

(No Model.)

W. H. WHITEHEAD.
BEAMING ATTACHMENT.

No. 560,310.

Patented May 19, 1896.

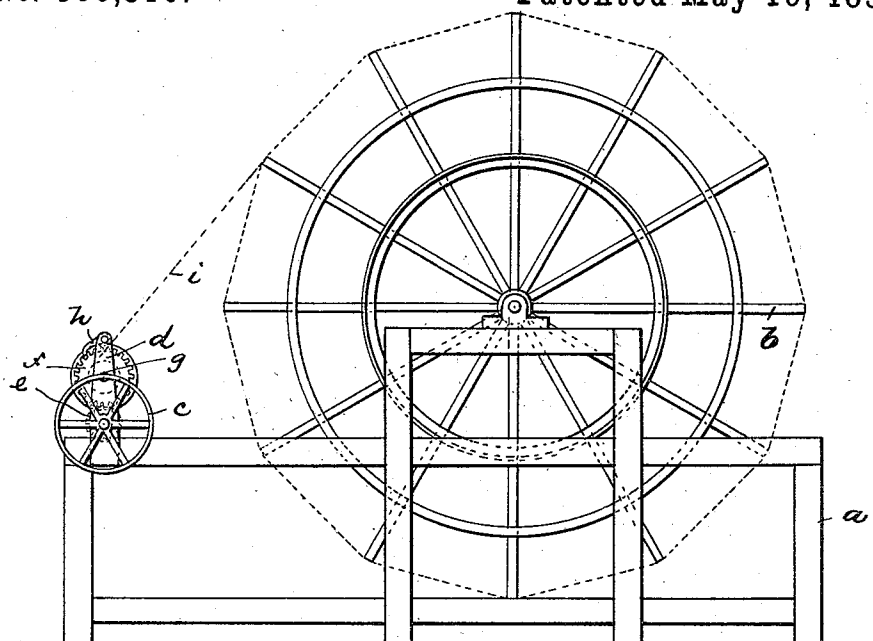


Fig. 1.

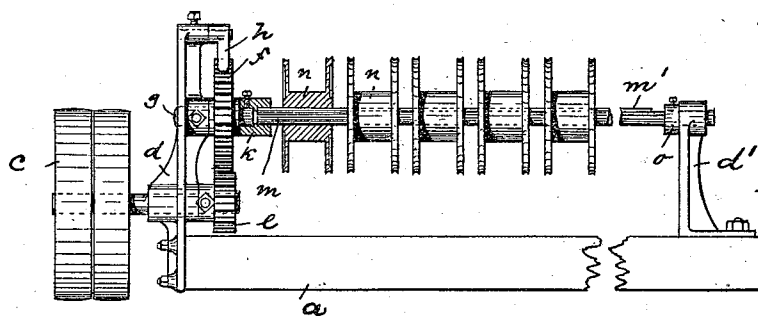


Fig. 2.

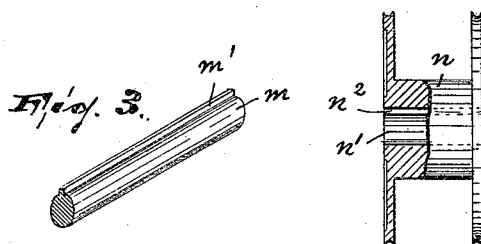


Fig. 3.

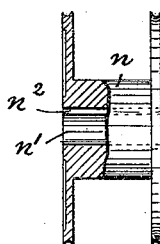


Fig. 4.

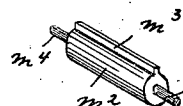


Fig. 5.

WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM H. WHITEHEAD, OF PATERSON, NEW JERSEY.

BEAMING ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 560,310, dated May 19, 1896.

Application filed December 24, 1895. Serial No. 573,187. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. WHITEHEAD, a citizen of the United States, residing in Paterson, Passaic county, and State of New Jersey, have invented certain new and useful Improvements in Beaming Attachments; 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 of reference marked thereon, which form a part of this specification.

My invention relates to beaming attachments for warping-mills, adapted to beam the warp for narrow warp-loom.

The object of the invention is to provide a beaming attachment for warping-mills of simple construction, easily handled, and reliable in operation.

The invention consists in the improved beaming attachment and in the combination and arrangement of the various parts, substantially as will be hereinafter more fully described, and finally embodied in the claim.

In the accompanying drawings, Figure 1 is an end elevation of a winder and of a portion of the beaming attachment; Fig. 2, an enlarged side elevation of Fig. 1, partly in section and illustrating my improvement; Fig. 3, a perspective view of a portion of the beaming-shaft; Fig. 4, a detail view of one of the beams, and Fig. 5 a detail perspective view of a shaft to be used in connection with the beams when the latter are to be placed in the warp-loom.

In said drawings, *a* represents the frame, *b* the winder, *c* the driving-pulleys secured to a stub-shaft, supported in bearing *d*; *e* the pinion on said stub-shaft and engaging the gear-wheel *f*, the latter being secured on shaft *g* and controlled by pawl *h*, all of the usual and well-known construction.

To the inner end of shaft *g* is removably secured a sleeve *k*, adapted to receive one end of the beaming-shaft *m*, removably secured thereto in any desired manner. The shaft *m* is provided with a feather *m'*, adapted to engage the longitudinal hole *n'* and the groove *n*² of the beams *n*, respectively, which latter, by means of this connection, are prevented from rotating independent of the beaming-shaft. The feather *m'* extends to about the other end of the shaft *m*, which lat-

ter has its bearing in the standard *d'*. The shaft is prevented from lateral motion by the collar *o*, bearing against the said standard *d'* and adjustably secured to the shaft by means of a set-screw or in any desired manner.

In Fig. 5 of the drawings is illustrated a shaft *m*² of a length equal to the width of a beam and provided with a feather *m*³ and at each end with a trunnion *m*⁴. This shaft is inserted in the beams when the latter are placed in a warp-loom, when the trunnions will occupy the bearings usually provided for that purpose, as will be manifest.

In operation, when the warp has been wound on the beams and the latter are to be replaced by empty ones, the standard *d'* and the collar *o* are removed. The beams are then easily slid off the said shaft, and others are put on their respective places. The collar *o* and standard *d'* are returned to their normal positions, and the machine is again ready for operation. It is not necessary to provide means on the beaming-shaft or the beams to prevent lateral motion, as the warp *i*, exerting a certain binding strain upon the beams and shaft, will naturally prevent such lateral motion.

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

In a warping-machine, the combination with the frame, a bracket on said frame, the shaft *g* supported in said bracket and adapted to revolve therein, the driving-gear *f* secured on said shaft, a sleeve removably secured to the inner end of said shaft, the beaming-shaft *m* removably secured in said sleeve and adapted to be withdrawn therefrom in a lateral direction, a feather on said beaming-shaft and extending to about the ends thereof, a series of beams, each provided with a longitudinal hole and groove, adapted to engage the beaming-shaft and its feather respectively, a standard to support the outer end of the beaming-shaft, and a collar removably secured on the beaming-shaft and bearing against the inner face of the said standard, all said parts substantially as and for the purposes described.

In testimony that I claim the foregoing I have hereunto set my hand this 5th day of December, 1895.

WILLIAM H. WHITEHEAD.

Witnesses:

ALFRED GARTNER,
DUNCAN M. ROBERTSON.