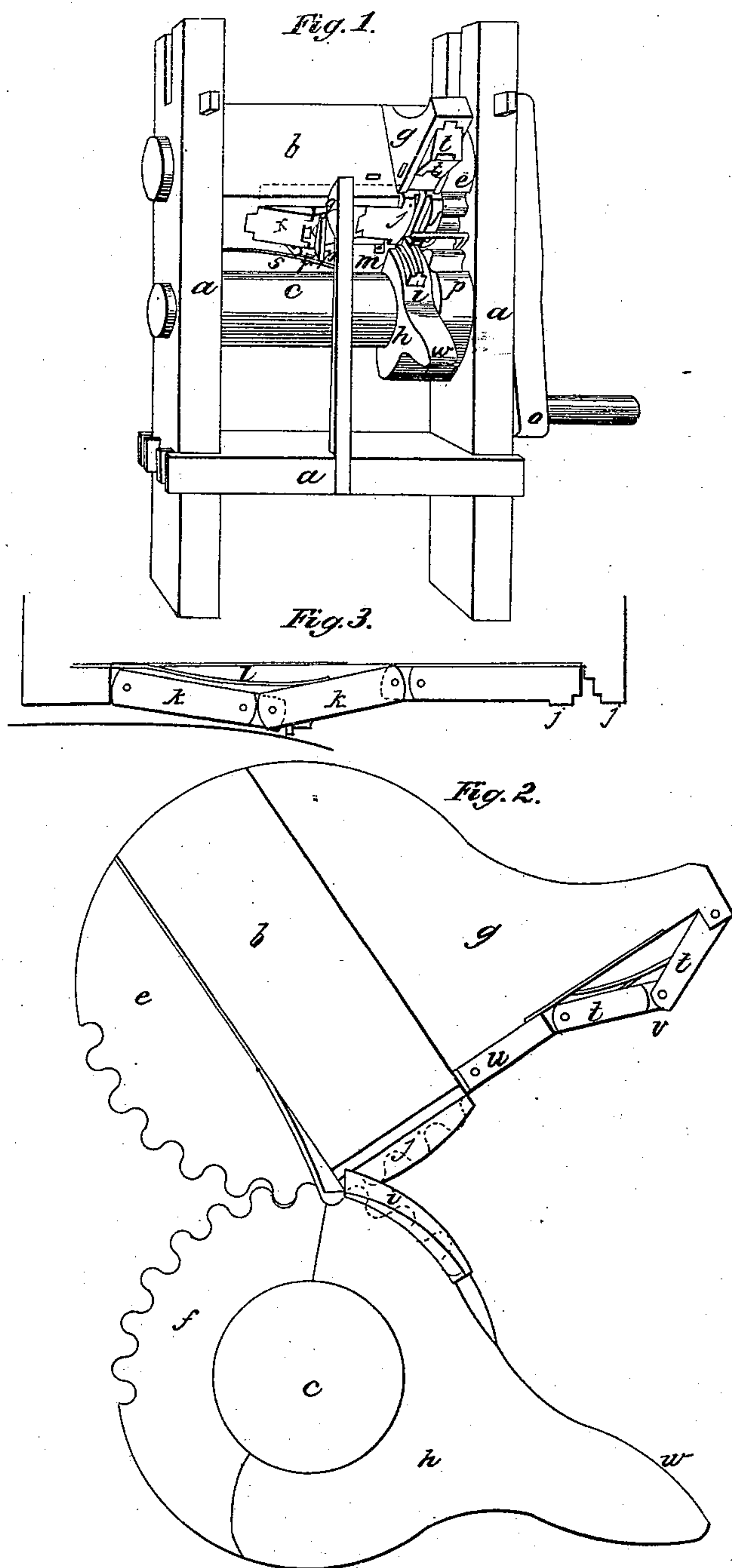


N. W. BISHOP & S. BROOKS.

Making Wrought Nails.

No. 390.

Patented Sept. 21, 1837.



UNITED STATES PATENT OFFICE.

N. W. BISHOP, OF SAYBROOK, AND SIMEON BROOKS, OF CHESTER, CONNECTICUT.

MACHINE FOR MAKING WROUGHT NAILS.

Specification of Letters Patent No. 390, dated September 21, 1837.

To all whom it may concern:

Be it known that we, NATHANIEL W. BISHOP, of Saybrook, and SIMEON BROOKS, of Chester, in the county of Middlesex and State of Connecticut, have invented an Improvement in Machines for Manufacturing Wrought Nails and Spikes, and that the following is a full and exact description thereof.

10 In the accompanying drawing *a, a*, Fig. 1, represents the frame of the machine, as made of wood, but in the acting machine we intend to use cast iron, as it is necessary that the whole should operate with the utmost
15 steadiness.

c, and *d*, are two vibrating shafts carrying the dies and their appendages, by which the nail is to be gripped, cut off from the bar, and headed. The two shafts gear into
20 each other by means of the two cogs on the two segment wheels, *e*, and *f*, shown of what may be full size in Fig. 2. Attached to the two shafts *b*, and *c*, are two projecting arms *g*, and *h*, the use of which will be apparent.
25 A die *i* is fixed upon *h*, and a corresponding die *j*, *j*, on the lower side of the shaft *b*; the die *j*, *j*, being divided into two parts, to allow of its being opened and closed by the action of a toggle joint *k*, *k*, attached to its
30 movable side. This toggle joint is affixed to the under side of the shaft *b*, which is excavated to receive it. In Fig. 3 it is shown of large size, *j*, *j*, being the movable and fixed jaws of the die. The toggle joint *k*, *k*,
35 has a spring *l*, under it to force it down, and open the dies. The form of the dies *i*, and *j*, must be such as to correspond with that of the nail to be made. The nail rod is to be fed in through a guide piece *m*, until it

touches the stop *n*, at which time the dies 40 are open, as shown in Fig. 1; the shafts then vibrate by means of the crank *o*, a projecting piece *p*, on the toggle joint *k*, comes into contact with the standard *q*, which closes the dies upon the nail rod, a latch *r* 45 catches the toggle joint, and holds it in place during the formation of the nail, but when the shafts vibrate back again the latch *r*, is thrown back by the spring *s*, when the die *j*, *j* opens, and the nail falls. At the 50 back end of the dies there is a knife, or chisel, which cuts off the nail rod, as the dies close upon it.

The heading of the nail is effected by the action of a second toggle joint *t*, *t*, contained 55 in the projecting arm *g*, which carries the heading die *n*. The projecting part *v*, of this toggle joint comes into contact with the cam part *w*, of the arm *h*, which, consequently, causes the heading die to advance 60 upon the projecting head of the nail.

We do not claim the making of wrought nails by means of vibrating dies, nor do we claim the use of the toggle joints for the opening or closing of dies generally they 65 having been before used. But

What we do claim is—

The particular arrangement of the toggle joints as herein described, for the opening and closing of the dies, and also for the 70 heading of the nails; this manner of using them, being as we verily believe, new, and of our invention.

N. W. BISHOP.
SIMEON BROOKS.

Witnesses:

THADDEUS BEACH,
ALBERT SIZER.