

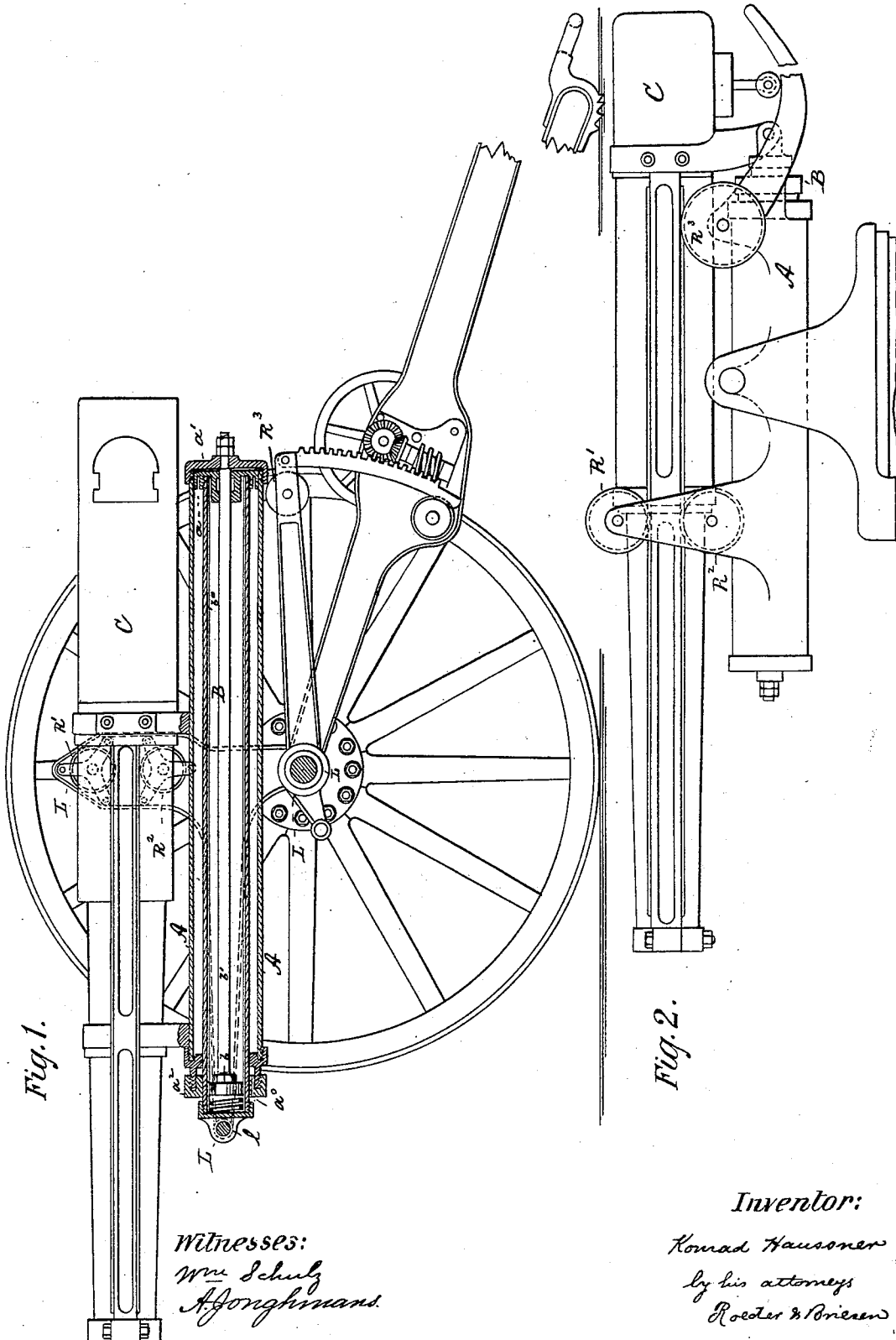
(No Model.)

2 Sheets—Sheet 1.

K. HAUSSNER.
GUN CARRIAGE.

No. 513,263.

Patented Jan. 23, 1894.



Witnesses:
Wm Schulz
A. Jonghman.

Inventor:
Konrad Hausener
by his attorneys
Roeder & Briesen

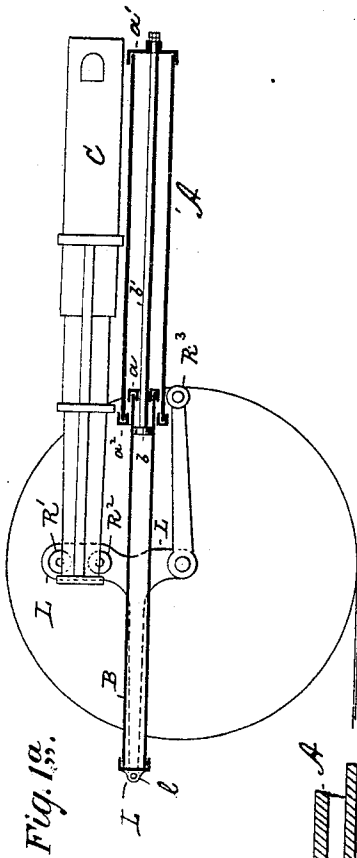
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Fig. 1b.

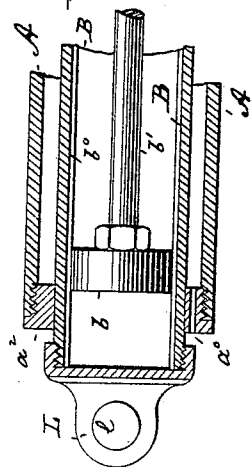


Fig. 1c.

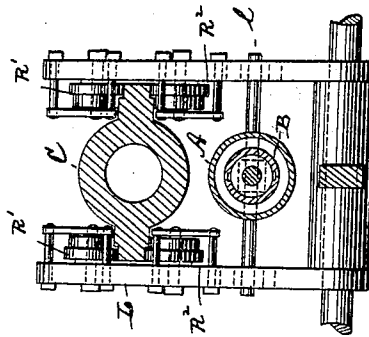


Fig. 1d.

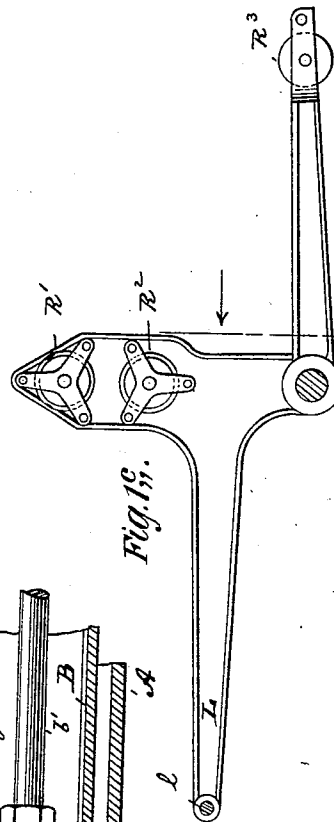
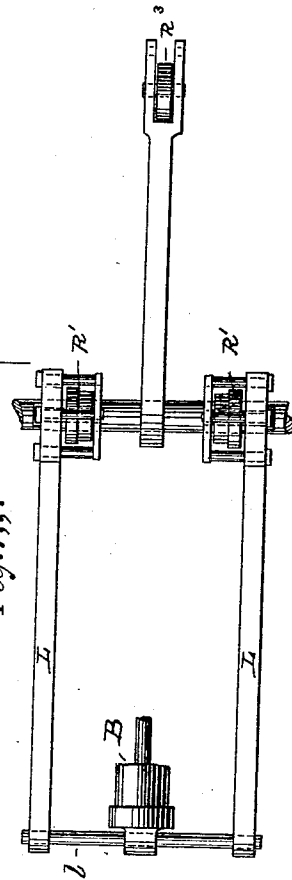


Fig. 1e.



Inventor:

Konrad Haussner
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UNITED STATES PATENT OFFICE.

KONRAD HAUSSNER, OF INGOLSTADT, GERMANY.

GUN-CARRIAGE.

SPECIFICATION forming part of Letters Patent No. 513,263, dated January 23, 1894.

Application filed September 22, 1891. Serial No. 406,526. (No model.)

To all whom it may concern:

Be it known that I, KONRAD HAUSSNER, of Ingolstadt, Bavaria, Germany, have invented certain new and useful Improvements in Gun-Carriages, of which the following is a specification.

This invention relates to a gun carriage and more particularly to a brake mechanism connected therewith to check recoil and to automatically bring the barrel back into its normal position.

It consists in the various features of improvement more fully pointed out in the claim.

In the accompanying drawings: Figure 1 is a vertical longitudinal section of my improved gun carriage, showing it in its normal position. Fig. 1^a, is a similar section, showing the position of the parts after firing. Fig. 1^b, is a detail section through the end of cylinder B; Fig. 1^c, a vertical section of Fig. 1^a; Fig. 1^d, a cross section through Fig. 1^c; Fig. 1^e, a plan of Fig. 1^c; Fig. 2 an elevation of a modification of my invention.

The letters A, B, represent two telescoping cylinders of which the larger or air cylinder A, is connected with the gun barrel C, while the smaller or brake cylinder B, is connected to the swiveled upper part of the gun carriage L, at *l*, (Fig. 1^c.) The piston *b*, of the smaller cylinder B, has a piston rod *b'*, that is rigidly connected to the cap *a'*, of cylinder A. The piston *a*, of cylinder A, is fast on cylinder B. At the discharge of the gun, the smaller cylinder B, together with piston *a*, will therefore remain immovable while the barrel C, together with cylinder A, and piston *b*, will be forced backward.

R', *R*², *R*³, are friction rollers turning in bearings on carriage L. and guiding the barrel C, and cylinder A, (Fig. 1^d) during its backward motion. These rollers serve to decrease friction of the parts and dispense with an undue lengthening of the gun carriage.

The cylinder B, is a glycerine cylinder and at the rearward motion of the barrel C, and piston *b*, the glycerine is pressed inward

through small openings between the piston and the cylinder wall or through grooves *b''*, in the cylinder (Fig. 1^b). The forward head *a*², of cylinder A, serves as a guide for such cylinder and prevents the entrance of dust. A vent *a'*, in head *a*², serves to permit a free circulation of air in front of piston *a*, so that neither an air compression nor rarefaction can take place at this end of the cylinder A.

The operation of the device is as follows: At the firing of the gun, the recoil of barrel C, is taken up by the telescoping cylinders A, B. The smaller fixed cylinder B, together with its rearwardly moving piston *b*, and the rearwardly moving larger cylinder A, together with its fixed piston *a*, produce a rarefied air space in cylinder A, that acts as the brake. After the barrel has spent its live force, the atmospheric pressure acting upon the now rarefied cylinder A, will force the same and consequently the barrel C, back into its normal position.

In Fig. 2, the position of the parts is reversed. In this modification, the smaller cylinder B, is connected to the barrel C, while the larger cylinder A, constitutes part of the gun carriage and carries the friction rollers *R'*, *R*², *R*³. This modification operates manifestly in a manner similar to that shown in Fig. 1.

What I claim is—

The combination of a gun carriage with a pair of telescoping cylinders connected respectively to the gun barrel and to the gun carriage, a pair of pistons within said cylinders and with friction rollers on the gun carriage that guide the gun barrel and the movable cylinder, substantially as specified.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

KONRAD HAUSSNER.

Witnesses:

ALBERT WEICKMANN,
H. NICKEL.