

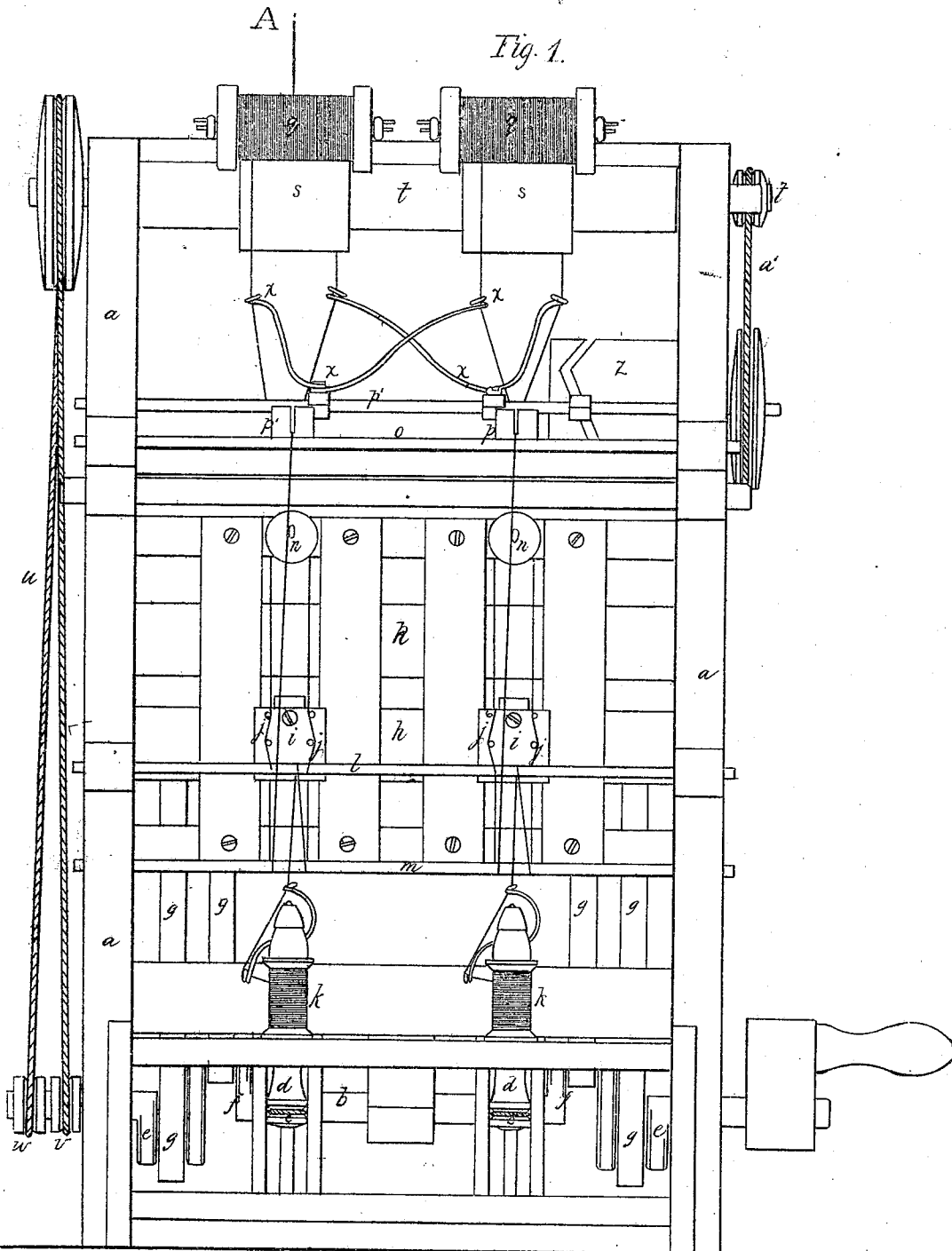
W. W. Trapp.

Sheet 1, 2 Sheets.

Polishing Thread.

N<sup>o</sup> 73269

Patented Jan. 14, 1868.



Witnesses:

Charles Johnson  
S. Claunce Hastings

Inventor:

W. W. Trapp

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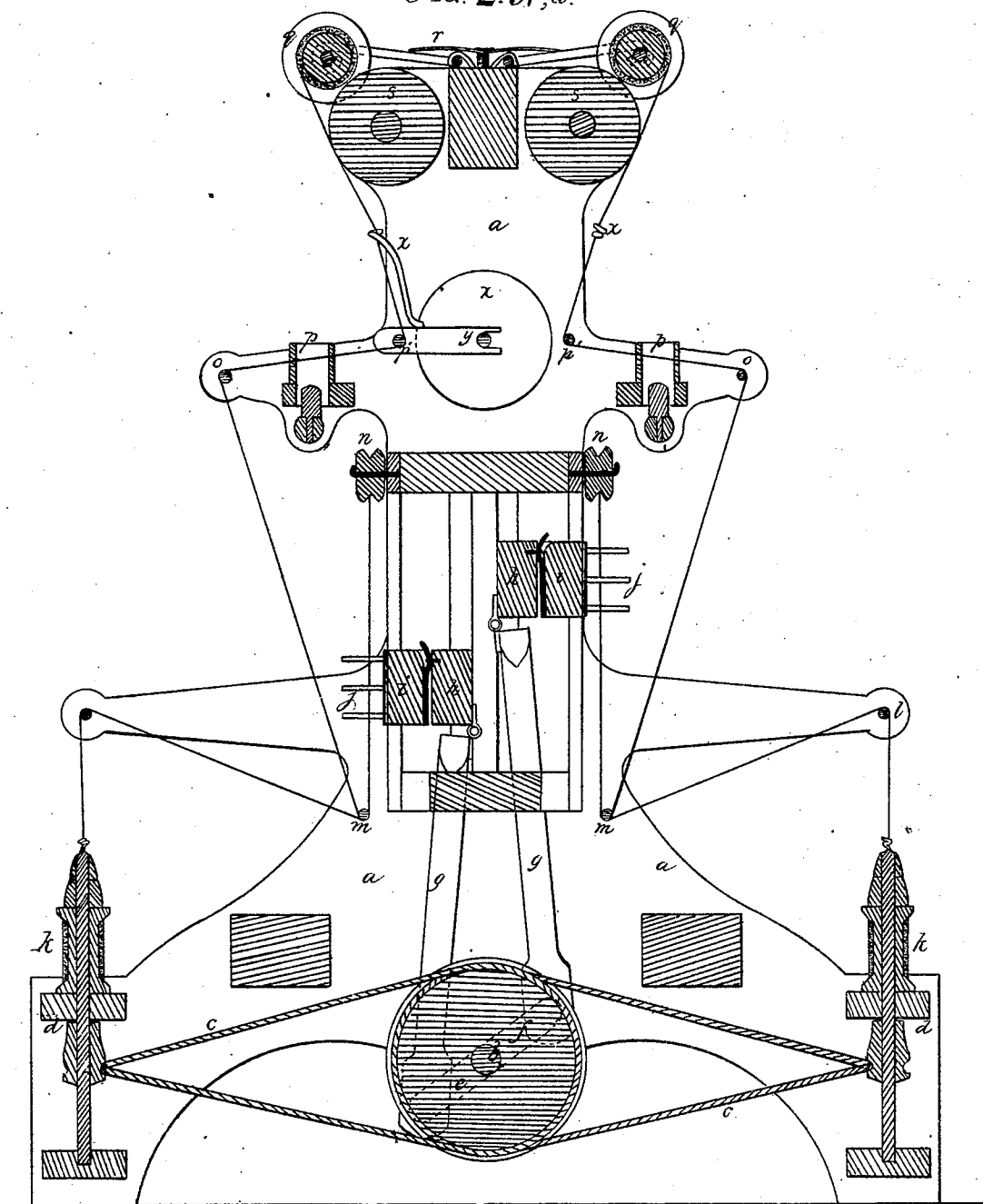
Sheet 2, 2 Sheets.

Polishing Thread.

N<sup>o</sup> 73269

Patented Jan. 14, 1868.

FIG. 2. A, a.



Witnesses:  
Elisha Johnson  
S. Clarence Hastings

Inventor:  
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# United States Patent Office.

WILLIAM W. TRAPP, OF HARTFORD, CONNECTICUT, ASSIGNOR TO TOBIAS KOHN, OF SAME PLACE.

Letters Patent No. 73,269, dated January 14, 1868.

## IMPROVEMENT IN MACHINERY FOR POLISHING THREAD.

The Schedule referred to in these Letters Patent and making part of the same.

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, WILLIAM W. TRAPP, of Hartford, in the State of Connecticut, have invented certain new and useful Improvements in Machinery for Polishing Threads; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a front elevation, and

Figure 2 a vertical section taken in the plane of the line A a of fig. 1.

The same letters indicate like parts in both the figures.

My said invention relates to improvements in machinery for polishing silk, worsted, and other threads, by the well-known rubbing-process. By means of the said improvement, I am enabled to equalize the pull on the threads during the polishing-operation, and thereby greatly reduce the tendency to break the threads.

In the accompanying drawings, *a* represents a suitable frame, and *b* the driving-shaft, with pulleys for the bands *c*, that drive the two sets of twisting-fliers, *d*, in the usual manner. On the shaft there are cranks *e* and *f*, near each end, from which connecting-rods *g g* extend to two cross-heads *h h*, which slide in vertical ways, and which are connected with and impart a vertical reciprocating motion to two sets or series of carriages, *i i*, arranged on opposite sides; and as the two sets of cranks are on opposite sides, one series of carriages descends as the set on the other side ascends, and *vice versa*, thus balancing each other, as described in an application for Letters Patent heretofore filed by me. From the front face of each rubber-carriage, two rows of rubbers, *j*, project as represented. These rubbers are cylindrical pins, (or they may be rollers,) that project from the face of each carriage. Each thread to be rubbed or polished passes from a spool or bobbin, *k*, on the spindle of one of the fliers, *d*, by which it is twisted; from this flier to and over a horizontal rod, *l*; thence under another similar rod, *m*, up around or amongst the rubbers *j* of one row; that is, the thread passes on one side of one, then on the opposite side of the next, and so on, or once around each, the object being to make each perform the office of rubbing. Then the thread passes over a pulley, *n*, above, and down in like manner amongst the other set of rubbers on the same carriage, under the rod *m*, then upwards over a rod, *o*, through the singeing-apparatus, *p*, of the usual kind, thence under another rod, *p'*, to a spool, *q*, on which it is wound up, the said spool being borne by springs *r* on to the periphery of a roller, *s*, by which the winding motion is imparted to the spool. The roller *s* is one of a series on a shaft, *t*, which receives motion from the driving-shaft by a band, *u*, and pulleys *v* and *w*. The threads are properly laid on the spools by guides *x*, that slide on rods *p'* and *y*, and which receive a reciprocating motion from a cam-groove on a cylinder, *z*, the shaft of which is driven by a band, *a'*, from a pulley on one of the shafts, *t*.

It will be seen from the drawings that the machine is double, there being a series of spools, fliers, guide-rods, rubber-carriages, winding-spools, and reciprocating guides on each side of the main driving-shaft, so that when the rubber-carriages on one side descend, the series on the other side ascends, and *vice versa*, thereby avoiding the jars which would result from the use of one series only.

From the foregoing it will be seen that in whatever direction the rubber-carriages may be travelling, by reason of having two sets of rubbers on each carriage, with each thread passing amongst one set of rubbers in one direction, and amongst the other set in the opposite direction, the pull on any one thread, due to the rubbing action, will be simultaneously in opposite directions, thereby materially reducing the tendency to break the threads. And it will be obvious that my said invention is not limited to the special construction of the mechanism, but upon the mode of operation, which consists in so organizing the machine that any one thread in its travel, and where the rubbers act upon it, shall move in opposite directions. And it will also be seen that it is immaterial whether there be two sets of rubbers on each carriage, or one set of sufficient length, and so disposed that the two parts of the thread travelling in opposite directions may be acted upon by different parts of the length of the one set of rubbers.

What I claim as my invention, and desire to secure by Letters Patent, is—

The guides around which the threads pass, arranged substantially as described, in combination with the reciprocating rubbers, so that each thread in its travel shall present two parts moving in opposite directions to the action of the rubbers, substantially as and for the purpose described.

WM. W. TRAPP.

Witnesses:

THOMAS McMANUS,

ELISHA JOHNSON.