

(No Model.)

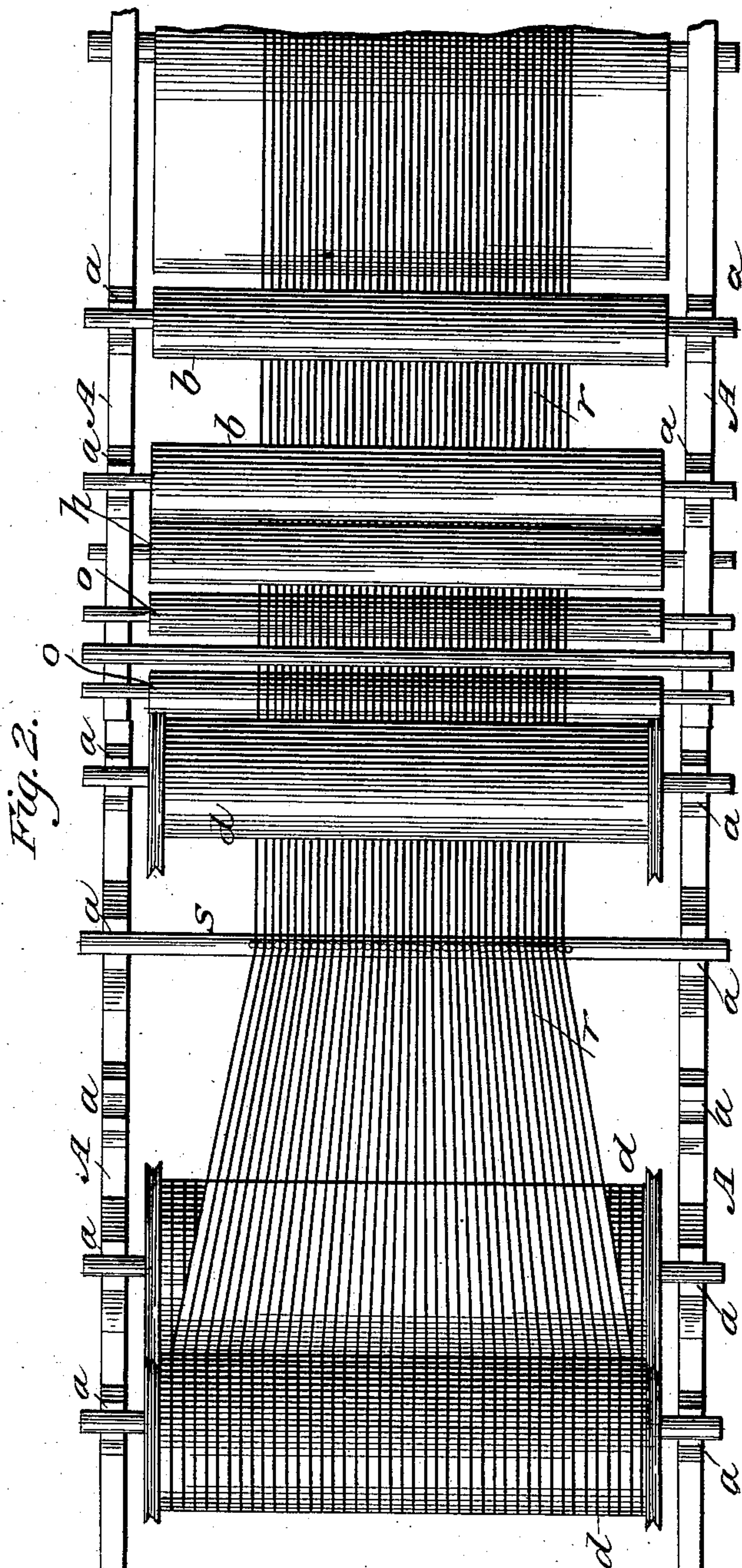
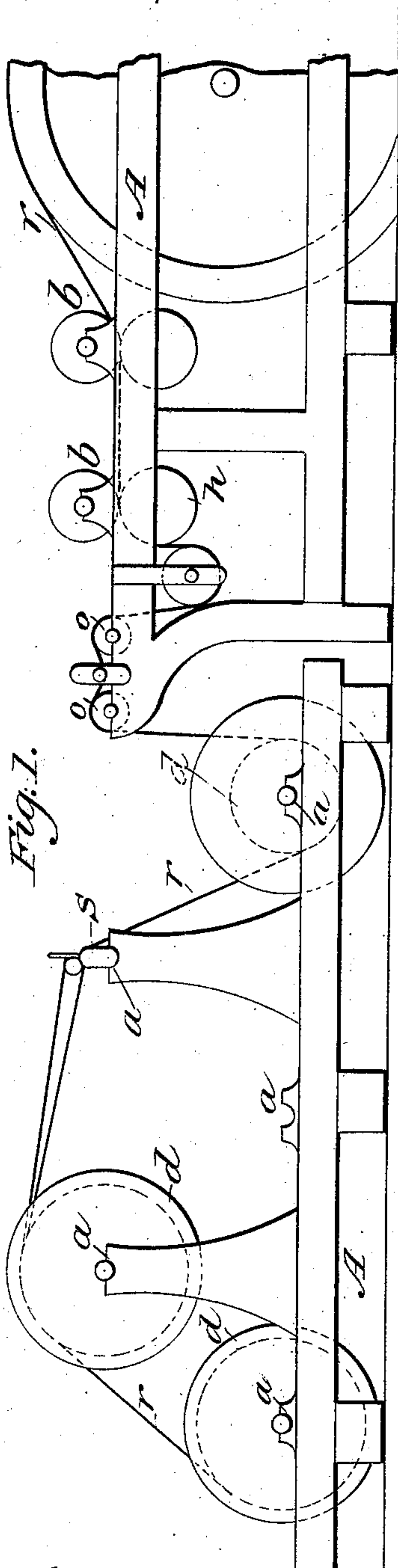
2 Sheets—Sheet 1.

H. S. FENNER.

SLASHER.

No. 365,591.

Patented June 28, 1887.



Witnesses:
James E. Arnold
M. C. Arnold

Inventor:
Henry S. Fenner
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(No Model.)

2 Sheets—Sheet 2.

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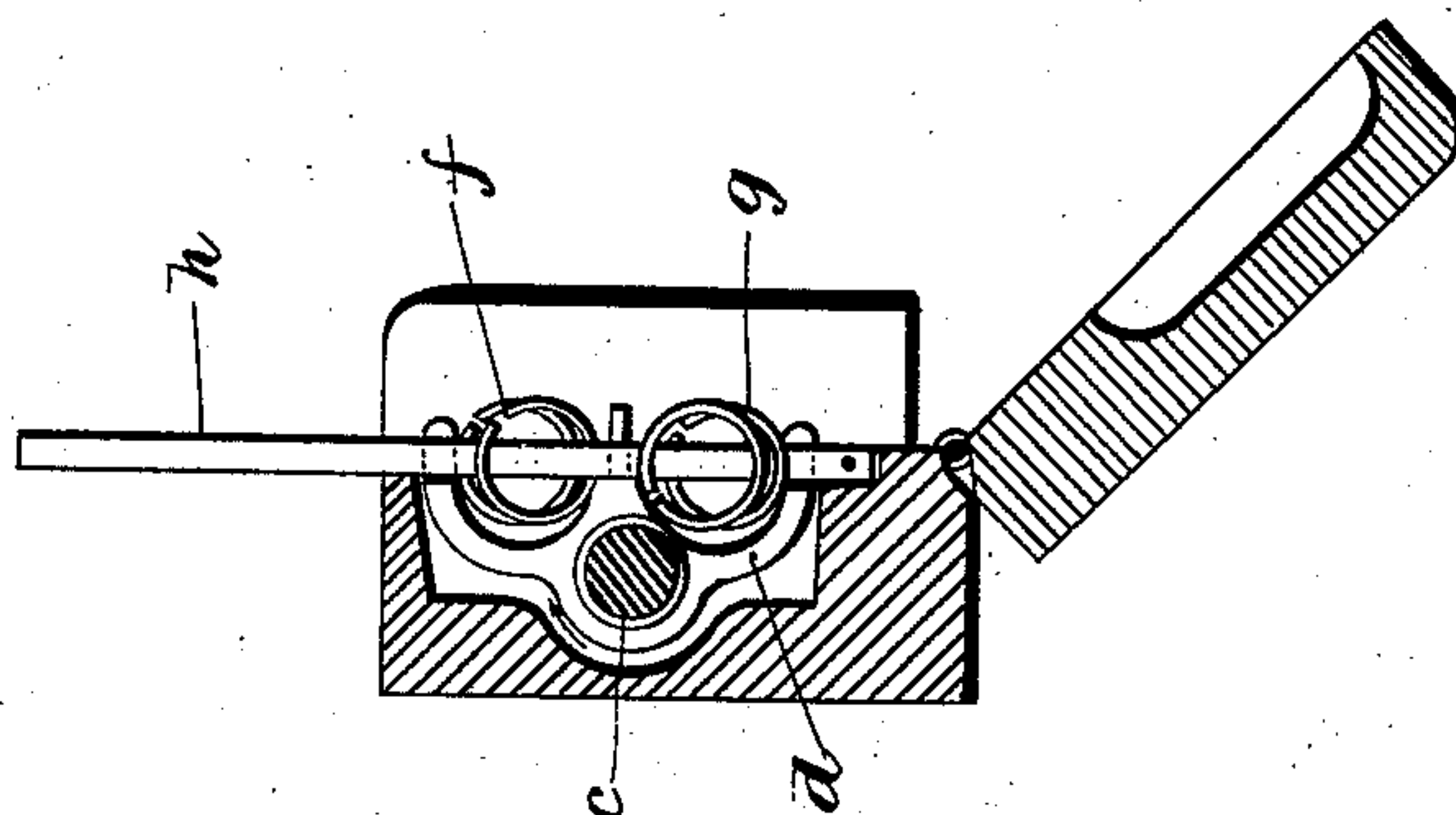


FIG. 4.

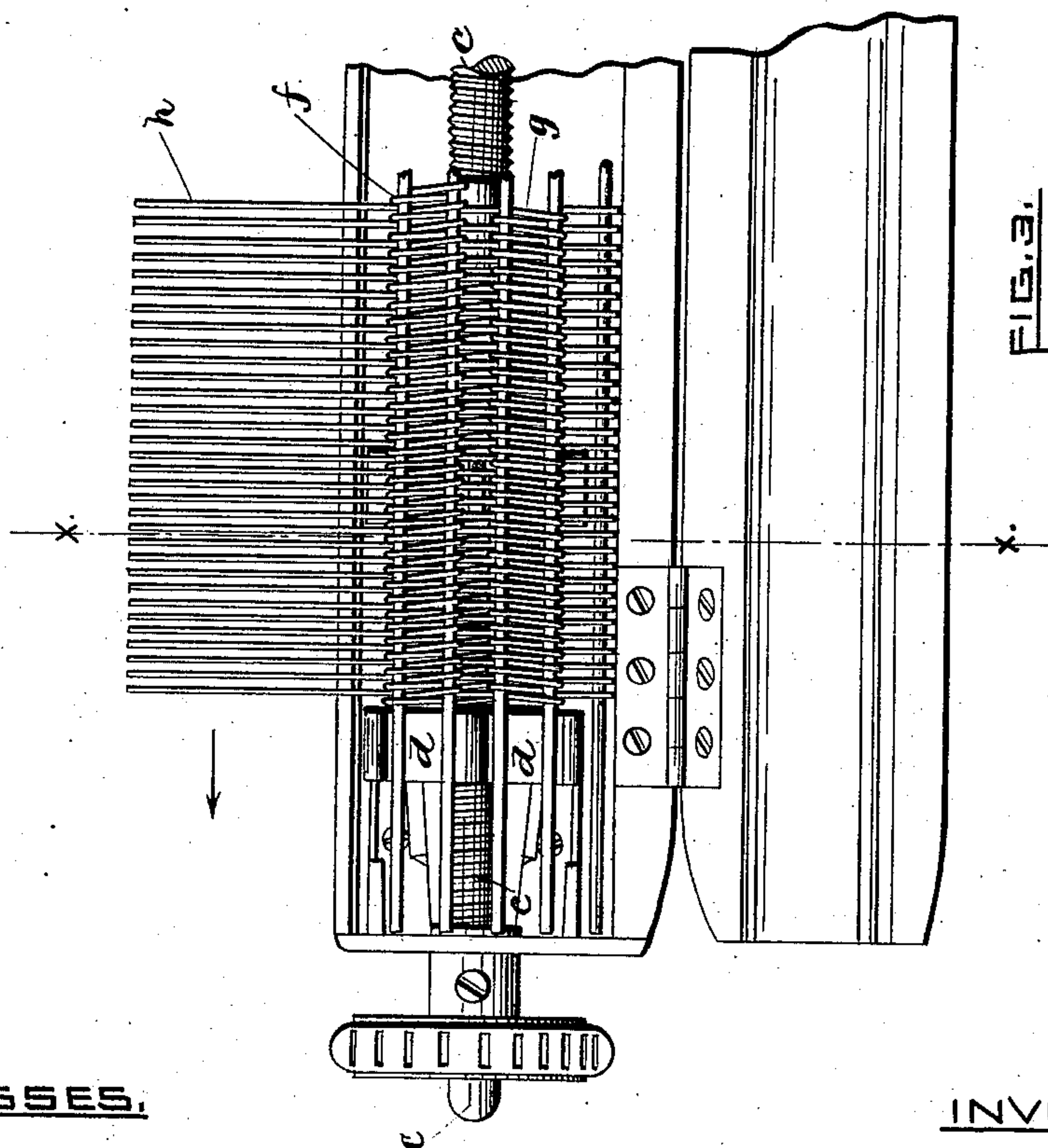


FIG. 3.

WITNESSES.

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UNITED STATES PATENT OFFICE.

HENRY S. FENNER, OF FALL RIVER, MASSACHUSETTS.

SLASHER.

SPECIFICATION forming part of Letters Patent No. 365,591, dated June 28, 1887.

Application filed January 28, 1887. Serial No. 225,829. (No model.)

To all whom it may concern:

Be it known that I, HENRY S. FENNER, of Fall River, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Slashers; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to those machines called "slashers," used for sizing or dressing yarn preparatory to its being woven, and is intended to facilitate the dressing of warps of different number of ends in the same machine.

The great difficulty found in dressing warps having a lesser number of ends in a slasher constructed for more ends is that the warp-threads will for some reason intertwist with each other while passing through the machine, and, being stuck together with the sizing, are very liable to break when they come to be separated at the front of the machine or in the loom. This breaking causes great loss of time, and also damage to the warp. I have found that by contracting the warp-threads before entering the sizing-rolls so that they shall be about the same relative distance apart that they would be if the warp were the full number of ends the intertwisting will be prevented by reason, apparently, of the fibers on the threads underlying the different threads and holding them down in place. My mode of accomplishing this is illustrated in the accompanying drawings, in which—

Figure 1 shows in outline a side elevation of the rear portion of a slasher. Fig. 2 is a top view of the same, also in outline. Fig. 3 is an elevation of a portion of an expanding and contracting comb. Fig. 4 is a cross-section of the same, taken through the line *x x* in Fig. 3.

Those parts of the machine not necessary to a full understanding of my improvement are omitted in the drawings.

A A are the side frames of the slasher.

b b are the squeezer-rolls over the sizing-box.

a a are boxes or bearings made on the tops of the side frames and on the tops of standards extending up from the side frames to receive the journals of the "beams" or rolls *d d*, upon which the yarn to be dressed is wound.

In dressing a warp having, say, for example, fourteen hundred ends, four beams *d* of three hundred and fifty ends each would be placed in as many of the boxes *a*, and the whole number of ends would pass through the machine together and form one warp on a single beam at the front end of the slasher; but when it is desired to weave on the same looms goods that require this warp to be divided onto two loom-beams of seven hundred ends each, it is necessary to reduce the number of ends that pass through the slasher to seven hundred, which will require but two of the beams *d* of three hundred and fifty ends each, as shown in the drawings. For the reason above mentioned, it is necessary to contract these seven hundred ends into about one-half the space occupied by the fourteen hundred ends, so that they may be about the same distance apart in each case. To do this I place an expanding and contracting comb, *s*, on one pair of the upper beam-boxes, *a*, or at some other suitable point between the yarn-beams *d* and the sizing-rolls *b b*. Then the warp-threads *r r*, after leaving the beams *d d*, will be contracted by the comb *s* to the proper width and pass straight or parallel down around the empty beam or roll *d*, up over the guide-rolls *o o*, then down around the immersion-roll *h*, and up under the squeezer-rolls *b b* and around the drying-cylinders to the front end of the slasher, where they are wound on a yarn-beam used in the looms. Warps of any number of ends are treated in the same way—that is to say, they are contracted before entering the sizing-rolls in about the same proportion as their number of ends fall short of a full complement for the machine.

The expanding and contracting comb can be made in various ways, one of which is shown in Figs. 3 and 4. The dents *h* of the comb are held in order between coils of a double spiral wire ring, *f g*, and are contracted or drawn together by means of a screw, *c*, passing through the center of the comb lengthwise and having a right-hand thread on one side of its center and a left-hand thread on the other side. A screw-nut, *d*, is fitted on the screw *c* on the

outside of the wire coils *f g*, and a similar nut is fitted on the other part of the screw (not shown) at the other ends of the wire coils *f g*. By turning the screw *c* in one direction the
5 two nuts on it are drawn toward each other, and the coils of wire *f g* are pressed together, carrying the dents *h* with them, so that the threads that lie between the dents are contracted into a smaller space. A contrary mo-
10 tion of the screw *c* will separate the nuts and allow the coils and dents to expand.

Having thus described my improvement, what I claim as my invention is—

The combination, with the supports for the yarn-beams and the sizing or drying devices 15 of a slasher, of an expanding and contracting comb located between the supports for the yarn-beams and the sizing devices, substantially as and for the purpose set forth.

HENRY S. FENNER.

Witnesses:

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