A. KÄSTNER & F. STOCK.

AMMUNITION HOISTING DEVICE.

APPLICATION FILED OCT. 12, 1911.

1,166,836.

Patented Jan. 4, 1916.

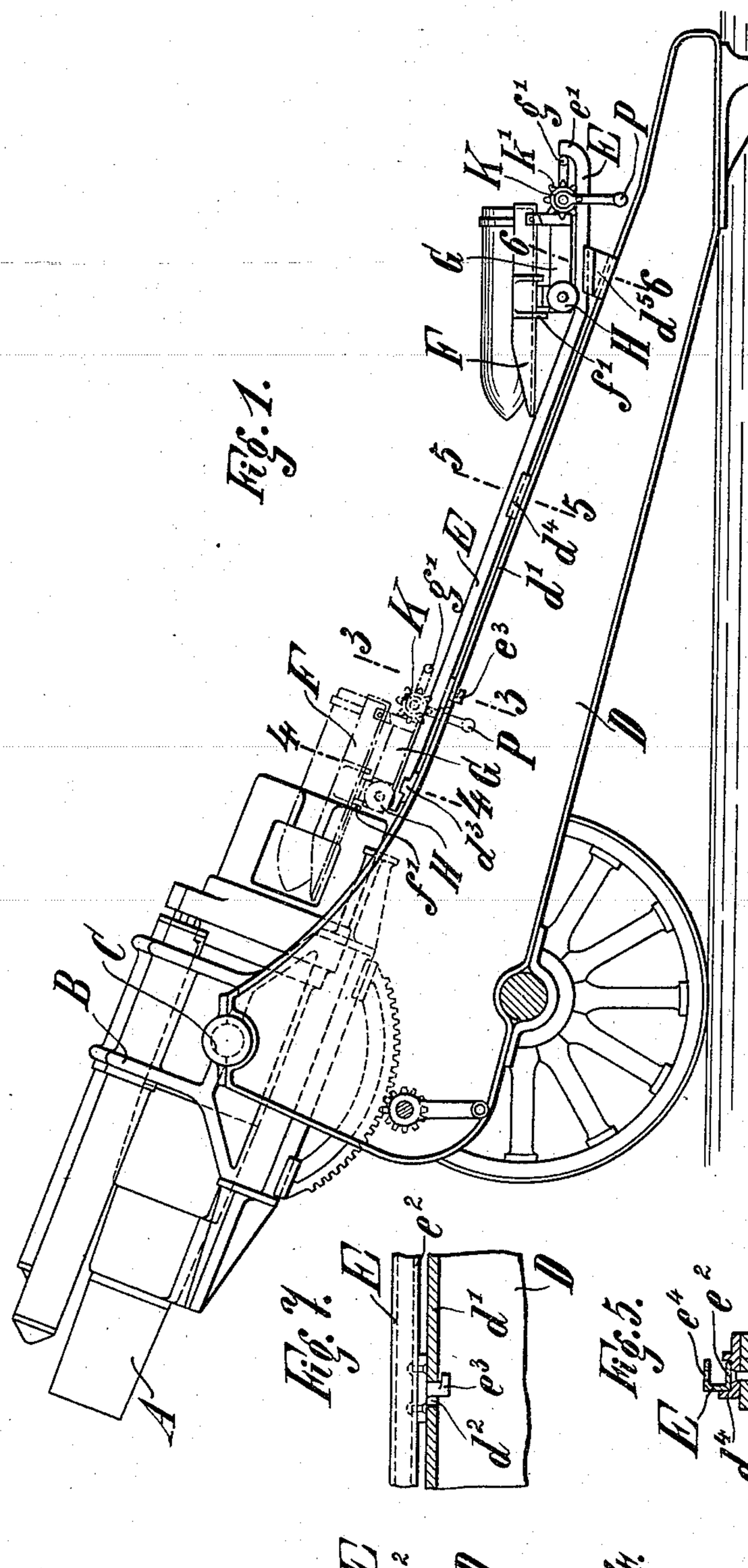

Fig. 1.

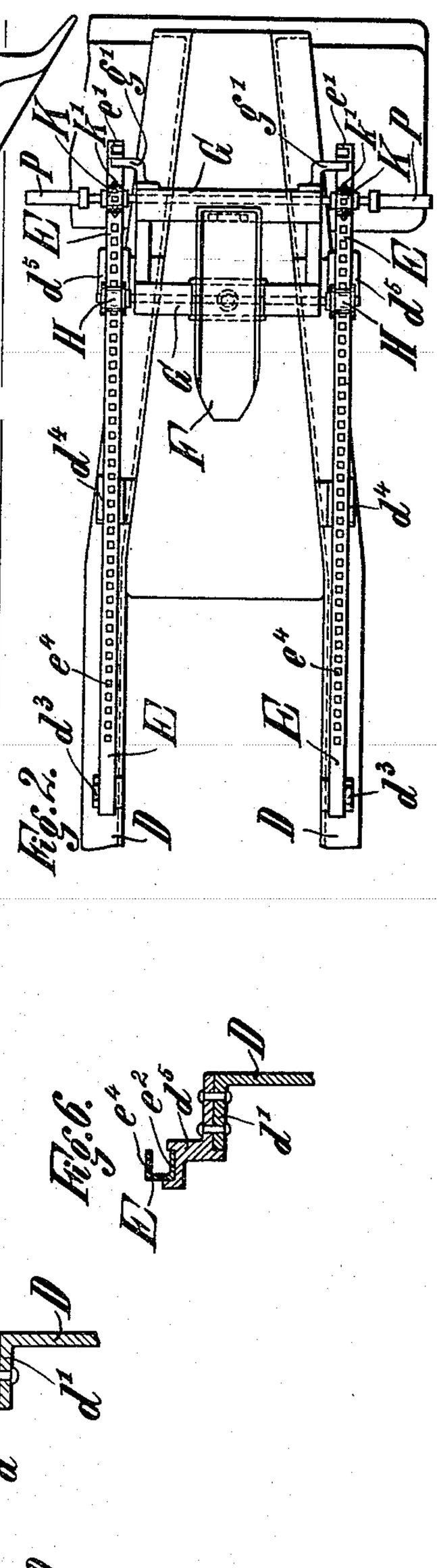

Fig. 2.

Fig. 7.

Fig. 5.

Fig. 6.

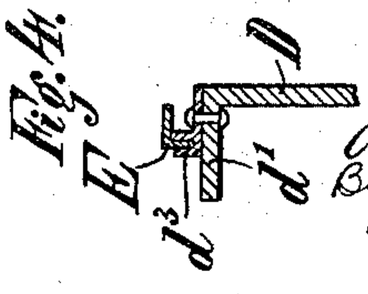

Fig. 3.

Fig. 4.

Witnesses
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UNITED STATES PATENT OFFICE.

ALFRED KÄSTNER AND FRIEDRICH STOCK, OF ESSEN-ON-THE-RUHR, GERMANY, ASSIGNORS TO FRIED. KRUPP AKTIENGESELLSCHAFT, OF ESSEN-ON-THE-RUHR, GERMANY.

AMMUNITION-HOISTING DEVICE.

1,166,836. Specification of Letters Patent. **Patented Jan. 4, 1916.**

Application filed October 12, 1911. Serial No. 654,341.

To all whom it may concern:

Be it known that we, ALFRED KÄSTNER and FRIEDRICH STOCK, residing at Essen-on-the-Ruhr, Germany, both subjects of the Emperor of Germany, have invented a certain new and useful Improvement in Ammunition-Hoisting Devices, of which the following is a specification.

The present invention relates to ammunition hoisting device for mobile artillery.

One embodiment of this invention is illustrated in the drawings representing a gun carriage, the gun barrel of which may be transferred to a gun barrel wagon which is supported by the gun carriage during the transferring operation.

Figure 1 shows a side view of the ammunition hoisting device together with the parts in question of the carriage; Fig. 2 a top view of Fig. 1; Figs. 3, 4, 5 and 6 are sections in larger scale of Fig. 1 on lines 3—3, 4—4, 5—5 and 6—6 respectively, seen from the right; and Fig. 7 a section on line 7—7 of Fig. 3 seen from the left, also in larger scale.

The gun barrel A is mounted to slide on the cradle B which, by means of two trunnions C, is swingingly mounted on the body of the carriage consisting of two side walls D, see Fig. 1. A loading-tray F seated on a wagon G serves to hoist the ammunition. The track for the wagon is formed by a pair of rails E having a ⊏-shaped cross-section for almost their whole length and being supported by the side walls D of the body of the carriage in such a manner, that the walls serve as length sleepers for the rails E. The lower end of the rails runs horizontally for a short distance and is bent upward at its extremity to form a stop e^1 for the projection g^1 of the wagon G, when the latter is at its lowest position on the rails.

The following means have been provided for securing the rails E on the walls D of the carriage: On the lower side flange e^2 of each of the ⊏-shaped rails, a hook e^3 is provided, Figs. 1, 3 and 7, that fits into a slit d^2, see Figs. 3 and 7, in the upper flange d^1 of the walls D, and grips with its hooked end under the flange d^1. Each of the rails E rests, furthermore, in three bearings d^3, d^4 and d^5, Figs. 1, 2, 4, 5 and 6, provided for them on top of the walls D. The upper ends of the rails rest in the bearings d^3, see Fig. 4, with their middle wall, having their under flanges e^2 cut away for the purpose; while the rails E rest in the bearings d^4 and d^5 with the flanges e^2. The rails are thus easily detachable from the walls D of the carriage.

The wagon G has two rollers H and two pinions K which may be rotated by cranks P. The teeth k^1 of the pinions K engage with square holes e^4, arranged in the rails E, Figs. 2, 5 and 6. A projection f^1 formed on the loading tray F acts as a stop against the breech end of the gun barrel, when the wagon G has arrived in its uppermost position on the rails E. The described parts are, furthermore, so arranged, that the loading tray lies in the loading line of the gun barrel when the wagon G is in its uppermost position.

How the ammunition is hoisted to the gun barrel by means of this device needs no further explanation after the description just given.

When it is desired to transfer the gun barrel to the gun barrel wagon for transportation, the wagon G, together with the loading tray have first to be removed from the rails E. Thereupon the rails E are pushed so far muzzleward, that the hooks e^3 are released from the flanges d^1 of the walls D, and the rails may be lifted out of the bearings d^3, d^4 and d^5. The gun barrel wagon may now be run back over the body of the carriage and the supporting connection of the two vehicles may be performed in the usual manner. How to place the hoisting device on the body of the carriage should now be self evident.

We claim:

1. An ammunition hoisting device for mobile artillery, comprising a loading tray; a wagon for said loading tray; driving pinions and cranks on said wagon, a track for said wagon mounted on the body of the carriage and adapted to be easily detachable therefrom, a plurality of apertures along said track forming teeth meshing with said driving pinions for the purpose of shifting said wagon along said track, stops at the rear end of said track coöperating with projections on the wagon for limiting the movement of the latter in one direction; similar projections on the loading tray coöperating

with the breech end of the gun barrel for limiting the movement of the wagon in the opposite direction.

2. In a wheeled gun carriage the combination of the gun and the trail with rails supported by the side walls of said trail, and an ammunition hoisting device comprising a loading tray and a wagon for said loading tray, said rails forming the track for said wagon and having their rear ends in the vicinity of the trail spade and their front ends in the vicinity of the gun breech, and driving means for said wagon; said driving means comprising pinions and cranks on said wagon, and a series of apertures in said track adapted to mesh with the teeth of said pinions.

The foregoing specification signed at Barmen, Germany, this 21st day of September, 1911.

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FRIEDRICH STOCK. [L. S.]

In presence of—
CHAS. J. WRIGHT,
ALBERT NUFER.