

F. J. SEYMOUR.
Spinning Sheet-Metal Tubes.

No. 97,234.

Patented Nov. 23, 1869.

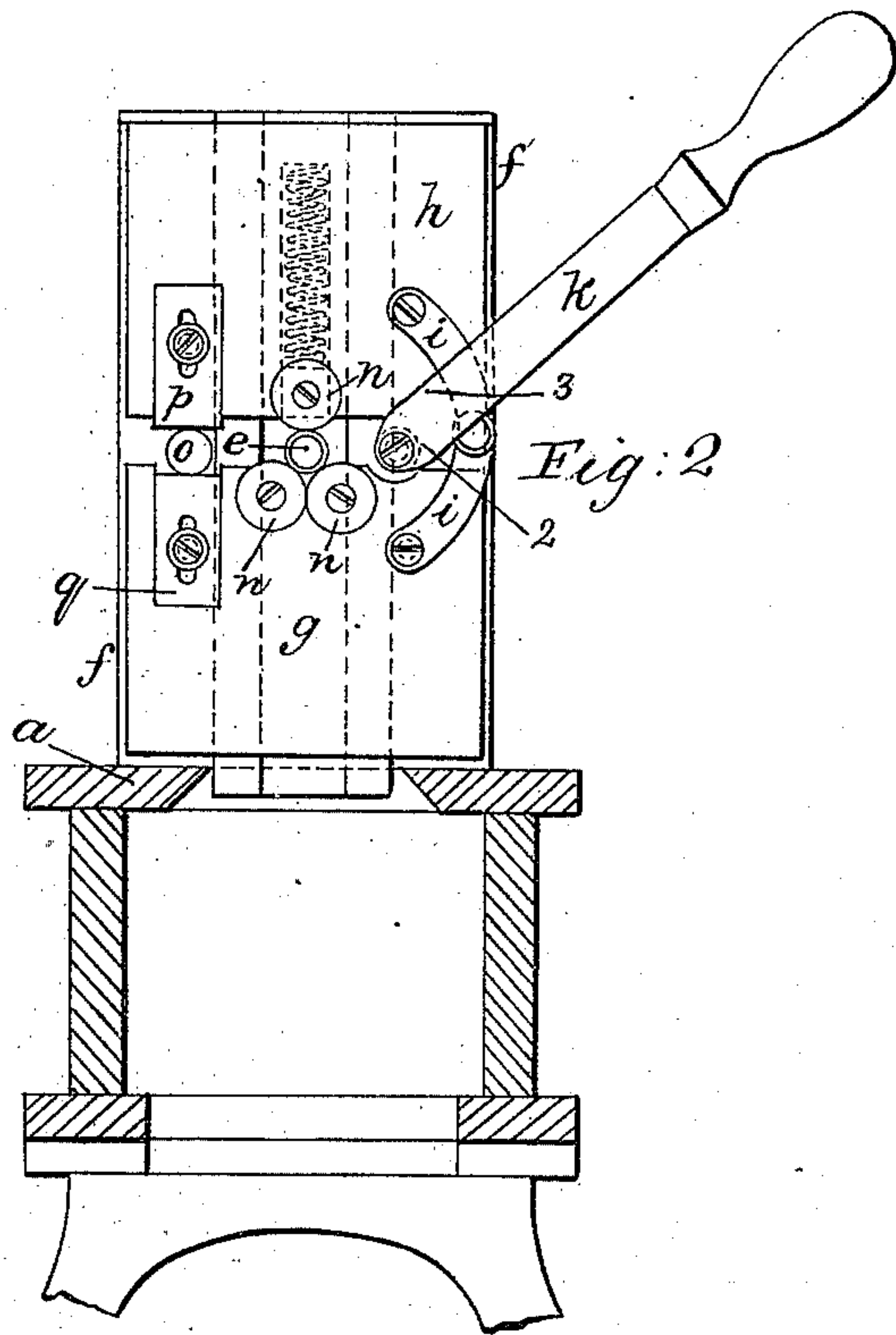


Fig: 2

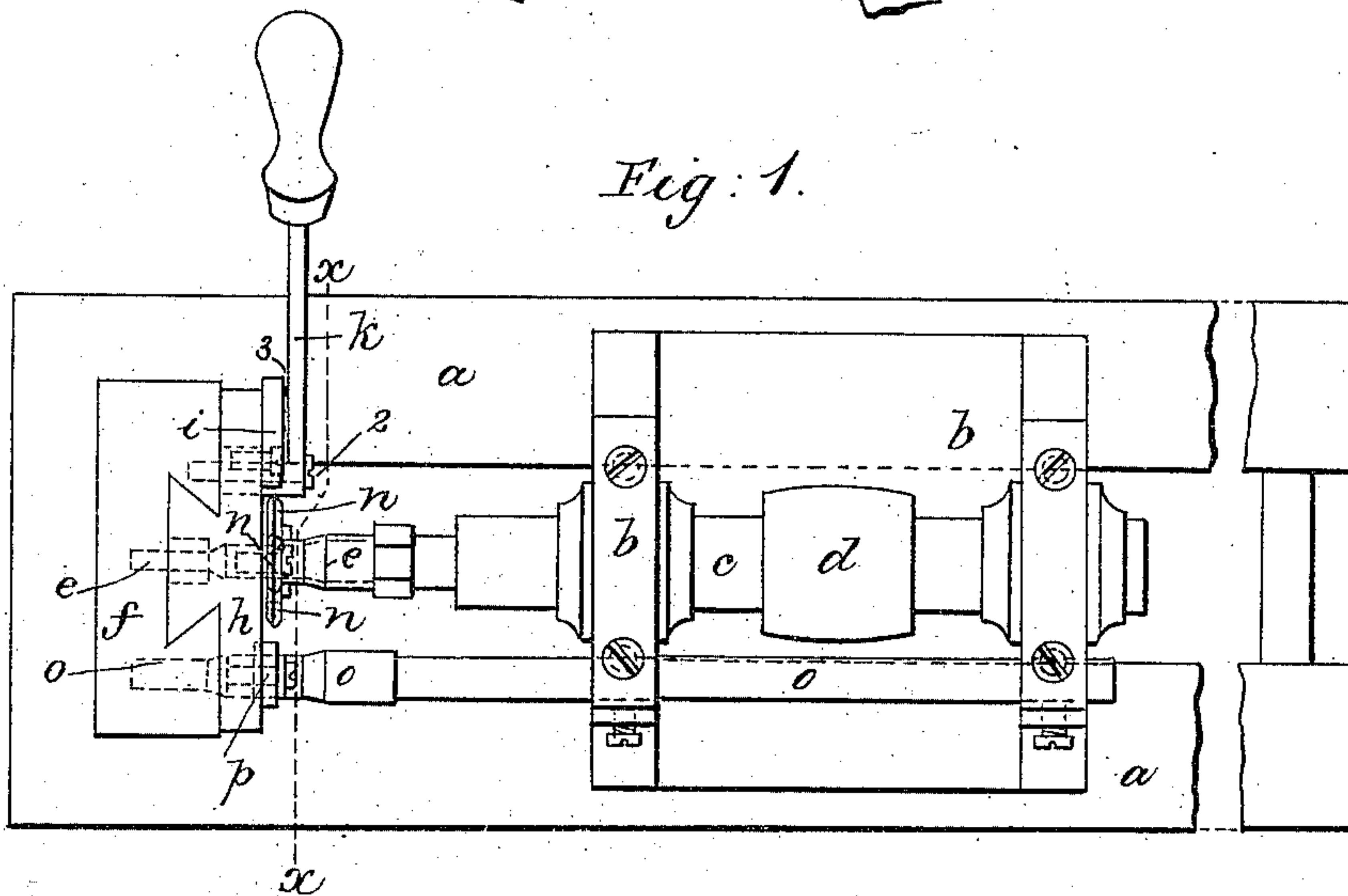


Fig: 1.

Witnesses.

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FREDERICK J. SEYMOUR, OF WOLCOTTVILLE, CONNECTICUT.

Letters Patent No. 97,234, dated November 23, 1869.

IMPROVEMENT IN MACHINES FOR SPINNING TUBES OF SHEET-METAL.

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, FREDERICK J. SEYMOUR, of Wolcottville, in the county of Litchfield, and State of Connecticut, have invented and made a new and useful Improvement in Spinning Tubes, and Similar Articles, of Sheet-Metal; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the annexed drawing, making part of this specification, wherein—

Figure 1 is a plan of the said machine for spinning tubes.

Figure 2 is a cross-section of the machine at the line *x x*.

Similar marks of reference denote the same parts.

In Letters Patent granted to me, January 26, 1869, a machine is represented for spinning tapering tubes. In this machine, the angle of movement of the head-block had to be varied according to the taper of the tube, and articles of an irregular taper could not be spun therein to advantage.

My present invention is adapted to spinning articles of sheet-metal, such as straight and tapering tubes, and tubes of an irregular shape, the angle of the taper varying, and to the manufacture of brass, copper, and other metallic tubing.

My invention consists in a head-block and double-acting slides, operated simultaneously by a lever or its equivalent, and carrying the rollers or tools that operate to spin the metal, in combination with a revolving mandrel, and a form, upon which the article to be spun is placed. By this construction, the tools that operate upon the metal are moved toward the axis around which the tube revolves, or they are moved away from the same, according to the shape of the article being operated upon, and these means are adapted to use with a lathe of ordinary construction.

In the drawing—

a is a bed-plate or frame, and

b, the head-block or bearings for the mandrel *c* that is to be driven by competent power acting on the pulley *d*.

The mandrel *c* carries, at its end, a former, *e*, of the shape of the article to be produced, the same being attached axially in any desired manner.

f represents a slide or head-block, sustained also upon the bed *a*; and a feeding-screw or other means, known in lathes, is to be employed for causing the head *b* to move toward or away from the head-block *f*, in any desired manner, as required for the operations hereafter described, or the head-block *f* might be moved, and *b* remain stationary.

Upon this head-block *f*, two slides, *g* and *h*, are mounted, and these are linked together by the toggle

i, and the upper slide *h* may be sustained by a spring shown by dotted lines, fig. 2, so that its weight will not rest upon the operative parts.

A lever, *k*, is mounted upon the fulcrum 2, that projects from the head-block *f*, and said lever, *k*, is fitted with a cam, 3, that operates upon the toggle *i*, to draw the slides *g h* together.

These slides, *g h*, carry rollers or tools *m n n*, that operate upon the sheet-metal tube.

It will now be understood that if a tapering or other former *e*, be employed, and a tube of metal slipped over the same, and secured at the end next the head-block *b*, by a clamp, and then the parts moved so that the tube passes through between the tools *m n n*, and then the feeding-screw be set to work, so that the rollers or tools *m n n* will operate upon the tube or blank from near the clamp, proceeding toward the end, that then the operator can, by the lever *k*, cause the tools *m n n* to operate upon the tube, so as to spin or draw the same down to the shape of the former *e*, or elongate the tube on said former *e*, by reducing its thickness.

If the parts before described, alone were employed, the operator might spin the metal thinner in one part than the other, or injure the metal. I therefore make use of a pattern, *o*, supported from the head-block *b*, and the adjustable stops *p* and *q*, on the respective slides *h* and *g*. The pattern is so shaped, and the stops so placed, that the slides *g h* cannot be brought too near together, and hence that the proper space will be left between the former *e*, and the tools *m n n*, for the intervening metal that is being operated on.

It will be understood that the article produced, may undergo several successive operations before being complete, the former being changed, if necessary, between one operation and the next, and the article will generally require to be annealed.

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

1. The slides *g h*, carrying the tools *m n n*, and actuated simultaneously by the lever *k*, or its equivalent, in combination with a former, revolved and sustaining the article that is being operated upon, substantially as set forth.

2. The shape or pattern *o*, and adjustable stops, *p* and *q*, in combination with the aforesaid slides and tools, substantially as and for the purposes set forth.

In witness whereof, I have hereunto set my signature, this 29th day of May, A. D. 1869.

FRED. J. SEYMOUR.

Witnesses:

L. W. COE,

P. F. PARSONS.