of the principles of a warping-machine.

I claim—

1. The combination, with a warping-ma-

chine, of a fan supported above the same, for exerting a direct current of air downward through the yarn and drop-wires, and a carrier located under the passage-way of the yarn, and adapted to convey the refuse removed by the fan from the yarn to the base of the apparatus, substantially as set forth.

2. The combination, with a warping-machine, of a fan located on the upper part of the machine above the passage-way or line of travel of the yarn, for exerting a direct current of air downward through the yarn, and a stationary inclined carrier or guide, F, located under the passage-way of the yarn, substantially as shown, and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

ALBERT E. KINGSLEY.

Witnesses:
JAMES M. WEBB,
ISA M. WEBB.