

(No Model.)

J. ROSENDAHL.
COMBINED WRENCH AND NIPPERS.

No. 597,592.

Patented Jan. 18, 1898.

FIG. 1.

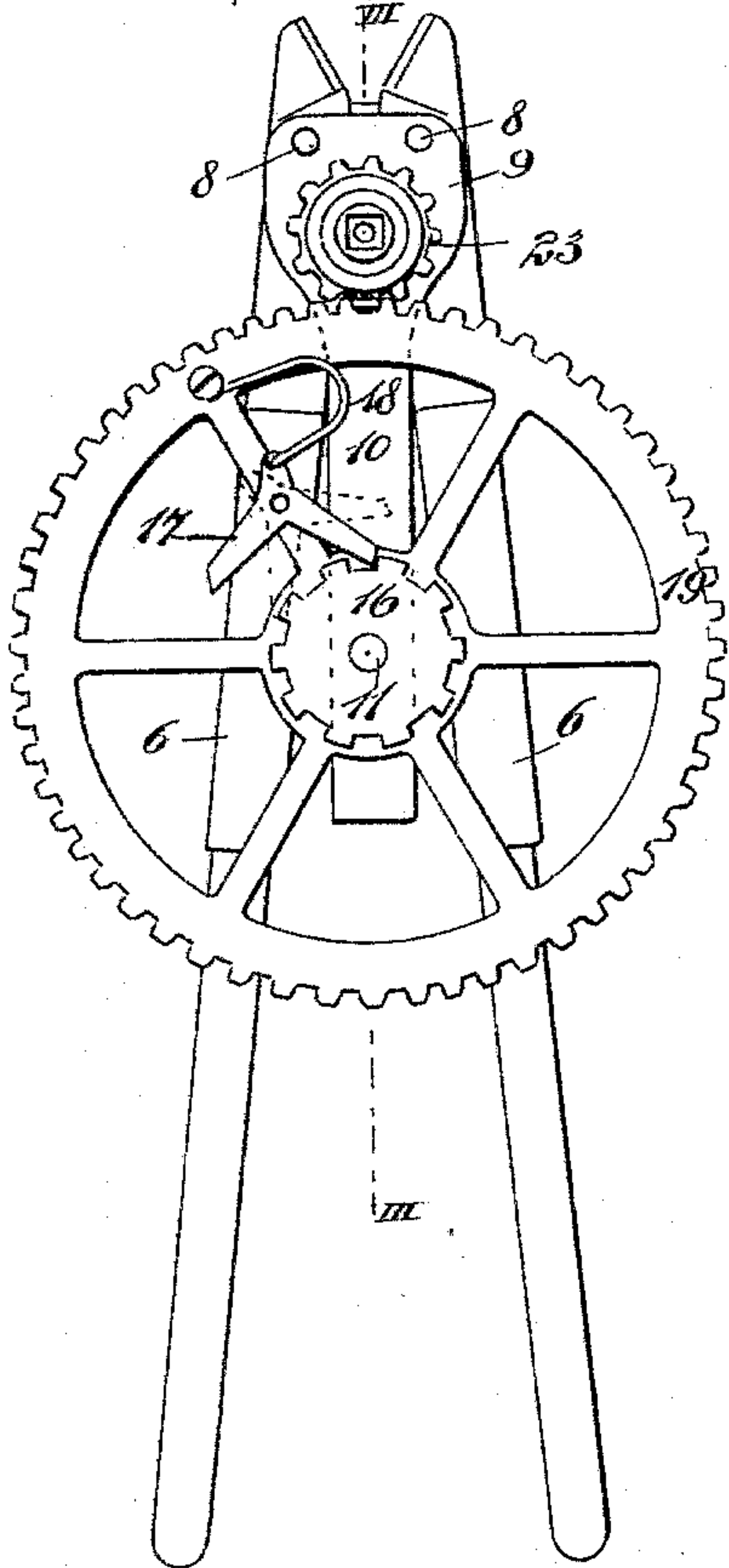


FIG. 2.

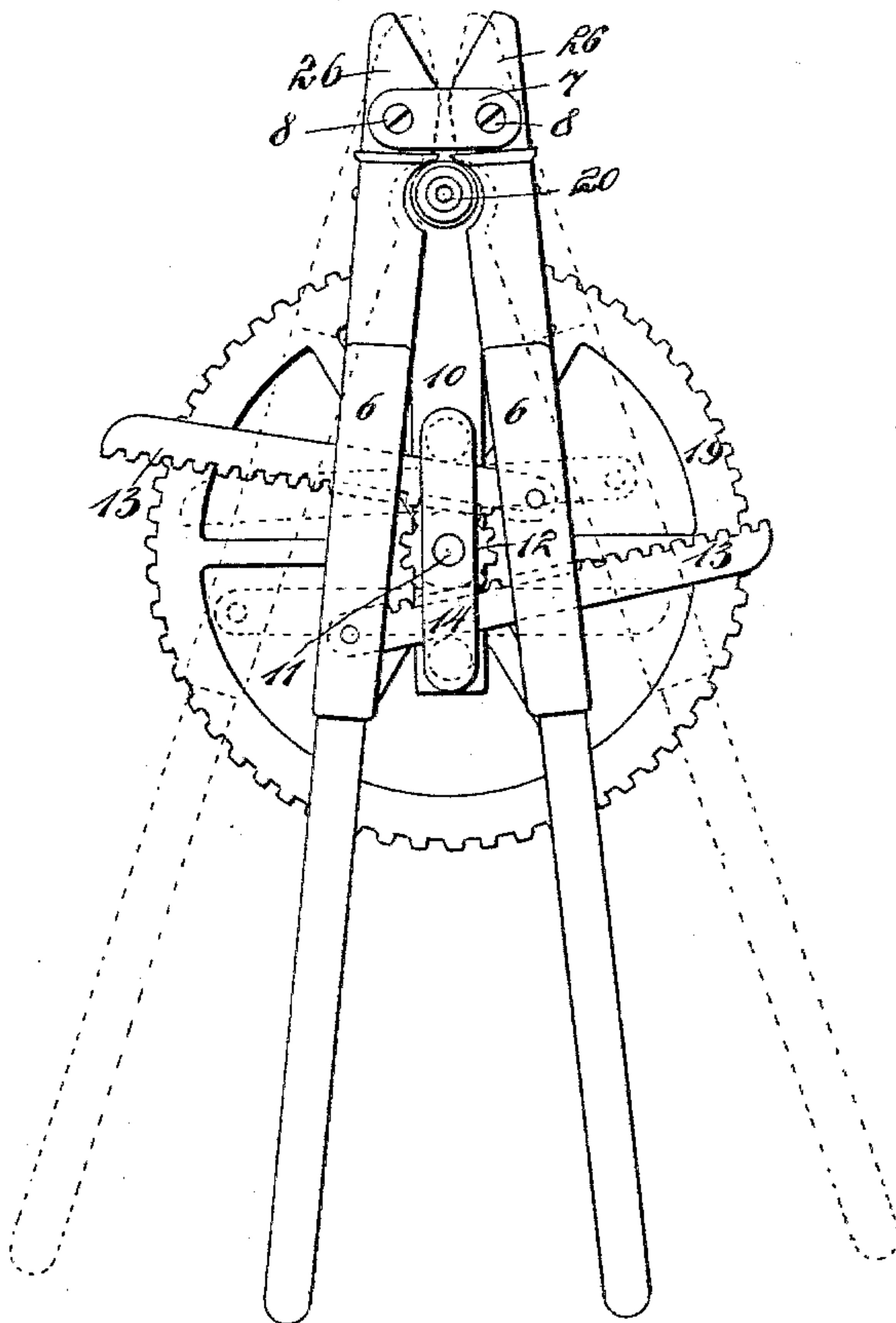


FIG. 3.

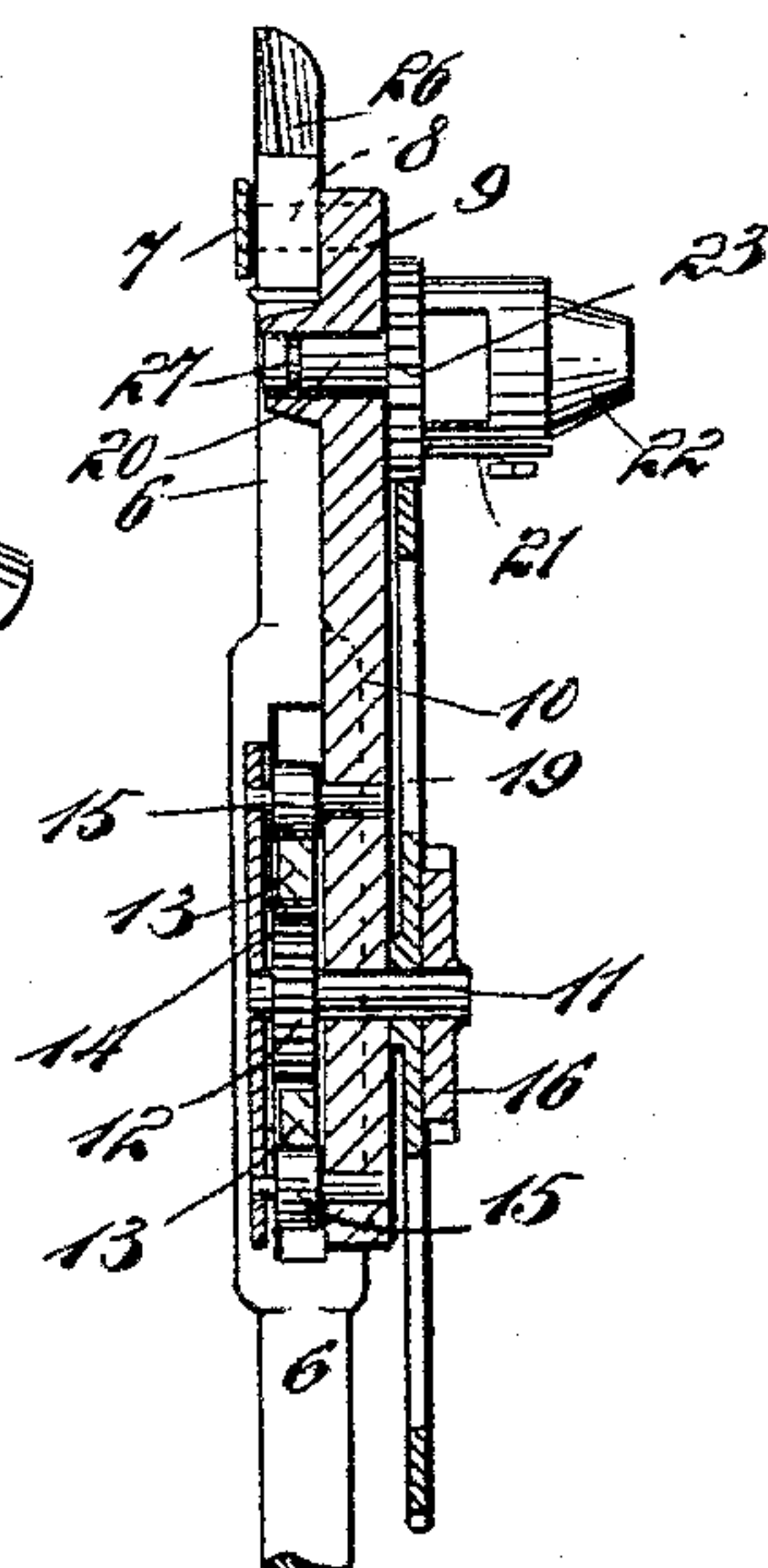


FIG. 4.

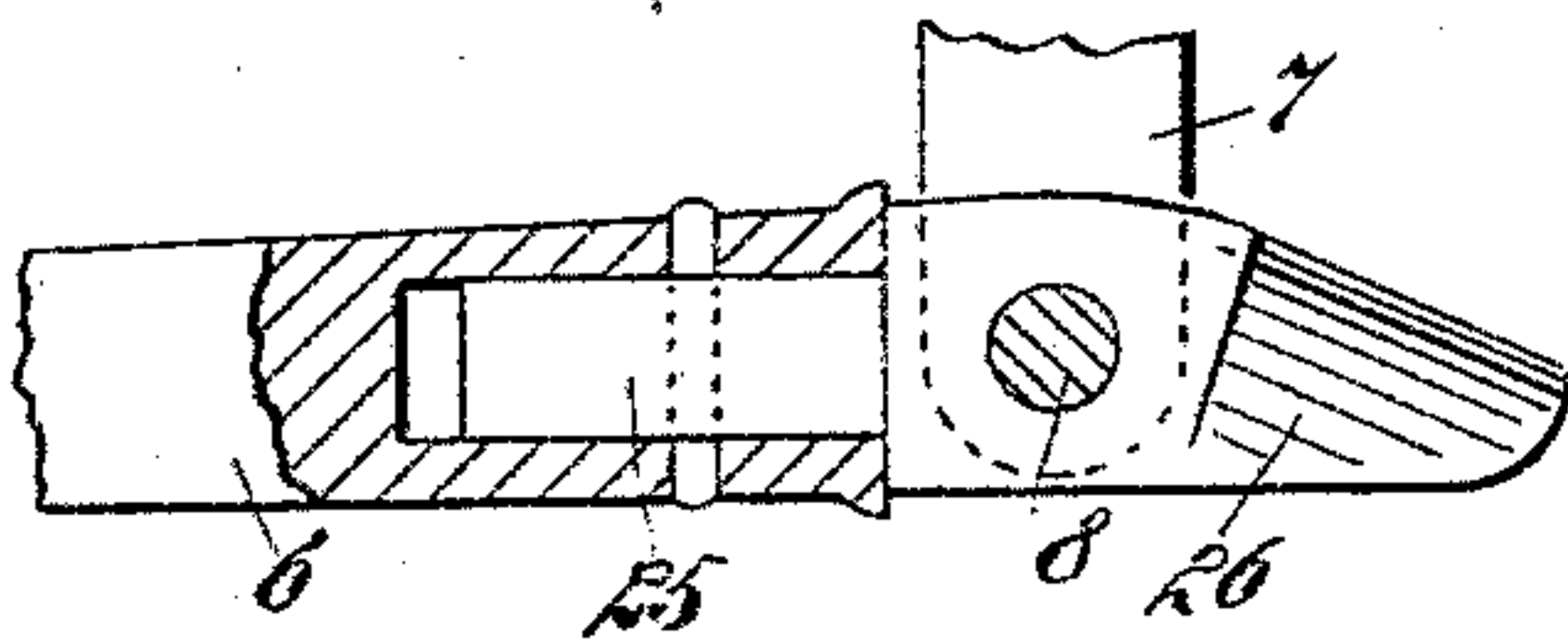
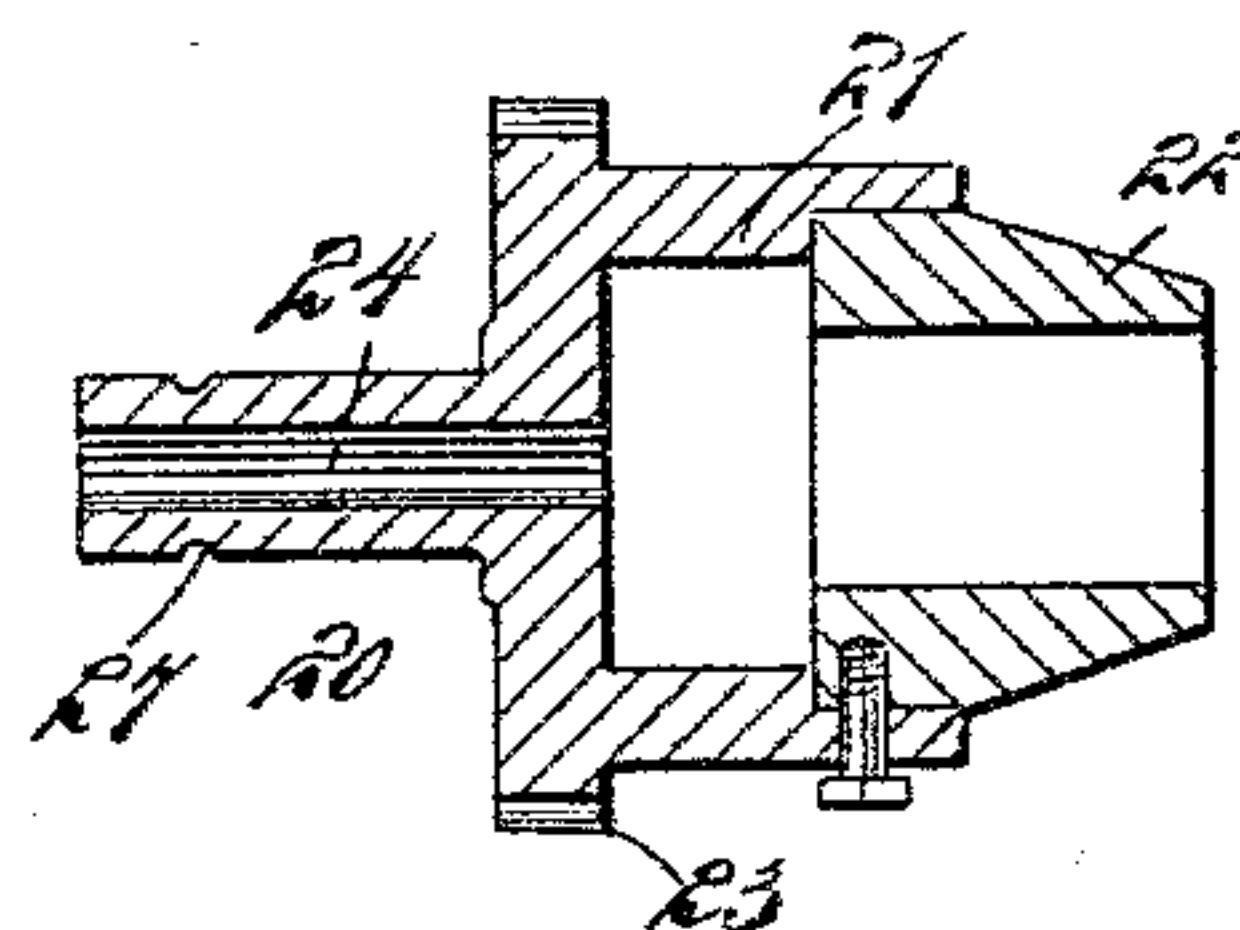


FIG. 5.



WITNESSES:

H. Kellyer.
Isaac B. Mung,

INVENTOR

J. Rosendahl.

BY

Munsey

ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN ROSENDAHL, OF DELHI, MINNESOTA.

COMBINED WRENCH AND NIPPERS.

SPECIFICATION forming part of Letters Patent No. 597,592, dated January 18, 1898.

Application filed March 30, 1897. Serial No. 629,886. (No model.)

To all whom it may concern:

Be it known that I, JOHN ROSENDAHL, of Delhi, in the county of Redwood and State of Minnesota, have invented a new and Improved Combined Wrench and Nippers, of which the following is a full, clear, and exact description.

This invention is a tool combining a ratchet-wrench and nippers.

The invention is particularly adapted for use in connection with carriages and other vehicles and is generally characterized by two levers swinging toward and from each other and carrying racks which serve to actuate the ratchet-wrench and also having edged portions coacting to form the nippers.

This specification is the disclosure of one form of my invention, while the claims define the actual scope of the conception.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of my invention. Fig. 2 is a similar view from the side opposite that shown in Fig. 1. Fig. 3 is a sectional view on the line III III of Fig. 1. Fig. 4 is a detail section of one of the clamps, and Fig. 5 is a detail section of the wrench proper.

The levers 6 are provided at one side and near one end of each with a link 7, rigidly connected by screws 8 to a plate 9, which is located on the opposite side of the levers 6 and has an arm 10 run therefrom in the direction of the levers. The plates 7 and 9, with the arm 10, form the rigid portions or frame of the device.

A stub-shaft 11 is mounted in the arm 10 and carries a pinion 12, engaged by the rack-bars 13, respectively pivoted on the levers 6. Attached to the shaft 11 is a plate 14, the ends of which hold one end of the trunnions of antifriction-rollers 15, the other end of said trunnions being held by the arm 10. The swinging of the levers 6 causes the shaft 11 to have an alternately-reversing rotary movement. Fixed to the end of the shaft 11 opposite the end having the pinion 12 is a ratchet-wheel 16, with which a reversible pawl 17 engages, the pawl 17 being pressed by a spring 18. Mounted loosely on the shaft 11 and between the ratchet-disk 16 and the arm 10 is a

spur-gear 19, on which gear the pawl 17 is pivoted. The ratchet-wheel 16, turning continuously with the shaft 11, transmits movement through the medium of the pawl 17 to the spur-gear 19.

Revolubly mounted within the plate 9 and having its stem 20 run between the levers 6 is the holder 21 of the wrench-head 22. The holder 21 has a pinion 23 formed thereon, which pinion 23 meshes with the spur-gear 19, and since the spur-gear 19 is given intermediate rotary movement in one direction a similar movement is transmitted to the holder 21. By these means the nut may be unscrewed. The stem 20 of the nut-holder has an annular bore 24 formed therein, which permits the metal spoke of a bicycle or analogous wheel to be passed through the head 21 and threaded by means of a screw-cutting die which may be carried within the wrench-head 22 and within the holder 21, the head 22 being removable for this purpose. The stem 20 is revolubly held within the plate 9 by means of a key (not shown in the drawings) which will be passed into the annular groove 27, formed in the stem.

The end of each lever 6 adjacent to the plates 7 and 9 is provided with a bore receiving the stem 25 of the knives 26. The knives 26 are thereby removably held and form portions of the levers 6, being regular continuations thereof. The edges of the knives 26 are normally arranged diagonally to each other and moved toward and from each other, so as to form the cut.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination with a frame, of two levers pivoted thereon, a shaft revolubly mounted in the frame, a gear-wheel fixed to the shaft, a rack-bar carried by each lever and meshing with the gear-wheel, a second gear-wheel loose on the shaft, a ratchet-disk fixed to the shaft, a pawl carried by the said second gear and meshing with the ratchet-disk, and a revolubly-mounted wrench-head carried in the frame and driven from the said second gear.

2. The combination with a frame, of two levers pivoted thereon, a shaft revolubly mounted in the frame, means for turning the

shaft with alternating reversing movement from the levers, a gear-wheel loose on the shaft, a ratchet-disk fixed to the gear-wheel, a pawl carried on the gear-wheel and engaging the ratchet-disk, a wrench-head revolvably carried in the frame, and a gear in connection with the wrench-head and meshing with the gear on the shaft.

3. The combination with a frame, of levers pivoted thereto, a gear carried on the frame, means for transmitting movement to the gear from the levers, a wrench-head revolvably mounted in the frame, and a gear in connection with the wrench-head and meshed with the first gear.

4. The combination with a plate having an arm rigid thereon, of two levers fulcrumed on the plate, two rack-bars respectively fixed to the levers, a shaft revolvably mounted in the arm, a gear fixed to the shaft and meshed with the rack-bars, a ratchet-disk fixed to the shaft, a second gear loose on the shaft, a pawl carried by the said second gear and coacting with the ratchet-disk, a wrench-head revolvably mounted in the plate, and a gear fixed to the wrench-head and engaged by the said second gear.

5. The combination with a frame, of two levers pivoted thereon, two rack-bars respectively carried by the levers, a gear carried on the frame, and engaged by the rack-bars, a

second gear also carried on the frame and driven from the first gear, and a wrench-head revolvably mounted in the frame and driven from the said second gear.

6. The combination of a plate, a tool revolvably mounted in the plate, a gear-wheel mounted in the plate and driving the tool, two levers fulcrumed to the plate, a rack-bar carried by each lever, and a second gear having connection with the first gear and transmitting movement thereto, the said second gear being operated by the rack-bars.

7. The combination of a plate, a tool mounted thereon, a shaft mounted in the plate, a gear-wheel fixed to the shaft, two levers fulcrumed on the plate, a rack-bar attached to each lever and engaging the gear, and means for transmitting movement from the shaft to the tool of the plate.

8. The combination of a plate, two levers fulcrumed on the plate and swinging independently thereof and supporting the plate irrespective of the movement of the levers, a rotary tool mounted in the plate, a gear-wheel mounted on the plate and driving the rotary tool, and means for transmitting movement from the levers to the gear-wheel.

JOHN ROSENDAHL.

Witnesses:

WILLIAM J. BROWNE,

JOHN H. LEE.