

F. F. RAY.  
ADJUSTABLE CHAINLESS HAND BRAKE.  
APPLICATION FILED OCT. 29, 1910.

986,499.

Patented Mar. 14, 1911.

2 SHEETS—SHEET 1.

Fig. 1.

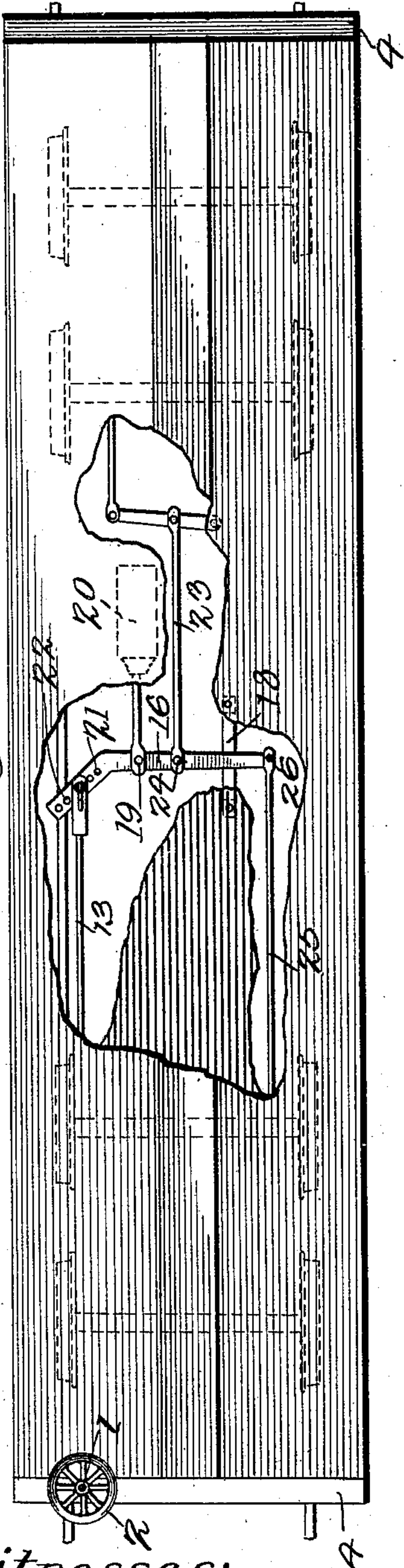
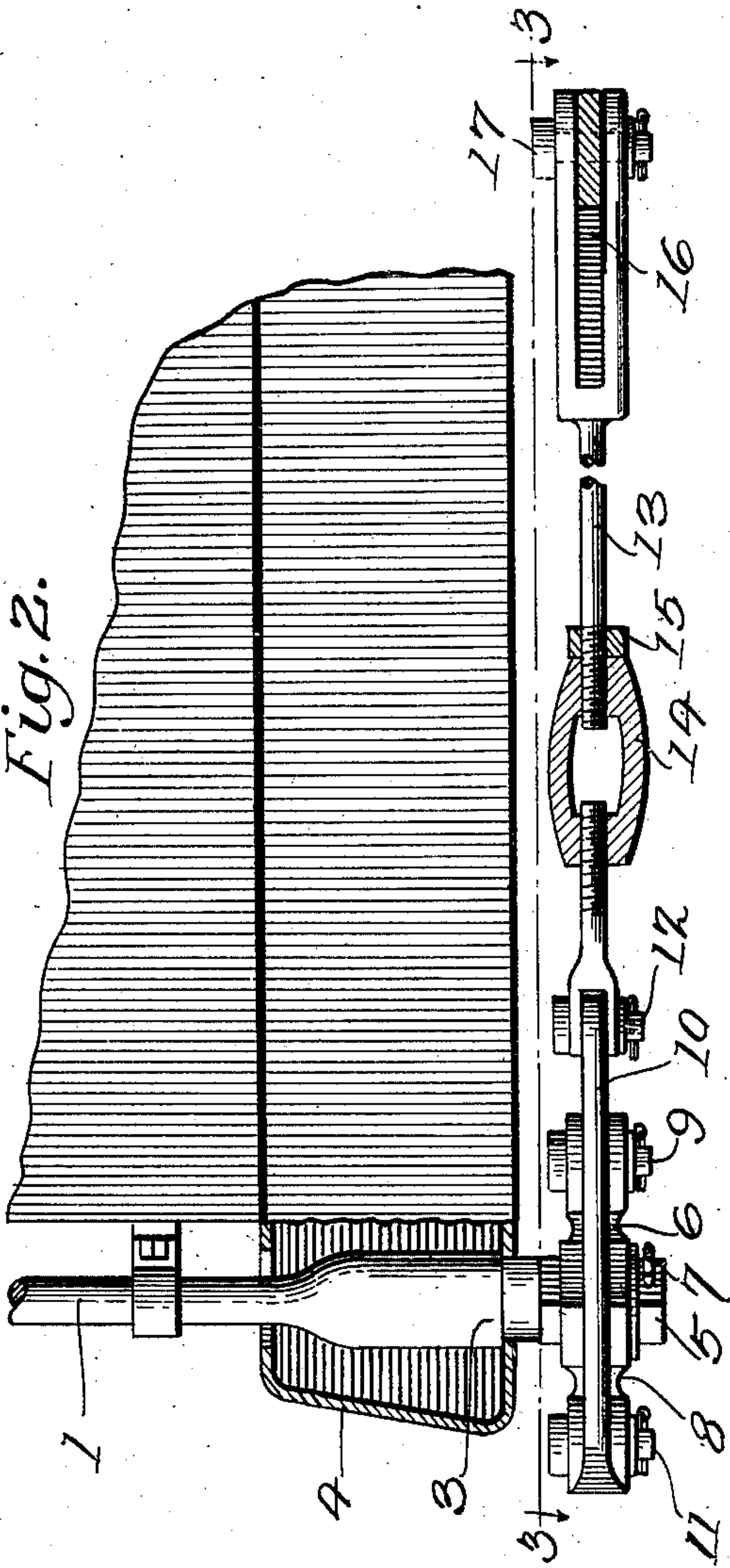


Fig. 2.



Witnesses:  
Clarence J. Williams  
Hanna Mendenhall.

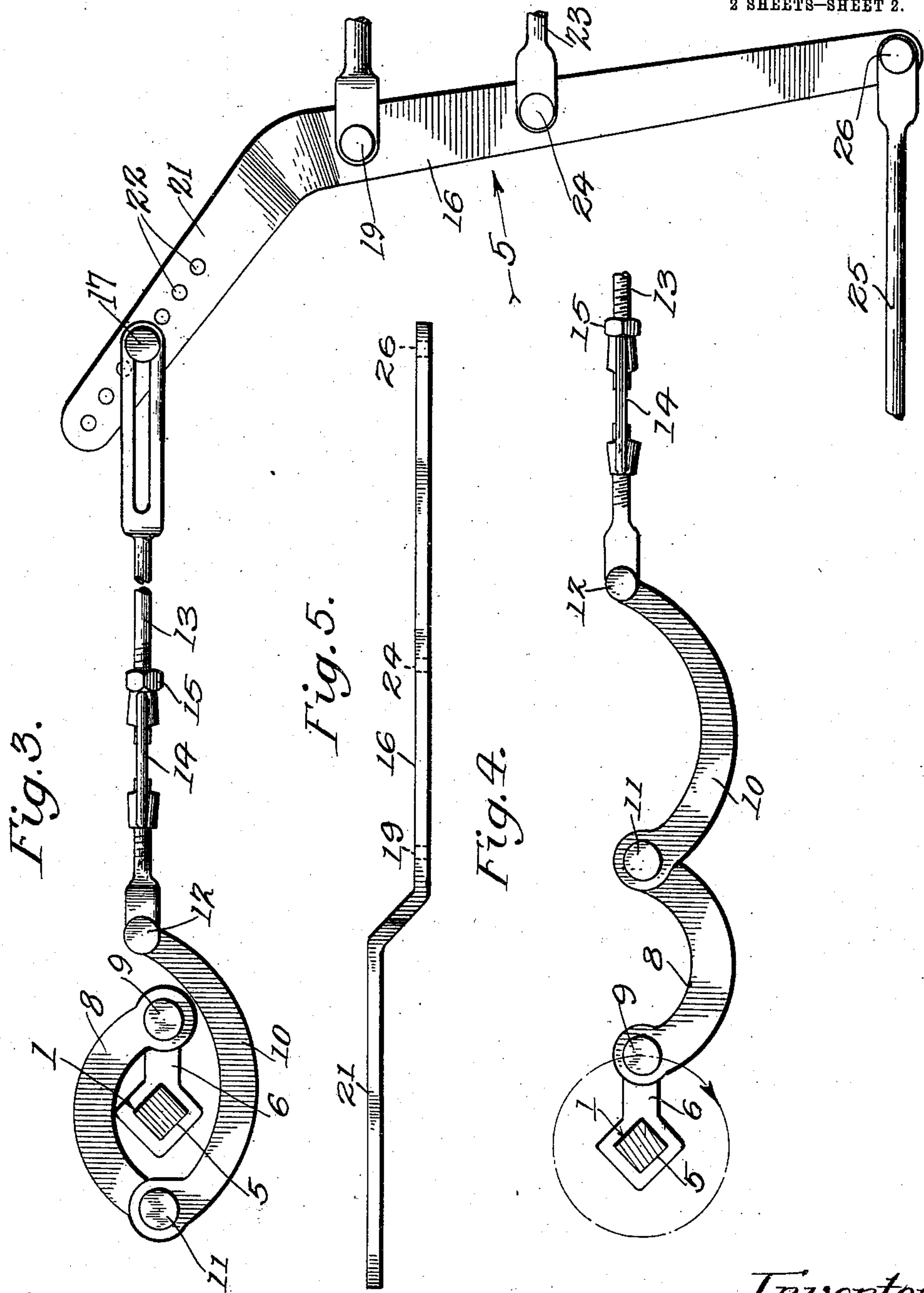
Inventor,  
Fred F. Ray.  
by Lemuel G. Wells  
Attorney.

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Witnesses:  
Clarence Williams  
Hanna Mendenhall

Inventor  
Fred F. Ray.  
Dennis G. Wells,  
Attorney.



# UNITED STATES PATENT OFFICE.

FRED F. RAY, OF LOS ANGELES, CALIFORNIA.

ADJUSTABLE CHAINLESS HAND-BRAKE.

986,499.

Specification of Letters Patent.

Patented Mar. 14, 1911.

Application filed October 29, 1910. Serial No. 589,685.

*To all whom it may concern:*

Be it known that I, FRED F. RAY, a citizen of the United States, residing at Los Angeles, California, have invented a new and useful Adjustable Chainless Hand-Brake, of which the following is a specification.

My invention pertains to hand brakes for railway cars, and especially to cars which have chainless connection with the brake staff and which are made adjustable so as to provide for wear or for application to different lengths of cars.

The invention provides for a vertical brake staff, having at its lower end a crank provided with a pair of folding links, one of which is hinged to an adjustable connecting rod, this connecting rod being hinged to the floating lever beneath the car body, which actuates the brakes. The floating lever has a projection at one end thereof which is at an angle to the main body, said projection has a series of holes therein to which the connecting rod from the brake staff is hinged, as hereinafter more fully set forth.

The accompanying drawings illustrate the invention.

Figure 1 is a top plan view of a car body, parts being broken away to show the connections between the floating lever and the brakes. Fig. 2 is an enlarged fragmental sectional elevation of the lower end of the brake staff and the folding links. Fig. 3 is a plan section on the line 3—3 of Fig. 2 showing the position of the parts when the brakes are applied. Fig. 4 is a plan section on the same line, showing the position of the parts when the brakes are released. Fig. 5 is an edge view of the floating lever.

Referring more particularly to the drawings in detail: My invention consists of the ordinary vertical brake staff 1, provided at its upper end with a hand wheel 2 and at the lower end thereof with a shoulder 3 to form a bearing in the end sill 4 of the car body. The brake staff 1 has a square portion 5 at the lower end and is provided with a crank 6, held in place by a washer and cotter pin 7. The crank 6 is attached to a curved link 8 by a bolt 9 and a longer curved link 10 is in turn hinged to the link 8 by a bolt 11, the free end of which is attached by a bolt 12 to

an adjustable connecting rod 13, which is provided at one end with a turn buckle 14 and a jam nut 15 to adjust the same to different lengths of cars, said connecting rod extends back to the floating lever 16 and is hinged thereto by a bolt 17. The floating lever is held in place at one end thereof by the guide bar 18, attached to the bottom of the car body and is pivoted at 19 to the piston rod of the air brake cylinder upon which it acts as a pivot point. The upper end of the floating lever has an angle member 21, provided with a series of holes 22, so that the connecting rod 13 may be adjustably connected thereto to take up for wear or difference in the lengths of cars. The floating lever is connected to the brakes of the car in the ordinary manner as by the push rod 23 connected thereto by the key bolt 24 and the tie rod 25 connected thereto by the key bolt 26 at the other end thereof.

The operation of the device is plainly shown in Figs. 3 and 4. When the brake staff 1 is rotated it carries the crank 6 in the direction of the arrow in Fig. 4, thus operating the links 8 and 10, connecting rod 13, floating lever 16, upon the pivot 19 and the connecting rods 23 and 25 to apply the brakes.

It is obvious that the floating lever, by means of the angled end 19, and the turn buckle 14 on the rod 13, provides a means whereby the device is made adjustable, thus providing for wear in the brake blocks and also enabling the application of the floating lever to cars which may vary in length without making any changes in the construction.

I claim:

1. An adjustable chainless hand brake comprising a brake staff, having on its lower end a crank; a pair of folding links and an adjustable connecting rod attached to one of said links, in combination with a floating lever which connects with the car brakes, said lever having an angled projection at one end thereof with a series of holes therein to provide a means for adjusting the connecting rod to take up for wear in the operating parts.

2. In an adjustable chainless hand brake, a vertical brake staff, having on its lower end a crank; a curved link attached to said

crank; a second curved link hinged to said  
first mentioned curved link and an adjust-  
able connecting rod hinged at one end to  
said last mentioned link, in combination  
5 with a floating lever pivoted near the cen-  
ter thereof and provided at one end with an  
angled member for adjustable connection to

said connecting rod and fastened at the  
other end thereof to the car brakes.

FRED F. RAY.

Witnesses:

ANDREW K. MARTELL,  
HANNA MENDENBALL.

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Washington, D. C."

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