

No. 641,228.

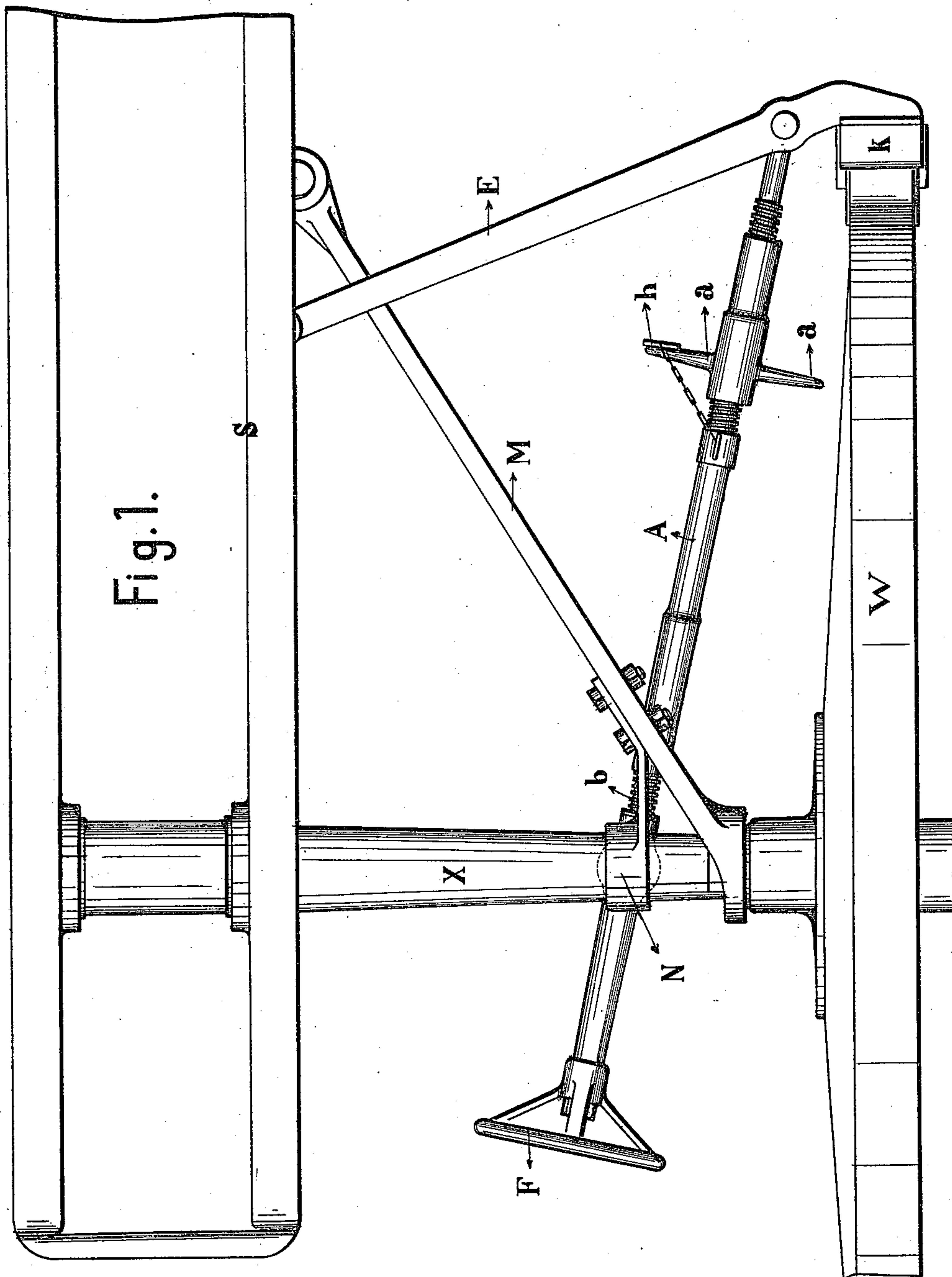
Patented Jan. 9, 1900.

A. RESOW.
WHEEL BRAKE FOR FIELD GUNS.

(Application filed Nov. 26, 1898.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses:
G. W. Eisenbraun,
H. J. Eisenbraun.

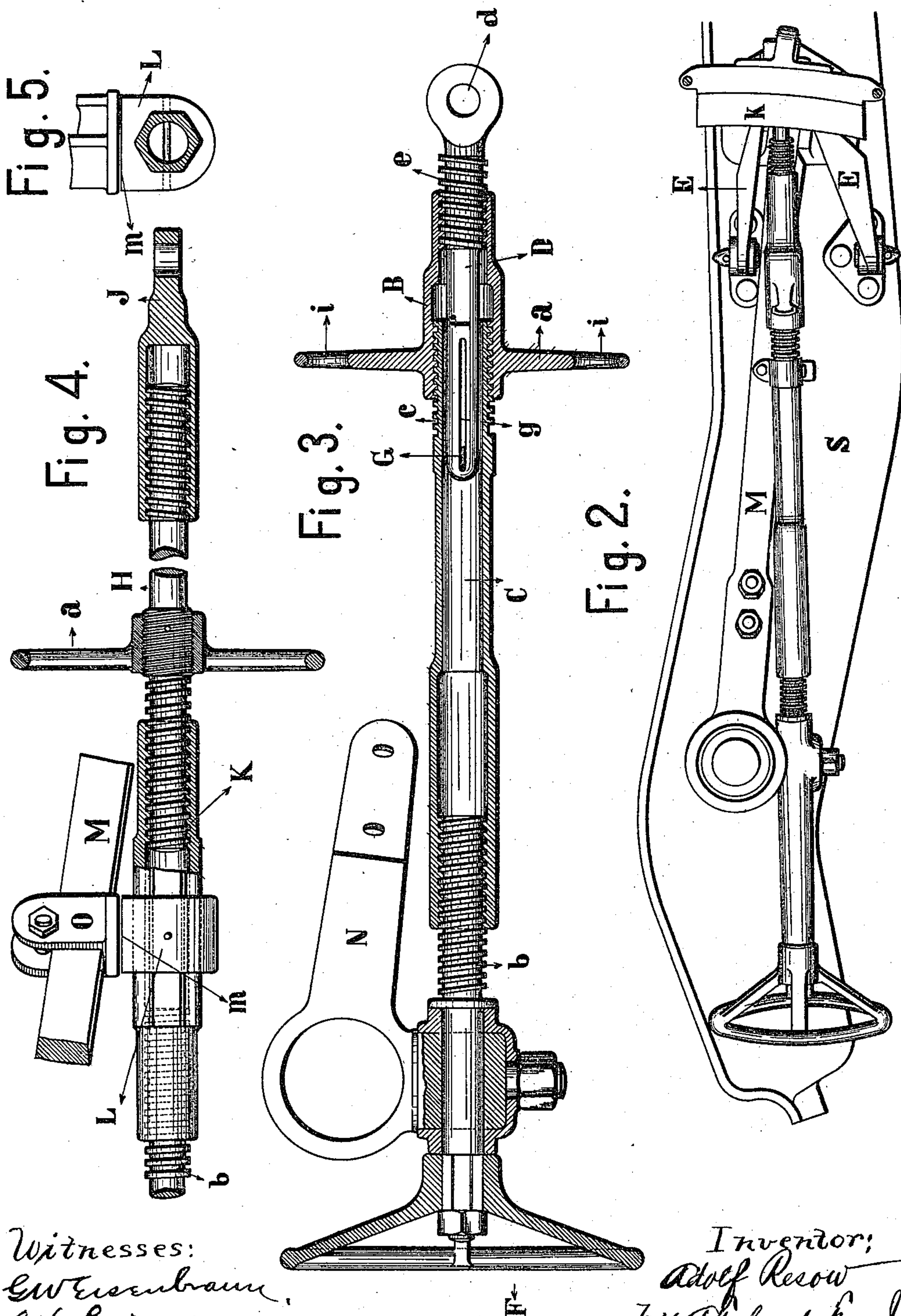
Inventor:
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A. J. Eisenbraun.

Inventor:
Adolf Resow
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UNITED STATES PATENT OFFICE.

ADOLF RESOW, OF ESSEN, GERMANY, ASSIGNOR TO FRIED. KRUPP, OF SAME PLACE.

WHEEL-BRAKE FOR FIELD-GUNS.

SPECIFICATION forming part of Letters Patent No. 641,228, dated January 9, 1900.

Application filed November 26, 1898. Serial No. 697,520. (No model.)

To all whom it may concern:

Be it known that I, ADOLF RESOW, engineer, a citizen of the German Empire, residing at Essen, Germany, have invented certain new and useful Improvements in Wheel-Brakes for Field-Guns, of which the following is a specification.

My invention has reference to improvements in wheel-brakes for field-guns, its object being to provide means for actuating the brake not only from the axle-seat or from near the muzzle end of the gun, but also from a place near the breech, and consequently more accessible as respect to position, which is especially desirable for rapid-fire guns.

The nature of my invention will best be understood when described in connection with the accompanying drawings, in which—

Figure 1 represents a plan view of the brake. Fig. 2 is a side elevation of the same. Fig. 3 is a horizontal section of the brake-rod, drawn on a larger scale than the preceding figures. Fig. 4 is a vertical section of a modification of the brake-rod. Fig. 5 is a detail view in section of a part of Fig. 4.

Similar letters of reference designate corresponding parts throughout the several views of the drawings.

Referring now to Figs. 1, 2, and 3 of the drawings, the letter S designates the carriage-stock, W one of the wheels, and X the axle. E E, Figs. 1 and 2, are brake-arms pivoted to the gun-stock and carrying the brake-shoe k. A is the brake-rod, formed of three principal members—to wit, the tube C, the sleeve B, and the screw-bolt D.

M is a brace extending from the axle to the gun-stock, and N a bracket secured to the brace M and forming a journal for a spindle b, the spindle being secured against longitudinal motion within the journal by a collar on one side and by the hub of the hand-wheel on the other side. The spindle b carries at its outer end a hand-wheel F and has at its rear end a right-hand thread engaging a corresponding internal thread on the forward end of the tube C.

The tube C at its rear end has an external right-hand thread engaging a corresponding internal thread in the sleeve B, which sleeve

at its rear end has an internal left-hand thread for the threaded part e of the bolt D.

The sleeve B is either provided with several handles a, or it may be formed as a hand-wheel, or a hand-wheel may be mounted on it. The sleeve B may be secured against accidental or inadvertent rotation by a bar h, suspended on a chain and passed through an arm of the handle a, Fig. 1, said arm being provided with a suitable eye i.

The bolt D has a shank f projecting through the sleeve into the tube C, the threaded part e engaging a corresponding internal thread in the sleeve B and an eye d for pivoting it to the brake-arms E E. The said shank f has a longitudinal slot g. An elongated pin G passes through this slot and through the tube C and prevents rotation of the bolt D on the tube, while admitting limited relative longitudinal motion.

While driving, the brake is actuated from the axle-seat by the hand-wheel F, in which case the tube C, sleeve B, and bolt D act like one solid rod, which by turning the hand-wheel in the direction of the motion of the hands of a clock is pulled out, so as to force the brake-shoe against the wheel, and when turned in the opposite direction releases the brake-shoe. When, however, the gun is unlimbered, the brake is actuated by turning the sleeve B. Since owing to the connection of the bolt D with the tube C by the key G and the slot g and the connection of the tube C with the threaded shank b the part C of the brake-rod A can neither be turned nor be longitudinally moved, rotation of the sleeve B causes the bolt D to be longitudinally moved, so as to cause the brake-shoe to be pressed against the wheel W or to be released therefrom, according to the direction in which the sleeve B is rotated.

In Figs. 4 and 5 I have shown a modification of the brake-rod, in which, in place of the sleeve B, a screw-spindle H is used, which is provided with right and left hand threads, the one engaging a socket in the part J, which part J is pivoted to the brake-arms, while the other thread engages a tube K. A screw-spindle b, carrying an actuating hand-wheel, engages a corresponding thread of the tube

K, the same as in the hand-wheel F of the spindle *b*, Figs. 1, 2, and 3. Part of the middle part of the tube K is hexagonal on the outside and is provided with a guide-piece L, the plane surface *m* of which bears against a corresponding surface of a rider O, fixed to the brace M, so that neither the guide-piece L nor the tube K can be rotated. The operation of this modification is substantially the same as that of the device described in connection with Figs. 1, 2, and 3.

It is evident that instead of having right and left hand threads either on the sleeve B of Figs. 1, 2, and 3 or on the spindle H of Fig. 4 said parts may have a screw connection at one end and a swivel connection at the other end, which connection for the present purposes is the mechanical equivalent of the connection by right and left hand screw-threads. It is also evident that the two brake-arms E E may be formed in one piece.

What I claim as new is—

1. A wheel-brake for field-guns embodying the combination of a brake-arm pivoted to the carriage and carrying a brake-shoe, a brake-rod pivoted to the brake-arm and consisting of an outer part, a middle part, and an inner part, the outer and inner parts being connected by a hand-wheel with right and left hand screw-threads, engaging corresponding threads of the inner and outer part, which parts are secured against rotation, so that by turning the hand-wheel, the aggregate length of the three parts is altered; and a second hand-wheel mounted on a screw-shank secured against longitudinal motion, the thread of the shank engaging a corresponding thread of the outer part of the brake-rod, the second hand-wheel actuating the brake when rotated, and securing the outer end of the brake-rod against longitudinal motion, when the hand-wheel forming the middle part of the brake-rod is rotated, substantially as and for the purpose specified.

2. In a wheel-brake for field-guns, a brake-arm E pivoted to the carriage and carrying a

brake-shoe *k*; a brake-rod consisting of an inner, an outer, and a middle part, the inner threaded part pivoted at one end to the brake-arm E; the outer part secured against rotation and threaded at both ends; the middle part consisting of a hand-wheel with extensions, one with right-hand thread, the other with left-hand thread, one of the threaded ends engaging the threaded part of the inner part of the brake-rod, and the other engaging the corresponding thread of the outer part of the brake-rod, so that by rotating this hand-wheel, the brake is actuated; and a hand-wheel F with a screw-shank *b* held against longitudinal motion in a fixed journal, the screw-shank engaging the outer part of the brake-rod, so that by rotating the hand-wheel F, the three parts of the brake-rod are moved bodily to actuate the brake, substantially as and for the purpose specified.

3. In a wheel-brake for field-guns, the combination of a brake-arm E pivoted to the carriage and carrying a brake-shoe *k*; a brake-rod consisting of an inner part D pivoted at one end to the brake-arm E and threaded at the other end; an outer part C secured against rotation by the slotted shank F of the part D and by the pin G passing through the slot; a middle rotatable sleeve B with extensions having right and left hand threads engaging corresponding threads of the parts C and D of the brake-rod; a screw-shank *b* with a hand-wheel F at its outer end, the screw-thread of the shank engaging a corresponding thread of the part C of the brake-rod, and a fixed bearing holding the shank *b* and hand-wheel F against longitudinal motion, substantially as and for the purpose specified.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

ADOLF RESOW.

Witnesses:

WILLIAM ESSENWEIN,
GEO. P. PETTIT.