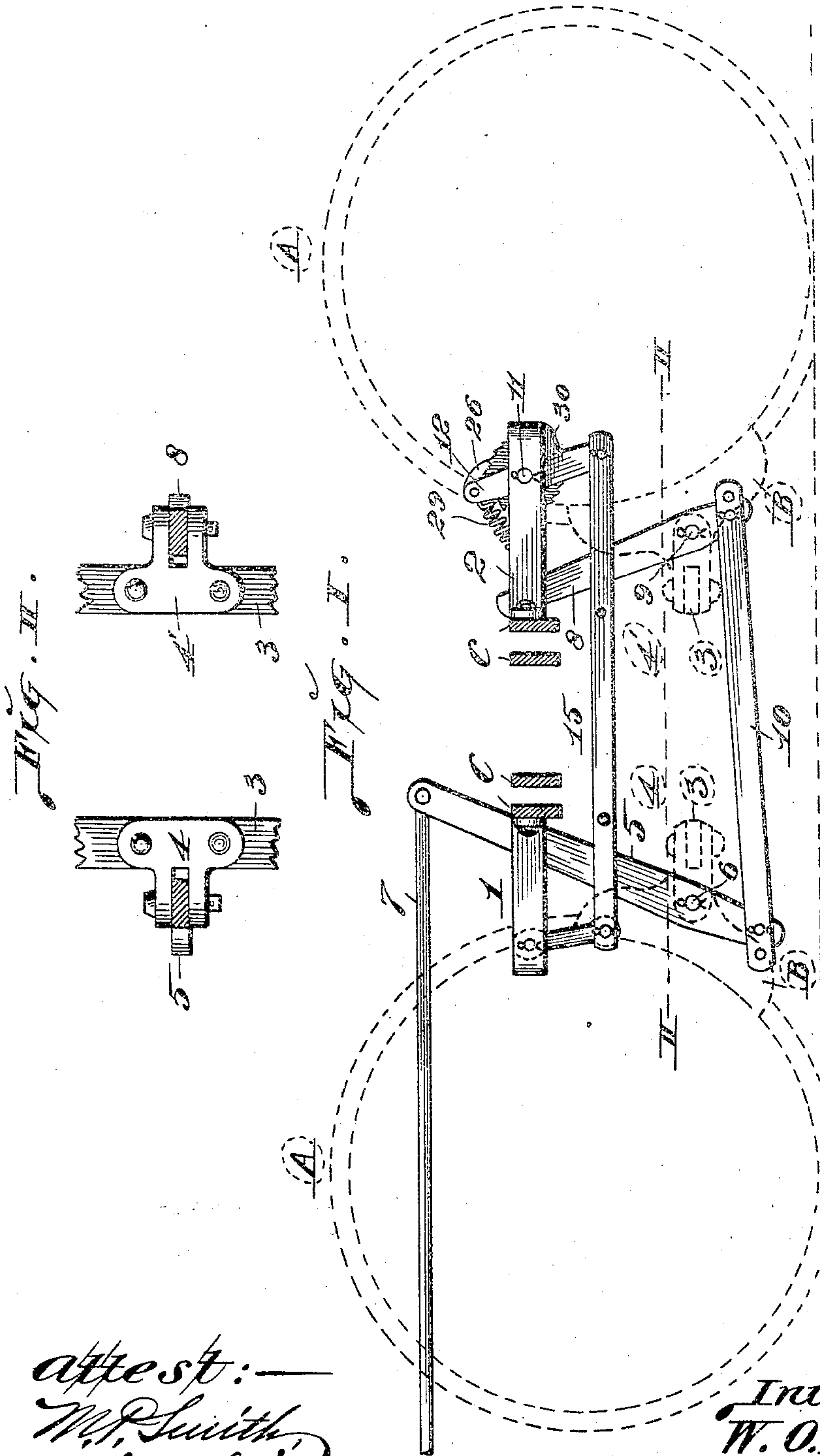


No. 778,597.

PATENTED DEC. 27, 1904.

W. O. MUNDY.
SLACK ADJUSTER FOR CAR BRAKES.
APPLICATION FILED MAR. 29, 1904.

28 SHEETS—SHEET 1.



Attest:—
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No. 778,597.

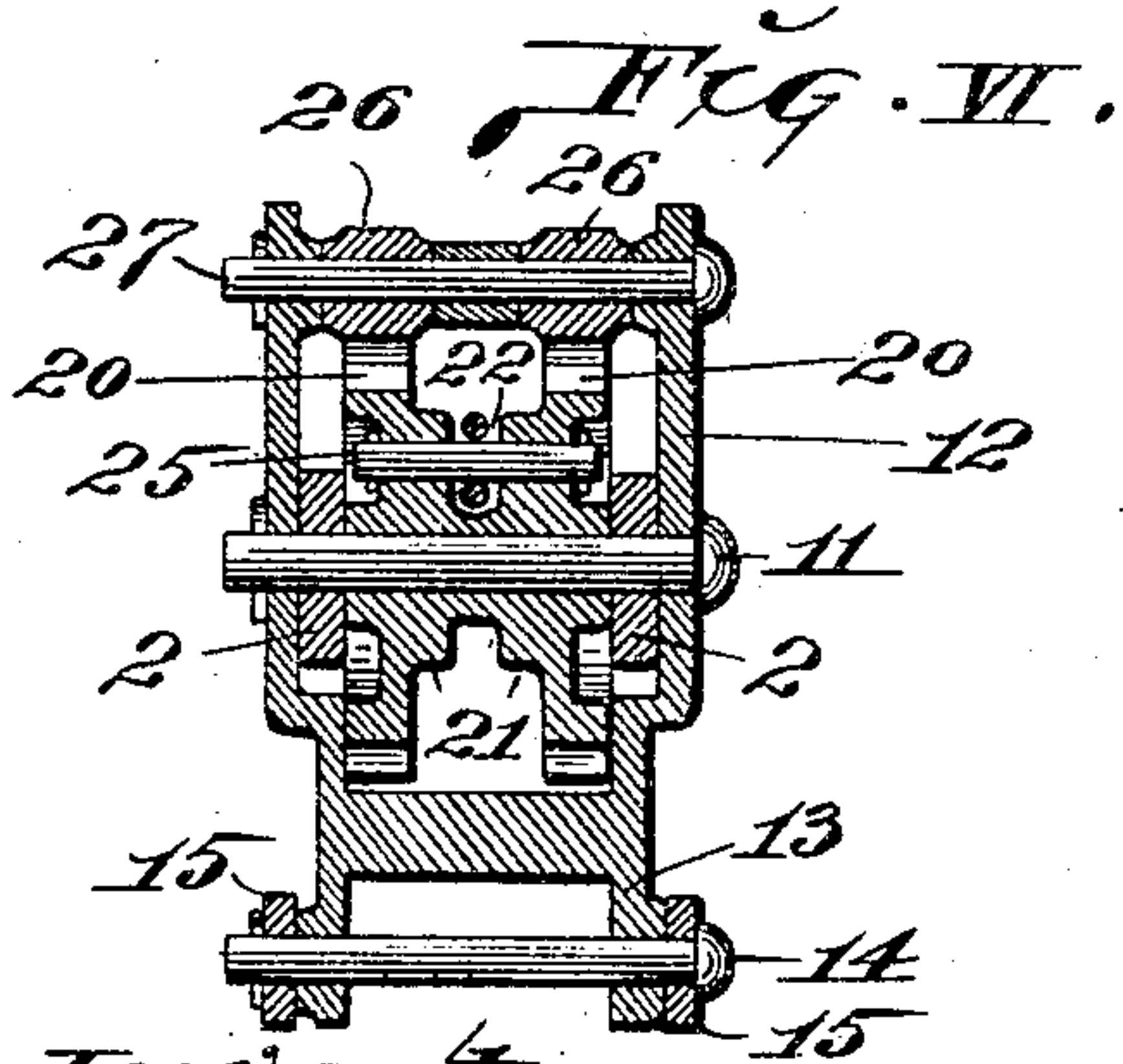
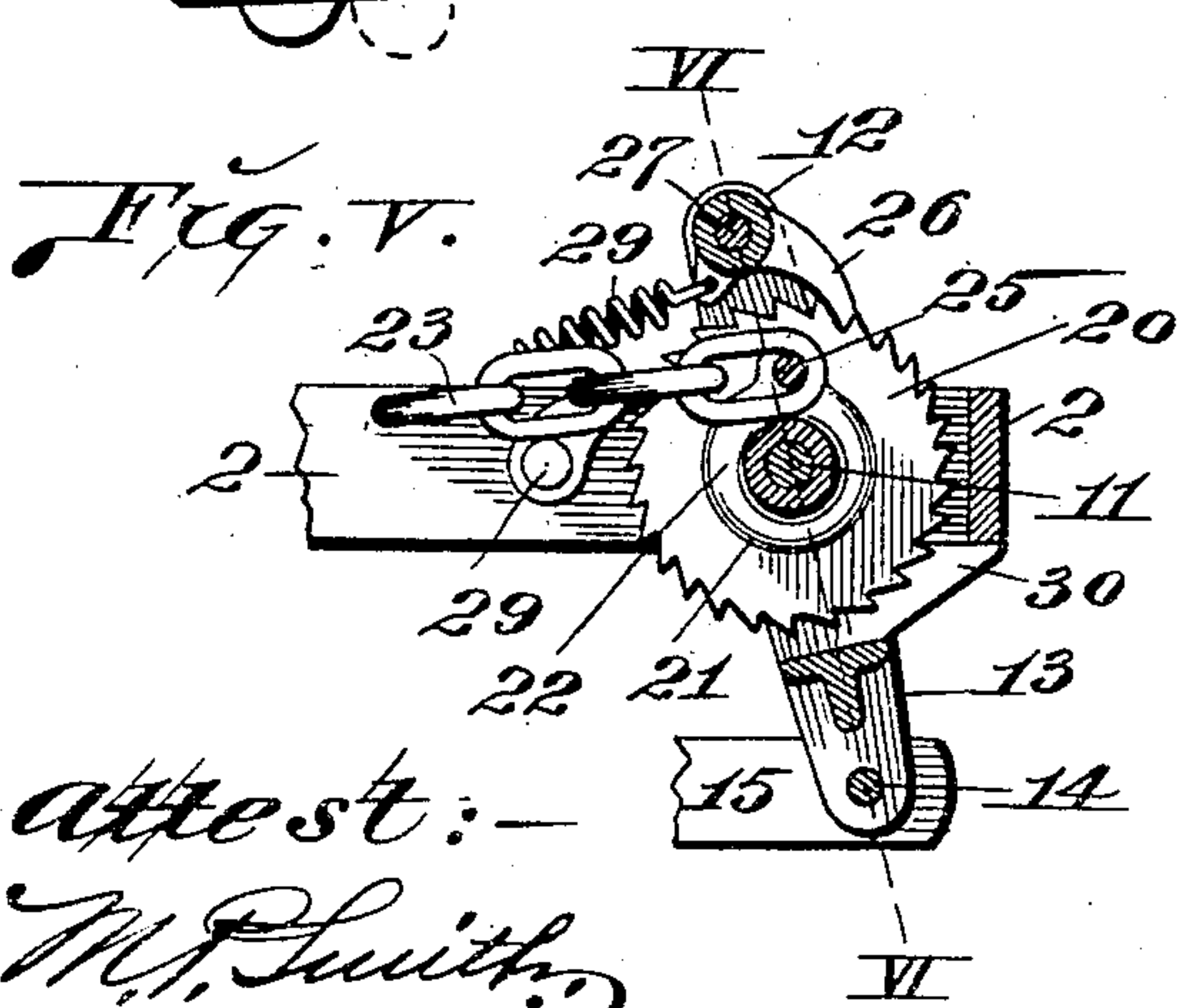
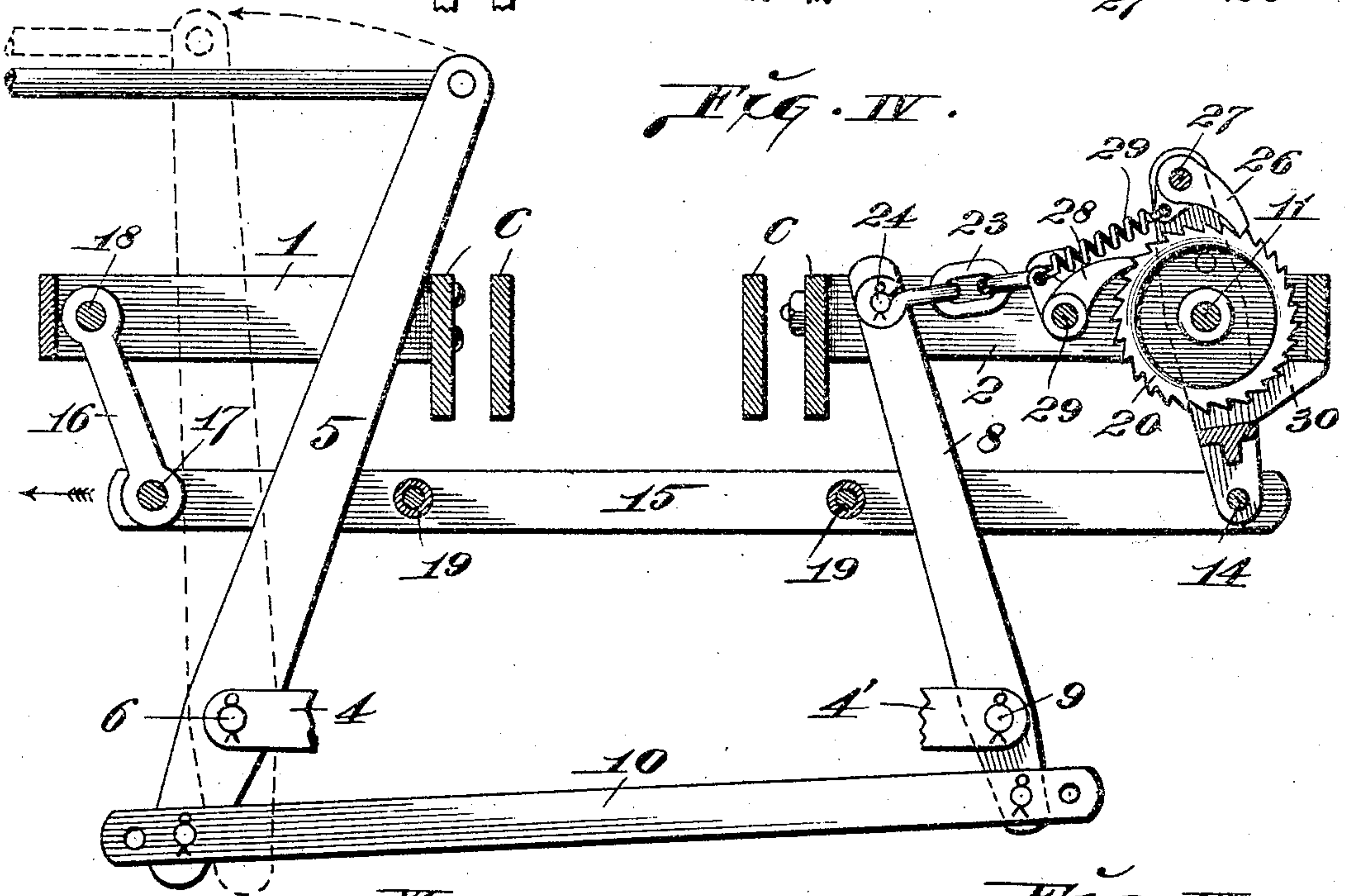
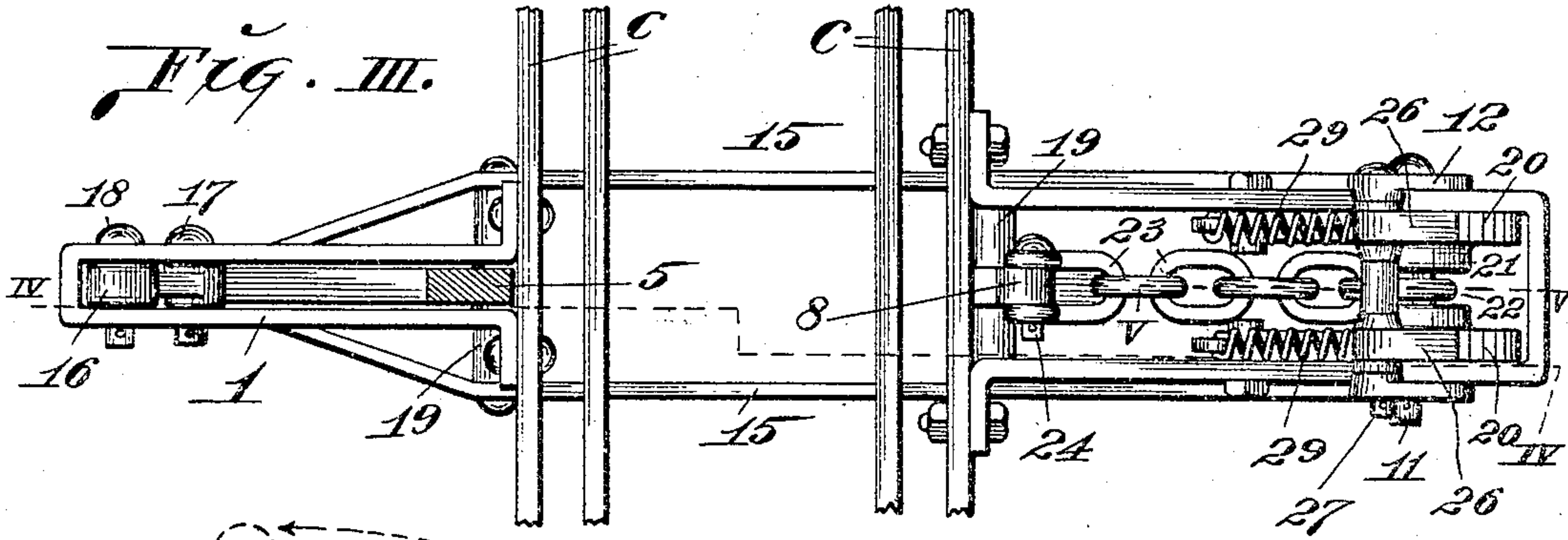
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2 SHEETS—SHEET 2.



attest:

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UNITED STATES PATENT OFFICE.

WILLIAM O. MUNDY, OF ST. LOUIS, MISSOURI.

SLACK-ADJUSTER FOR CAR-BRAKES.

SPECIFICATION forming part of Letters Patent No. 778,597, dated December 27, 1904.

Application filed March 29, 1904. Serial No. 200,505.

To all whom it may concern:

Be it known that I, WILLIAM O. MUNDY, a citizen of the United States, residing in the city of St. Louis, in the State of Missouri, have
 5 invented certain new and useful Improvements in Slack-Adjusters for Car-Brakes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

10 My invention relates to an adjusting means for taking up the slack in car-brakes when the brake-shoes become worn, whereby the brake-levers automatically actuate a slack-take-up to enable the setting of the brake-shoes after
 15 they have become worn.

The invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Figure I is a side elevation of my slack-adjuster. Fig. II is a top view of the central parts of the brake-beams and brake-lever fulcrums, with the brake-levers shown in horizontal section, taken on line IIII, Fig. I. Fig. III is a top or plan view of the slack-adjuster.
 25 Fig. IV is an enlarged vertical longitudinal section taken through the slack-adjuster on line IV IV, Fig. III. Fig. V is an enlarged vertical longitudinal section taken on line V V, Fig. III. Fig. VI is a vertical cross-section
 30 taken on line VI VI, Fig. V.

The wheels of a car-truck and the brake-shoe heads are shown in dotted lines at A B, Fig. I.

C represents parts of the transverse members of a car-truck frame.

1 and 2 designate yokes secured to the truck-frame members C and projecting therefrom longitudinally of the truck in opposite directions.

40 The brake-shoe heads B are carried by the brake-beams 3, and these brake-beams carry fulcrums 4 and 4'. (See Fig. II and dotted lines, Fig. I.)

5 is the main brake-lever, that is pivoted at
 45 6 to the fulcrum 4 and the upper end of which operates in the yoke 1 and has united thereto the brake-rod 7. 8 is an auxiliary brake-lever that is pivoted at 9 to the brake-beam fulcrum 4' and is united at its lower end to the
 50 lower end of the main brake-lever by a con-

necting-rod 10. The upper end of the auxiliary brake-lever operates within the yoke 2.

11 designates a shaft that passes transversely through the yoke 2.

12 is a U-shaped rocker that is swingingly
 55 mounted on the shaft 11 and which extends both upwardly and downwardly from said shaft and is provided at its lower end with legs 13, in which is seated a cross-pin 14.

15 is an oscillating frame consisting of two
 60 parallel bars, each having one end pivotally connected to the rocker-legs 13 by the cross-pin 14. The opposite ends of said frame-bars are supported by a link 16, pivoted thereto by a cross-pin 17 and pivotally upheld through
 65 the medium of the supporting-pin 18, mounted in the yoke 1. The oscillating frame-bars are united intermediate of their ends by connecting-rods and sleeves 19. The main brake-lever 5 is positioned between one of these con-
 70 necting-rods and the link 16, and the auxiliary brake-lever is positioned between the other connecting-rod and the rocker 12.

20 designates a pair of ratchet-wheels that are integral with each other and mounted on
 75 the shaft 11, which passes through the rocker 12 and the arms of the yoke 2. On the inner faces of these ratchet-wheels are annular shoulders 21, and extending inwardly in the hub of the combined ratchet-wheels is a groove 22.
 80

23 is a chain one end of which is connected to the auxiliary brake-lever 8 at 24 and the other end of which is connected to the ratchet-wheels 20 by a cross-pin 25 passing there-
 85 through.

26 represents pawls swingingly mounted on a rod 27, positioned in the upper end of the rocker 12 and having their free ends arranged in engagement with the teeth of the ratchet-wheels 20.
 90

28 represents pawls rockingly mounted on a rod 29, seated in the yoke 2 and having their free ends arranged in engagement with the ratchet-wheels 20.

The said pawls 26 and 28 are united by con-
 95 tractile springs 29, which serve to hold both series of said pawls in engagement with said ratchet-wheels.

It is to be noted in connection with the oscillating frame 15 and the rocker 12 that after
 100

the oscillating frame has been moved in the manner stated to take up slack the springs 29 in addition to their services to hold the pawls in engagement with the ratchet-wheels act to
 5 return the rocker and oscillating frame to their former positions, so that the main brake-lever may be brought into engagement with the link 16 when occasion demands such engagement. When this movement occurs, the
 10 rockers are limited in their oscillation by lugs 30 carried thereby, which engage the under side of the yoke 2, as seen in Figs. IV and V.

In the use of my slack-adjuster when the brake-shoes are to be set to the car-wheels and
 15 are in an unworn or only slightly worn condition the brake-levers are operated in the usual manner and the shoes are set to the wheels without the slack-adjuster mechanism being affected in any manner, for the reason
 20 that only a limited movement of the brake-levers is necessary to set the shoes and one that is insufficient to throw the slack-adjuster parts into operation. When, however, the brake-shoes become worn, a greater travel of
 25 the brake-levers is necessary to carry them to the car-wheels, and therefore the main brake-lever is brought during such greater movement into contact with the lower end of the oscillating frame-supporting link 16, as indicated by
 30 dotted lines, Fig. IV, thereby moving said link and frame in the direction indicated by the arrow in said figure during the act of carrying the brake-beams toward the car-wheels. As a consequence the oscillating frame is oscillated
 35 to draw the lower end of the rocker 12 in the direction of movement of the frame and the upper end of the rocker is thrown in a contrary direction, as indicated by the arrow, Fig. IV, and causes the pawls 26, engaging
 40 the ratchet-wheels 20, to rotate said wheels. The chain 23 is therefore wound onto the hub of said wheels, between them, during which action the vertically-disposed chain-links ride into the groove 22, while the horizontally-dis-
 45 posed chain-links ride on the shoulders 21 of the ratchet-wheels. The upper end of the auxiliary brake-lever 8 is therefore drawn toward the ratchet-wheels, while the lower end of the lever is swung in a contrary direc-
 50 tion and, through the medium of the connecting-rod 10, serves to impart like movement to the main brake-lever 5 to carry the brake-beams, their heads, and shoes closer to the car-wheels, so that the brake-shoes may be
 55 set to the wheels with a more restricted move-

ment of the brake-levers. The brake-shoe-setting operation is thereafter continued in like manner as originally until such time as the shoes become sufficiently further reduced by wear to occasion actuation of the oscillat- 60
 ing frame 15 in the same manner as that described to additionally take up the existing slack.

I claim as my invention—

1. In a slack-adjuster for car-brakes, the 65
 combination with brake-levers, of an oscillating member with which one of said levers may engage, and take-up mechanism having connection with one of said levers and said oscillating member, said take-up mechanism 70
 consisting of a rocker, ratchet and pawl members associated with said rocker, a pawl supported independently of said rocker and members associated therewith, and a spring connecting said rocker pawl member and said 75
 last-named pawl, substantially as set forth.

2. In a slack-adjuster for car-brakes, the combination with brake-levers, of an oscillating member with which one of said levers may engage, a rocker having connection with 80
 said oscillating member, a pair of ratchet-wheels loosely supported within said rocker, pawls carried by said rocker for engagement with said ratchet-wheels, pawls supported independently of said rocker for engagement 85
 with said ratchet-wheels to prevent retrograde rotation thereof, and a flexible connection between one of said levers and said ratchet-wheels, substantially as set forth.

3. In a slack-adjuster for car-brakes, the 90
 combination with brake-levers, of an oscillating member with which one of said levers may engage, a rocker having connection with said oscillating member, a pair of ratchet-wheels loosely supported within said rocker, 95
 pawls carried by said rocker for engagement with said ratchet-wheels, pawls supported independently of said rocker for engagement with said ratchet-wheels to prevent retrograde rotation thereof, flexible connection between 100
 one of said levers and said ratchet-wheels, and springs connecting said rocker-carried pawls and pawls mounted independently of said rocker, substantially as and for the purpose set forth.

WILLIAM O. MUNDY.

In presence of—

BLANCHE HOGAN,
 NELLIE V. ALEXANDER.