No. 655,579. Patented Aug. 7, 1900.

A. E. RHOADES.

LEASE FORMING MECHANISM.

(Application filed Feb. 27, 1900.)

(No Model.)

Fig. 1.

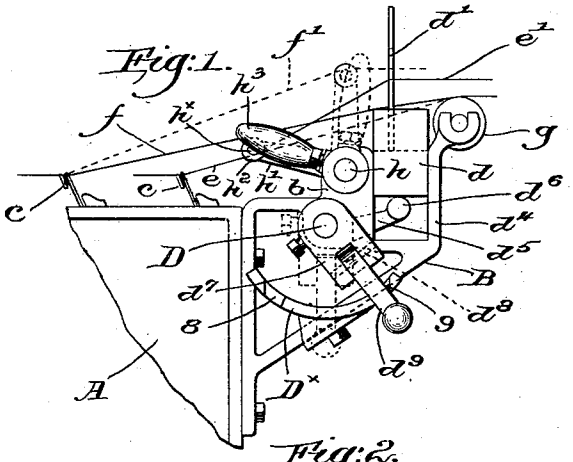


Fig. 2.

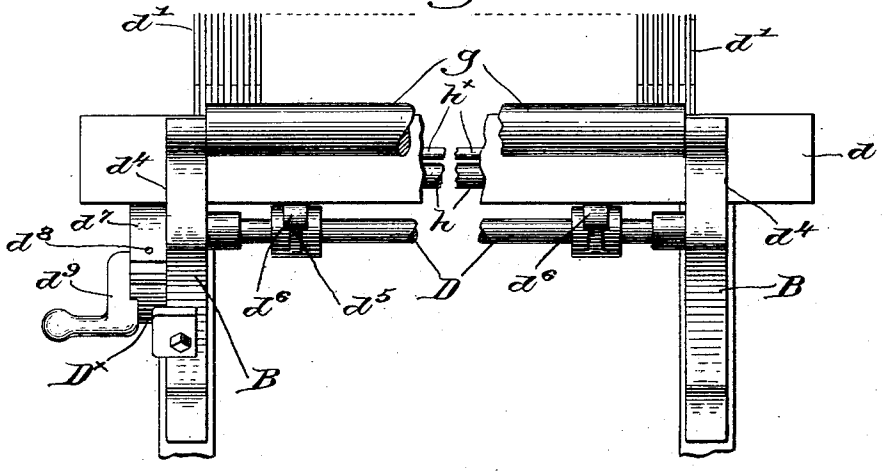
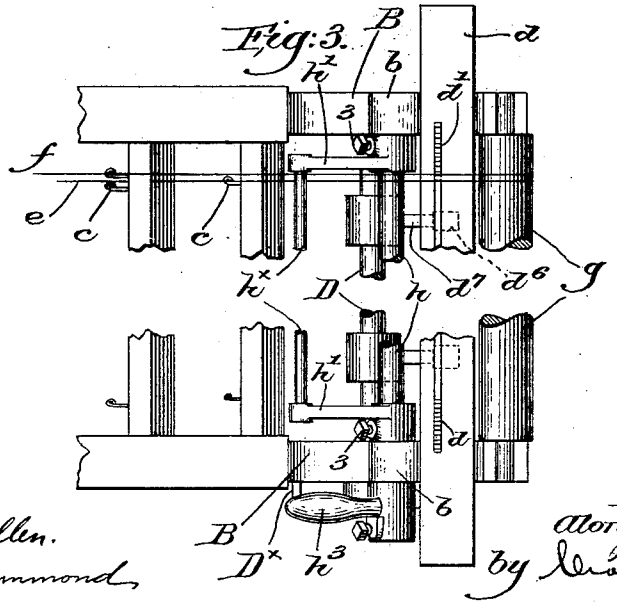


Fig. 3.



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UNITED STATES PATENT OFFICE.

ALONZO E. RHOADES, OF HOPEDALE, MASSACHUSETTS, ASSIGNOR TO THE DRAPER COMPANY, OF SAME PLACE AND PORTLAND, MAINE.

LEASE-FORMING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 655,579, dated August 7, 1900.

Application filed February 27, 1900. Serial No. 6,680. (No model.)

To all whom it may concern:

Be it known that I, ALONZO E. RHOADES, a citizen of the United States, residing at Hopedale, county of Worcester, State of Massachusetts, have invented an Improvement in Lease-Forming Mechanism, of which the following description, in connection with the accompanying drawings, is a specification, like reference characters on the drawings representing like parts.

My invention relates more particularly to warping-machines, to separate each alternate thread in the warp from its adjacent thread, forming a shed through which to pass a string or lease-thread over and under adjacent warp-threads from side to side of the separated warps, one form of such mechanism being shown in United States Patent No. 325,284, dated September 1, 1885. In said patent a warp-separating rod is passed through the sheet of warp, separating it into two layers, the said rod being free to roll or glide upon inclined fixed rests or guides, curved lifter-arms acting against the rod when desired to raise it along the guides when the threads are to be raised to take the lease. This loosely-held rod is objectionable, as it is liable to become displaced and act improperly, and supported as it is it has to be made unnecessarily large.

In my present invention the warp-separating rod is positively connected with and supported by rocker-arms, means being provided for rocking the latter when it is desired to raise or lower said rod, the objectionable features of the construction hereinbefore referred to being thereby obviated.

Figure 1 is a side elevation of a portion of a warping or beaming machine with one embodiment of my present invention applied thereto. Fig. 2 is a right-hand end elevation thereof, centrally broken out; and Fig. 3 is a top or plan view of the apparatus, also centrally broken out to save space.

The comb or reed, composed of the series of forked dents d', mounted in a box or case d, sliding in vertical guides d^4, the supporting-roller g beyond the dents, and the drop-wires c c are and may be substantially as in said patent referred to. I have herein shown a rock-shaft h, mounted in bearings b of brackets B, secured to the frame A of the warping-machine and having secured thereto by suitable set-screws 3 the hubs of rocker-arms h', the free ends of which have positively connected therewith a warp-separating rod $h^\times$, the ends of the rod being herein shown as tightly inserted in eyes h^2 of the arms. A handle h^3, secured to one end of the rock-shaft h, extended beyond the bearing b, provides means by which the rock-shaft can be turned to move the rod $h^\times$ from full to dotted line position, Fig. 1. The warp-threads e after passing through the drop-wires extend under the warp-separating rod $h^\times$ and then through the notches of the dents d', while the threads f of the other series or sheet of warp pass above the rod $h^\times$ and between the dents.

In Fig. 1 the dents d' are raised, elevating the threads e well above the threads f into full-line position e', forming a shed for the passage of the lease-forming thread between the warp-threads e and f, while the threads e are uppermost. After the lease-thread is inserted the dents are lowered, the threads e being thereby lowered to dotted-line position, and the handle h^3 is turned into dotted-line position, Fig. 1, raising the rod $h^\times$, and thereby elevating the threads f into dotted position f', Fig. 1, making a second shed, with the threads f uppermost, and the lease-thread is passed therethrough. The handle h^3 is swung past dead-center when the rod $h^\times$ is elevated, so that the latter will be maintained elevated until the lease has been effected.

In order to elevate the dents when it is desired to elevate the threads e, I have provided a rock-shaft D, mounted in bearings in the brackets B and provided with rocker-arms d^5, which extend at their free ends beneath the dent box or case d, said arms preferably being rounded at their extremities, as at d^6, to reduce friction.

The projecting end of the rock-shaft D has fast thereon an arm d^7, to which is pivoted at d^8 a handle d^9, adapted to enter one of the notches 8 9 in a locking-plate $D^\times$, secured to the adjacent bracket B. When said handle is swung to the right, as in Fig. 1, the dents d' will be raised, the handle being placed in the locking-notch 9 to maintain said dents elevated.

After the lease has been formed, with the threads *e* uppermost, the handle is unlocked, swung to the left, rocking the shaft D to lower the dents, and said handle is placed in the locking-notch 8 and there held until the dents are to be again operated.

The movement of the separating-rod $h^{\times}$ is positive and accurate, it is held in fixed position on or relative to its operating means, and the construction of the whole mechanism simplified.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The comb or reed having a series of dents, combined with a warp-separating rod adapted to be passed transversely between the warp-threads to divide them into two series or layers, a rock-shaft having rigidly-attached arms, said rod being positively connected with the free ends of the arms, and a handle by which the shaft may be rocked, to positively govern the position of the warp-supporting rod.

2. The comb or reed having a series of forked dents, a warp-separating rod adapted to be passed transversely through the warp-threads to divide them into two series or layers, rocker-arms to which said rod is positively connected, means to rock said arms to raise and lower the rod, and independent means to lift the dents.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALONZO E. RHOADES.

Witnesses:

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