

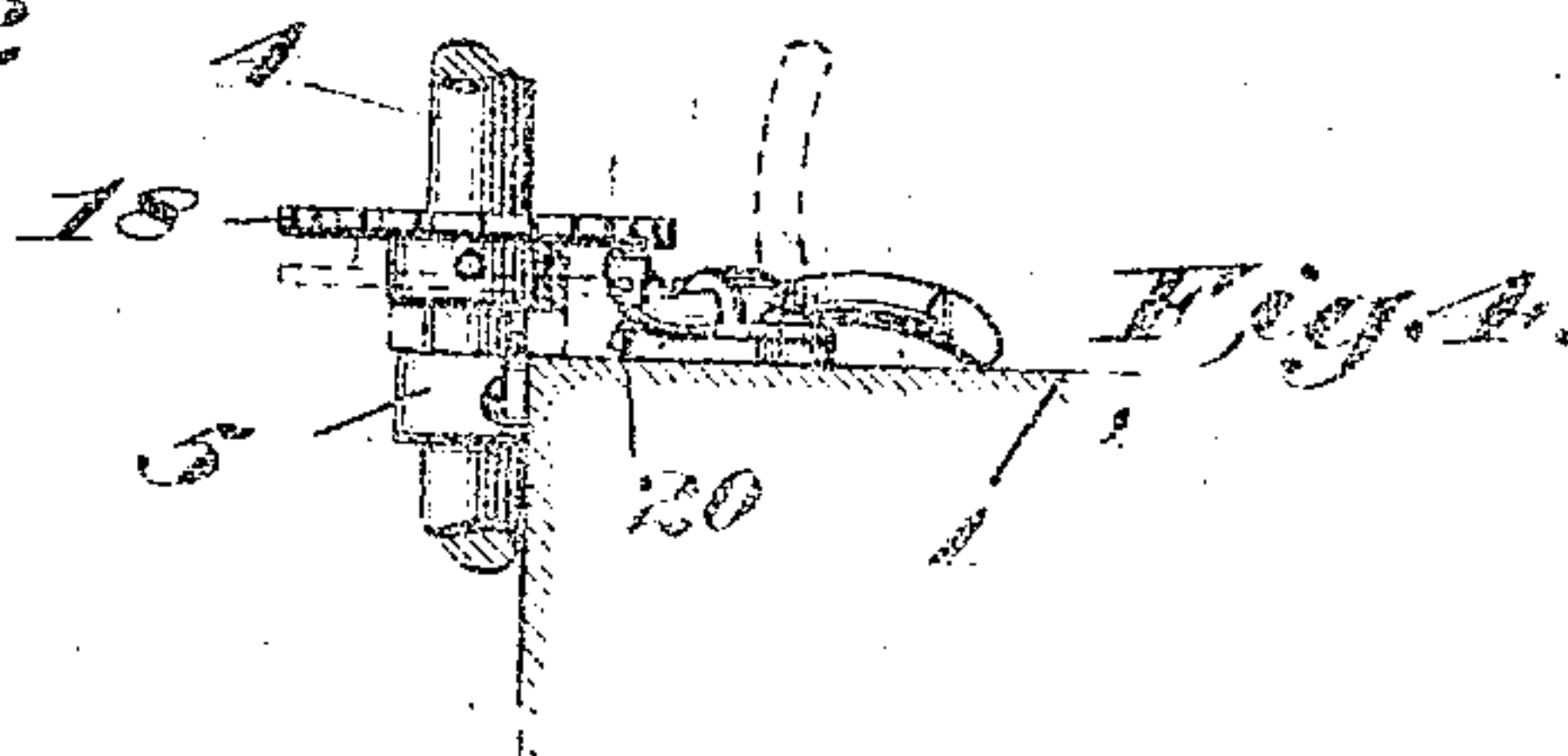
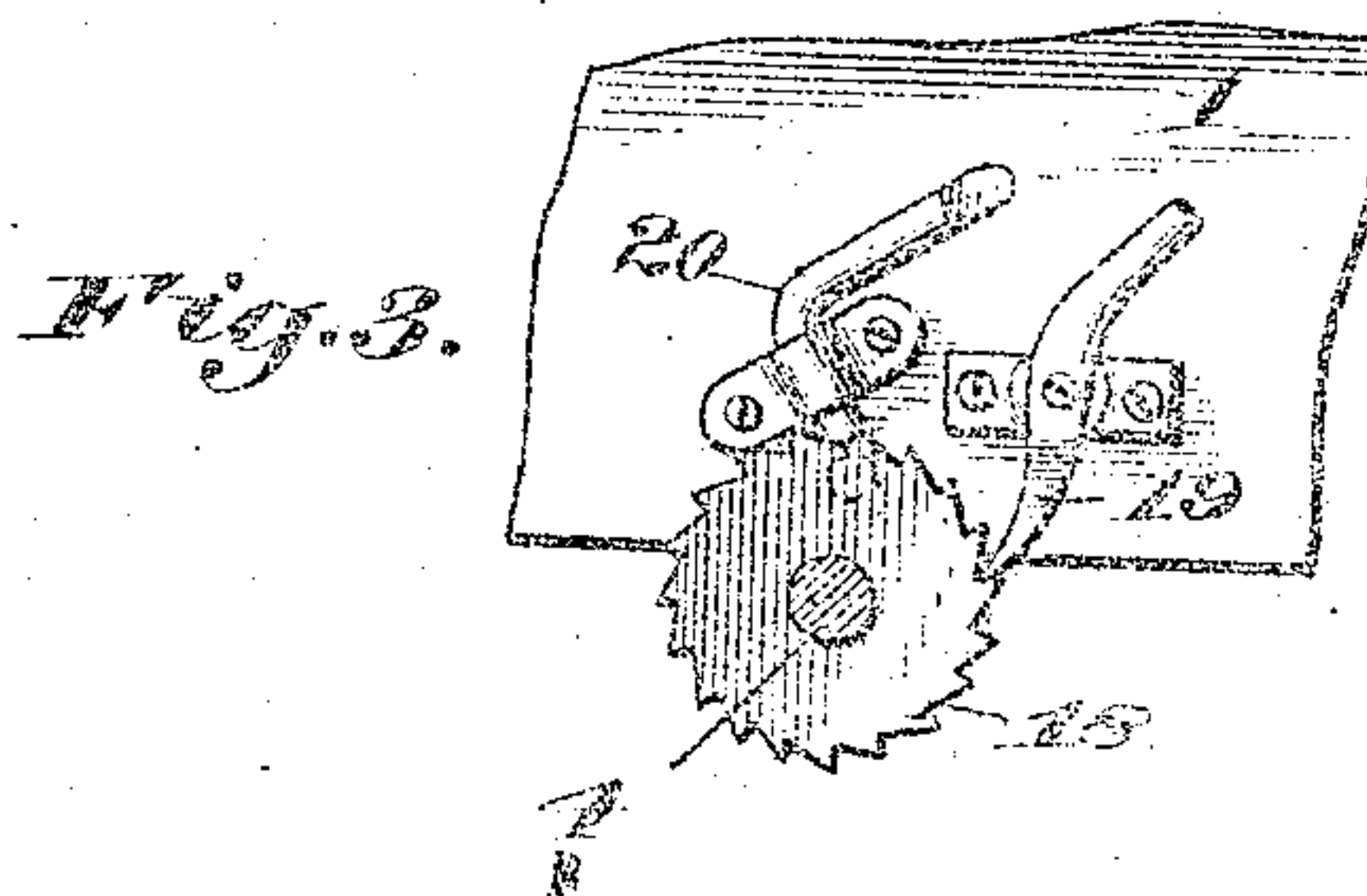
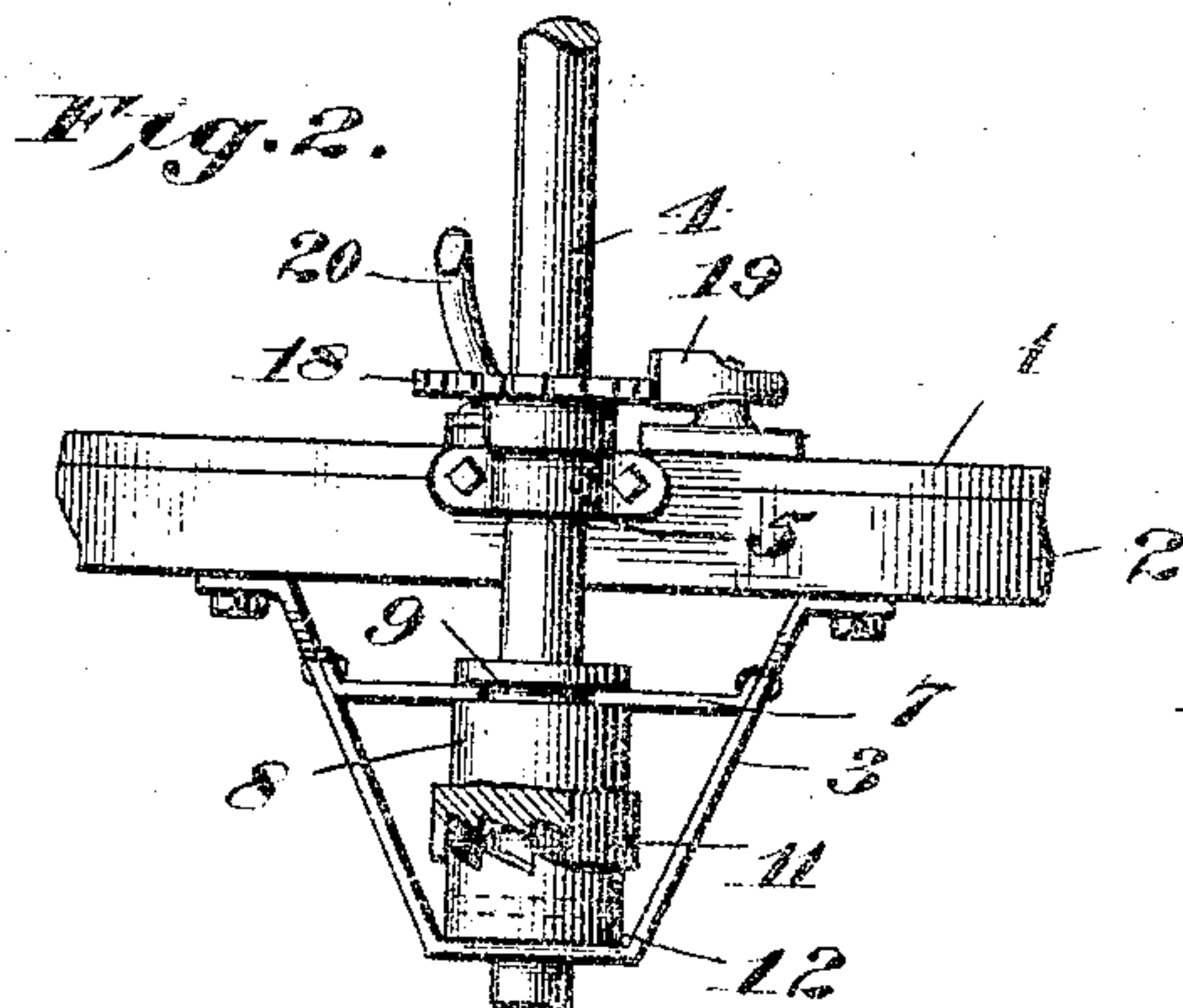
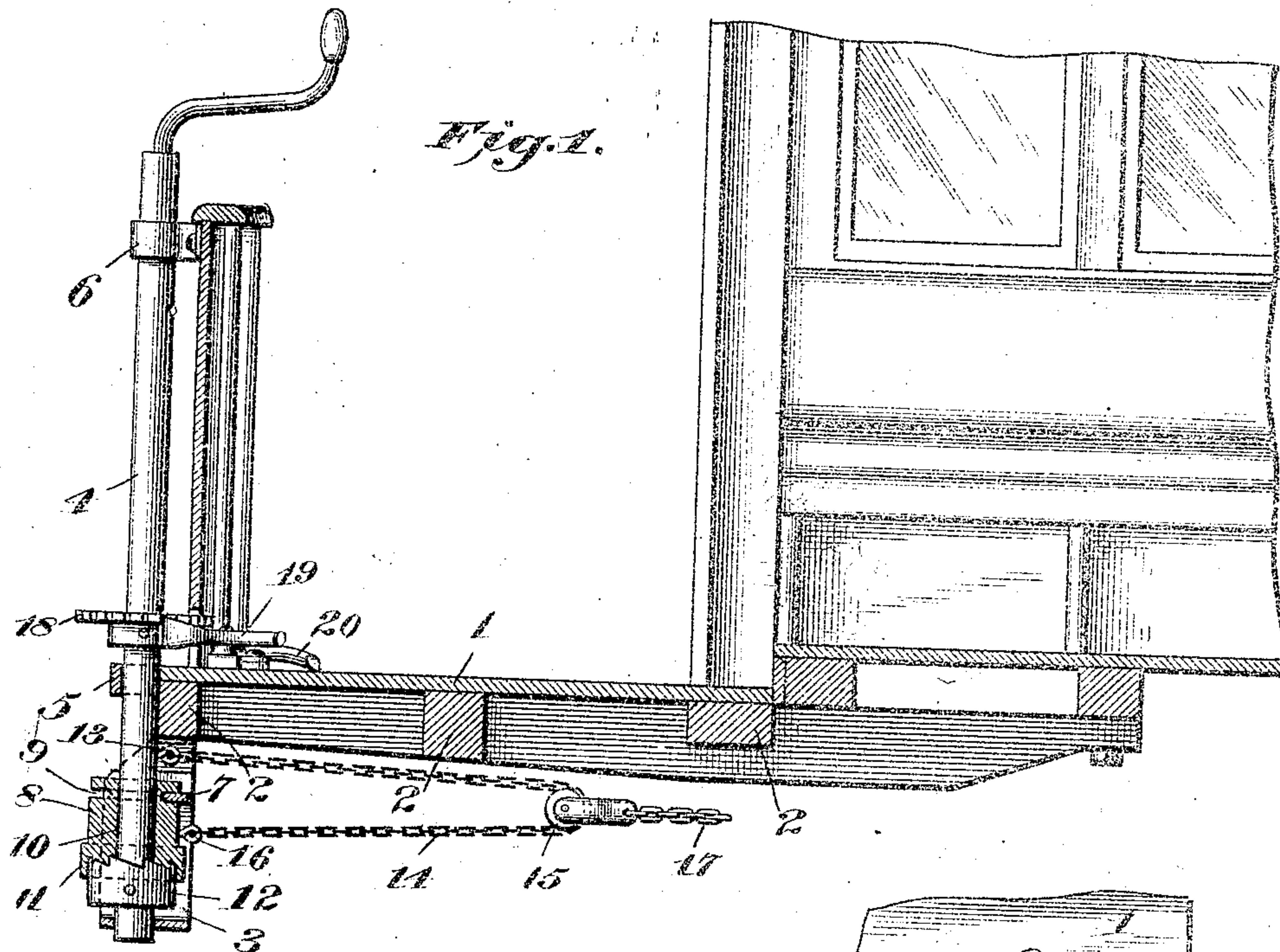
No. 747,410.

PATENTED DEC. 22, 1903.

J. B. GASTON.  
BRAKE.

APPLICATION FILED APR. 14, 1903.

NO MODEL.



Witnesses

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# UNITED STATES PATENT OFFICE.

JOSIAH B. GASTON, OF ROCK SPRINGS, WYOMING.

## BRAKE.

SPECIFICATION forming part of Letters Patent No. 747,410, dated December 22, 1903.

Application filed April 14, 1903. Serial No. 152,607. (No model.)

*To all whom it may concern:*

Be it known that I, JOSIAH B. GASTON, a citizen of the United States, residing at Rock Springs, county of Sweetwater, State of Wyoming, have invented certain new and useful Improvements in Brakes, of which the following is a specification.

This invention relates to brakes for street or railway cars, and more especially to that class of brakes known in the art as "locked-ratchet" brakes.

The object thereof is to provide a brake of two different leverages, and one which will be powerful in action and quick to respond to the brakeman's will.

A further object is to provide easily-accessible means whereby the staff may be raised so as to throw the clutch into operation.

With these objects in view the invention consists in the novel features and combination of parts, which will be more fully described in the following specification and pointed out in the appended claims.

In the drawings, Figure 1 is a vertical section of the end of a car with the device applied thereto. Fig. 2 is an end elevation of the device with parts broken away. Fig. 3 is a plan view showing details of the foot-lever and ratchet-pawl. Fig. 4 is a detail elevation similar to Fig. 3.

Referring more especially to the drawings, 1 represents the platform of an ordinary car on which the brakeman stands when operating the car. This platform is supported by the ordinary cross-beams and tie-bars 2.

Depending from one of the cross-beams 2 and rigidly secured thereto is a substantially V-shaped bracket 3, adapted to receive the lower end of the staff 4, which is also journaled in brackets 5 and 6, attached to the platform and dashboard, respectively.

Secured to each side of the bracket 3 is a bridge 7, having a U-shaped aperture in its center adapted to receive and engage the upper member of a clutch 8. This member 8 is grooved at 9 to receive the bridge, which holds it against vertical motion, but permitting free rotation. This member 8 is also provided with a central opening 10, through which the shaft 1 passes, and a collar 11 which

incloses the teeth of the clutch and projects down over the opposite clutch member 12, secured to the staff 4.

Screwed into the staff 4 below the platform 55 is an eyebolt 13, to which is attached the chain 14, adapted to travel over the pulley 15 and return to be attached to the clutch member 8 by a corresponding eyebolt 16. Running from the pulley 15 is a chain 17, 60 which can be attached to the brake-shoe or to a lever operating it.

On the staff 4, just above the bracket 5, is secured a toothed wheel 18, which is adapted to operate in conjunction with a pawl 19 of 65 usual construction to lock the brake in any position desired.

Suitably located with relation to the toothed wheel 18 is a foot-lever 20, one end of which is adapted to bear against the under side of said 70 wheel and the other end projecting out for engagement by the operator's foot, as shown most clearly in Figs. 3 and 4. When this lever 20 is depressed, the entire staff is raised and the clutch member 12 fixed thereon is 75 forced into engagement with its companion member 8, thus making a positive engagement and forcing the member 8 to turn with the staff 4 and wind on both ends of the chain at the same time. When the lever 20 80 is released, the staff and clutch member secured thereto drop by force of gravity and disengages the clutch, allowing the staff to wind on only one end of the chain.

The operation is as follows: The brake- 85 lever is grasped in one hand and turned toward the operator until he feels that the shoe is firm against the wheel. He then operates the foot-lever to raise the clutch member 12 into engagement with the opposite clutch 90 member 8 and then turns the brake-lever in the opposite direction, (or away from him.) This operation winds on the member 8 and unwinds on the staff. The member 8 being 95 larger in circumference than the staff 4, it is readily seen that the lower chain will wind faster than the upper chain will unwind, thus giving a very powerful leverage. To obtain quick action, the foot-lever is operated in the first instance and the brake-lever operated 100 to wind on both the staff 4 and the member 8 at the same time.



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

1. In a car-brake, the combination of a staff adapted to be raised, and means for raising same whereby a different leverage is obtained.
2. In a car-brake, the combination with a staff, a clutch member secured to said staff, of means for raising said staff, and means loosely journaled on said staff whereby a different leverage is obtained when said staff is raised.
3. In a car-brake, the combination with a staff having a clutch member secured thereto, of a similar clutch member loosely journaled to said staff above the first-mentioned clutch member, and means for bringing said clutch member into engagement by raising the staff.
4. In a car-brake, the combination with a staff having a clutch member secured thereto, of a similar clutch member loosely journaled on said staff, means connected to said staff for the brake, said means also connected to the last-named clutch member and adapted to assist in operating the brake.
5. In combination with a brake-staff, a clutch member secured thereon, and a similar clutch member loosely journaled on said staff above the first clutch member and having a collar adapted to cover the teeth of the first-mentioned clutch member.
6. In a car-brake, the combination with a brake-staff having a clutch secured thereto, of a chain adapted to be wound by said staff, another clutch loosely journaled on said staff, said chain adapted to be wound by both the staff and the clutch when braking the car.
7. In a car-brake, the combination with a brake-operating staff, of a clutch operated

thereby, an independent clutch, said clutches being adapted to engage each other, and a flexible connection to the brake, said flexible connection being wound by the independent clutch and by the action of the operating-staff.

8. In a car-brake, the combination with a brake-operating staff, of a clutch operated thereby, an independent clutch, said clutches adapted to engage each other, and a flexible connection to the brake, said flexible connection adapted to wind on the independent clutch and on the brake-staff.

9. In a car-brake, the combination with a brake-staff, of a clutch operated by said staff, and means for supporting said clutch on the staff, said means consisting of a bracket and an apertured bridge.

10. In a car-brake, the combination with a brake-staff, of a clutch operated thereby, an independent clutch, said clutches adapted to engage each other by raising the staff, and a flexible connection to the brake, said flexible connection adapted to wind on the staff or on the staff and independent clutch at the same time.

11. In a car-brake, the combination with a brake-operating staff, of a clutch operated thereby, an independent clutch, said clutches adapted to engage each other, a chain secured to the staff and to the independent clutch, a flexible connection to the brake, and a pulley connected between said flexible connection and chain.

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

JOSIAH B. GASTON.

Witnesses:

L. ENDERUD,  
JOHN M. LEE.