3 Sheets--Sheet 1.

W. H. DAYTON.

Machines for Feeding Wire to Hammer-Dies.

No. 141,922. Patented August 19, 1873.

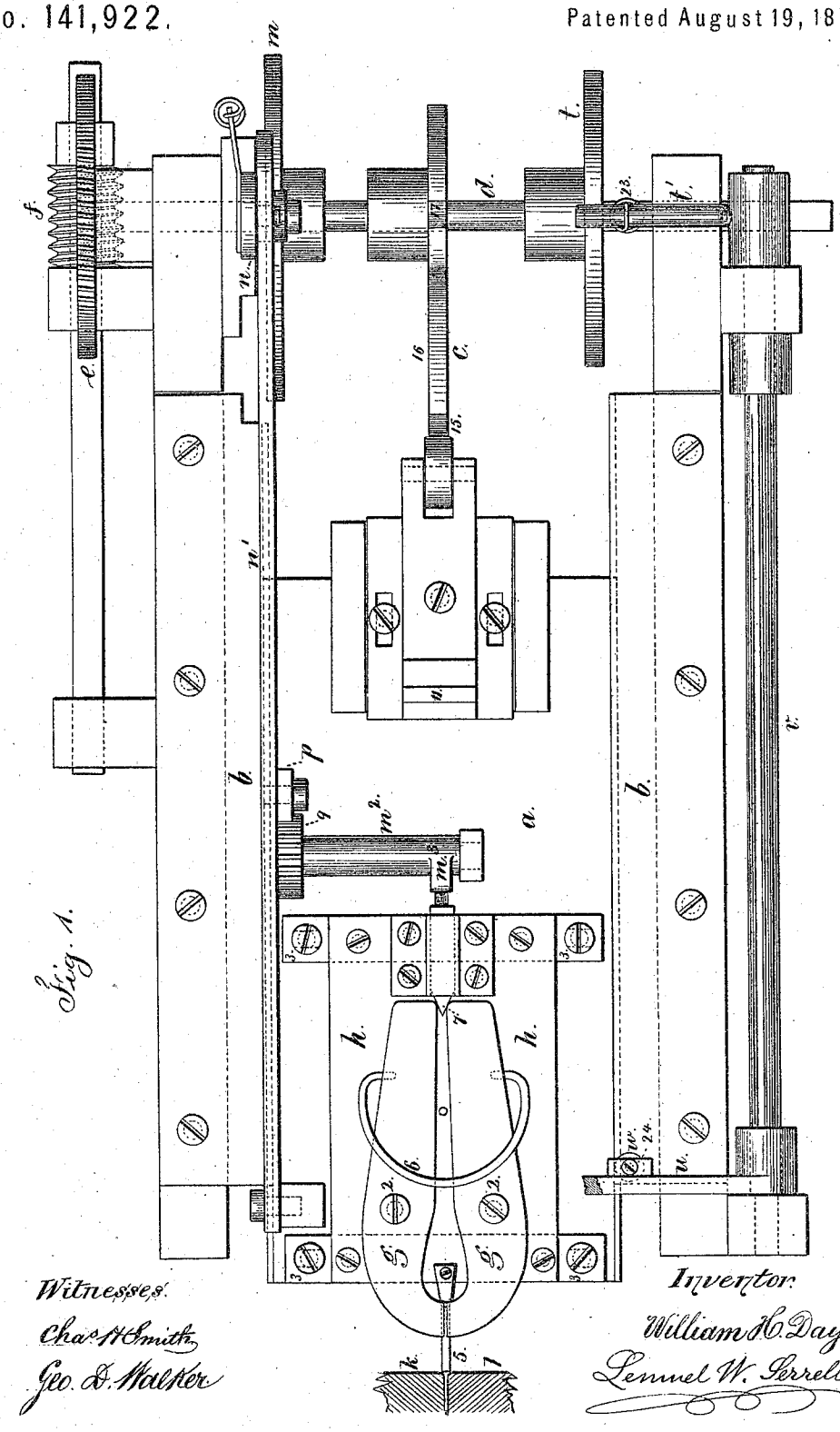


Fig. 1.

Witnesses:
Chas. H. Smith
Geo. D. Walker

Inventor:
William H. Dayton.
Lemuel W. Serrell
atty.

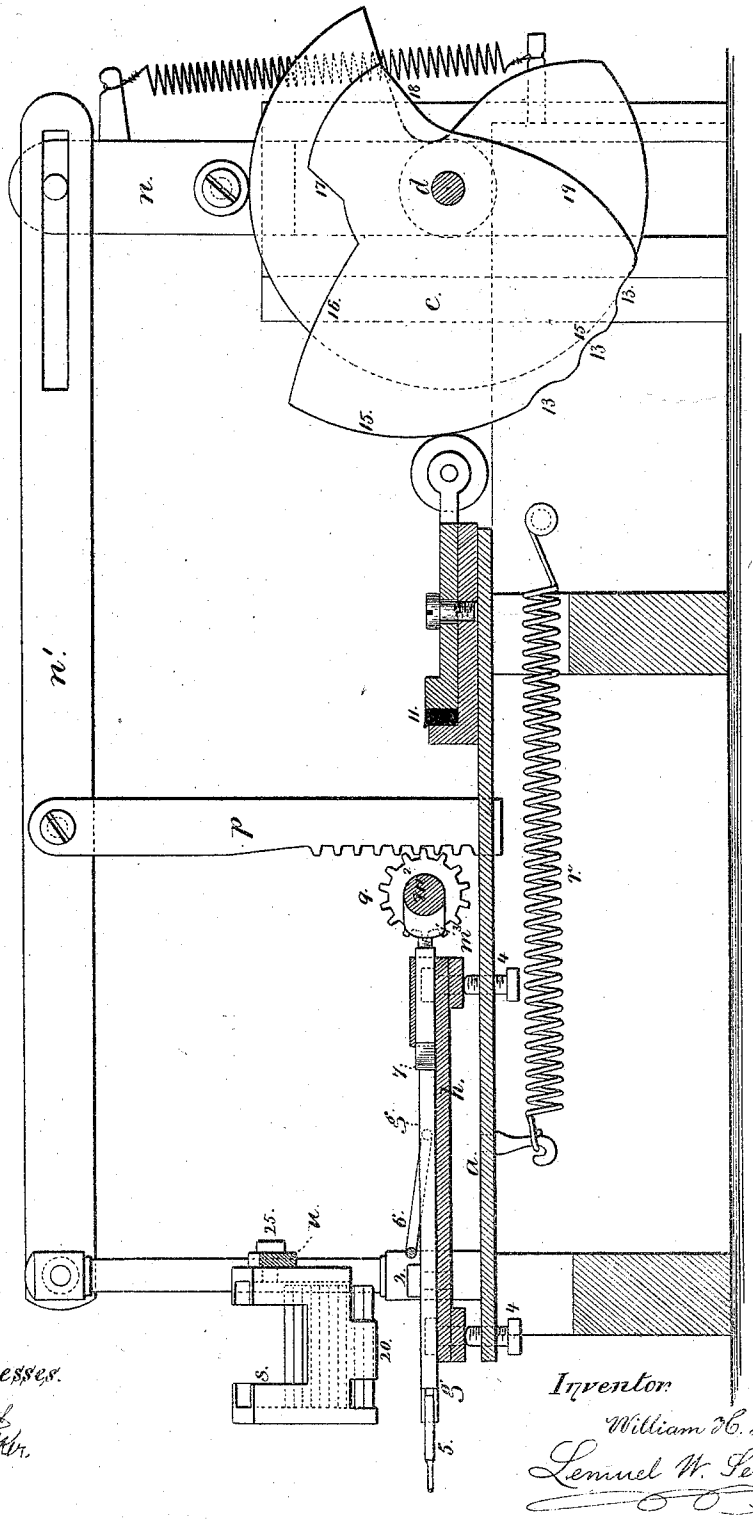
3 Sheets--Sheet 2.

W. H. DAYTON.

Machines for Feeding Wire to Hammer-Dies.

No. 141,922. Patented August 19, 1873.

Fig. 2.



Witnesses.
Chas. F. Smith
Geo. D. Walker.

Inventor
William H. Dayton
Lemuel W. Serrell
atty

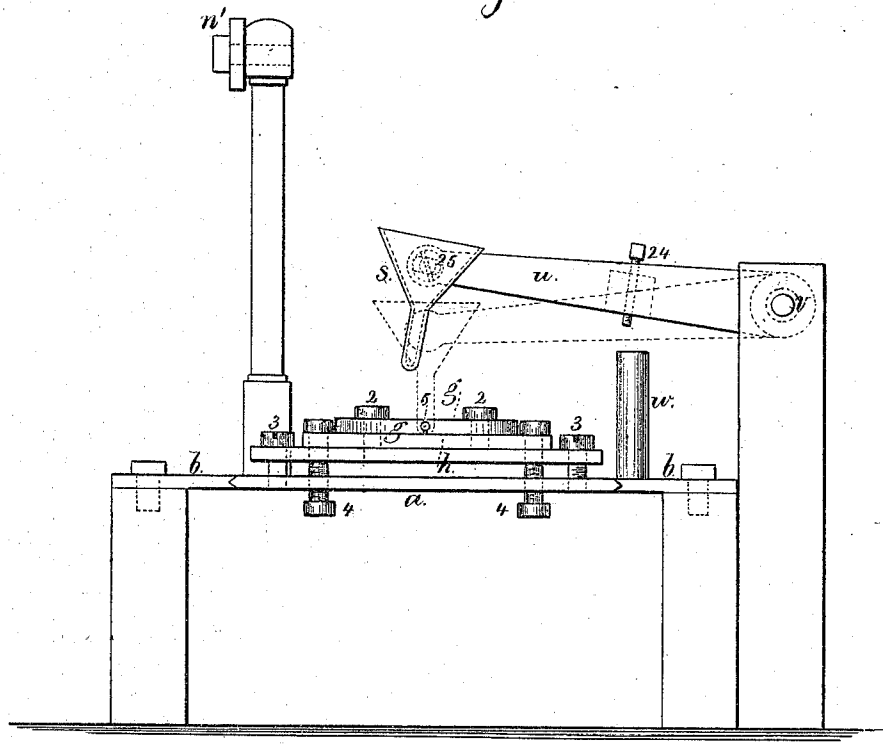
3 Sheets--Sheet 3.

W. H. DAYTON.

Machines for Feeding Wire to Hammer-Dies.

No. 141,922. Patented August 19, 1873.

Fig. 3.



Witnesses.

Chas. W. Smith.

Geo. D. Walker.

Inventor.

William H. Dayton,

Lemuel W. Serrell

atty.

UNITED STATES PATENT OFFICE.

WILLIAM H. DAYTON, OF WOLCOTTVILLE, CONNECTICUT, ASSIGNOR TO "EXCELSIOR NEEDLE CO.," OF SAME PLACE.

IMPROVEMENT IN MACHINES FOR FEEDING WIRE TO HAMMER-DIES.

Specification forming part of Letters Patent No. **141,922**, dated August 19, 1873; application filed March 21, 1873.

To all whom it may concern:

Be it known that I, WILLIAM H. DAYTON, of Wolcottville, in the county of Litchfield and State of Connecticut, have invented an Improvement in Machines for Feeding Blanks to Reducing-Dies, of which the following is a specification:

Machines have been made for reducing wire to form needles, and for making other articles, by lateral compression upon a wire or rod. Such machinery may be seen in the patent granted to Hopson and Brooks, February 26, 1867, No. 62,336, and a reference is hereby made to the same as showing a reducing-machine with which the present improvements can be used; and my invention relates to devices for supplying wires or blanks, and presenting the same, one at a time, to the reducing mechanism.

I make use of a hopper to which a rising-and-falling motion is given at the proper time to bring the blanks into line with a pair of jaws that seize the blank and draw it out of the hopper; then the hopper is lifted out of the way, and the jaws move the blank forward into the reducing mechanism. There is a yielding device between the jaw-moving mechanism and the jaws, so that the blank will not be moved positively while the compressing mechanism is reducing the same, but the feeding motion will operate between the respective reductions.

In the drawing, Figure 1 is a plan of the feeding mechanism. Fig. 2 is a vertical longitudinal section of the same, and Fig. 3 is an end elevation.

The bed *a* is mounted in ways *b*, and receives a movement endwise by means of the cam *c* upon a shaft, *d*, that is rotated by the wheel *e* and worm-pinion *f*, or other convenient mechanism. The jaws *g g* are attached by the screws 2 to a plate, *h*, above the bed *a;* and this plate *h* is adjustable by slots and screws 3 and 4, so that the blank 5 between the jaws *g* will be exactly in line with the compressing and reducing dies *k*, which are of the general character shown in aforesaid patent, and act by compression to reduce and elongate the blank 5 for a sewing-machine needle or other article. The spring 6 acts to open the jaws *g*, and the wedge 7 acts to close them and hold the blank 5. Said wedge 7 is made to slide longitudinally in a case upon the plate *h*, and is operated upon at the proper time by the cam *m* upon the shaft *d*, acting through the slide *n*, lever *n'*, rack *p*, pinion 9, shaft m^2, and cam m^3; and I remark that the cam *m* is circular in a portion of its periphery, so as to hold the blank during the reducing operation. The lever *n'* is slotted, so as to allow it to move forward with the bed *a* as the blank is moved into the reducing-dies *k*. At the proper time the cam *m* allows the jaws to open and drop the blank or reduced article.

In order to allow of a slight pause in the forward movement of the blank as it is pressed into the die, thereby not attempting to move the blank at the moment the reducing-dies are operating, I introduce a block of rubber or other yielding material at 11, that allows of this pause, and then moves the blank rapidly forward between the compressing-dies the moment they open.

It is often necessary in reducing the blank considerably to draw the blank out slightly periodically, so that the oil which drops upon the blank may spread upon the part that is being reduced; to effect this there are depressions 13 in the cam *c* at such places as may be necessary. The portion 15 of said cam is gradual, snail, or increasing volute. To move the blank into the dies, the portion 16 allows the spring or weight *r* to draw back the bed *a* and jaws *g;* the portion 17 moves the jaws forward to grasp a blank in the hopper next described; the part 18 allows the bed to draw back to withdraw the blank from the hopper, and the part 19 moves the bed *a* and blank rapidly forward to bring the blank into proximity to the reducing-dies. The hopper *s* is of a size to receive the wires or blanks, and it is made with a strap or bottom, 20, that prevents the blanks dropping out, but gives room for the jaws to grasp the lowest blank in the hopper. After the jaws have drawn out this blank the hopper is raised by the cam *t*, arm *t'*, shaft *v*, and lever *u*, so as to be out of the way of the jaws *g*. At the time the jaws *g*

open and drop the reduced blank, needle, or article, the cam *t* allows the spring 23 to draw down the hopper for the next blank to be taken. The post *w* arrests the downward movement of the hopper by the screw 24 resting thereupon, and this allows for the hopper being adjusted vertically to position for the jaws, and the hopper *s* being attached by the screw 25 to the arm *u* allows for the same to be moved laterally into line with said jaws.

It will be evident that the movement given to the hopper lessens the liability of the blanks to stick or catch therein, because they are constantly shaken.

The jaws may be moved forward by a screw, if desired, in place of a cam, and the arrangement of the actuating cams and levers might be varied to suit the other parts of the machinery.

I claim as my invention—

1. A pair of jaws opened and closed to grasp a blank, and moved back and forth in line of the blank, in combination with the rubber spring 11 or other yielding material interposed between the jaws and their actuating mechanism, substantially as set forth.

2. A hopper to which a rising-and-falling motion is communicated, in combination with a pair of jaws that are reciprocated to draw the blank out of the hopper, and then carry the same forward into the reducing-dies, substantially as set forth.

3. The cam *t*, arm *t'*, shaft *v*, arm *u*, adjusting-screw 24, and stop *w*, in combination with the hopper *s* and attaching-screw 25, for moving and adjusting such hopper, as set forth.

4. The wedge 7 and its cam *m*, pinion 9, rack *p*, slotted lever *n'*, and cam m^3, in combination with the jaws *g*, for closing such jaws and holding the blank during the movement of such jaws, substantially as set forth.

Signed by me this 14th day of March, A. D. 1873.

WILLIAM H. DAYTON.

Witnesses:
GEO. T. PINCKNEY,
CHAS. H. SMITH.