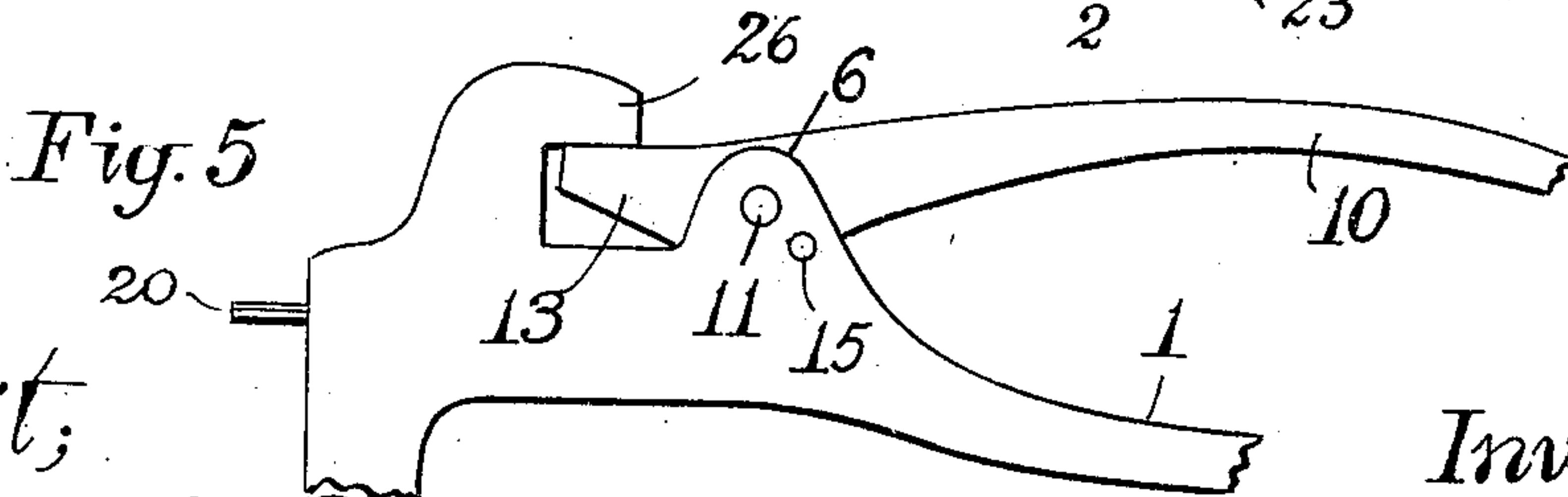
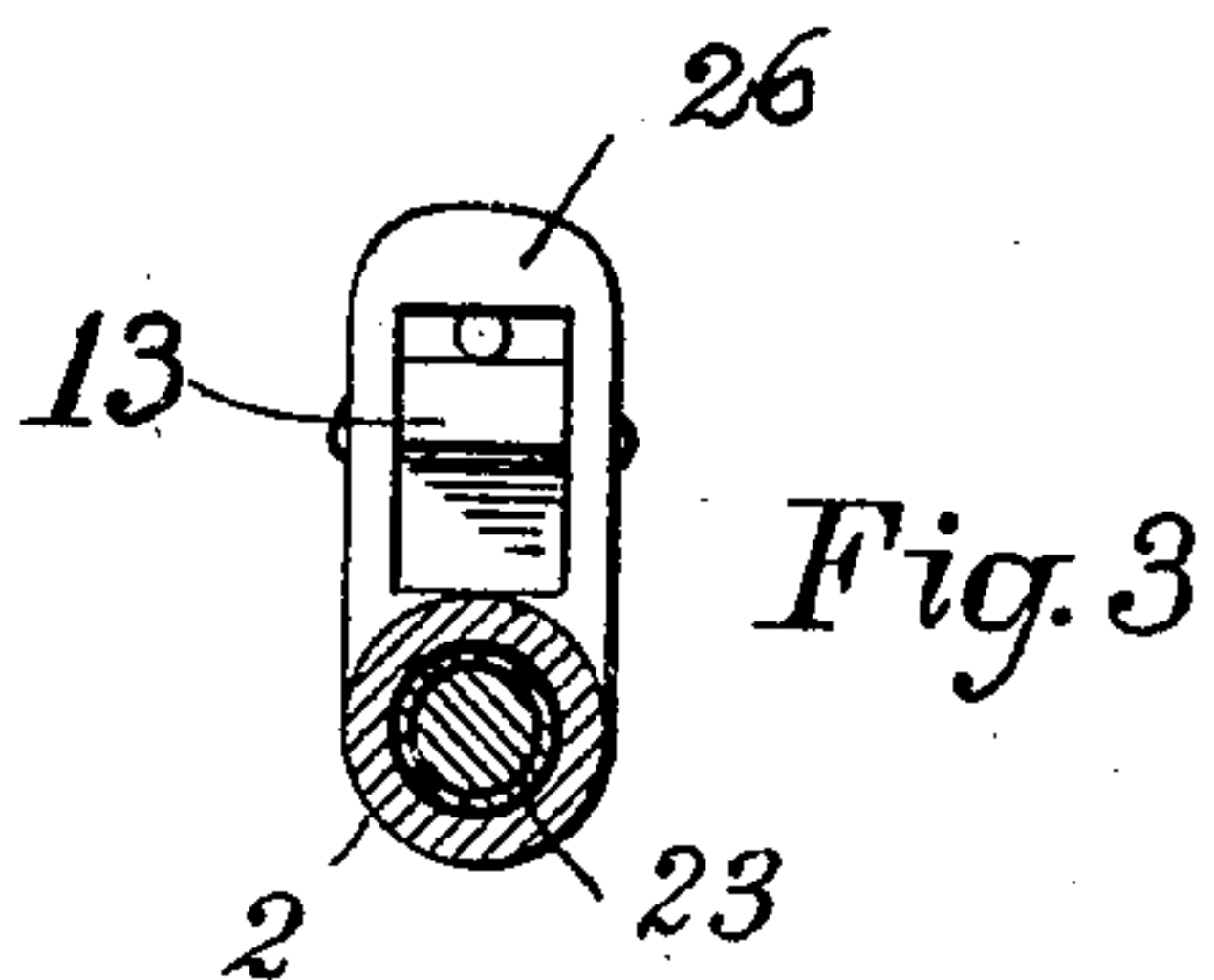
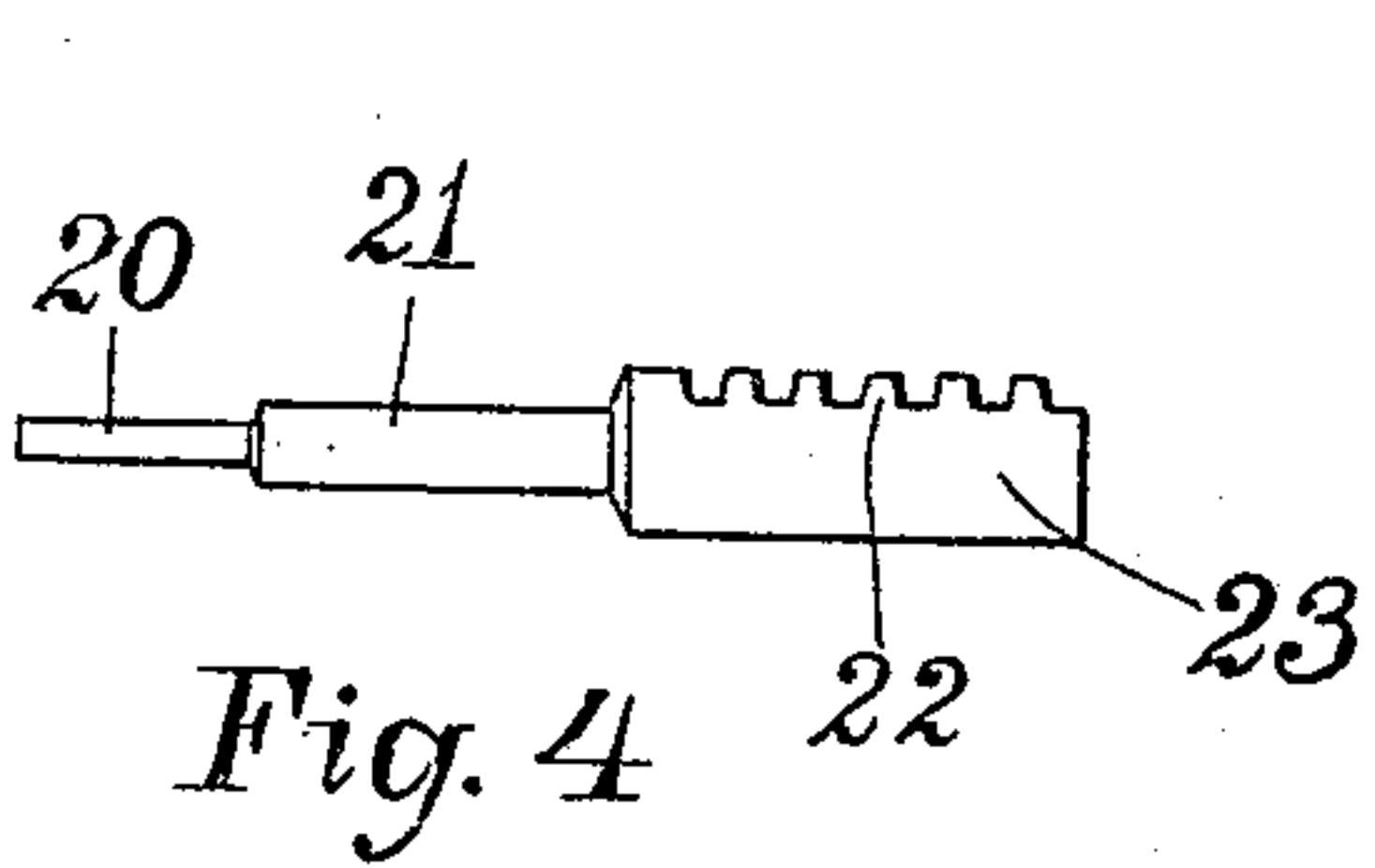
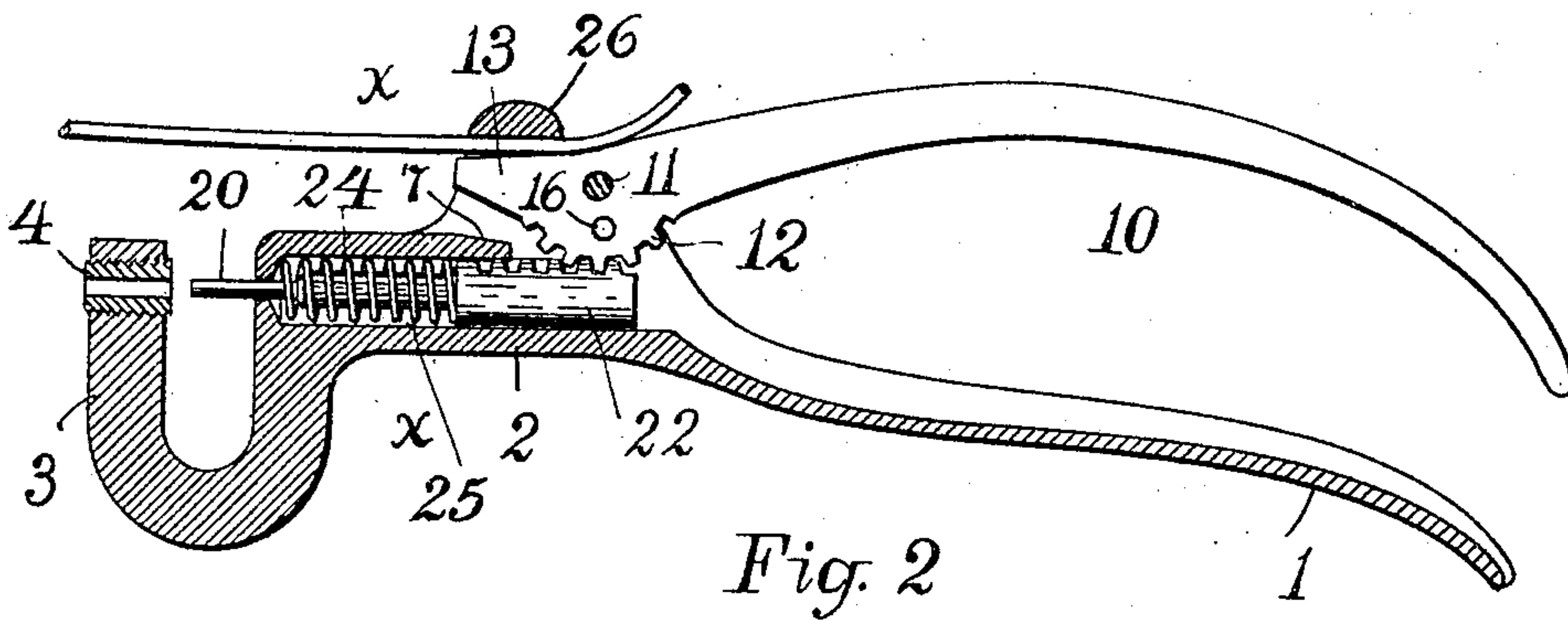
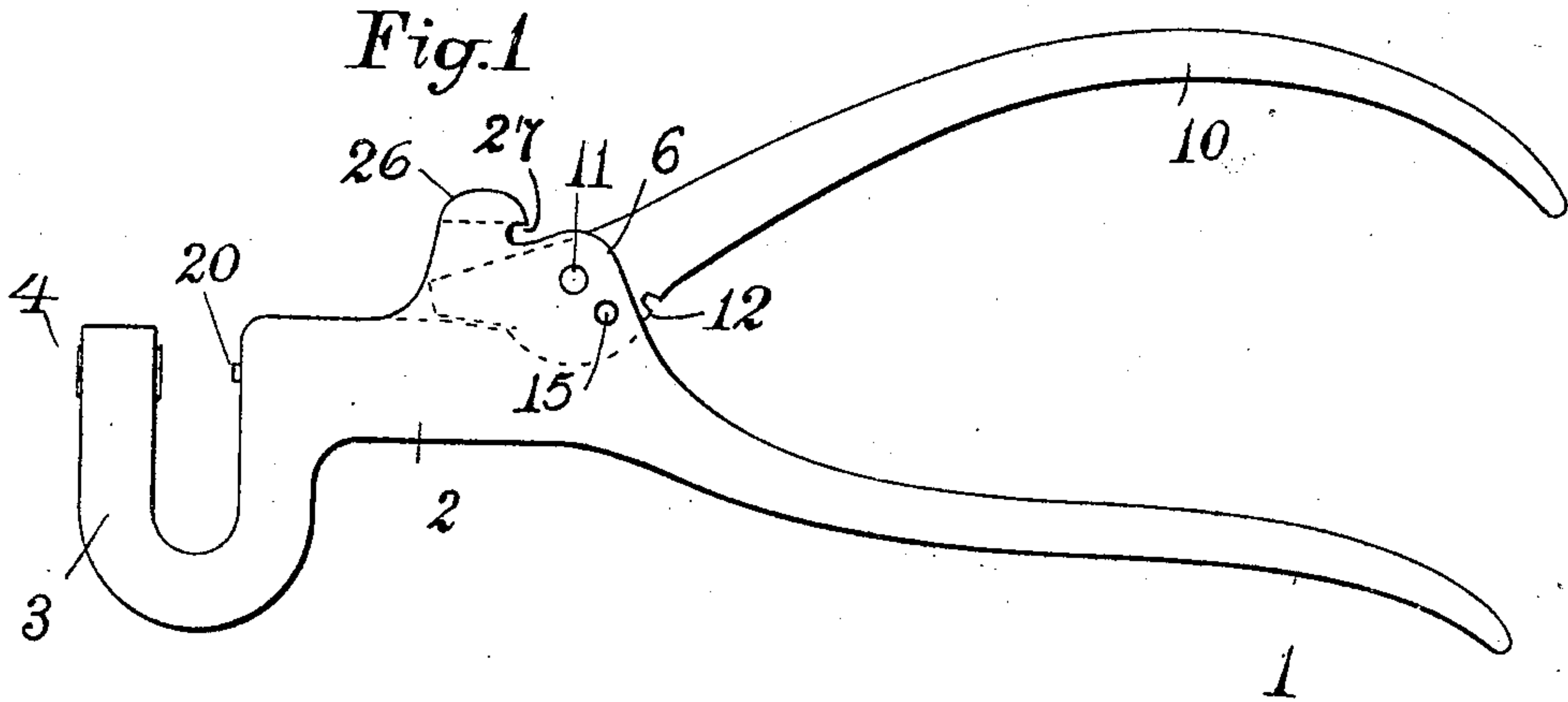


No. 835,740.


PATENTED NOV. 13, 1906.

F. E. WALDEN.
BELT PUNCH.

APPLICATION FILED MAR. 1, 1906.



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UNITED STATES PATENT OFFICE.

FREDERICK E. WALDEN, OF WORCESTER, MASSACHUSETTS.

BELT-PUNCH.

No. 835,740.

Specification of Letters Patent.

Patented Nov. 13, 1906.

Application filed March 1, 1906. Serial No. 303,591.

To all whom it may concern:

Be it known that I, FREDERICK E. WALDEN, a citizen of the United States, and a resident of the city and county of Worcester, in the Commonwealth of Massachusetts, have invented certain new and useful Improvements in Belt-Punches, of which the following is a full, clear, and exact description.

The object of this invention is the construction of a punch for belting, sheet metal, and other materials embodying the improvements in details hereinafter set forth.

Referring to the drawings forming part of this specification, Figure 1 is a side view of a punch made in accordance with my invention. Fig. 2 is a sectional side view of the same. Fig. 3 is an end view of the punch. Fig. 4 is a side view of the punch and operating-rack. Fig. 5 is another form of my invention.

The handles of this wrench are designated by the reference-numerals 1 10, the handle 1 being formed integral with the body 2, containing the punching device, while also integral with said body is the member or arm 3, carrying the die 4. The handle 10 is pivoted between the ears 6 on the pin 11 and is formed with a toothed segment 12. This segment meshes with a rack 22, formed along the rear section of the plunger 23, whose opposite end 20 is the punch. Upon the intermediate section 21 of the plunger is located a coiled spring 24, abutting between the shoulder at the juncture of the sections 21 and 23 and the interior end of the recess 25, receiving the plunger.

To keep the handle 10 from being thrown upward by the spring 24 beyond the span of the user's hand, the toothed segment 12 is formed with a nose 13, designed to contact with the surface 7 of the body 2.

A further improvement consists in forming the body 2 with a member adapted to act, in conjunction with the upper surface of said nose, as a clamp or pliers, and thereby enable the instrument to perform an added function.

This tool being primarily designed for a belt-punch where wire is employed for the belt-lacing, it is a most convenient thing to be able after punching the holes in the belt and inserting the wire therein to grip the wire with the same instrument and pull it tight. It is also a convenience to use the same tool for severing the wire unused from that inserted in the belt.

In the construction illustrated in Figs. 1, 2, and 3 the member 26 for coöperating with the nose 13 is a transverse bridge held by extensions of the ears 6. A wire which is to be gripped by this device must be inserted in a direction parallel with the plunger 23, as shown in Fig. 2. The only objection to this is that an intermediate section of a wire cannot be seized by it. This can be remedied either by forming the notches 27 (shown in Fig. 1) or by giving the clamping member 26 a single holding-arm (shown in Fig. 5) rising from the body 2 near the front thereof.

The cutting device is formed by the holes 15 and 16, drilled in the ears 6 and segment 12, respectively. A wire being inserted through said holes when in alinement and the handle 10 strongly depressed, the wire will be severed thereby.

As is evident, this tool is simple in construction, inexpensive to manufacture, powerful in its punching and gripping functions, durable, and eminently convenient for belt-punching. It is at the same time equally useful in punching thin sheet metal and for gripping and bending the same in many ways.

What I claim as my invention, and for which I desire Letters Patent, is as follows, to wit:

1. A punch having its body formed with a cylindrical recess nearly in alinement with the fixed handle thereof, ears rising from said body, a handle pivoted between said ears and having a toothed segment, a cylindrical rack-bar movable in said recess and meshing with said segment, said rack-bar being formed with a punching member and an intermediate section lesser in diameter than said rack-bar, a coiled spring mounted on said intermediate section, and a suitably-supported die coöperating with said punching member.
2. A punch having its body formed with a cylindrical recess nearly in alinement with the fixed handle thereof, ears rising from said body, a handle pivoted between said ears and having a toothed segment and a forwardly-projecting nose, a spring-repressed rack-bar located in said recess and meshing with said segment, a punching member connected with said rack-bar, and a suitably-supported die coöperating with said punching member; said nose being disposed to contact with a suitable portion of said body and limit the outward throw of the movable handle.
3. A belt-punch having a longitudinal re-

cess therein, a punching member located therein and having a rack-bar as a section thereof, a spring for repressing said punching member and rack-bar, a handle pivoted to
5 said body and formed with a toothed segment meshing with said rack-bar, and a forwardly-projecting nose, and a suitably-supported die cooperating with said punching member; said body being provided with a

clamping member cooperating with said nose.

In testimony that I claim the foregoing invention I have hereunto set my hand this 24th day of February, 1906.

FREDERICK E. WALDEN.

Witnesses:

A. B. UPHAM,
W. B. RICH.