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O. BEHNKE & J. FRIESE.

GUN CARRIAGE.

APPLICATION FILED AUG. 7, 1902.

NO MODEL.

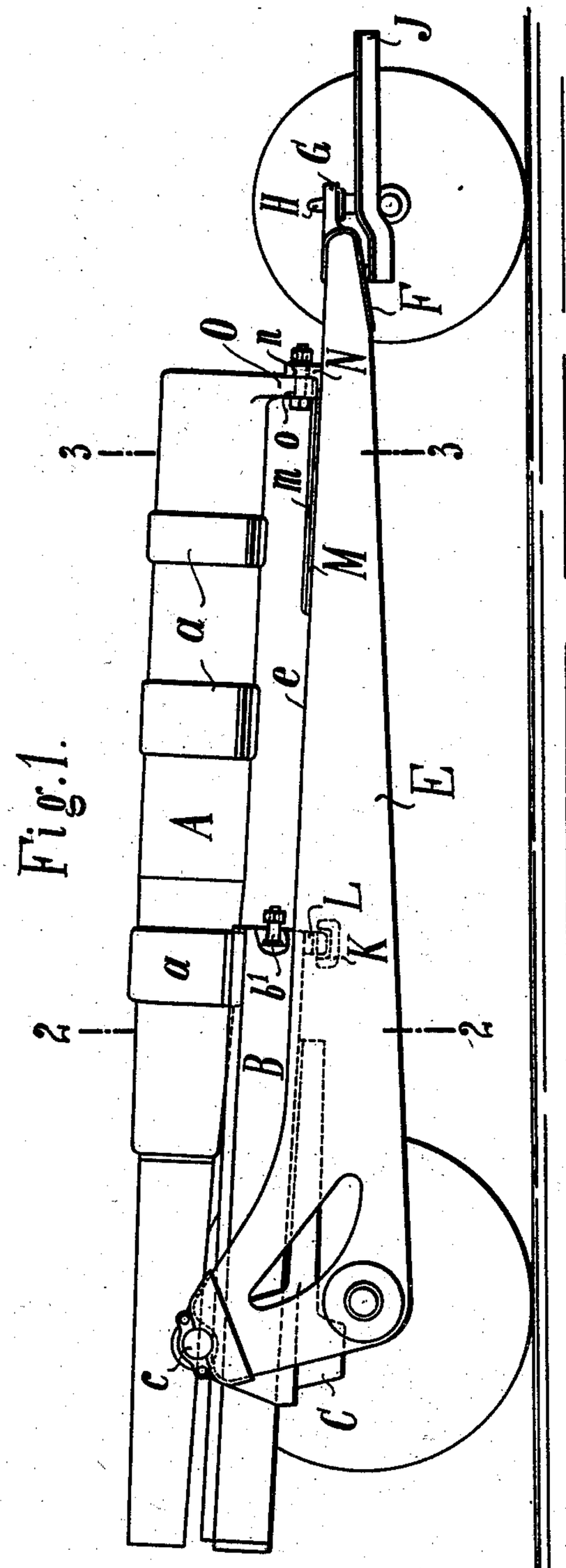

Fig. 1.

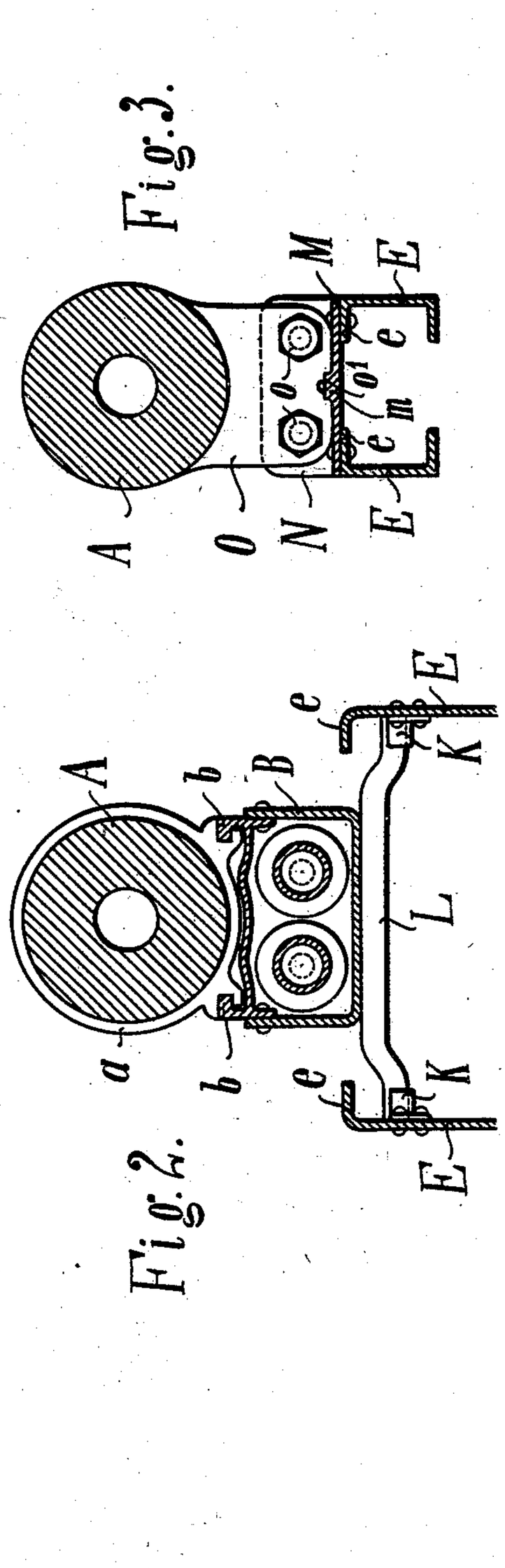

Fig. 3.

Fig. 2.

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GUN-CARRIAGE.

SPECIFICATION forming part of Letters Patent No. 719,724, dated February 3, 1903.

Application filed August 7, 1902. Serial No. 118,745. (No model.)

To all whom it may concern:

Be it known that we, OTTO BEHNKE, residing at 36 Bismarckstrasse, and JOSEF FRIESE, residing at 20 Postallee, Essen-on-the-Ruhr, Germany, subjects of the Emperor of Germany, have invented a certain new and useful Improvement in Gun-Carriages, of which the following is a specification.

This invention relates to gun-carriages for portable large-caliber recoil-guns.

Various modes have heretofore been adopted for transporting the barrels of portable guns of very large calibers. Several of these methods may be briefly recited.

First. The gun-barrels were mounted through means of hoisting mechanism upon special auxiliary transport-carriages.

Second. The gun-barrels remained during transportation in the trunnion-bearings of the carriage, in which case special means, such as endless rails, had to be provided for reducing the specific pressure between the carriage-wheels and the ground.

Third. Gun-barrels were in limbered-up guns raised out of the trunnion-bearings and rested in special marching-bearings of the carriage, in which last-named case specially-erected elevating means, corresponding to the great weight of such gun-barrels, had to be carried along. The carrying out of this plan, with heavy-caliber recoil-guns naturally becomes a correspondingly greater undertaking, because the cradle has to be removed from the trunnion-bearings with the gun-barrel and set into the marching-bearings.

The present invention aims to entirely dispense with special transporting accessories (transportation-carriages, endless rails, and elevating mechanism of large capacity) in transportation of heavy-caliber recoil-guns and to distribute the weight of the barrel as uniformly as possible over the wheels of the carriage and of the limber. The present invention accomplishes this purpose by having the gun-barrel when the gun is limbered up uncoupled from the recoil-brake, and the recuperator drawn rearwardly on its slide-track beyond the extreme limit of recoil and connected with the carriage-trail in its retracted position.

The apparatus required for carrying out the present invention is shown in the accompanying drawings in use upon a recoil siege-gun, by way of example, in which drawings—

Figure 1 shows the gun in transport position in side elevation. Fig. 2 is a section on the line 2 2 of Fig. 1 seen from the left, and Fig. 3 is a section on the line 3 3 of Fig. 1 also seen from the left.

The gun-barrel A is guided in a slide-track *b* of the cradle B through the medium of rings *a*, which cradle contains a recoil-brake and a recuperator device. The cradle B is mounted through the medium of a vertical trunnion, (not shown in the drawings,) which is pivotally fitted in a trunnion-bearing of the saddle C. The fork of the saddle C carries two horizontal trunnions *c*, which rest in the trunnion-bearings D of the carriage-cheeks E. A trail-plate F, connecting the carriage-cheeks E, carries a limber-eye G, which in the limbered-up position of the gun engages over a limber-pin H of the limber J. Below the end of the cradle B and upon the inner faces of the carriage-cheeks E are formed two bearings K, designed for the reception of the transverse rail L. Upon the flanges *e* of the carriage-cheeks E and upon that portion of the carriage-trail which lies adjacent to the trail-plate F is bolted an angle-plate M N, whose flange N, projecting perpendicularly to the carriage-trail, is provided with two bores *n*. Upon the upper face of the plate M, resting upon the carriage-trail, is a rib *m*, extending parallel to the axis of the bore of the gun. In the firing position the carriage-trail F rests upon the ground and the several guiding-rings *a* are in engagement with the slide-track *b* of the cradle B. The ends of the part *b'* of the recoil-brake, which runs back with the gun-barrel, (brake-cylinders or piston-rods,) project through corresponding bores of a horn O of the breech-piece of the gun and are coupled therewith.

If the gun is to be transported, it is first limbered up by engaging the limber-eye G over the limber-pin H of the limber J. The transverse rail L is then placed in its bearings K in the manner illustrated in Fig. 2, and the cradle is turned downward by the elevating mechanism (not shown in the draw-

ings) to a sufficient extent to cause its rear end to rest upon the transverse rail L and the elevating mechanism to be released. Then the coupling between the horn O of the gun-breech and the recoiling parts b' of the recoil-brake is released. The gun-barrel is now retracted in the slide-track b on the cradle through the medium of a suitable block and tackle or the like to such a distance that only the foremost ring a remains in engagement with the slide-track. Finally the gun-barrel is connected with the flange N of the angle-plate M N by means of two bolts passed through the bores o and n in the horn O and angle-plate M N, respectively, and nuts upon said bolts.

The plate M of the angle-plate is of such a length that the horn O of the gun-breech will rest upon the same before the middle ring a of the gun-barrel leaves the slide-track in drawing the gun-barrel rearwardly. This arrangement serves the purpose of preventing tipping of the gun-barrel, which would be disadvantageous to the slide-track. The horn O of the gun-breech carries upon its under rear end a recess o', corresponding to the section of the rib m of angle-plate M, which recess engages over said rib m when the gun-barrel is retracted into its transport position. In this manner the gun-barrel is directed in a straight line with the slide-track, notwithstanding it has but one guiding-ring a remaining in engagement with said slide-track.

Having thus described the invention, the following is what is claimed as new therein:

1. A portable, large-caliber, recoil-gun, having detachable connection with the parts controlling its recoil, adapted to be retracted upon its mount, without dismounting its trunnions, and having means for securing it in its retracted position.

2. A portable, large-caliber, recoil-gun, mounted through the medium of a slide-track having detachable connection with the parts controlling its recoil, retractable upon its slide-track rearwardly into a position to distribute the load over the wheels of the carriage, and of the limber, and means for securing it in its retracted position.

3. A portable, large-caliber, recoil-gun, mounted upon its carriage through the medium of a slide-track, and having detachable means for connecting it with its recoil mechanism, a bearing for the breech end of said gun on the trail of the mount, said gun being retractable and having means for securing it upon said bearing.

4. A portable, large-caliber, recoil-gun, mounted upon its carriage through the medium of a slide-track, and having detachable means for connecting it with its recoil mechanism, a bearing, consisting of an angle-plate with an upwardly-projecting flange, for the breech end of said gun on the trail of the mount, said gun being retractable and having means for securing it upon said vertical flange of said bearing.

5. In a portable, heavy-caliber, recoil-gun, the combination of a suitable gun provided with a cradle containing a recoil-brake and a recuperator device, together with a slide-track; a gun-barrel mounted through the medium of rings on said slide-track, and having detachable connection with the recoil-brake and recuperator device; an angle-plate on the trail of the gun-mount having a longitudinal rib, and a vertical perforated flange; said gun being retractable upon its slide-track, formed with a recess on its under rear end engaging in the longitudinal rib on the angle-plate, and having means for detachably connecting it to the vertical flange of said angle-plate, substantially as set forth.

The forgoing specification signed at Dusseldorf, Germany, this 24th day of July, 1902.

OTTO BEHNKE.
JOSEF FRIESE.

In presence of—
WILLIAM ESSENWEIN,
PETER LIEBER.