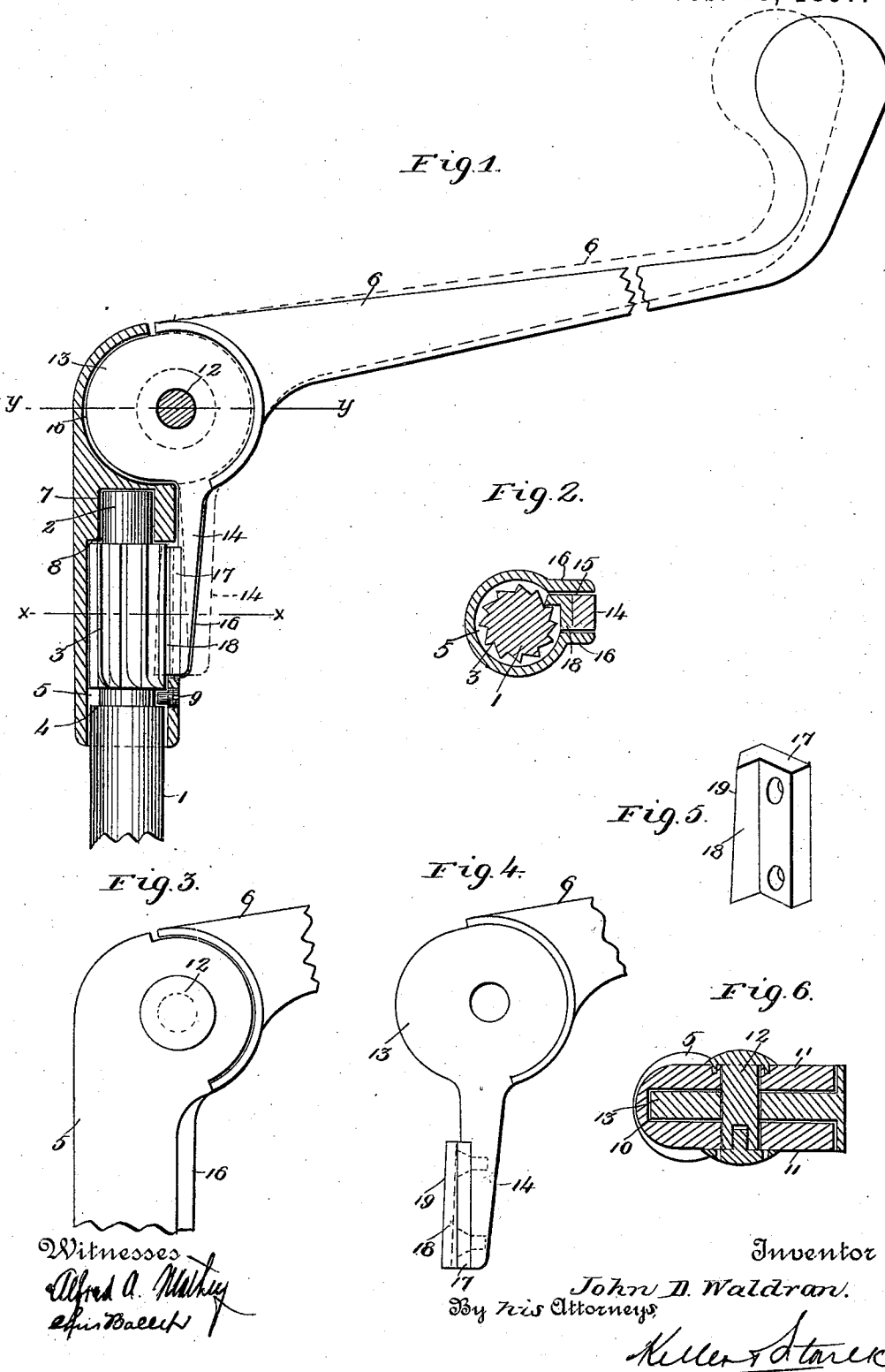


(No Model.)

J. D. WALDRAN.
BRAKE HANDLE.

No. 577,470.

Patented Feb. 23, 1897.



UNITED STATES PATENT OFFICE.

JOHN D. WALDRAN, OF ST. LOUIS, MISSOURI, ASSIGNOR, BY DIRECT AND
MESNE ASSIGNMENTS, TO LAFE STURDEVANT, TRUSTEE, OF SAME
PLACE.

BRAKE-HANDLE.

SPECIFICATION forming part of Letters Patent No. 577,470, dated February 23, 1897.

Application filed December 7, 1896. Serial No. 614,839. (No model.)

To all whom it may concern:

Be it known that I, JOHN D. WALDRAN, a citizen of the United States, residing at St. Louis, State of Missouri, have invented certain new and useful Improvements in Brake-Handles, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention has relation to improvements in handles for brake-staffs; and it consists in the novel arrangement and combination of parts more fully set forth in the specification and pointed out in the claims.

In the drawings, Figure 1 is an elevation of the top of the brake-staff, showing in section the socket of the handle and the latter in side elevation. Fig. 2 is a section on xx of Fig. 1. Fig. 3 is a side elevation of the handle-socket and the base of the handle pivoted thereto. Fig. 4 is a side elevation of the base of the handle, showing the pawl carried by the depending arm of the same. Fig. 5 is a perspective view of the pawl, and Fig. 6 is a section on line yy of Fig. 1.

The object of my invention is to construct a handle for brake-staffs, in connection with what are known as "ratchet-brakes," which, upon release of the brake-shoes from the wheels of the car, will allow the brake-staff to rotate back to its normal position without carrying the handle bodily with it, as now generally happens with brakes of the type referred to—a construction which is objectionable, making the handle liable in its rotation to forcibly strike the brakeman about the chest and thus forming a source of constant inconvenience. To overcome these objections, I have devised a handle which in detail may be described as follows:

Referring to the drawings, 1 represents the brake-staff, the upper reduced extension 2 of which has secured thereto the ratchet 3, the latter being located a slight distance above the shoulder 4, formed at the junction of the reduced extension with the staff proper. The socket 5 of the base of the handle 6 has a suitable cavity 7, formed at the medial portion thereof, for the reception of the upper portion of the reduced extension 2, a shoulder 8 being formed at the juncture of the socket

and cavity, which shoulder rests on top of the ratchet 3. The socket of the handle is kept in position on the staff by a screw 9, passed through the lower portion of the wall of the socket and into the space formed between the lower face of the ratchet and the shoulder 4. Formed at the upper extremity of the socket 5 is a chamber 10, bounded by lateral walls 11, between which is adapted to be pivoted about a pin 12, connecting approximately the medial portions of the walls, the enlarged end or pivotal base 13 of the brake-handle 6, the said base having formed integral therewith a depending arm 14, disposed normally parallel to the axis of rotation of the brake-staff, the said arm being adapted to play in the space 15 included between the laterally-extended walls 16, forming a part of the peripheral walls of the substantially tubular portion of the socket and extending approximately to the base of the ratchet 3, carried by the brake-staff.

The inner surface of the depending arm 14 has secured thereto a plate 17, having a lateral extension or wing 18, provided with a bevel edge 19, the said wing serving as a pawl, whose inner surface is adapted to normally engage the teeth of the ratchet, said engagement being effected by the gravitation of the pivoted handle, whose center of gravity is at some point removed from the pivotal base thereof. When the pawl of the handle is thus engaged, the latter when turned in proper direction carries the brake-staff with it, and thus applies the brakes. When, however, the handle is tilted upwardly to the dotted position indicated in Fig. 1, the pawl becomes disengaged from the ratchet, and the staff turns back to its original position without carrying the brake-handle with it. The pawl 18 is made slightly tapering upward, so that the full length of the bevel edge thereof (along which the ratchet can freely ride) will become disengaged at one time from any particular tooth of the ratchet, for, the depending arm 14 oscillating about a pivot, the parts farthest removed from the axis of oscillation move faster than those approaching the pivot. By therefore making the pawl 18 tapering the base thereof does not become disengaged any sooner than the upper end of the pawl, and

when the pawl is wholly disengaged from the ratchet the edge thereof is substantially parallel to the vertical edge of the tooth of the ratchet which it has just released, allowing
 5 the brake-staff to rotate freely backward and release the brakes. In the foregoing the pivot of the handle is of course intermediate the center of gravity thereof and the pawl 18.

The pin 12 is located to one side of the center of the chamber 10 and toward the handle, (see Figs. 1, 3, and 4,) thus reducing the leverage which the base 13 exerts against the walls 11 of the chamber, reducing thereby the danger of forcing the walls apart when the
 15 motorman exerts his full strength upon the handle in applying the brakes. By thus running the chamber 10 back of the pivotal pin the walls 11 become stiffer by reason of the additional metal that enters into their construction.
 20

Having described my invention, what I claim is—

1. In a brake-staff and handle therefor, a suitable brake-staff, a ratchet carried thereby
 25 having teeth disposed parallel to the axis of rotation of the staff, a socket loosely passed over the ratchet, a brake-handle pivotally carried by the socket, and a pawl, carried by the handle, adapted to normally engage with the
 30 teeth of the ratchet, and adapted to be disengaged from said teeth upon the movement of the handle in one direction, substantially as set forth.

2. In a brake-staff and handle therefor, a suitable brake-staff, a ratchet carried thereby
 35 and having teeth disposed substantially parallel with the axis of rotation of the staff, a socket adapted to be passed over the ratchet, a handle pivoted to said socket, an arm depending from the handle below the pivotal
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point of the latter, and a pawl carried by the depending arm and adapted to play in a suitable opening formed in the socket and adapted to engage the teeth of the ratchet by the
 45 gravitating action of the handle, substantially as set forth.

3. In a brake-staff and handle therefor, a suitable brake-staff, a ratchet carried thereby and having teeth disposed substantially parallel with the axis of rotation of the staff, a
 50 socket adapted to be passed over the ratchet and rotating freely about the staff, one side of the socket being open, a chamber having lateral bounding-walls formed at the upper end of the socket, a brake-handle having an
 55 expanded base pivoted within said chamber, the handle being adapted to oscillate in a vertical plane, an arm depending from the base of the handle and carrying a pawl adapted to play in the space formed in the socket and to
 60 engage with the ratchet under the gravitating action of the handle, the said pawl being adapted to be disengaged from the ratchet by the tilting of the handle upwardly, substantially as set forth.
 65

4. In a brake-handle, a suitable handle proper, adapted to be pivotally mounted on top of a brake-staff, an arm depending from the pivotal base of the handle, a plate carried by the arm, and a deflected wing forming
 70 a part of the plate and serving as a pawl, said pawl being tapering from its base upward, and having a ratchet-engaging bevel edge, substantially as set forth.

In testimony whereof I affix my signature
 75 in presence of two witnesses.

JNO. D. WALDRAN.

Witnesses:

EMIL STAREK,

ALFRED A. MATHEY.