No. 672,758. Patented Apr. 23, 1901.

A. FLOWERS.

BRAKE APPLYING MECHANISM.

(Application filed Jan. 9, 1901.)

(No Model.)

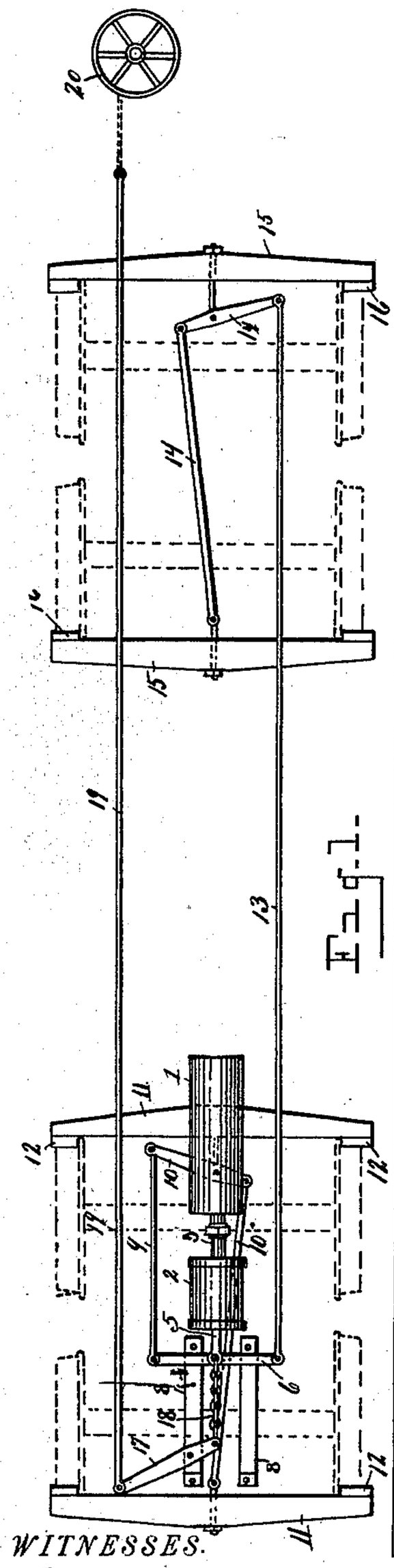

Fig. 1.

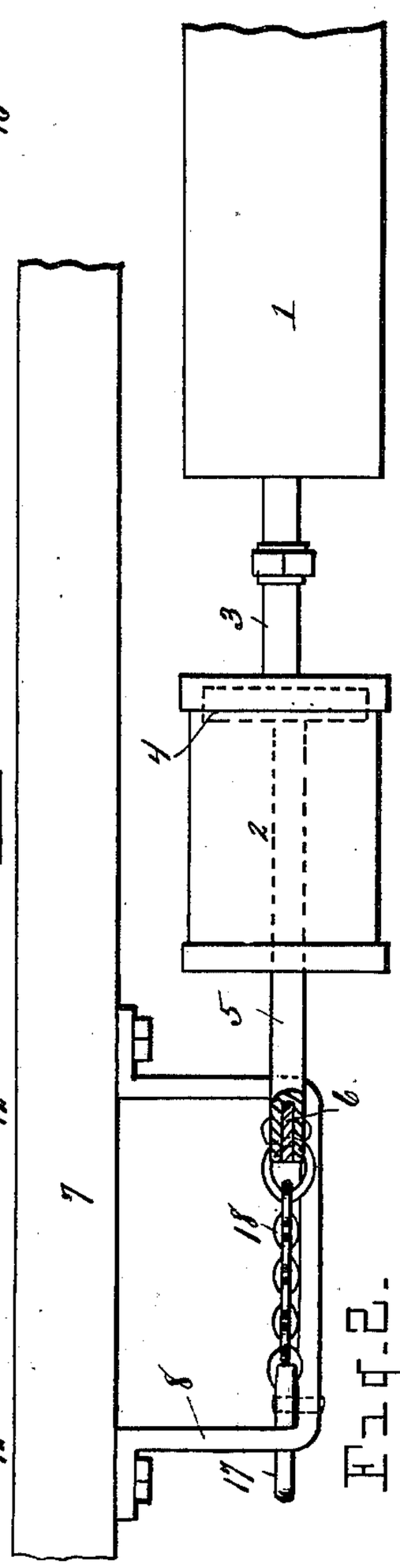

Fig. 2.

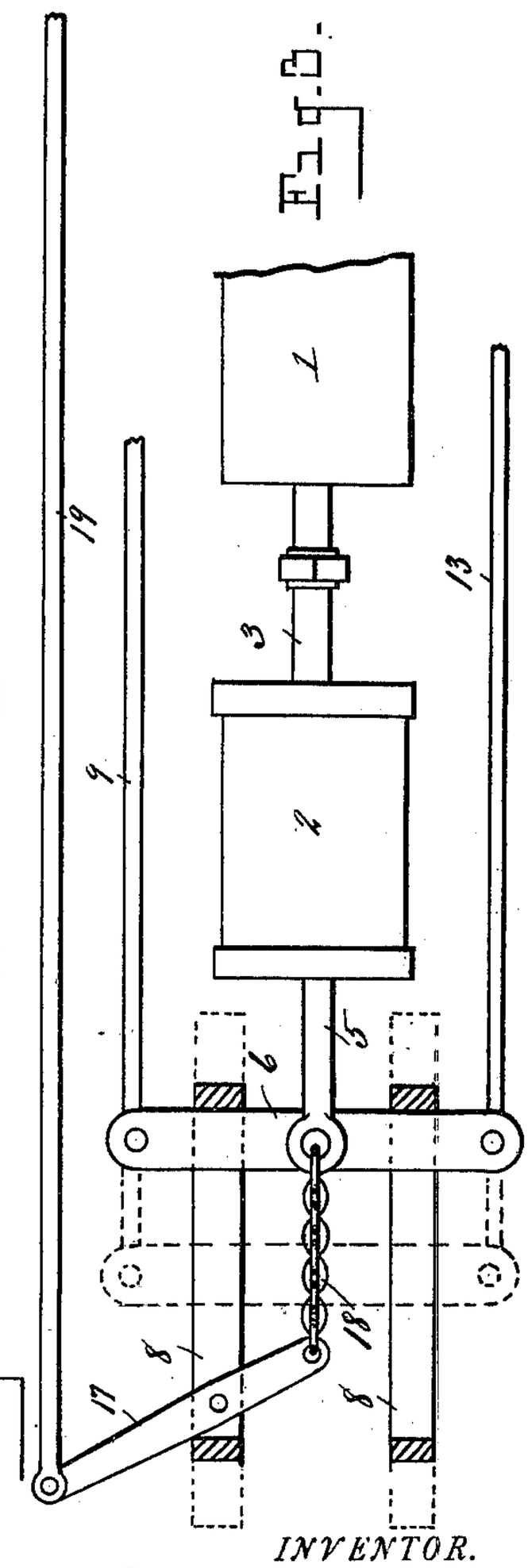

Fig. 3.

WITNESSES.

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ANDREW FLOWERS, OF WALKERVILLE, CANADA.

BRAKE-APPLYING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 672,758, dated April 23, 1901.

Application filed January 9, 1901. Serial No. 42,624. (No model.)

To all whom it may concern:

Be it known that I, ANDREW FLOWERS, a citizen of Canada, residing at Walkerville, in the county of Essex, Province of Ontario, Canada, have invented certain new and useful Improvements in Brake-Applying Mechanism; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to a brake-applying mechanism for air-brake systems; and it consists in the construction and arrangement of parts hereinafter fully set forth, and pointed out particularly in the claims.

The object of the invention is to provide simple and efficient means for applying the power exerted in the brake-cylinder to the brake-beams. The above object is attained by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a diagrammatical view of a system of air-brake levers, showing the application of my invention. Fig. 2 is an enlarged detail in side elevation of the auxiliary reservoir, brake-cylinder, and yoke supporting the cross-head of the piston-rod, the cross-head appearing in transverse section. Fig. 3 is an enlarged plan view of the brake mechanism connected with the piston-rod of the brake-cylinder.

Referring to the characters of reference, 1 designates the auxiliary reservoir supplied with air under pressure from the train-pipe or other suitable source (not shown) and connected with the brake-cylinder 2 through the pipe 3. Within the brake-cylinder is a suitable piston-head 4, attached to a piston-rod 5, which extends through the head of the cylinder and carries upon its outer end a cross-head 6. Bolted to the frame 7 of the car are parallel yokes or brackets 8, upon which said cross-head rests and which form a support for said cross-head and a guide or way upon which it may reciprocate. Attached to one end of said cross-head is a brake-rod 9, whose opposite end is attached to a system of brake-levers 10, connected with and adapted to actuate the brake-beams 11, carrying the brake-shoes 12. Attached to the opposite end of said cross-head is a brake-rod 13, which extends to a system of brake-levers 14, connected with the brake-beams 15 at the opposite end of the car and carrying the brake-shoes 16, whereby by a movement of said cross-head the brake-shoes at the opposite ends of the car are simultaneously applied.

In the operation of this device when air under pressure is admitted to the brake-cylinder by any suitable means the piston therein is acted upon to force the piston-rod outwardly and slide the cross-head upon the supporting-bracket 8, as shown by dotted lines in Fig. 3, which operation of the cross-head draws upon the brake-rods 9 and 13 and actuates the system of levers connected thereto to apply the brakes, affording a simple and direct application of the power exerted in the brake-cylinder.

To provide for operating the brakes by hand, a pivoted lever 17 is connected, by means of a chain 18, with the cross-head 6, the opposite end of said lever being pivoted to a rod 19, which extends to the hand-brake 20, whereby the brakes may be applied through the medium of the hand-brake should the air-pressure for any reason become inoperative.

It will be observed that the brake-beams are connected together by the levers, which are in turn connected to the brake-rods leading from the cross-head of the cylinder. The short lever attached directly to the brake-rod is pivoted to one of the brake-beams, and to its projecting end is pivoted one end of the long lever which leads to the opposite brake-beam, so that while the brake-beams hang freely they are drawn together to carry their brake-shoes against the periphery of the wheels by the action of the connected levers through the operation of the brake-rod.

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

1. In a system of brake-levers, the combination of a brake-cylinder, a piston-rod extending therefrom, a cross-head attached to said piston-rod, supporting-brackets carrying said cross-heads and upon which it is adapted to reciprocate, brake-rods attached to the opposite end of said cross-head and a system of

brake-levers attached to the ends of said brake-rods.

2. The combination of the brake-cylinder and its piston and piston-rod, of a cross-head attached at its center to the end of said piston-rod, the projecting ends of said cross-head having brake-rods attached thereto, a system of brake-levers attached to said brake-rods, parallel brackets supporting the opposite ends of the cross-head upon which said cross-head is adapted to slide, a pivoted lever connected by a chain, or a flexible cable, with said cross-head and a hand-brake connected with said lever.

In testimony whereof I sign this specification in the presence of two witnesses.

ANDREW FLOWERS.

Witnesses:

RUFUS PULFER,

CECIL H. ROBINSON.