R. H. Cole.

Nut-Blank Machine.

No. 21,599. Patented Sept. 28, 1858.

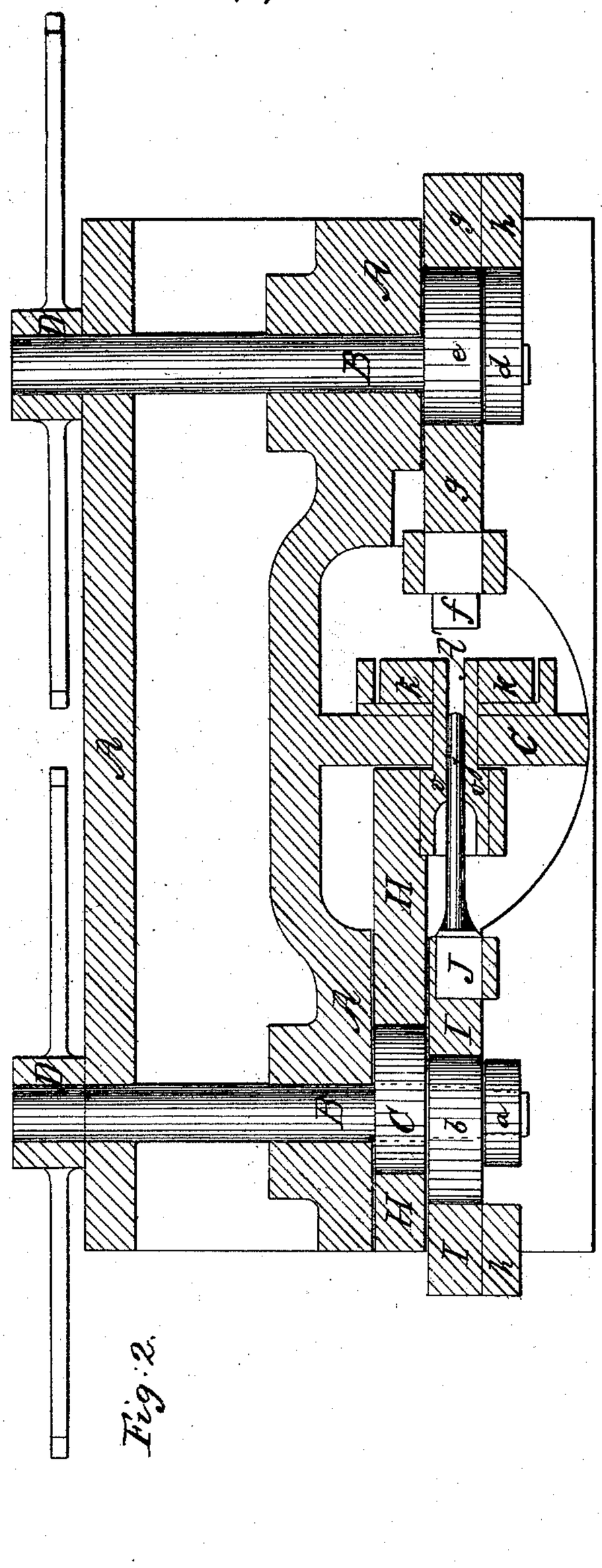

Fig. 2.

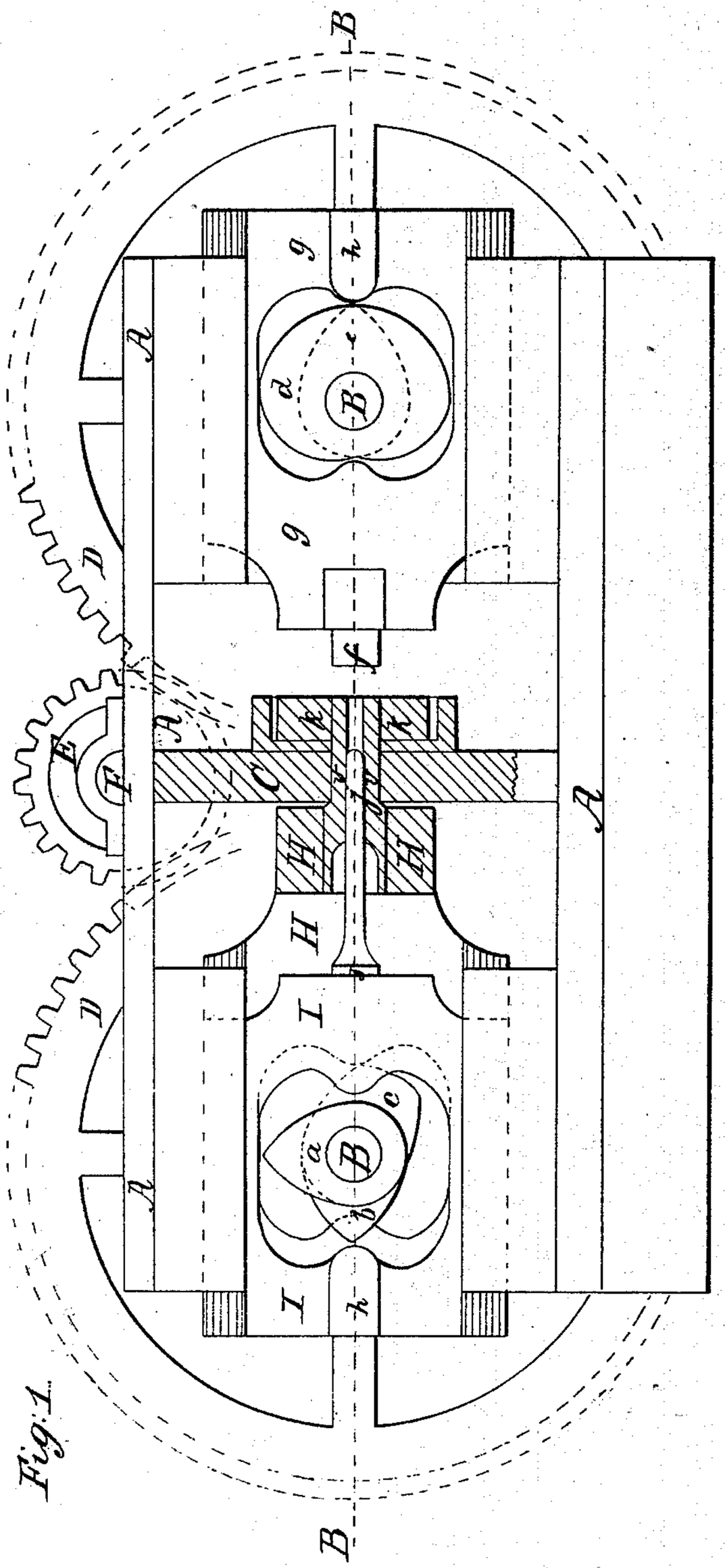

Fig. 1.

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UNITED STATES PATENT OFFICE.

R. H. COLE, OF ST. LOUIS, MISSOURI.

MAKING NUT-BLANKS.

Specification of Letters Patent No. 21,599, dated September 28, 1858.

To all whom it may concern:

Be it known that I, RICHARD H. COLE, of the city of St. Louis and State of Missouri, have invented a new and Improved Machine for Preparing Metallic Nut-Blanks; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawing, making part of this specification, in which—

Figure 1 shows a front elevation and also a vertical section through the dies and punches—the section being taken through the line A′ shown in Fig. 2. Fig. 2 shows a horizontal section through the line B′ B′—shown in Fig. 1.

My invention consists in preparing metallic nut blanks by partly pressing the hole or eye into them against a blank surface, with a round or square pointed punch, while the said blank is confined in a die, whereby the center of the blank will be pressed in the body of the nut, which will thus be made thicker than the bar from which it was taken.

To enable others skilled in the arts to which this is a part to make and use my invention, I will proceed to describe the construction and operation of the machine, whereby the foregoing results are produced.

A A, &c., is the frame of the machine; B″ B are two shafts fixed in the frame of the machine as shown; E is a pinion; D D are spur wheels into which the said pinion works, which thus imparts motion to the machine.

a b c are cams fixed on the shaft B″ and *d e* are cams fixed on the shaft B.

g is a slide in which the punch *f* is fixed.

h is a projection made on the slide against which the cam *d* acts for the purpose of throwing back the slide *g* which is pressed forward by the cam *e*.

i is a slide in which the punch *j* is fixed, this slide is pressed forward by the action of the cam *b*, and it is brought back by the action of the came *a*, which acts against the projection *h* on the slide *i*.

H is a slide in which is fixed the hollow mandrel *v v*. This slide is worked back and forth by means of the cam *c*.

K K is a die or nut box fixed against a rib of the frame—as shown at C. This nut box is the same in every respect as the one for which a patent was issued to me January 7, 1856.

Let the machine be in the position shown on the drawing and let a bar of iron be introduced between the end of the punch *f* and the face of the die *k*. The punch in advancing will cut off the blank and drive it into the die box against the end of the hollow mandrel *v v* which recedes as fast and as far as the punch *f* advances, and no farther—which leaves the blank between the end of the hollow mandrel and the punch *f*, where it is held until the round punch *j* advances and drives the center of the blank into the body of the nut. But as the end of the punch *f* is blank, the punch *j* can not advance entirely through the blank, but stops and recedes after having advanced through the nut to within about one sixteenth of an inch—in the case of a square end punch—but in the case of a round pointed punch—it advances far enough to "prick" the hole entirely through—that is, to make a small hole in the center of the eye on the opposite side of the blank from which the punch enters, thus leaving the blank but partly finished, so that the nut has to go through another machine for completion.

As soon as the nut is punched as above described—the punch *f* commences to recede and the hollow mandrel to advance—whereby the blank is driven out of the die box, which completes the operation.

Patents have already been granted to me for driving the center of the blank into the sides of the nut, but in the machines which have been previously patented to me for that purpose, there are two punches and two swages uses, a punch and a swage on each side of the nut, and the nut is finished completely by a single operation of the machine, but the object of this machine is merely to prepare the blank, by driving a punch into it, and cutting it off, thus leaving the nut to be finished by another machine.

What I claim therefore, is—

Preparing the nut blank, by driving a punch into it, while it is confined against a blank surface by means of the mechanism constructed and arranged substantially in the manner set forth.

R. H. COLE.

Witnesses:
P. W. JOHNSTONE,
AMOS BROADNAX.