(No Model.)

C. E. HILL.

MACHINE FOR WINDING WARP.

No. 459,784. Patented Sept. 22, 1891.

Fig. 1.

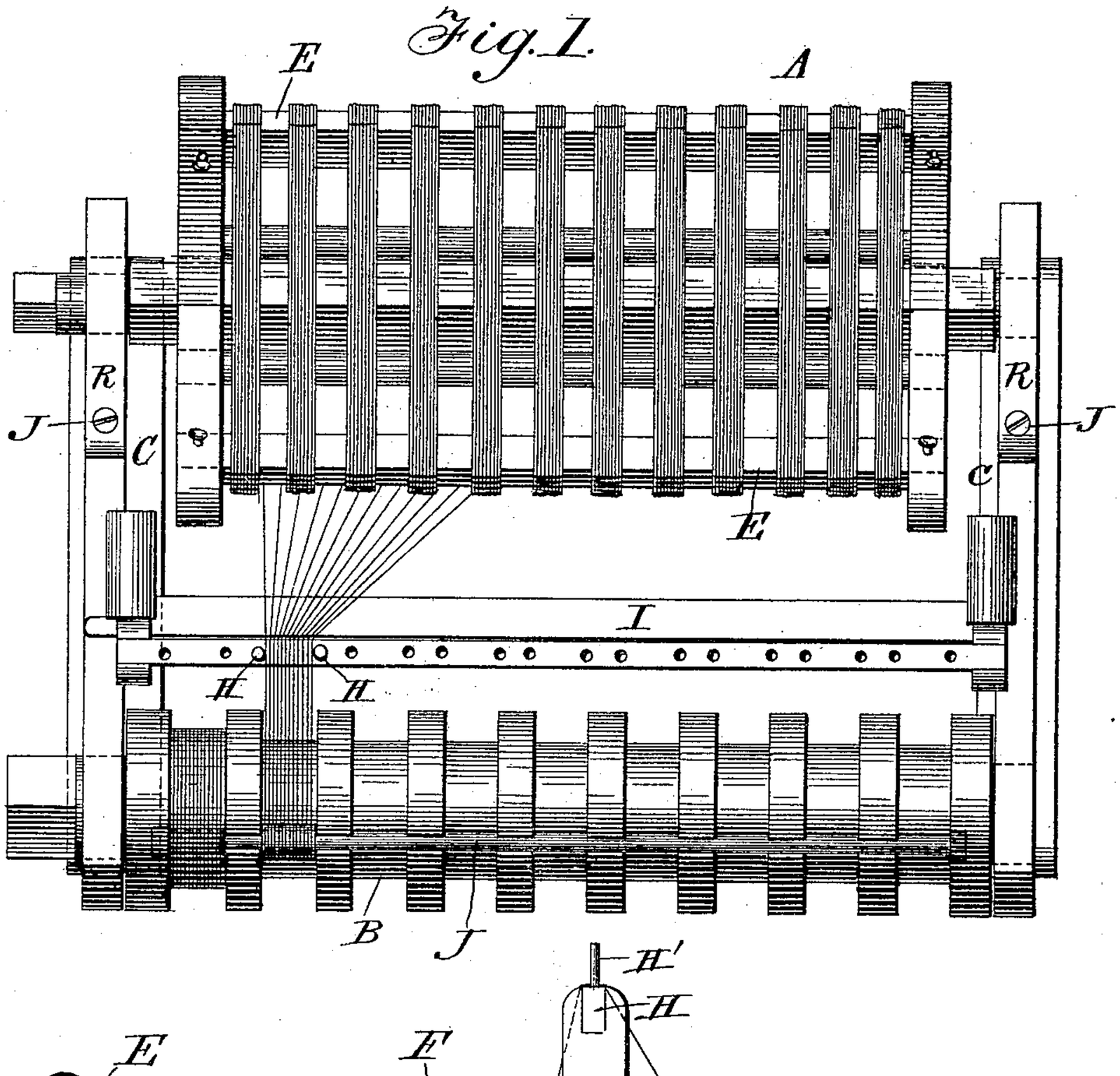
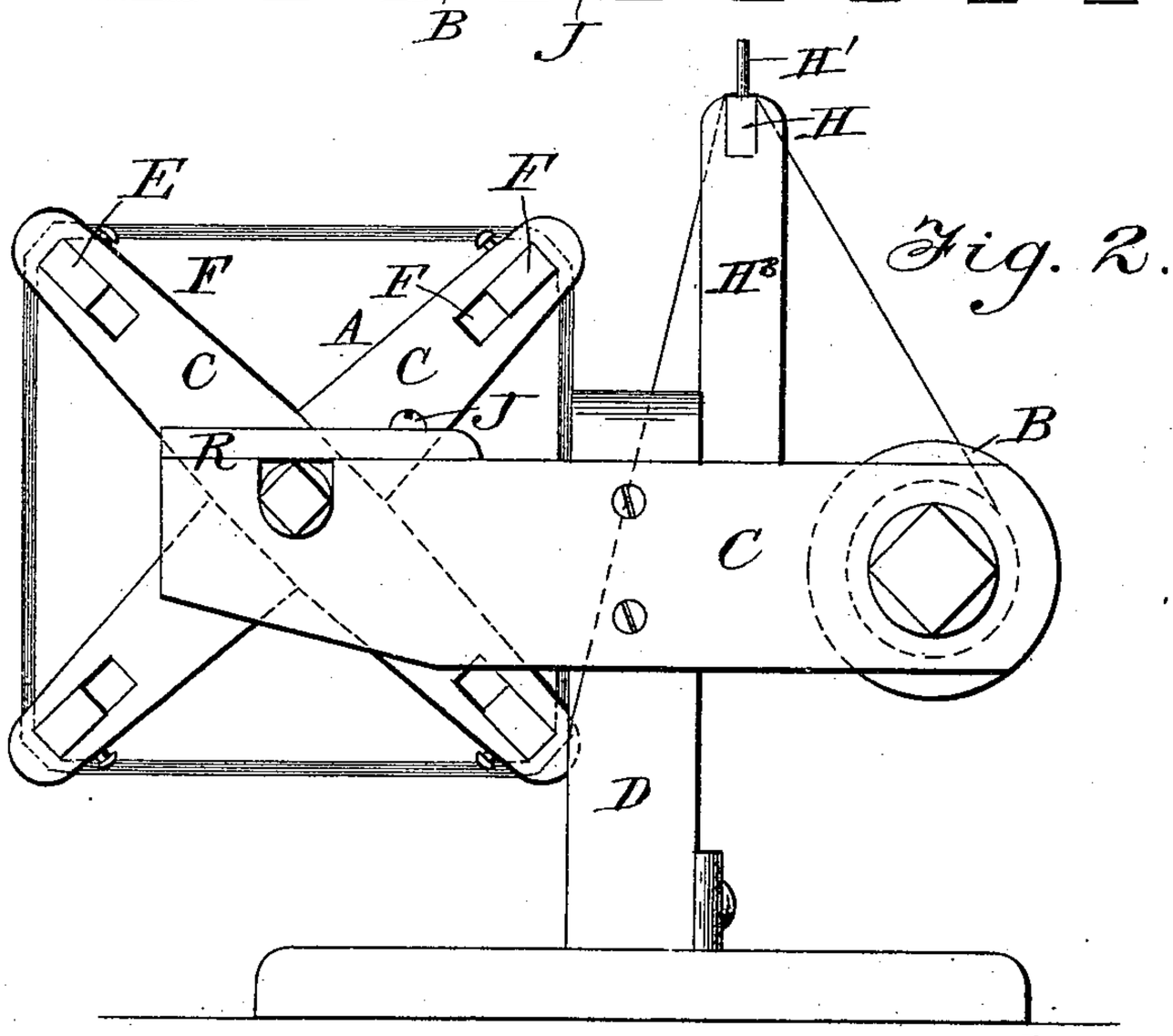


Fig. 2.



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UNITED STATES PATENT OFFICE.

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MACHINE FOR WINDING WARP.

SPECIFICATION forming part of Letters Patent No. 459,784, dated September 22, 1891.

Application filed January 26, 1891. Serial No. 379,198. (No model.)

To all whom it may concern:

Be it known that I, CORNELIA E. HILL, residing at Floyd, in the county of Floyd and State of Iowa, a citizen of the United States, have invented a new and useful Improvement in Machines for Winding Warps, of which the following is a specification.

The object of my invention is to save spooling and warping, thereby saving time and labor, also making smoother and better cloth.

My invention consists in a new and simple machine for winding the warp onto the warp-beam direct from the skeins, doing away with the old-fashioned cumbersome warping bars and spools. I attain this object by means of a horizontal adjustable reel A and a grooved warp-beam B, as illustrated in the accompanying drawings, in which—

Figure 1 represents a plan view of my invention as applied to the frame of a loom, and Fig. 2 an end elevation thereof.

Said reel is forty inches long, but can be made in length to fit any loom. The peculiar feature of the reel is that it is adjustable to different-sized skeins by slots F in the arms, through which the bars E extend. The slots are six inches in length and have holes one-half inch apart for pins to go through to adjust the bars E to fit the skeins in use. The arms C to support the reel must be firmly bolted to the front posts of the loom at the right height to let the reel turn under the breast-beam. A groove must be cut near the end of each arm for the shaft of the reel to turn in when the reel is in place on the arms C. A cap or button R is placed over the shaft where it crosses each arm C, which cap holds the said shaft in place. This cap is raised or lowered by means of screws or bolts and thereby is made to press with greater or less force upon the shaft, thus enabling the proper tension to be employed. The warp-beam B has formed therein grooves, which hold the warp. These grooves must be twenty-five or more in number and are two inches deep or deeper, if preferred. Stationary partitions are thus formed between the strands of warp, which keep all the threads in their respective places, thereby securing equal tension and preventing tangling. The reel and beam can be attached to and used on any loom.

For a yard-wide carpet twenty skeins must be placed upon the reel in the following manner: The reel is detached from the loom and the pins removed from one end thereof. This will permit the ends of the bars E to drop to the bottom of the slots F. The skeins are then slipped over the end of the reel, the end of bars E drawn up to the top of the slots F, and the pins replaced to hold them in place. Then the end of a warp-thread is taken from each skein, and these ends are carried in a bunch together between the guide-pins G on top of the cross-bar H, supported in the standards H^3, secured to arms C, then drawn down and tied securely to the rod I in the warp-beam. The tension is regulated by turning the screw J in the buttons R on each end of the reel. Then a crank that goes on the end of the warp-beam B is turned until the desired amount of warp is wound thereon. The warp is then cut off close to the beam and the ends tucked under a strand of the warp on the beam. The guide-pins G on cross-bar H are then moved to the next groove on the beam, the end of the warp tied to the the rod I in that groove, and the operation proceeds as before until all the grooves in the warp-beam are filled. The reel is then removed from the loom and the warp is ready to draw into the harness in the usual way. If the cloth is to be more than a yard wide, more skeins are placed on the reel. If less than a yard, fewer skeins are placed thereon. If the skeins on the reel are inclined to tangle, they may be placed on swifts or, what would be preferable, on another horizontal reel and run onto the reel A by turning the crank on the end of reel A until a sufficient amount of warp is run on to make the carpet.

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

The combination, in a loom, of the arms C, secured to the loom-frame, the warp-beam B, journaled in said arms at one end thereof, the reel A, journaled in said arms at the other end thereof, the caps R for holding the said reel in place in its bearings, means whereby the caps R may be pressed upon the shaft of the reel with greater or less force, the standards H^3, and the cross-bar H, substantially as and for the purpose specified.

CORNELIA E. HILL.

Witnesses:

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