

W. HEILEMANN & H. KANONENBERG.
SPADE ARRANGEMENT.

APPLICATION FILED SEPT. 11, 1911.

1,029,191.

Patented June 11, 1912.

Fig. 1.

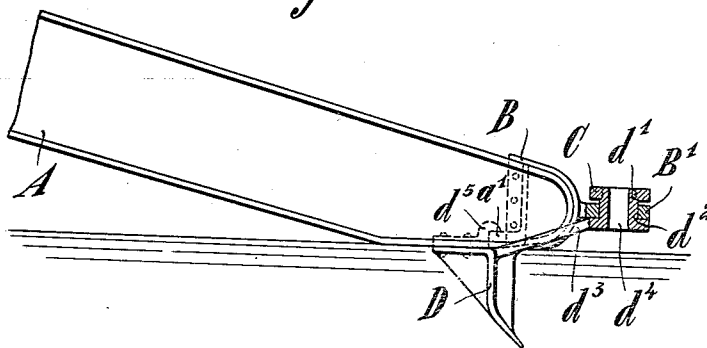
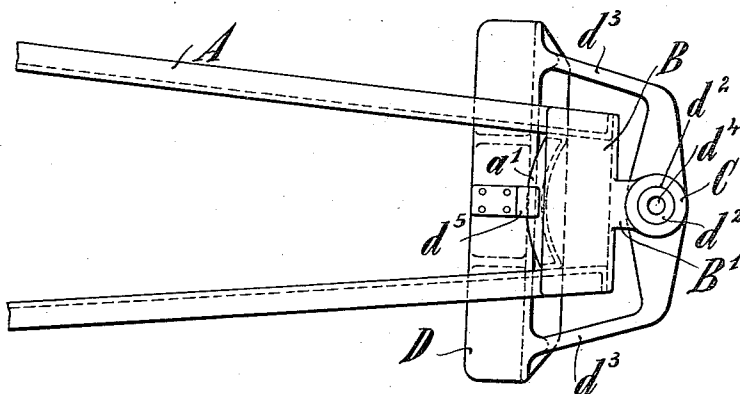


Fig. 2.



Witnesses,
J. M. Nyntkoop.
D. St. Shornett.

Inventors,
Walter Heilemann
and Heinrich Kanonenberg.
By Knight Bros
attorneys,

UNITED STATES PATENT OFFICE.

WALTER HEILEMANN AND HEINRICH KANONENBERG, OF ESSEN-ON-THE-RUHR, GERMANY, ASSIGNORS TO FRIED. KRUPP AKTIENGESellschaft, OF ESSEN-ON-THE-RUHR, GERMANY.

SPADE ARRANGEMENT.

1,029,191.

Specification of Letters Patent.

Patented June 11, 1912.

Application filed September 11, 1911. Serial No. 648,659.

To all whom it may concern:

Be it known that we, WALTER HEILEMANN and HEINRICH KANONENBERG, residing at Essen-on-the-Ruhr, Germany, both subjects of the Emperor of Germany, have invented a certain new and useful Improvement in Spade Arrangements, of which the following is a specification.

This invention relates to spade arrangements for that class of traveling ordnance, the carriages of which can be swung laterally with relation to the spade for the purpose of traversing the gun.

In the drawing is shown a constructional example of the subject matter of the invention, Figure 1 being a side elevation, partially in section, of those parts of a gun carriage affected by the invention, and Fig. 2 is the plan corresponding thereto.

Upon the trail end of the body A of the gun carriage is secured a cap B, which carries a limber eye B¹. The limber eye forms the bearing for the vertical pivot pin d¹ of a spade D. The pivot pin d¹ is mounted upon the piece d² connecting two inclined upwardly directed arms d³ of the spade D. The pivot pin d¹ is secured in the limber eye B¹ by a nut C, which is screwed onto the pivot pin d¹. The pivot pin d¹ of the spade D and the connecting piece d² are provided with a central hole d⁴, which, when the gun is limbered up, serves to receive the so-called limber pin of the limber. The spade also carries a claw d⁵, which engages a guide rib a¹ arranged between the cheeks

of the body of the gun carriage. The guide rib a¹ is curved to the arc of a circle, the center of which coincides with the axis of the pin d¹.

The above described arrangement of spade possesses, in comparison with the already known spade arrangements of the present kind, in which a separate bearing is provided on the gun carriage for the pin of the spade to rotate in, the advantage of maximum simplicity, because the limber eye, which is a necessity of itself, is simultaneously utilized as a bearing for the spade.

We claim—

1. In a traveling gun carriage, a spade adapted to permit lateral training of the gun carriage relative to the spade, a vertical pivot pin on the spade, and a limber eye on the trail end of the carriage; said eye forming the pivot bearing for the vertical pivot pin on the spade.

2. In a traveling gun carriage, a spade adapted to permit lateral training of the gun carriage relative to the spade, a limber eye on the trail end of the carriage, and a pivot pin on said spade engaging said limber eye and provided with a hole for engagement by a limber pin.

The foregoing specification signed at Bar-men, Germany, this 21 day of August, 1911.

WALTER HEILEMANN. [L. s.]

HEINRICH KANONENBERG. [L. s.]

In presence of—

ALBERT F. NUFER,

CHAS. J. WRIGHT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."