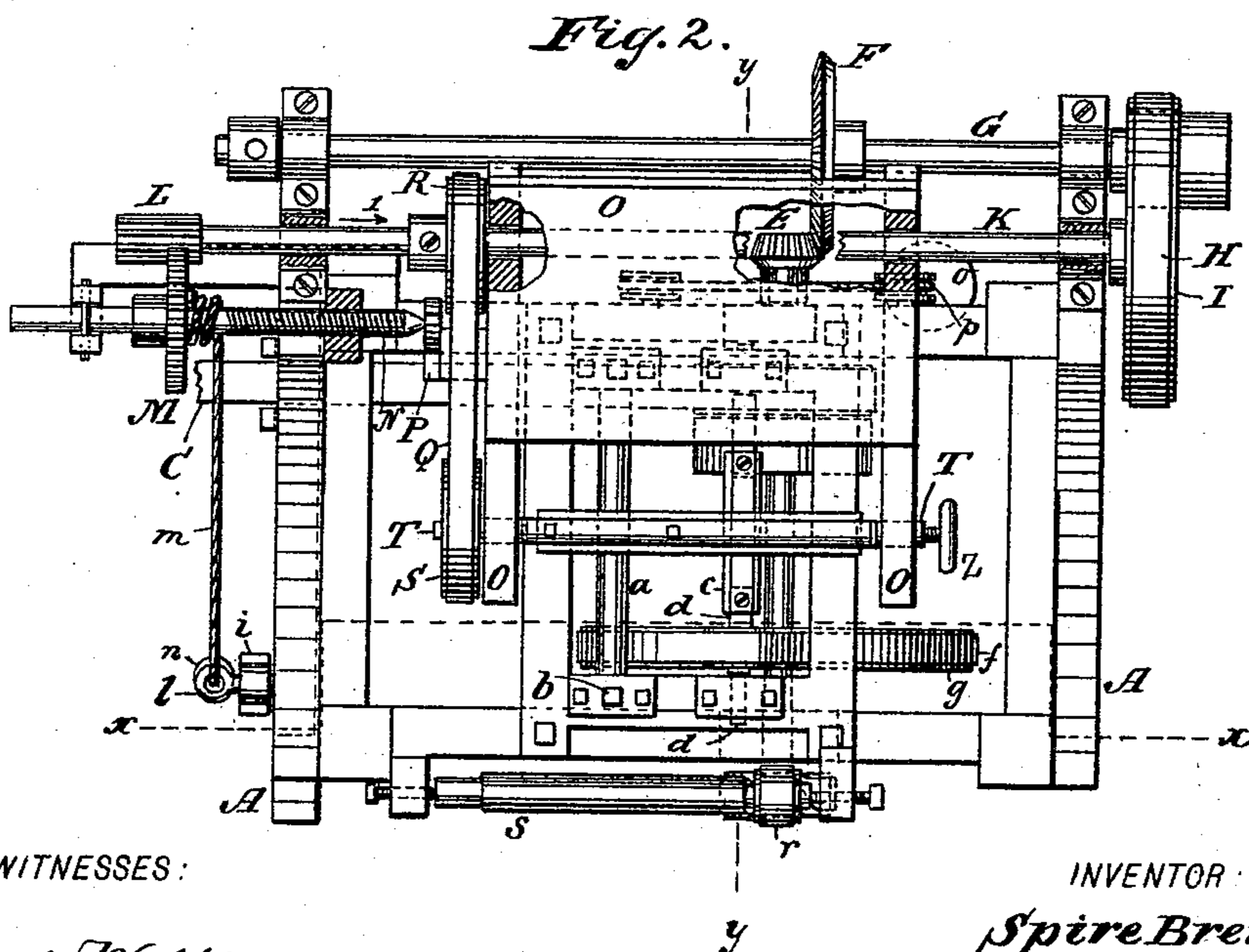
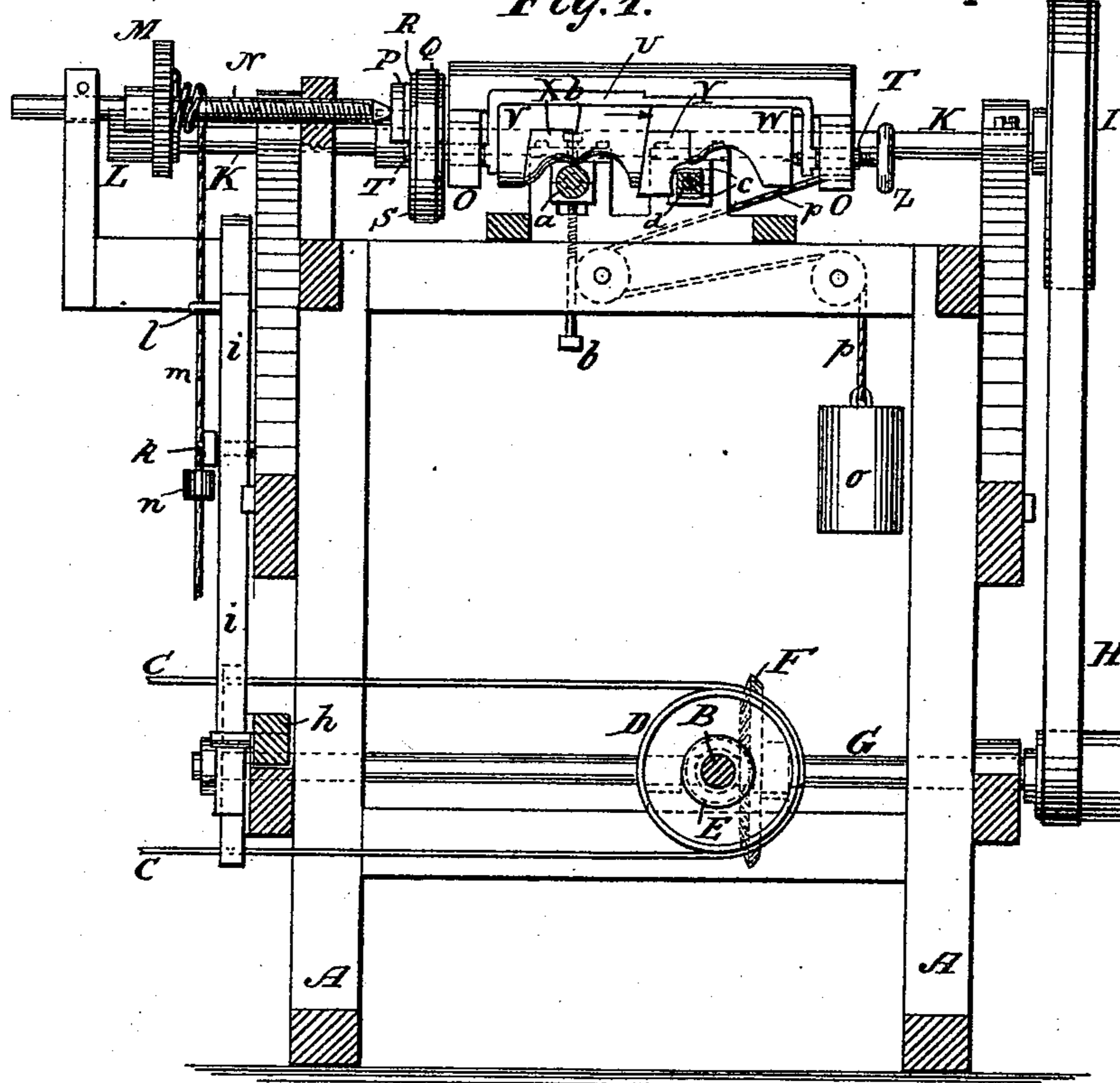


2 Sheets—Sheet 1.

No. 436,208.

Patented Sept. 9, 1890.



WITNESSES:

Eduard Wolff.
William Miller

INVENTOR:

Spire Brenand.

BY *Van Gantvoord & Hauff*

ATTORNEYS

(No Model.)

2 Sheets—Sheet 2.

S. BRELAND.
HEEL SHAPING MACHINE.

No. 436,208.

Patented Sept. 9, 1890.

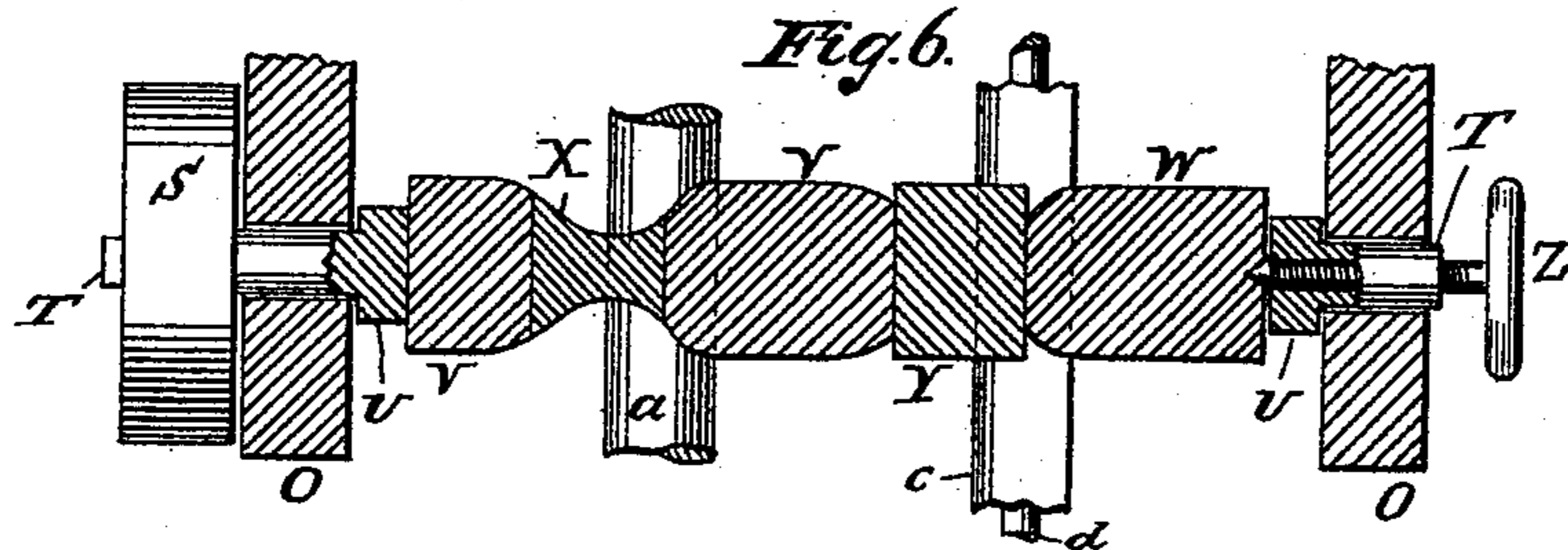
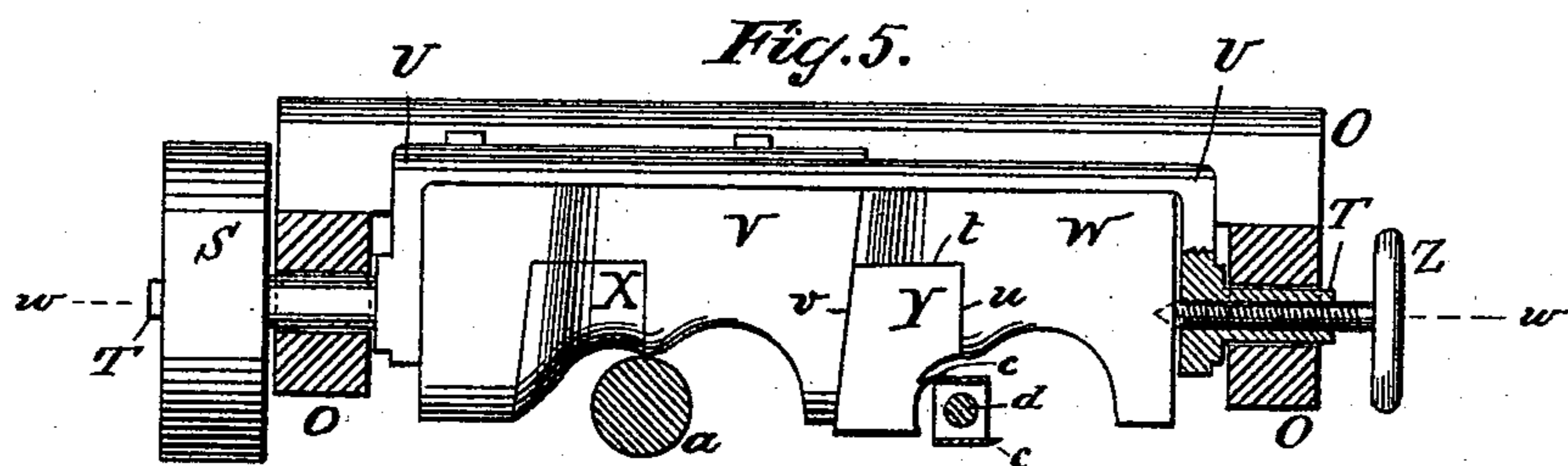
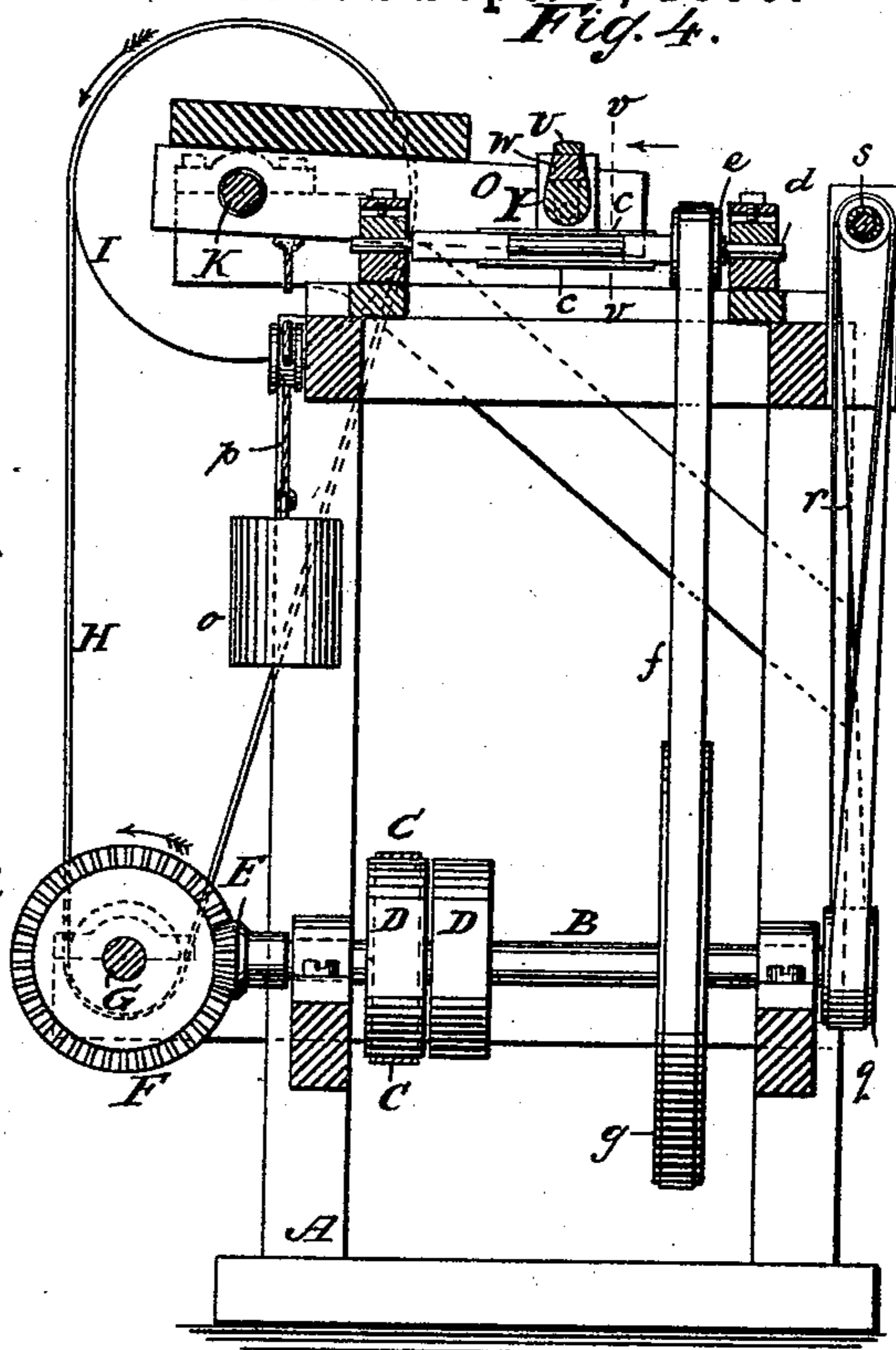
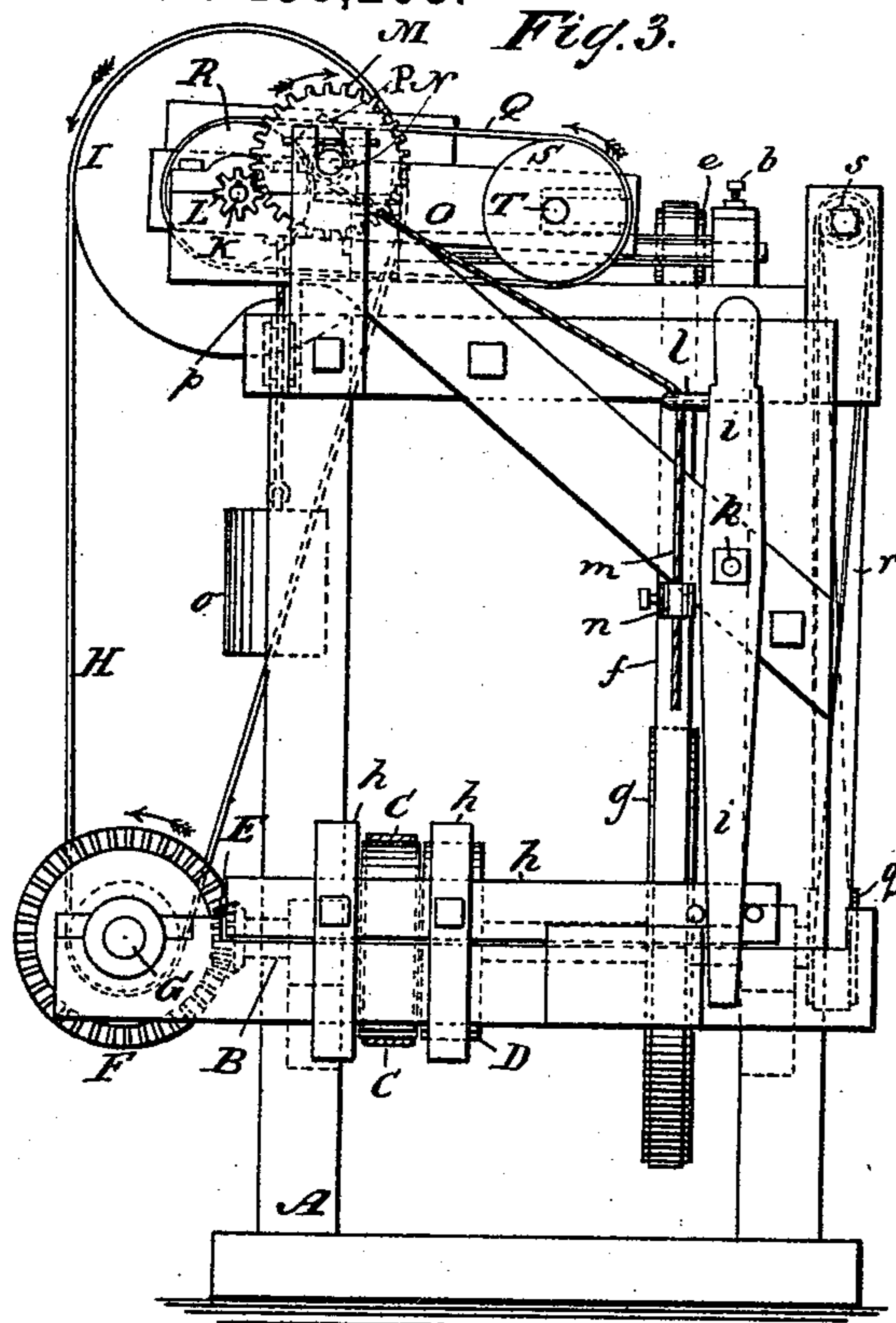
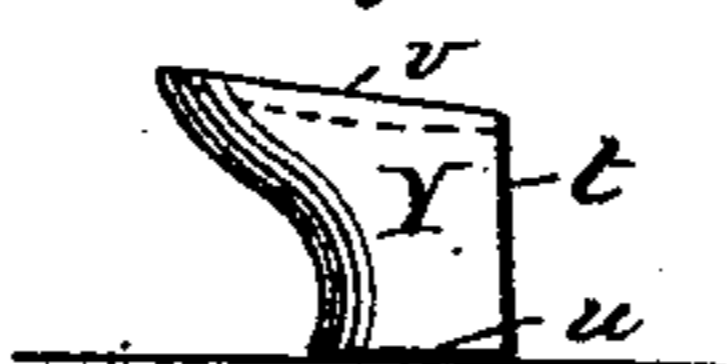


Fig. 7.



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ATTORNEYS

UNITED STATES PATENT OFFICE.

SPIRE BRENAND, OF NEW YORK, N. Y., ASSIGNOR TO HIMSELF, MORRIS WISE, AND MARCUS WISE, ALL OF SAME PLACE.

HEEL-SHAPING MACHINE.

SPECIFICATION forming part of Letters Patent No. 436,208, dated September 9, 1890.

Application filed January 25, 1890. Serial No. 338,144. (No model.)

To all whom it may concern:

Be it known that I, SPIRE BRENAND, a citizen of France, residing at New York, in the county and State of New York, have invented
5 new and useful Improvements in Heel-Shaping Machines, of which the following is a specification.

This invention relates to improvements in machines for shaping or trimming the heels
10 of boots or shoes; and the invention consists in the details of construction set forth in the following specification and claims, and illustrated in the accompanying drawings, in which—

15 Figure 1 is a front elevation of a heel-shaping machine sectioned along $x x$, Fig. 2. Fig. 2 is a plan view of a heel-shaping machine. Fig. 3 is a side elevation of Fig. 1. Fig. 4 is a section along $y y$, Fig. 2. Fig. 5 is
20 a detail section along $v v$, Fig. 4. Fig. 6 is a section along $w w$, Fig. 5. Fig. 7 is a detail view of a heel.

In the drawings, the letter A indicates a frame, and B is a shaft rotated by the belt C.
25 Pulleys D D (one fast, the other loose) are provided for the belt C, and by shifting the belt onto one pulley or the other the shaft B is put in motion or stopped, as desired. The bevel-gears E F transfer motion from the
30 shaft B to the shaft G, whence a belt H conveys motion to the pulley I and shaft K.

Gears L M convey motion from the shaft K to the carriage feed-screw or screw-threaded shaft N, which passes through a suitably-
35 tapped hole in the frame A. The feed-screw N is rotated so as to be moved in the direction of arrow 1, Fig. 2. On the shaft K swings the carriage or movable support O, and said carriage has a guide or arm P for the belt Q
40 connecting the pulleys R S.

The screw N being moved in the direction of arrow 1, Fig. 2, will gradually feed or advance the arm P and carriage O in the same direction. The pulley R is fixed to shaft K,
45 and as the arm P is moved in the direction of arrow 1 the pulley R and shaft K also move in said direction.

The pulley R and belt Q rotate the pulley S, connected to one of the lugs T T, rotating
50 in the carriage O. The lugs T T carry a frame

U, and into the frame U are placed the heel or work-clamping blocks V W, said blocks being clamped in place by the screw Z in one of the lugs T T.

The pattern or shape X is glued or secured
55 to the block V. The heel-blank Y, which is to be formed into the heel, is placed between the blocks V W, and when the screw Z is tightened so as to clamp the blocks V W in place, the heel-blank Y is clamped between
60 the blocks so as to be firmly held. The blocks V W thus act as a clamp for the heel-blank Y.

The pattern X bears on a suitable rest or gage a , and as the frame U rotates the pat-
65 tern X causes the carriage O to oscillate on the shaft K, so that the blank Y is shaped by the cutter or knife c to correspond with the pattern X.

The gage a can be adjusted by the set-
70 screw b , said gage a being simply a rod or bar secured to a suitable part of the frame A. The heel-blank Y, with the blocks V W, frame U, and carriage O are moved by the screw N in the direction of arrow 1, so that
75 the cutter c is caused to act on the entire blank, thus shaping or trimming the blank into a heel, Fig. 7.

The cutter c can be formed of one or more cutting-blades secured to a shaft d , having a
80 pulley e , rotated by the belt f , which receives motion from the pulley g on the shaft B. The cutter c is rotated in a direction at right angles to the movement of the blank Y, (indicated by arrow 1,) and by causing the cutter
85 c to rotate rapidly and the pulley S to rapidly rotate the frame U and blank Y, while the blank Y travels slowly in the direction of arrow 1, every part of the blank Y will be sure
90 of being acted on by the cutter.

The shifter h for the belt C is actuated by the lever i , fulcrumed at k . This lever has an eye l , through which passes a cord m , said cord being prevented by a stop n from slipping out of the eye l . The cord m is wound
95 about the screw N, and when the work is completed the cord m has been wound to such an extent about the screw N that the stop n strikes the eye l , and the lever i and shifter
100 h are moved so as to shift the belt C onto that

pulley D which is loose, thereby stopping the machine. The stop *n* can be adjusted on the cord *m* so that the lever *i* is moved at the right moment. The screw N thus automatically stops the machine on the completion of the work.

By pulling the cord *m* to unwind it from the screw N, the screw is turned back to its starting-point and the weight *o*, connected by cord *p* to the carriage O, returns the carriage to its starting-point, so as to enable a fresh blank to be operated on.

The shaft B has a pulley *q*, conveying motion by a belt *r* to the polishing-roller *s*. When the blank has been trimmed or shaped into a heel, said heel can be polished by the roller *s*.

The pattern X is formed of any suitable material—such as wood, composition, or metal—and the heel or blank Y can be made of suitable material, such as leather, paper, wood, or composition.

When the blank Y is shaped or finished, the face *t* of the blank forms the breast of the heel, the face *u* of the blank forms the lower face of the heel, and the face *v* of the blank forms the upper face of the heel. Said upper face can be suitably hollowed or shaped, Fig. 7, as required, for properly fastening and fitting the heel to the insole and quarter.

As the pattern X determines the shape of the heel, it is only necessary to insert a different pattern into the machine to obtain a different shape of heel, and an accurate clean-cut and shapely heel can be obtained by the use of a proper pattern.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a heel-shaping machine, the combination, with a cutter, of a traveling and oscillating carriage, a pattern and a heel-clamp mounted on and traveling and oscillating with the carriage, a rest or gage for limiting the descent of the pattern toward the cutter in the oscillations of the carriage, and means for feeding the carriage, substantially as described.

2. In a heel-shaping machine, the combina-

tion of a traveling and oscillating carriage, a pattern and a heel-clamp mounted on and traveling and oscillating with the carriage, a rest or gage for limiting the descent of the pattern in the oscillations of the carriage, and a rotating cutter secured to a shaft arranged at right angles to the line of travel of the carriage, substantially as described.

3. In a heel-shaping machine, the combination of a traveling and oscillating carriage, a rotating frame journaled on said carriage and provided with a pattern and a heel-clamp, a rest or gage for limiting the descent of the pattern in the oscillations of the carriage, a cutter, and means for feeding the carriage and rotating the frame thereon, substantially as described.

4. In a heel-shaping machine, the combination of a traveling and oscillating carriage, a rotating frame journaled on the carriage and having a pattern and heel-clamp, a rotating feed-screw for feeding the carriage, a rest or gage for limiting the descent of the pattern in the oscillations of the carriage, a cutter, and means for rotating the feed-screw and the frame, substantially as described.

5. In a heel-shaper, the combination, with a cutter, a suitable shape or pattern, and a movable support or carriage for said pattern, of a heel clamp or holder secured to the carriage, an actuating-screw N for said carriage, and a stop or belt shifter *h*, actuated by said screw to stop the operation on the completion of the work, substantially as described.

6. In a heel-shaping machine, the combination, with a cutter, a traveling and oscillating carriage, and a pattern and heel-clamp carried thereby, of a vertically-movable gage-bar for the pattern, and means for raising and lowering the gage-bar, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

SPIRE BRENAND.

Witnesses:

W. C. HAUFF,

E. F. KASTENHUBER.