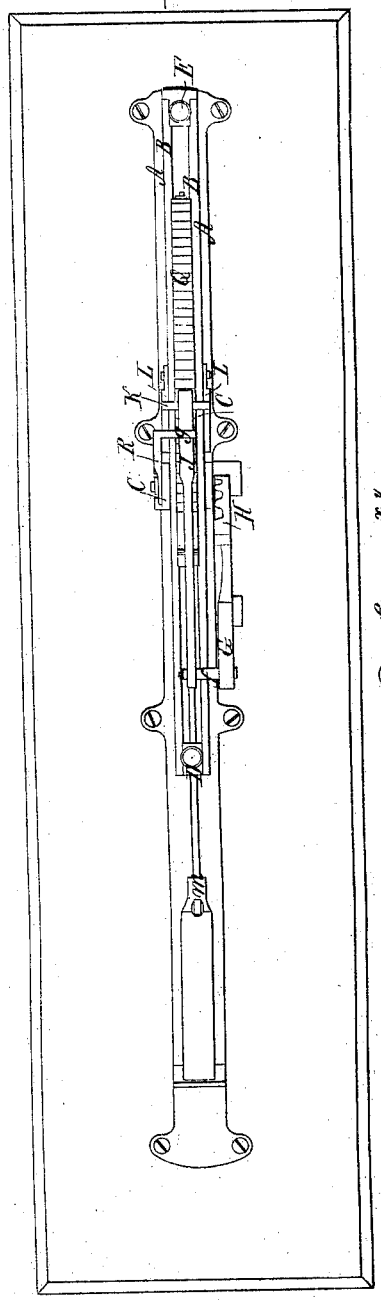
W. Diehl,

Making Cut Nails,

No. 6,291. Patented Apr. 10, 1849.

Fig. 2.



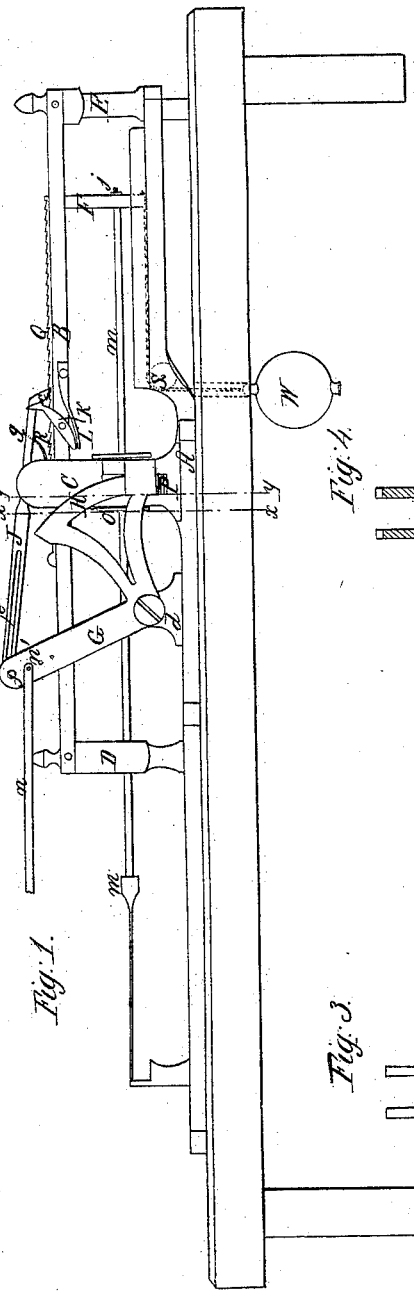


Fig. 1.

Fig. 4.

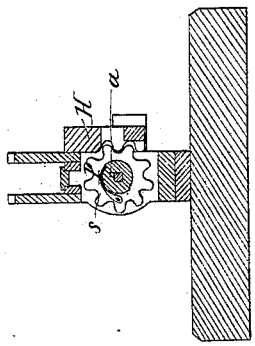
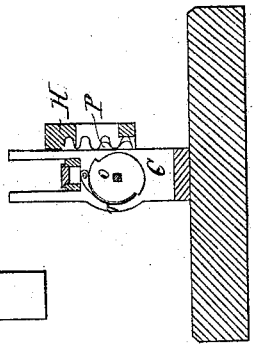


Fig. 3.



UNITED STATES PATENT OFFICE.

HANNAH DIEHL AND CHARLES M. DIEHL, ADMINISTRATORS OF THE ESTATE OF WM. DIEHL, DECEASED, OF NORRISTOWN TOWNSHIP, MONTGOMERY COUNTY, PENNSYLVANIA.

NAIL-PLATE FEEDER.

Specification of Letters Patent No. 6,291, dated April 10, 1849.

To all whom it may concern:

Be it known that WILLIAM DIEHL, late of the township of Norristown, county of Montgomery, and State of Pennsylvania, deceased, did in his lifetime invent a new and useful machine to be used for and by him called a "Nail-Feeder;" and we, HANNAH DIEHL and CHARLES M. DIEHL, administrators of the estate of said WILLIAM DIEHL, do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, whereof—

Figure 1 is a side elevation, Fig. 2, a horizontal top view; Fig. 3 a vertical cross section, through *x x* Fig. 1, and Fig. 4, is a vertical section through *y y* Fig. 1.

The purpose of this invention is to feed the strips of nail plate from which cut nails are to be formed to the machine which is to cut and form the nails. This operation of feeding the plate to the machine is now generally performed by hand and consequently every nail machine requires one person to attend it, while by the aid of this invention a single person can attend several machines, and a person of less strength will be required to attend the machines, than would be demanded to work a single machine in the ordinary way.

The following description will make known the arrangement of parts in this machine.

The letters in Figs. 1 and 2, refer to corresponding parts.

A is the base or lower bar of the frame to rest on any suitable bench, and of a length not less than twice that of the nail plate to be cut.

D and E are two posts fixed upon the base A and supporting the slide bars B, B, Fig. 2, between which slides the ratchet bar Q connected with the upright F the obejct of which is to push forward the turning pincers *m*. Nearly midway between the posts D and E is a third post C, of larger dimensions than either of the others. In this post is placed the machinery which turns the nippers.

P, Fig. 1, is a toothed wheel, (also seen in Figs. 3 and 4). The axle of this wheel lies in the direction of the length of the machine, and is constructed as seen at *a* Fig. 4, with a spring click *s*, falling into offsets on the two opposite sides of the axle and allowing the wheel P to turn in one direction without carrying the axle around with it, but compelling the axle to turn with the wheel when the wheel is turned in a direction opposite to the first. Upon the same axle *a* and outside of the post C′ is a second offset or shoulder wheel *o*, Figs. 1 and 3, having a spring *r* to stop the axis when the wheel P revolves by itself. The wheel P is moved by the rack arc H. In the axle *a* is a square hole through which passes the square bar of the turning pincers *m*, with so much freedom as to allow it to slide easily backward and forward.

The post D, has a slot through which passes the square bar *m* without contact or impediment. The main lever G, is connected by a pivot with the connecting rod *n*, and through that with the nail machine. The pivot *n′* is movable to different holes along the length of G, in order to adjust the range of movement of the rack arc H to the extent of motion of any given nail machine. The range of movement of H must be such as to give the wheel P just half a revolution at every movement backward or forward of the main lever arm G, so that the pincers *m* may be turned half round at every stroke of the nail machine. The rod of the pincers *m* passes through an upright F, within which it moves on a cylindrical neck or bearing, and in the rear of F, is a screw and washer to retain the rod and enable the operator to draw it backward away from the shears when the piece of plate has been cut up and a fresh piece is to be supplied. To do this the operator draws F away from the shears, the ratchet bar G sliding readily backward under the clicks or claws J and K on bars now to be described.

The bar J leading to and acting on the ratchet bar Q is attached to the main lever G by a piece *f*. This bar J has a long slot *e* through which passes the piece *f* that gives motion to the bar J but imparts to it only a part of the motion of the main lever G. At one extremity of its movement it pushes backward a short distance the ratchet Q so as to allow the plate, by retreating a little out of contact with the cutting bench and shears, to turn over and be ready for the next cut; and at the other extremity of its movement it raises the catch lever K, and allows the ratchet Q the support F and the

pincers *m* to be urged up toward the shear bench by the weight W. The bar J passes under the arm *g* of the spring R, and over the head of the lever K, which lever is acted upon by the spring L. A barb *c* near the claw end of J raises, when drawn backward, the click or catch on the lever K out of its notch on Q so that the weight W acting over the pulley S then pushes the strip of nail plate against the stop or bench of the shears when it is ready to be cut.

The upright *d* supports the pivot of the main lever G.

The machine may be put up in a small space, the turning pincers *m* to be level of course with the point of the nail cutter and when connected with it, must of necessity take back the nail plate by the lever J, turn it by the rack wheel P, and, by the weight draw it up again to the cutter, thus working precisely as fast as the nail machine is driven and working as perfectly and as exactly as one of the parts of the nail machine itself and enabling a mere boy to attend several of the nail machines, the only labor being to put in the nail plates.

The plan of making the machine, above laid down is not intended to convey the idea that it is the only way in which it can be done. The inventor himself made the machine in different ways. This was selected for description only as occupying less space than other methods.

Having thus fully described the machine or nail feeder, what we claim as the invention of the said WILLIAM DIEHL, deceased, and which we desire to secure by Letters Patent is

The combination and application of the rack wheel P, its axle and the springs upon it, and the outside wheel O, the ratchet Q and the two levers J and K for pushing and holding it, and again letting it be drawn back by the weight in the manner and for the purpose herein set forth.

HANNAH DIEHL,
CHARLES M. DIEHL,
Administrators of the estate of William Diehl, deceased.

Witnesses:
WILLIAM VAUGHEN,
THOS. W. POTTS.