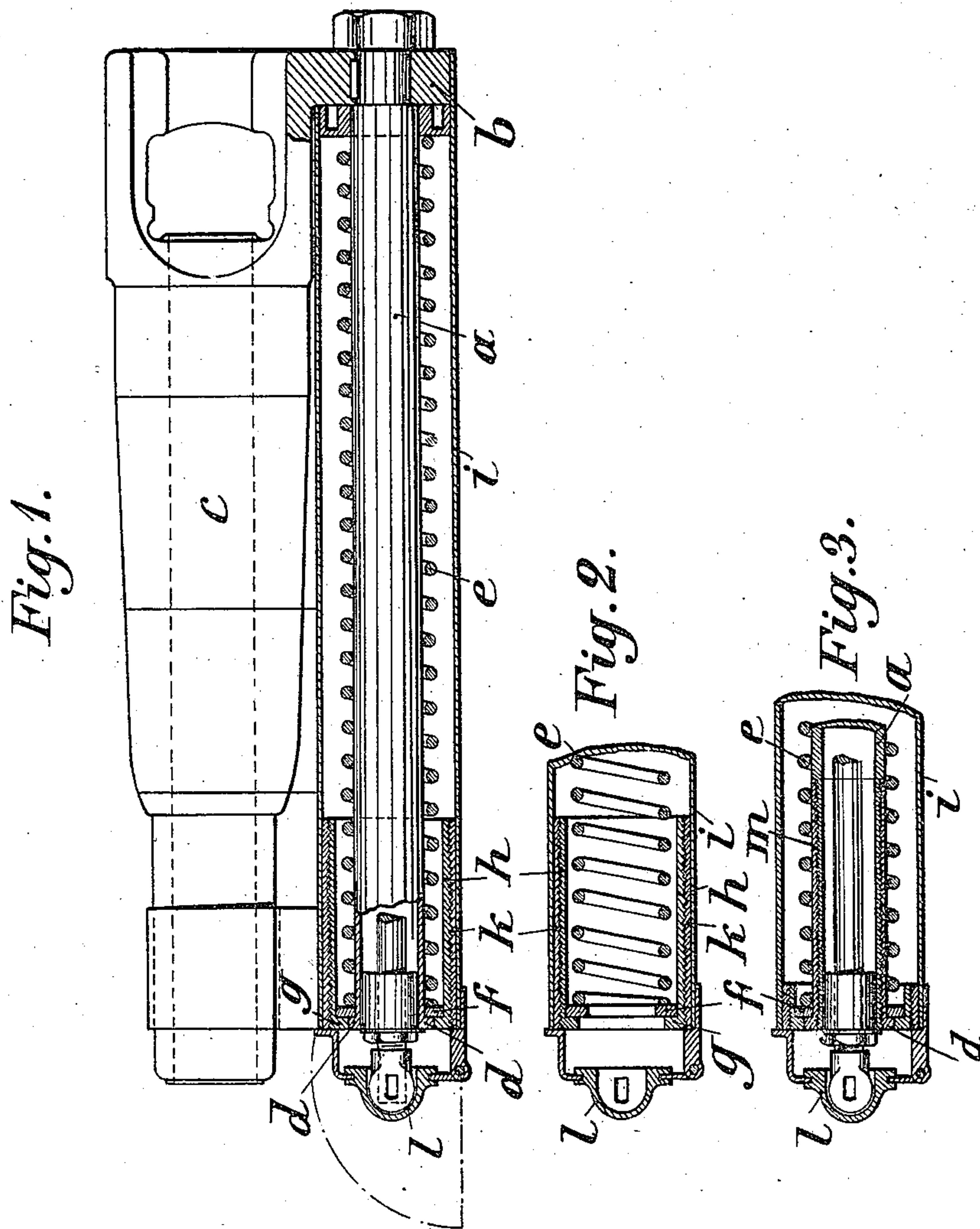


No. 855,366.

PATENTED MAY 28, 1907.

K. VÖLLER.  
GUN WITH RECOILING BARREL.  
APPLICATION FILED JUNE 22, 1906.



WITNESSES

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# UNITED STATES PATENT OFFICE.

KARL VÖLLER, OF DÜSSELDORF, GERMANY, ASSIGNOR TO RHEINISCHE METALLWAREN- UND MASCHINENFABRIK, OF DÜSSELDORF-DERENDORF, GERMANY.

## GUN WITH RECOILING BARREL.

No. 855,366.

Specification of Letters Patent.

Patented May 28, 1907.

Application filed June 22, 1906. Serial No. 322,902.

*To all whom it may concern:*

Be it known that I, KARL VÖLLER, engineer, a subject of the German Emperor, residing at Düsseldorf, 47 Jülicherstrasse, Germany, have invented certain new and useful Improvements in Guns with Recoiling Barrels; and I do hereby 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.

My invention relates to improvements in guns with recoiling barrel and has for its object to construct the gun so as to be able to remove the brake cylinder out of the cradle, while the forward motion spring may remain within the cradle in the necessary initial tension. For this purpose a disk is inserted between a flange of the brake cylinder and the end of the forward motion spring abutting against said flange, which disk after the removing of the brake cylinder abuts against a flange of the cradle and secures thereby the forward motion spring in the cradle. The flange of the cradle may be constructed so as to serve as a tension screw for the forward motion spring. Instead of this however the flange of the brake cylinder may serve for the said purpose in the manner heretofore known.

My invention is adapted essentially for guns which must be transported in single parts and wherein it is desirable or prescribed to have the weight of the parts within certain limits. In the known guns with recoiling barrel it is necessary for removing the brake cylinder to loosen a tension nut and then to remove the spring from the cradle. If the whole is then remounted the spring must be brought again under tension. All this requires much time and labor.

In the accompanying drawings Figure 1 is a sectional side elevation of a gun constructed according to my present invention. Fig. 2 is a longitudinal section through the fore end of the cradle, the brake cylinder being removed. Fig. 3 is a similar section showing a modification with the brake cylinder in its place.

In the construction shown by Fig. 1 and 2 the brake cylinder *a* is fastened in a well-known manner to the horn *b* of the barrel *c*. At its fore end the brake cylinder *a* is pro-

vided with a flange *d*, against which the forward motion spring *e* abuts by means of a loosely inserted disk *f*. The latter is supported at the same time against a flange *g* of a sleeve *h* provided with a screw thread on its outer surface and screwed into a female sleeve *k* fastened in the cradle *i*.

It will be seen, that during the recoil of the gun barrel and of the brake cylinder the spring *e* is compressed by the flange *d* and the disk *f*, when the spring by pressing on the disk brings the brake cylinder and the gun barrel back to their initial position.

If it is required to remove the brake cylinder the fore cover *l* of the cradle is opened and the brake cylinder disconnected from the horn *b* in a well known manner. Then the brake cylinder is withdrawn from the fore end, when the spring *e* being under an initial tension presses the disk *f* against the flange *g* thereby being held securely within the cradle. The sleeve *h* is a screw for bringing the spring under a desired tension, this tension being maintained also if the brake cylinder is removed.

In the modification shown by Fig. 3 the flange *d* is not provided directly on the brake cylinder but on a sleeve *m* serving as a tension screw for the spring *e* and screwed on to the brake cylinder.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare, that what I claim is:

1. In a recoil brake for guns, a detachable recoil cylinder, a stop carried by the cylinder, a loose disk bearing upon the stop, a forward motion spring bearing upon the disk to return the parts after recoil, and a stop carried by the cradle in the path of the disk and independent of the cylinder to limit the relaxation of the spring.

2. In a recoil brake for guns, a cradle, a detachable recoil cylinder within the cradle, a stop carried by the cylinder, a loose disk bearing upon the stop, a forward motion spring bearing upon the disk, and a stop carried by the cradle to limit the relaxation of the spring, the two stops lying in substantially the same plane transversely of the cylinder.

3. In a recoil brake for guns, a recoil member moving with the gun, a forward motion



spring bearing with one end on a fixed abutment and with the other end on the recoil member, and means interposed in the path of the relaxing spring to limit the movement of the same when the recoil member is withdrawn.

4. In a recoil brake for guns, a cradle, a forward motion spring within the cradle bearing with one end against a fixed support, a detachable recoil member movable within the cradle and surrounded by the spring, a stop carried by the recoil member and serving as an abutment for the other end of the spring during recoil, a loose disk between the recoil member stop and spring, and an adjustable stop on the cradle in the path of the relaxing spring to engage the disk when the recoil member is withdrawn.

5. In a gun with recoiling barrel the combination with a cradle of a brake cylinder, a forward motion spring, a flange on the brake cylinder, a loose disk between this flange and

the forward motion spring and a flange connected with the cradle and serving as a support for the said loose disk if the brake cylinder is removed, substantially as described and for the purpose set forth.

6. In a gun with recoiling barrel the combination with a cradle of a brake cylinder, a forward motion spring, a flange on the brake cylinder, a loose disk between this flange and the forward motion spring, a sleeve screwed into the cradle and a flange connected with this sleeve and serving as a support for the said loose disk if the brake cylinder is removed, substantially as described and for the purpose set forth.

In testimony whereof I have affixed my signature to this specification, in the presence of two witnesses.

KARL VÖLLER.

Witnesses:

WILLIAM ESSENWEIN,  
ALFRED POHLMAYER.