J. N. LEONARD.

Stop-Motion for Thread-Stretchers.

No. 197,519 Patented Nov. 27, 1877.

FIG. 1.

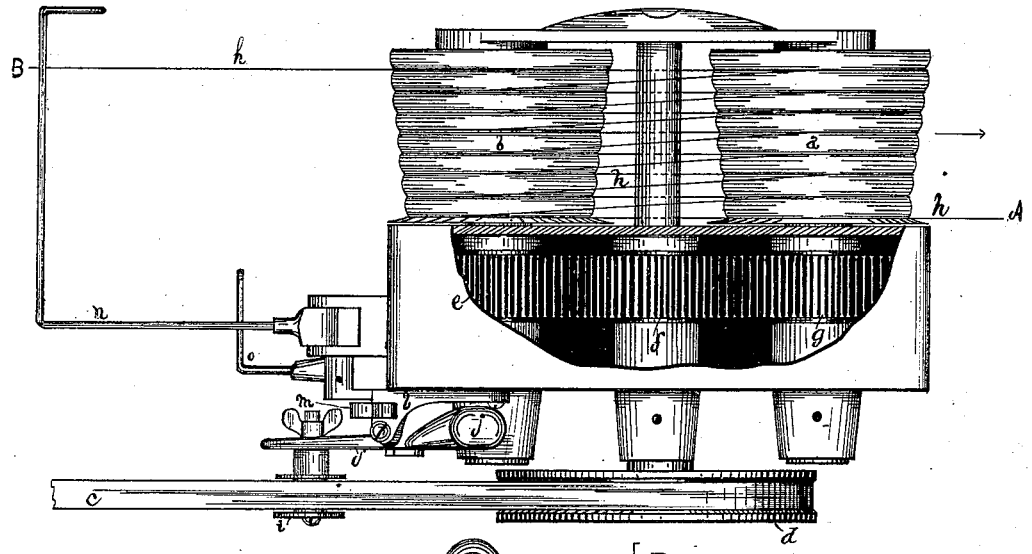
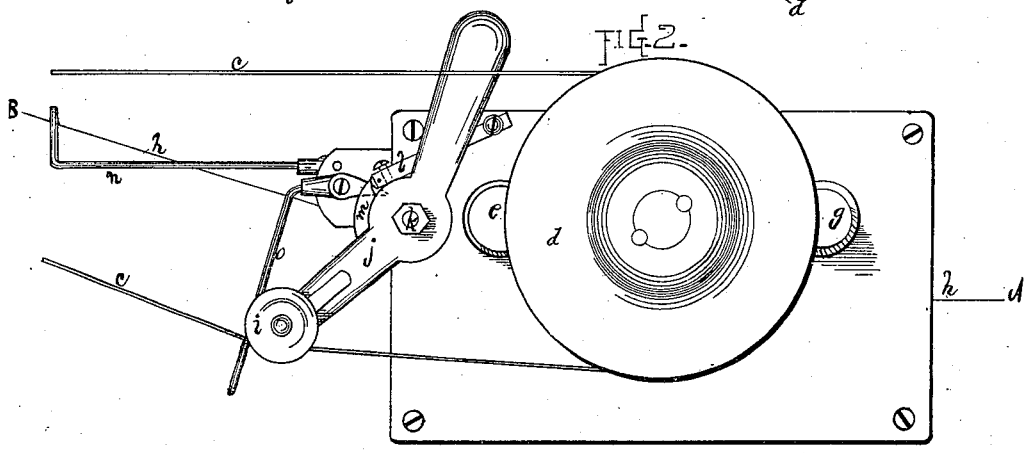


FIG. 2.



WITNESSES:

Robt. F. Gaylord

Chas. Buckland

INVENTOR:

John N. Leonard

By W. E. Simonds

Att'y.

UNITED STATES PATENT OFFICE.

JOHN N. LEONARD, OF WAREHOUSE POINT, CONNECTICUT, ASSIGNOR TO THE LEONARD SILK COMPANY, OF SAME PLACE.

IMPROVEMENT IN STOP-MOTIONS FOR THREAD-STRETCHERS.

Specification forming part of Letters Patent No. **197,519**, dated November 27, 1877; application filed September 22, 1876.

To all whom it may concern:

Be it known that I, JOHN N. LEONARD, of Warehouse Point, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements pertaining to Stop-Motions for Thread-Stretchers, of which the following is a specification, reference being had to the accompanying drawings, where—

Figure 1 is a plan view, with a part of the top of the case broken away, so as to show interior. Fig. 2 is a side view.

The invention is an automatic stopping device designed as an attachment to a machine for stretching silk thread.

I will first describe the thread-stretching mechanism and then the automatic stop.

The letters *a b* denote two cone-pulleys, rotating in the same direction, (denoted by the arrow,) being driven by the belt *c* running on the pulley *d*, actuating the intermediate gears *e f g*. The pulleys which form the cones are not common flat-faced pulleys, but are grooved or fluted. The silk *h* comes from a bobbin or the like stationed at A, runs around the smallest of the pulleys on cone *a*, thence on the under side to the corresponding pulley on cone *b*, comes up to the top of this last, and thence runs to the next larger pulley on cone *a*, and so on till it finally passes off the largest pulley on cone *b* to another bobbin or the like stationed at B. As the thread passes from one pulley to the next larger it is stretched a little, and in the aggregate largely.

I will now describe the automatic apparatus for stopping the rotation of the cone-pulleys if the thread breaks. The belt *c* is a loose belt, strained tight enough to effect rotation by the idler *i* on lever *j*, pivoted on pin *k*. It is held so strained by pivoted pawl *l*, acting on ratchet-tooth *m*. As the silk passes from cone *b* the pivoted feeler *n* lies on it. If the thread breaks this feeler falls, and, striking the pivoted tripping-lever *o*, causes it to raise the pawl *l* and free it from its engagement with the tooth *m*, so that the idler rises, releasing the strain on the belt, and allows the pulley *d*, and consequently the cone-pulleys, to stop rotating.

I claim as my invention—

In combination, the pivoted lever *j*, armed with its idler, pawl *l*, tripping-lever *o*, and feeler *n*, all substantially as described, and for the purpose set forth.

JOHN N. LEONARD.

Witnesses:

J. H. SIMONDS,

GEO. W. SCOTT.