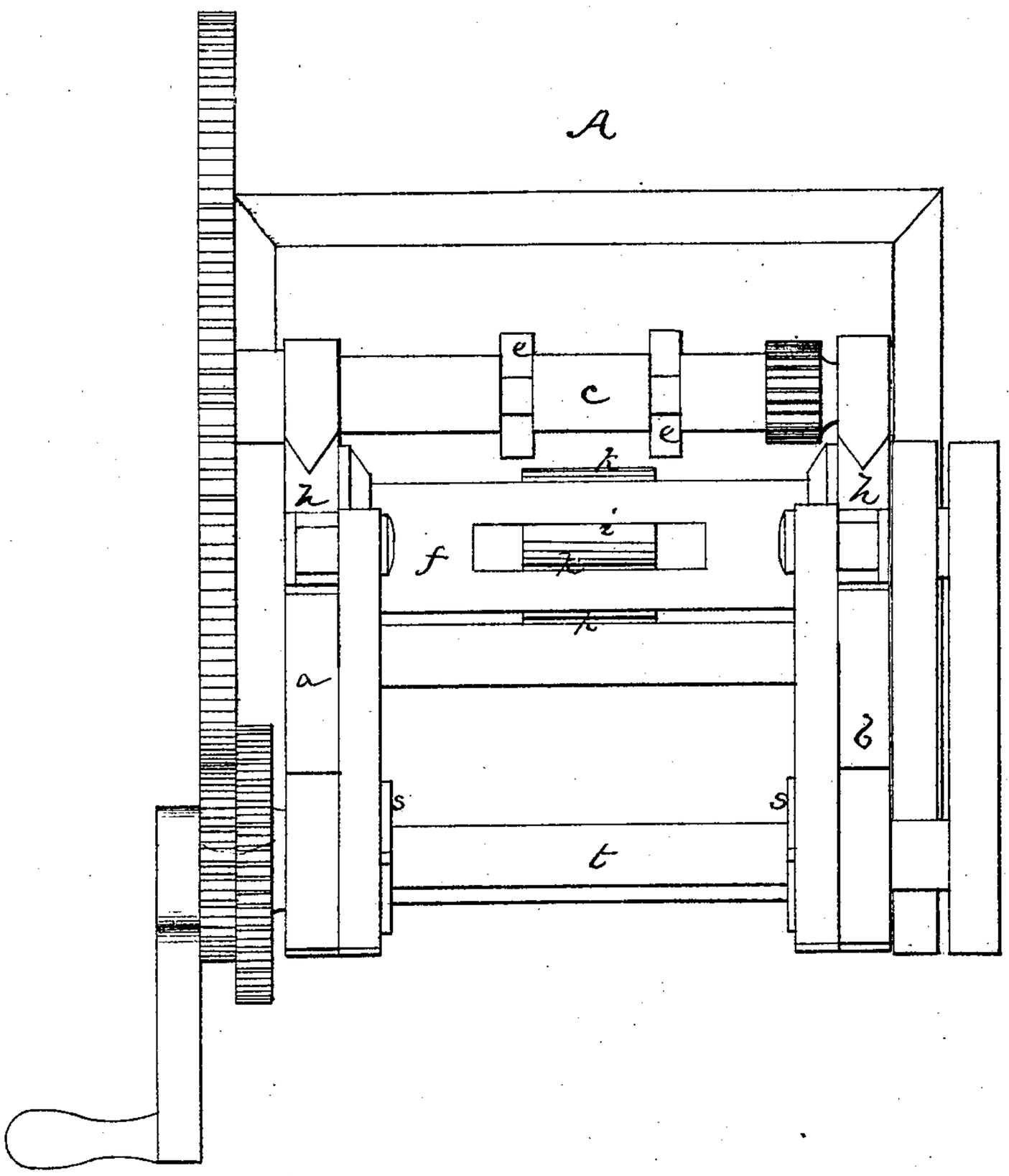
3 Sheets--Sheet 1.

R. C. LAMBERT.

Improvement in Machines for Cutting and Heading Nails.

No. 124,067. Patented Feb. 27, 1872.



Witnesses
S. B. Kidder.
B. C. Latimer.

R. C. Lambert.
by his Attys
Cushby & Cornell

3 Sheets--Sheet 2.

R. C. LAMBERT.

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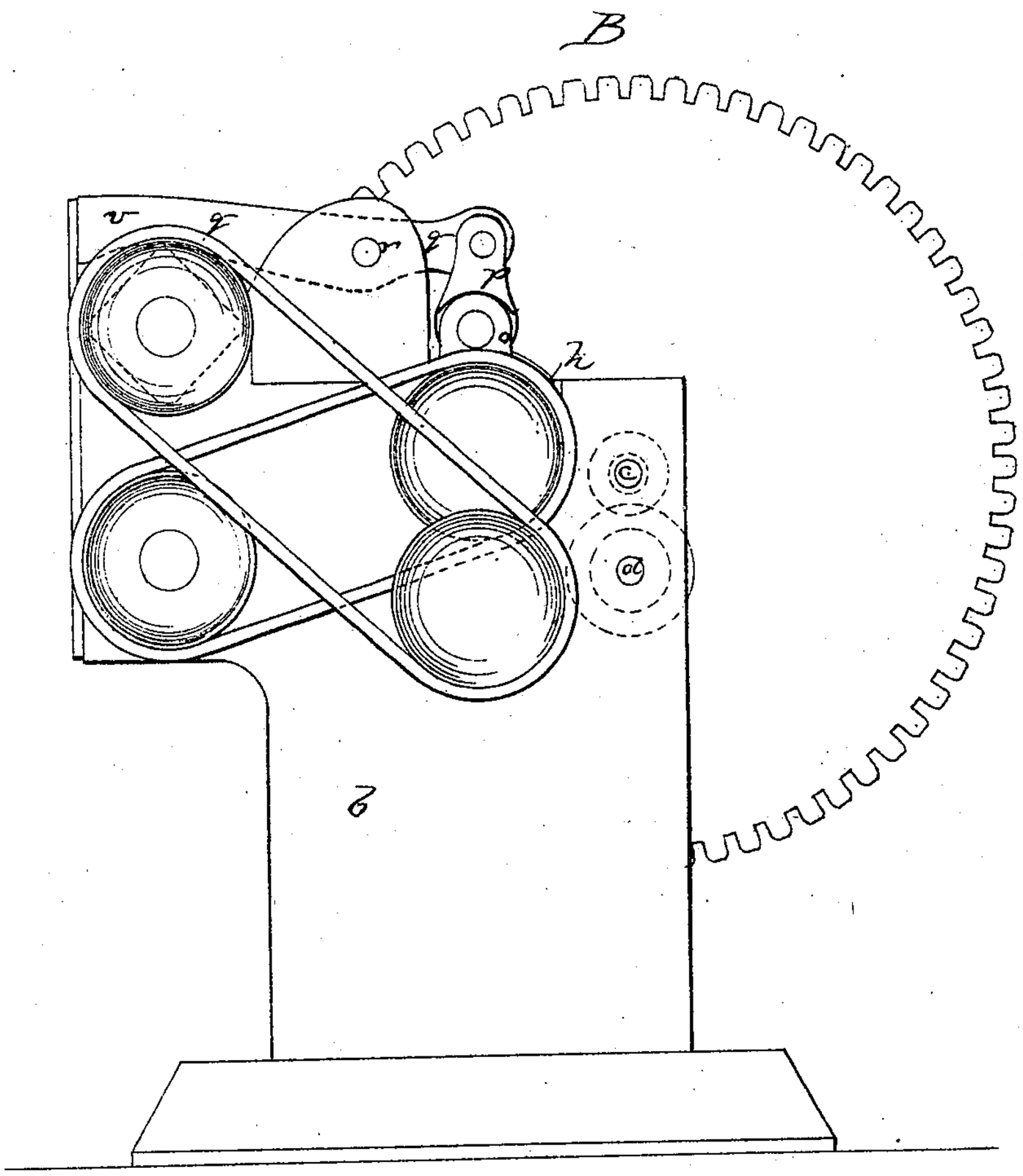

Witnesses
S. B. Kidder
L. W. Latimer.

R. C. Lambert,
by his Attys
Cosby & Gould

3 Sheets--Sheet 3.

R. C. LAMBERT.

Improvement in Machines for Cutting and Heading Nails.

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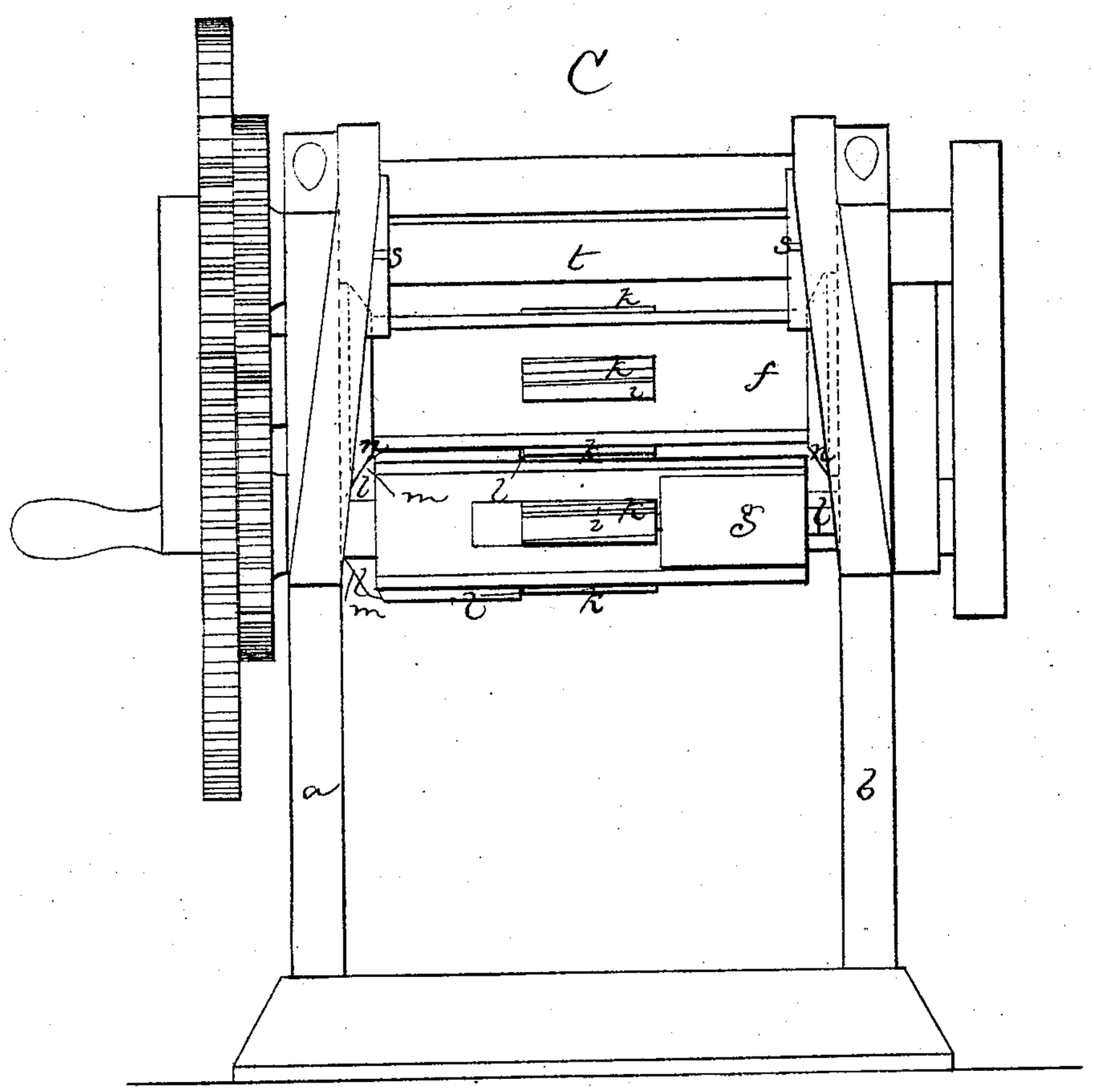

Witnesses.
S. N. Hidden.
H. C. Bateman.

R. C. Lambert,
by Munn & Co
Attys.

124,067

UNITED STATES PATENT OFFICE.

RICHARD C. LAMBERT, OF QUINCY, MASSACHUSETTS.

IMPROVEMENT IN MACHINES FOR CUTTING AND HEADING NAILS.

Specification forming part of Letters Patent No. 124,067, dated February 27, 1872.

To all whom it may concern:

Be it known that I, RICHARD C. LAMBERT, of Quincy, in the county of Norfolk and State of Massachusetts, have invented certain Improvements in Machines for Cutting and Heading Nails; and I do hereby declare that the following, taken in connection with the drawing which accompanies and forms part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

My invention relates to certain improvements in machines for cutting and heading nails. In my machine I employ a plate of a width corresponding to the length of the nail-blanks to be cut, feeding this plate to the die or cutter-cylinders by feed and guide rolls, which insure its proper lateral presentation, and upon the faces of the cutter-cylinders (which, although called cylinders, are preferably of prismatic form) are die-cutters, so arranged that when two faces of the two rolls come together the two dies of such faces cut the nail-blank therefrom, said blank being then griped between such dies, and the upper roll being forced down to effect the heading of the griped blank, said roll having a beveled die or an incline for each die-face, which wheel or incline, when the upper cylinder is forced down, presses in a header on the corresponding face of the lower cylinder, said header sliding upon the cylinder, and its inward movement effected by the downward movement of the upper cylinder, causing it to act against the large end of the blank and form the head thereon. The lower cylinder is formed with two sets of headers at its opposite ends, the headers alternating, and the dies cut the blanks alternately, or heads and points, so that one blank being cut with its large end in one direction, and the header heading such end, the next blank by the action of the next dies is cut with its large end in the opposite direction, and the header at such end of the cylinder is driven in to head the said blank. It is in the general organization of the machine that the invention consists.

The drawing represents in plan side elevation and end elevation a machine embodying my invention—

A showing the plan, B the side elevation, and C the end elevation.

a b denote the two uprights of the frame, in which uprights are the housing of the feed and die rolls. *c d* denote the two feed-rolls geared together and running at the same speed, the roll *d* being preferably made with two guide-flanges, *e*, between which the plate passes, and by which it is properly guided or presented to the cutter-dies. *f g* denote the two die or cutter cylinders, the lower cylinder, *g*, being journaled in stationary bearings, and the upper one, *f*, in vertically-movable bearings *h*. In the faces of each cylinder is a series of bed-dies, *i*, and cutter-dies *k*, and as the cylinders rotate, and the plate is presented between any two corresponding dies, *i k*, of the two cylinders, the blank is severed from the end thereof, first, with the head or large end in one direction, and next with the head or large end in the opposite direction, the movement of the feed-rolls and the movement of the die-cylinders being relatively such that the plate is fed the exact distance to bring the end of the plate between the cutters in position to properly sever the blank, the movement of the cutter-cylinders being preferably effected by sprocket-wheels and chain-connection with the driving-shaft, or a gear-wheel connection therewith. Sliding in suitable bearings or guides on the lower cutter-cylinder are headers *l*, the headers being successively or alternately at opposite ends of the cylinder, so as to effect the heading first at one end of one nail-blank and next at the opposite end of the next nail-blank. Each header is forced outward by the stress of a suitable spring, and in normal position its inner end is in position to be forced inward against the head of the nail-blank griped between the dies of the two cylinders. The outer end of each header is inclined, as seen at *m*, and at proper times the header is driven inward against the end of the blank, and so as to head the same, by the action of the bevel-wheel *n* (or a wheel or driver affixed to the upper roll) on the incline *m* of the header, this action of the wheel or driver being effected by its downward movement. To effect this downward movement, a vertical movement is imparted to the boxes or bearings of the shaft which carries the upper cylinder, this movement being imparted as follows: Each box or bearing *h* has an ear, *o*, to which is jointed one end of a short link, *p*, the other end of which is

jointed to the inner end of a rocker-lever, *q*, fulcrumed at *r*. The outer arm of each lever *q* extends over a cam-wheel, *s*, on a cam-shaft, *t*, said shaft being driven by a geared connection with the driving-shaft. The outer arms of the levers *q* are drawn down by suitable springs, and the beveled dies *n* are thereby held above the drivers *l*. But as soon as each nail-blank is cut the cam-wheels *s* throw up the lever-arms *v*, and thereby force down the cylinder *f*, griping the blank cut by the dies, and causing one of the wheels to drive in its header against the blank and form the head thereon.

By these means nail-blanks are rapidly cut and headed to form perfect or finished nails.

I claim—

The combination of the die or cutter-cylinders *f g*, the lower one journaled in fixed bearings and the upper one in movable boxes, the headers *l* placed at opposite ends of the cylinder *g*, the beveled disks *n* on the upper cylinder *f*, the levers *q*, and the cam-wheels *s* on shaft *t*, all substantially as shown and described.

Witnesses: R. C. LAMBERT.

FRANCIS GOULD,

M. W. FROTHINGHAM.