W. H. Nettleton.

Forging Clock Pillars.

No. 42,104. Patented Mar. 29, 1864.

Fig. 2.

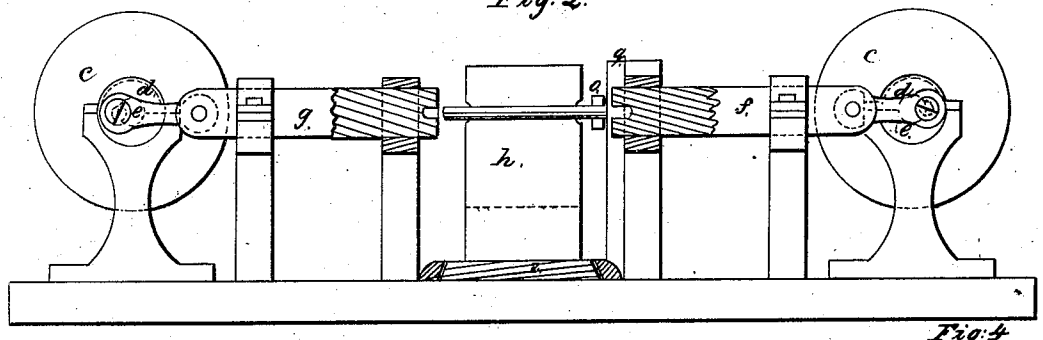
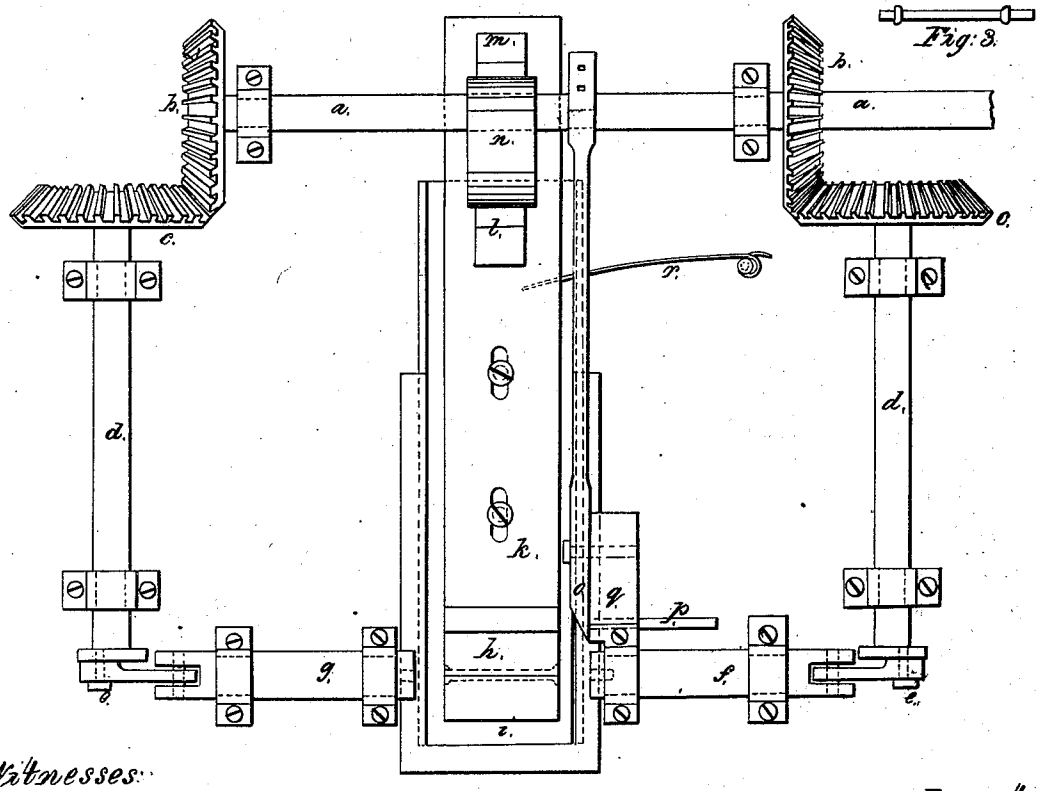


Fig. 4

Fig. 3.

Fig. 1.



Witnesses:

Henry Bielawski

W. B. Bradley.

Inventor:

W. H. Nettleton

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

UNITED STATES PATENT OFFICE.

WILLFORD H. NETTLETON, OF BRISTOL, CONNECTICUT.

IMPROVEMENT IN CLOCK-PILLARS.

Specification forming part of Letters Patent No. **42,104**, dated March 29, 1864.

To all whom it may concern:

Be it known that I, WILLFORD H. NETTLETON, of Bristol, in the county of Hartford and State of Connecticut, have invented, made, and applied to use a certain new and useful Improvement in Clock-Pillars; and I do hereby declare the following to be a full, clear, and exact description of the said invention, reference being had to the annexed drawings, making part of this specification, wherein—

Figure 1 is a plan of a machine employed by me for making said pillars. Fig. 2 is an elevation of the same. Fig. 3 is an elevation of my improved clock-pillar, and Fig. 4 is an elevation of the clock-pillars heretofore constructed.

Similar marks of reference denote the same parts.

Clocks are provided with pillars attached to one of the plates by riveting, and, passing through holes in the other clock-plate, retain the same by pins inserted through the pillars. These pillars are provided with shoulders that determine the distance from one plate to the other. Heretofore these pillars have been made of the shape shown in Fig. 4, with a straight body and ends turned down smaller, so as to leave the shoulders required for keeping the plates apart. In the manufacture of these pillars difficulty exists in keeping the cutting-tools in order, so as to turn the ends off accurately to the point required for the shoulder. Beside this there is considerable metal in the clock-pillars that is unnecessary, as the strength of said pillars is determined by the size of the ends.

The nature of my said invention consists in a clock-pillar formed by swaging or spreading collars to form shoulders by endwise pressure upon the wire while confined in suitable dies. My pillar is thus a new article of manufacture, much lighter, cheaper, and more accurate than the pillars heretofore constructed.

In the drawings, *a* is a shaft supported in suitable bearings, and *b b* are bevel-gears to the gears *c c* on the shafts *d d*, sustained in bearings, and having at the ends crank-pins, *e e*, communicating, by links, a reciprocating motion to the sliding dies *f* and *g*.

The means for giving these dies *f* and *g* the required movement might be varied if desired.

h is a two-part holding-jaw, one part of which is attached to the slide *i*, sustained in V-grooves on the bed of the machine, and the other jaw is upon the slide *k*, that is—above the jaw-slide *i*, and connected therewith by screws in slots. The cam *n* upon the saft *a*, acting upon toe-pieces *l* and *m* upon the slide *k*, actuates this holding-jaw. The holding-jaw *h* is formed with semi-cylindrical notches in each face, forming an opening of the size of the wire forming the clock-pillar, and recesses at the ends are formed of a size and shape corresponding with the collars on the clock-pillar, and the ends of the dies *f* and *g* are formed with cavities corresponding to the size and shape of the ends of the pillars. The wire is supplied in a straight condition to the cutter-block *q*, and passed through the same until stopped by a gage; and *o* is a sliding cutter actuated by an eccentric on *a*, that cuts off the blank for the clock-pillar. *p*, Fig. 1, represents the wire passing (from a reel through a straightener) to the cutter-block *q*. The parts are so timed that the wire is fed in when the jaws *h* are on line to receive the same; then the cutter *o* separates the blank as the slide *k* and half-jaw, attached thereto, comes up against the other half-jaw, *h*, on *i*, the spring *r* detaining the slide *i* sufficiently to hold the blank between the jaws *h* while they move together to the line of the dies *f* and *g*, at which time the end of the slide *i*, taking the end of its groove, remains stationary, while the cam *n* acts on the slide *k* with sufficient force to hold the blank firmly while the dies *f* and *g* come up, receive the ends of the wire, and by the endwise pressure on the same swell out the collars on the unsupported part between the ends of *f* and *g* and the jaws *h*, forming the pillar, as in Fig. 3, at one operation and with the greatest accuracy, the same being much lighter and equally strong when applied to the clock plates.

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

The clock-pillar formed with collars swaged or swelled out by endwise compression, substantially as specified.

In witness whereof I have hereunto set my signature this 29th day of January, 1864.

W. H. NETTLETON.

Witnesses:

HENRY BECKWITH,
W. H. BRADLEY.