(No Model.)

J. H. NORTHROP.

THREAD PARTER FOR LOOMS.

No. 560,745. Patented May 26, 1896.

Fig. 1.

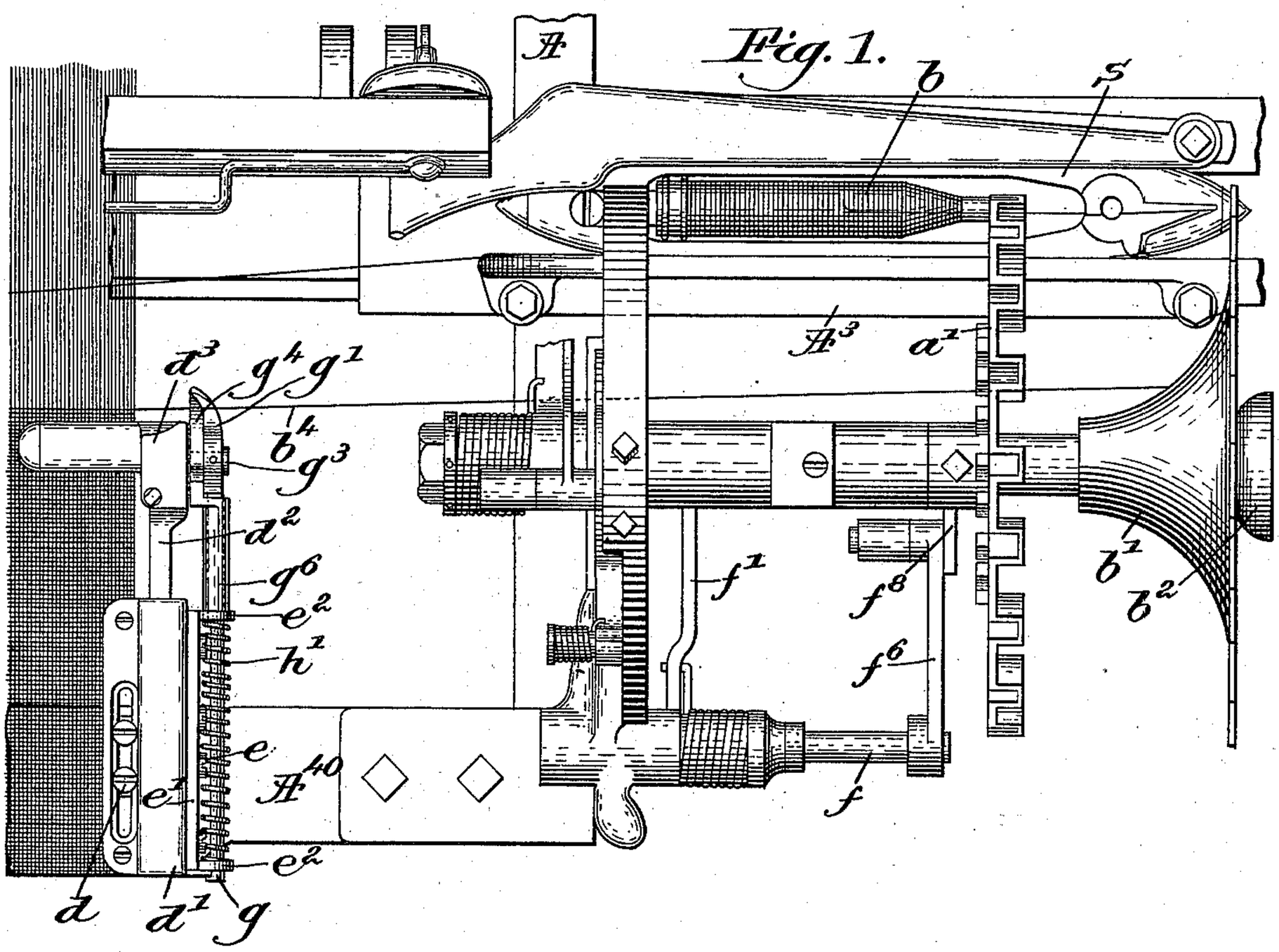


Fig. 2.

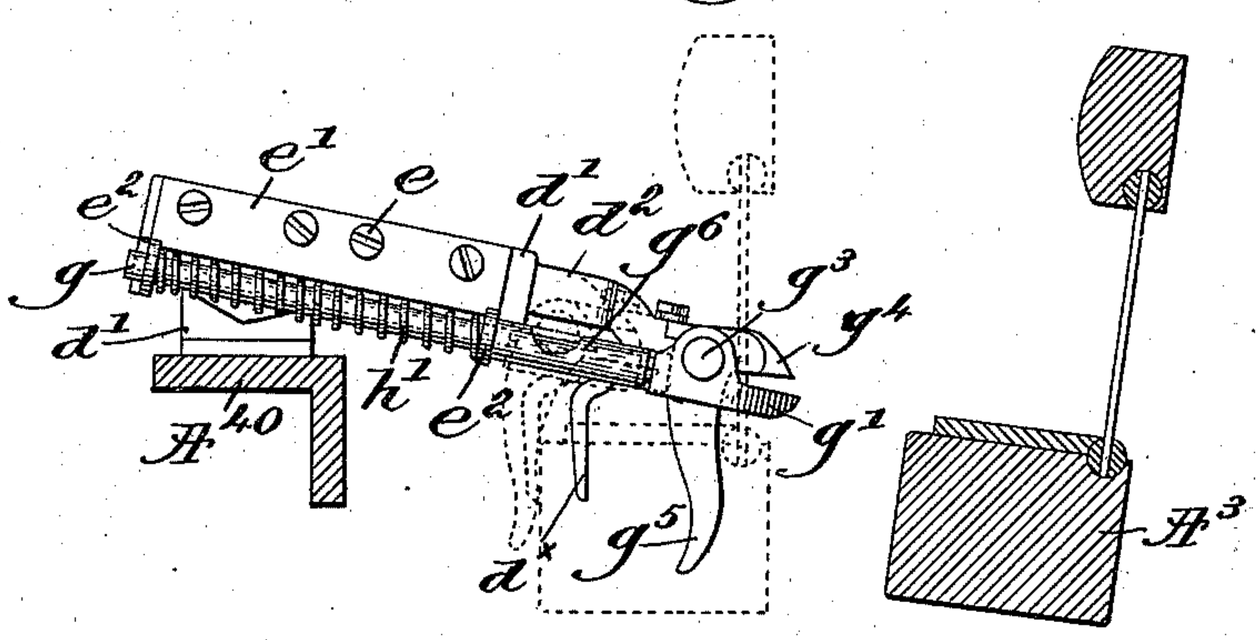
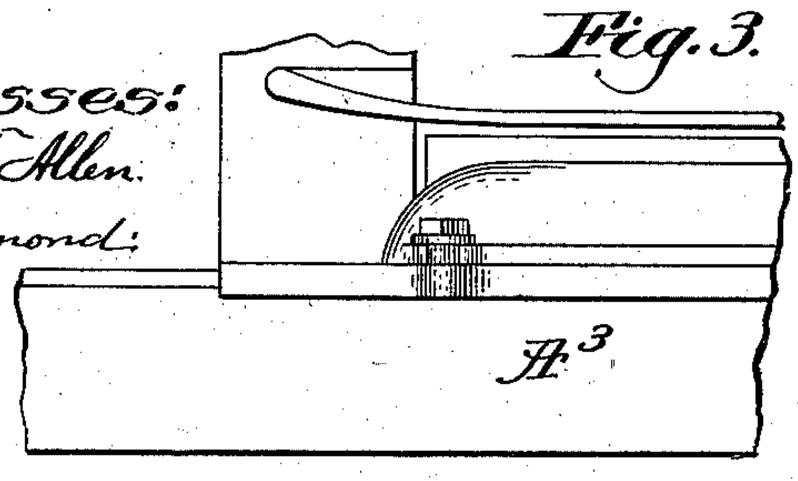


Fig. 3.



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UNITED STATES PATENT OFFICE.

JAMES H. NORTHROP, OF HOPEDALE, MASSACHUSETTS, ASSIGNOR TO GEORGE DRAPER & SONS, OF SAME PLACE.

THREAD-PARTER FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 560,745, dated May 26, 1896.

Application filed January 11, 1896. Serial No. 575,119. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. NORTHROP, of Hopedale, county of Worcester, State of Massachusetts, have invented an Improvement in Thread-Parters for Looms, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention relates to that class of looms in which the weft is supplied automatically, and the present improvement has for its object to provide that class of loom with means for parting the weft-thread close to the selvage.

Prior to this invention it has been customary to cut the weft-thread at a distance from the selvage, but by pulling on and parting the said thread the ends at the selvage are left shorter than by cutting.

Figure 1 is a plan view showing part of the loom-frame, lay, and bobbin or filling-feeder. Fig. 2 is a sectional detail, and Fig. 3 is a detail of the shuttle-box end of the lay.

The loom-frame A, having a breast-beam A^{40}, the rotary bobbin or filling-feeder a', adapted to hold both ends of the bobbin or filling-carrier b, the weft-end-supporting plate b', the weft-end holder b^2, the stud f, the pusher f', adapted to act on and push a bobbin or filling from the feeder, the tip-supporting device f^6 f^8, the self-threading shuttle S, the lay A^3, having the bottom of its shuttle-box cut through for the discharge of the spent bobbin or filling from the said shuttle are and may be all as in United States Patent No. 529,942, dated November 27, 1894, and the means for actuating the feeder and pusher, said mechanism not being, however, shown, are and may be all as provided for in United States Patent No. 529,940, dated November 27, 1894. The breast-beam has connected to it by screws d the temple-stand d', in which slides the shank d^2 of the temple-head d^3, having a heel $d^\times$, the said head having a roller, (not shown,) but all, as usual, to act on the web of cloth being woven.

The temple-stand has secured to its outer side by suitable screws e a bar e', having suitable guiding-ears e^2, in which slides back and forth the rod g, provided at its front end (see Figs. 1 and 2) with the lower member or jaw g' of the thread-parting apparatus. The rod just back of the face of the jaw g' has a pivot g^3, on which is pivoted the upper jaw member g^4, having a downturned finger g^5. The rod is surrounded loosely by a sleeve g^6, the inner end of which enters and is surrounded by one of the guides e^2, so that it may be acted upon by the spring h, surrounding the rod g, the said spring-pressed sleeve, at its front end, acting on the arm g^5, attached to or forming part of the movable jaw g^4 to normally keep the said jaws open, the said spring also by acting against the sleeve and the sleeve against the rod keeping the rod and jaws in their forward position, so that the depending arm g^5 may be struck by the advancing lay.

The inner end of the inner side wall of the shuttle-box is inclined and rounded to prevent the filling-thread from catching against the said side and being broken.

The free or outer end of the filling-thread wound on each bobbin or cop in the filling-feeder is attached to the holder b^2, which may be a stud, and the thread is extended over the weft-end support b'.

Now when a bobbin or cop is pushed from the feeder into the shuttle, and the shuttle is thrown across the lay, the reed, as the lay moves toward the breast-beam, beats the filling into the shed, as shown by the thread b^4, and it is there held by the friction of the warps above and below. As the reed of the lay beats the filling in, the lay strikes the member g^5 of the movable jaw g^4 and closes the latter jaw on the filling then resting across the lower jaw g', and after the jaws are so closed on the filling the further movement of the lay takes the closed jaws with it, said jaws pulling on the filling and breaking it off. Should the filling not be broken at the first stroke of the lay, as stated, there is still a chance for the jaws to act, as it has about two hundred chances each minute.

In order that the filling may be held sufficiently taut between the weft-end support or holder and the cloth, it is necessary that no part of the loom have any obstruction on which the filling may catch and be pulled, so as to be slack, and I have found that at times the thread will catch on the corner of

the shuttle-box and will be made slack and the jaws cannot get hold of it. To obviate this trouble, the inner end of the inner wall of the shuttle-box has been cut down or inclined and rounded, as shown in Figs. 1 and 3, so that the filling-thread may readily slip over the said end wall and not be strained out of position to be readily caught by the open jaws. The jaws constitute nippers. This rounded box-front is adaptable not only to the present form of nipper, but is also equally available in connection with any thread cutting or severing device, as it is essential in all cases that the thread should be taut and not be made slack or be broken by a part of the loom not meant for the purpose. While the object of these devices is to sever the thread, it is desirable that it should be severed near the cloth.

With an obstructing shuttle-box front the thread is liable to be broken at a point some distance from the cloth, and when this happens the long end left is apt to become entangled in the selvage and leaves a ragged edge.

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

1. A bobbin or filling-feeder, and means to hold the end of the filling-thread, combined with the breast-beam, a thread-parter composed of normally open jaws, a support for said parter to enable it to slide across the breast-beam near the selvage of the cloth, and means to act upon one of said jaws to close them on the filling at the first shot of a filling-carrier through the shed and to thereafter move the thread-parter forward to part the filling, substantially as described.

2. A thread-parting device composed of a shank and normally open jaws, and a shank-guide located on the breast-beam, combined with the lay to act on an arm of one of the normally open jaws and close the jaws upon the filling, and to thereafter, while the jaws are closed, move the thread-parter to break the filling, substantially as described.

3. The breast-beam, guides e^2 supported thereby, and a bar free to slide in said guides and provided with a head shaped to constitute one member or jaw of a thread-parting device, and a movable jaw pivoted on said bar, the jaws being normally open, combined with a spring to move said carrier toward the lay and permit it to be moved in the opposite direction as the lay beats the filling into the shed, substantially as described.

4. A thread-parting device, composed of a guided sliding bar having a jaw, a jaw pivoted thereon, and means to keep the said jaws open for the entrance of the thread between them, combined with the lay to close the said jaws and slide the thread-parter in the direction of the movement of the lay while the jaws are closed on the filling, substantially as described.

5. A thread-parting device, composed of a guided sliding bar having at one end a jaw, a second jaw pivoted thereon and having a depending arm, a sleeve surrounding said bar and a spring acting on said sleeve to keep the jaws open for the entrance of thread between them, the depending arm of the pivoted jaw being adapted to be struck by the moving lay to slide the jaws, substantially as described.

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

JAMES H. NORTHROP.

Witnesses:
GEO. OTIS DRAPER,
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