T. SHAW.

Power Hammer.

No. 52,894. Patented Feb. 27, 1866.

FIG. 1

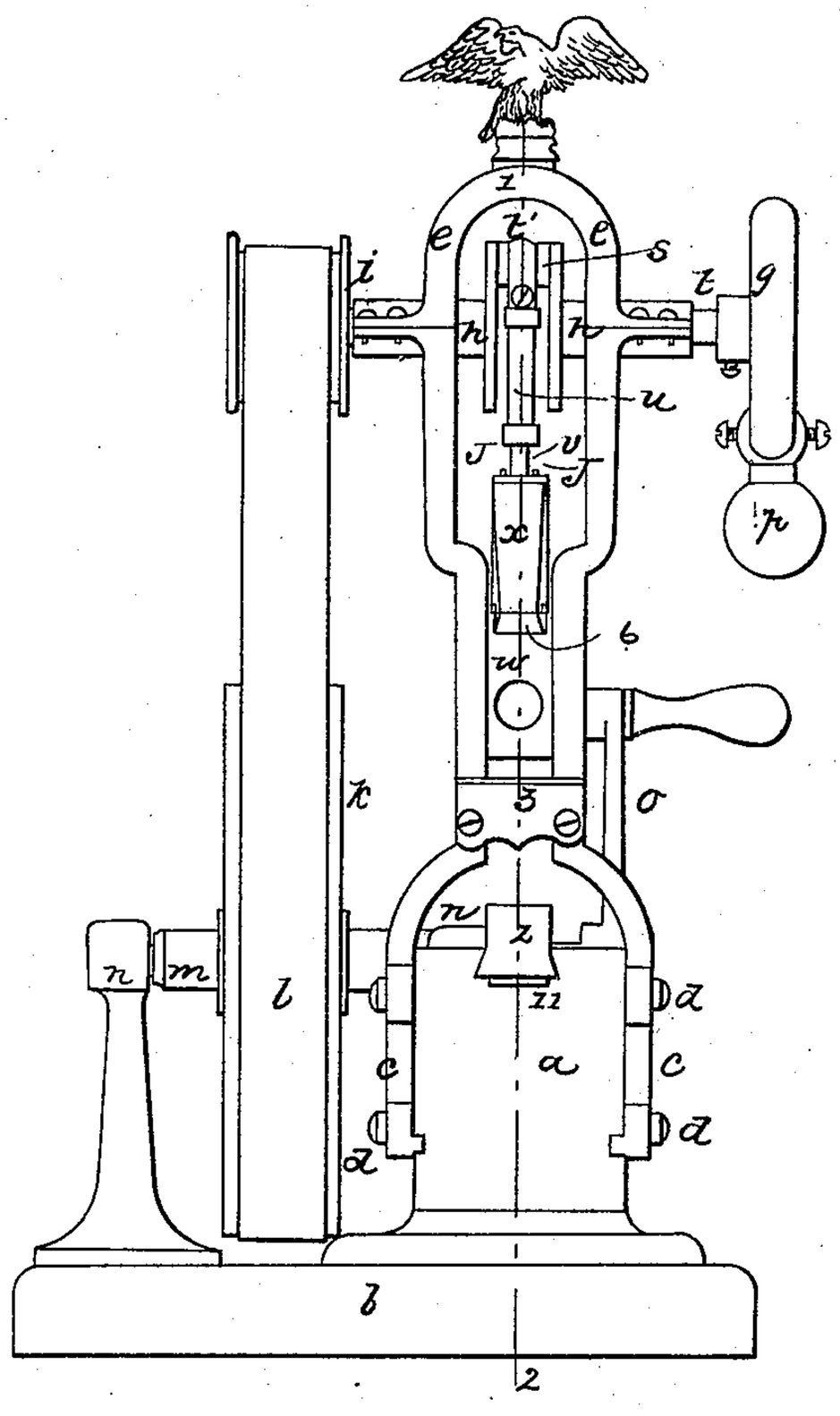
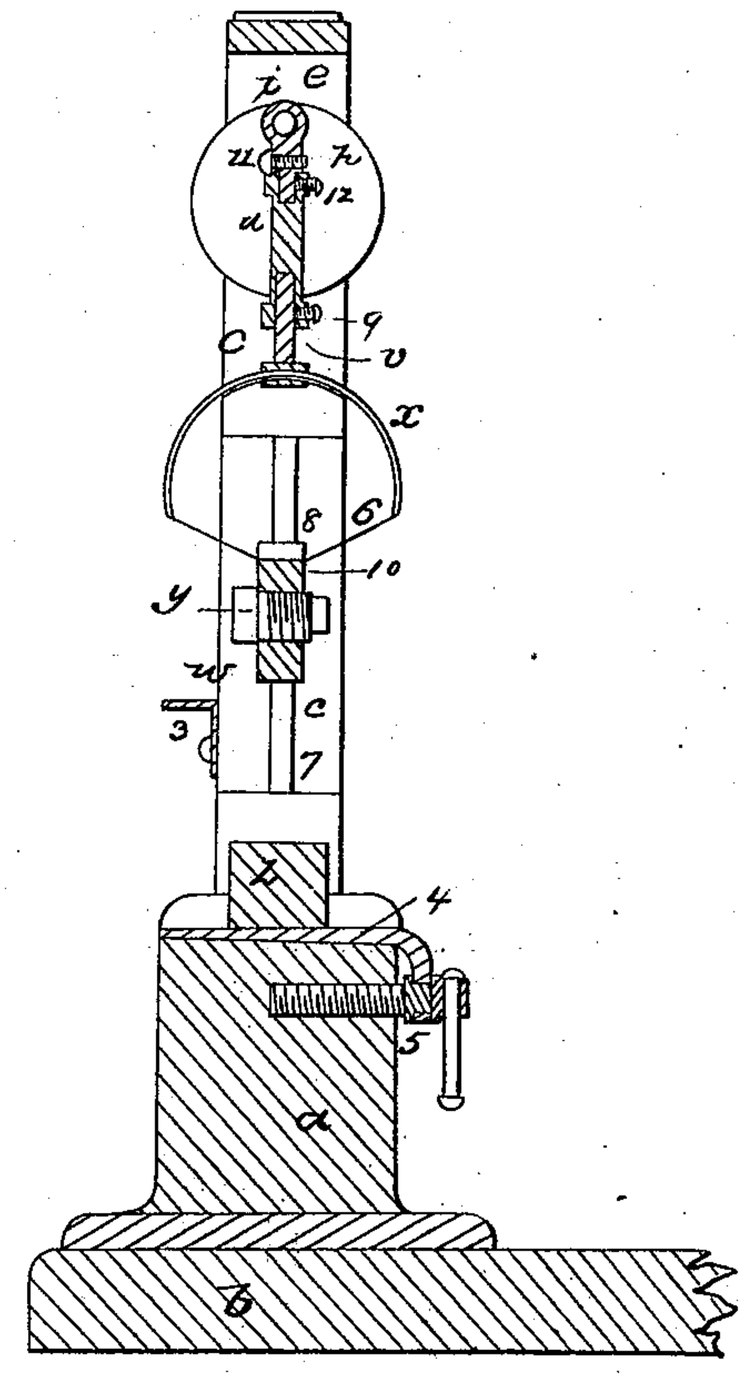


FIG. 2



WITNESSES
Elias L. Shaw
H. C. Justice

INVENTOR
Thomas Shaw.

UNITED STATES PATENT OFFICE.

THOMAS SHAW, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN POWER-HAMMERS.

Specification forming part of Letters Patent No. **52,894**, dated February 27, 1866.

To all whom it may concern:

Be it known that I, THOMAS SHAW, of the city and county of Philadelphia, Pennsylvania, have invented a new and Improved Mode of Constructing Power-Hammers; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in vibrating a hammer and securing the die in the manner as hereinafter described.

In order to enable others to use and practice my invention, I will proceed to describe its construction and operation.

On reference to the accompanying drawings, which form a part of this specification, Figure 1 is a front view. Fig. 2 is a vertical section on the line 1 and 2.

Similar letters refer to similar parts throughout the several views.

a is the anvil-block, secured to wood base *b* by wood-screws.

c c are guide-rods extending up to cap *e*, to which it is united by means of small screws, and at which point is formed the journal for shaft *t*, for the purpose as hereinafter described. Said guide-rods *c c* are secured to anvil *a* by means of screws *d d*.

n n are two pillars supporting shaft *m*, to which is secured main driving-pulley *k* and crank *o*, for the purpose of communicating power to the hammer through belt *l* when said crank *o* is operated by the hand.

Shaft *t* has secured to it and carries fly-wheel *g*, counter-balance *p*, crank-disks *h h*, and belt-wheel *i*, for the purpose as hereinafter described.

x is a metal spring secured to rod *v*, which enters hollow rod *u*, and to which it is secured by set-screw *q*. The upper end of hollow rod *u* has a split-box journal, *t*, held together by screw 11, and grasps crank-pin *s*.

w is the hammer, secured on its upper end to belt 6 by wedge 8. Said belt is secured to spring *x* by means of screws *j j*, all for the purpose as hereinafter described.

3 is a shield to prevent heat from burning the belt; *z*, the die secured to anvil *a* by means of wedge 4 and screw 5, as hereinafter described.

The hammer *w* can be made to strike high or low by means of lengthening or shortening rod *v* by screw 9. The weight of hammer can also be regulated by means of plug *y* being inserted into or taken from the hammer, which alters the weight in proportion. In order to prevent the plug from unscrewing itself pin 10 is inserted.

Spring *x* and belt 6, in combination with crank-pin and rod *u*, give the hammer a very free and elastic motion. It is also durable, as the belt is not affected by the sudden vibrating of the hammer.

Wedge 4 secures die *z* by being forced under it by means of screw 5.

The object of counter-balance *p* is to lift the hammer off the anvil-block when stopping. This can also be effected by means of a spring pulling on a crank-pin in the desired direction.

The hammer is put in operation in this wise: On motion being applied to crank *o* motion will be communicated to crank-shaft *t* through belt *l*, when the hammer *w* will have a perpendicular vibratory motion of twice the stroke of the crank-pin.

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

Constructing and operating a hammer in the manner described, evident equivalents included.

THOMAS SHAW. [L. S.]

Witnesses:

ELIAS J. SHAW,

ROBERT HUTCHINSON.