

(No Model.)

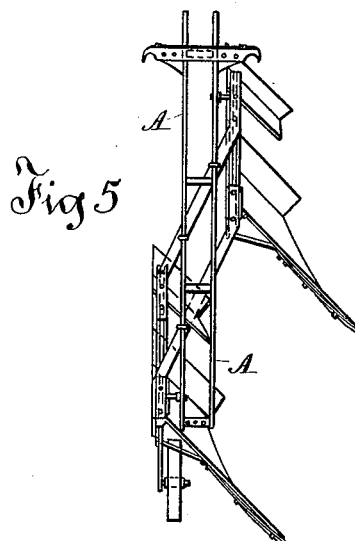
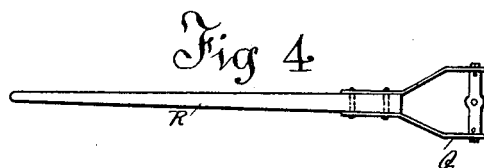
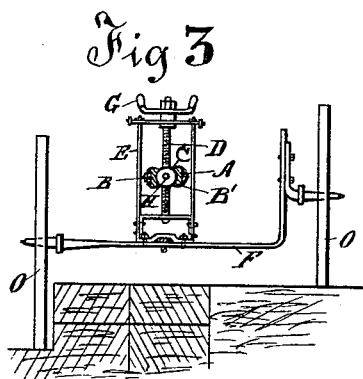
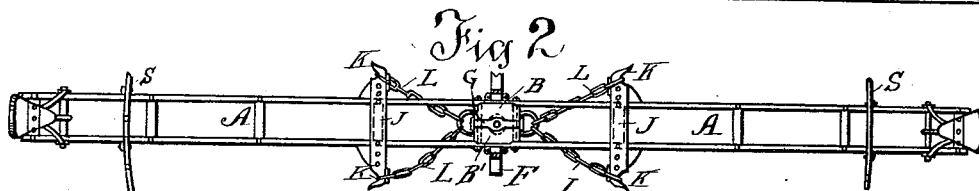
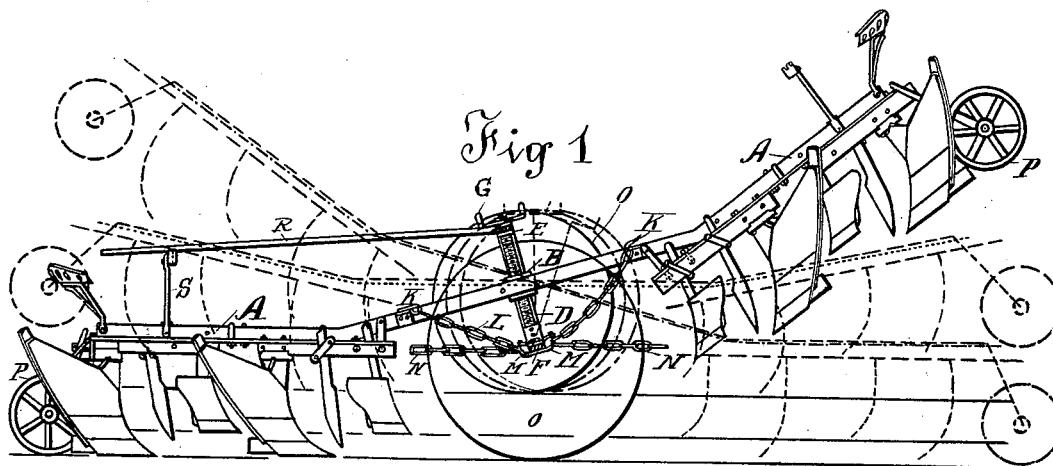
2 Sheets—Sheet 1.

C. R. SACK.

PLOW CARRIAGE FOR STEAM CULTIVATORS.

No. 386,162.

Patented July 17, 1888.



Witnesses.

*R. Haddan*

*A. S. Melhuish*

Inventor.

*C. R. Sack.*

by *R. Haddan*

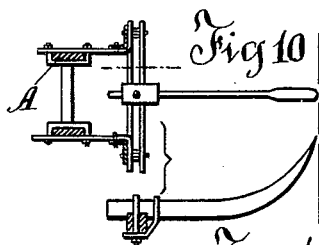
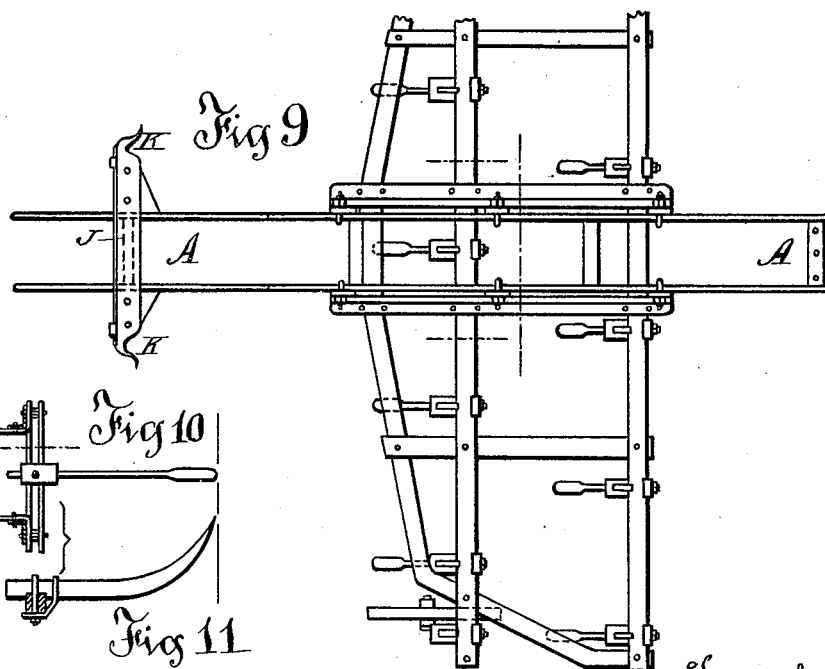
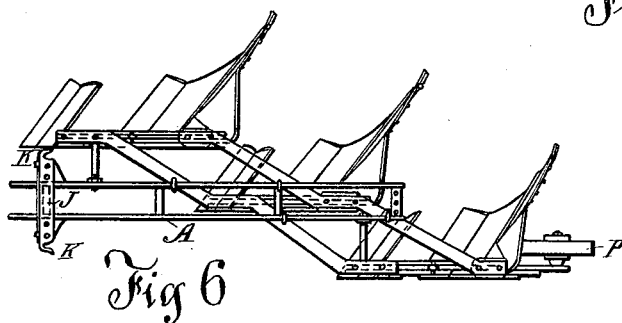
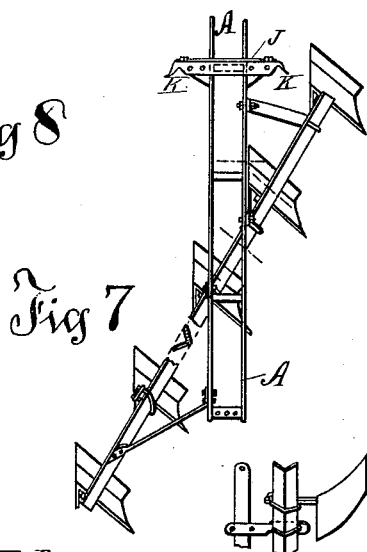
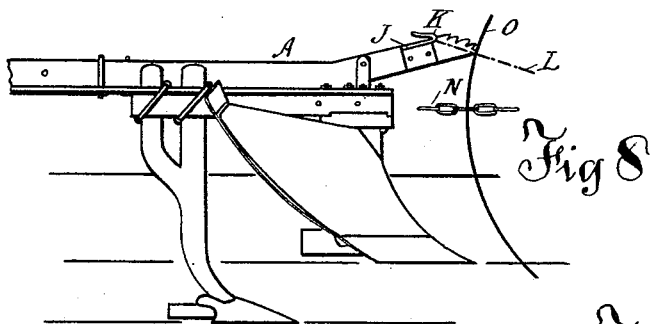
Attg.

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*W. H. Hadden*

*A. E. Melhuish*

Inventor.

*C. R. Sack.*

By *W. H. Hadden*  
*att'y.*

# UNITED STATES PATENT OFFICE.

CHRISTIAN RUDOLPH SACK, OF LEIPSIC, GERMANY.

## PLOW-CARRIAGE FOR STEAM-CULTIVATORS.

SPECIFICATION forming part of Letters Patent No. 386,162, dated July 17, 1888.

Application filed January 3, 1888. Serial No. 259,723. (No model.)

*To all whom it may concern:*

Be it known that I, CHRISTIAN RUDOLPH SACK, a subject of the Emperor of Germany, and a resident of Leipsic, in Germany, have invented a new and useful Improvement in Balance-Plow Carriages for Steam-Cultivators, of which the following is a specification.

This invention relates to balance-plow carriages; and the improvement consists in the manner of supporting the plow-beam, whereby the height thereof may be adjusted in the guiding mechanism, and in the manner of connecting the beam for the driving of the carriage.

Referring to the accompanying drawings, Figure 1 is an elevation of the improved balance-plow carriage, showing the same with plows, &c., arranged for plowing. Fig. 2 is a partial plan view thereof. Fig. 3 is a central cross-section; Fig. 4, a detail view of the guiding mechanism. Fig. 5 illustrates in plan the manner of attaching plowing implements for two furrows; Fig. 6, the same for three furrows; Fig. 7, for five furrows; Fig. 8, in elevation, an arrangement for plowing at different depths. Figs. 9, 10, and 11 illustrate the arrangement for harrowing.

The beam A of the plow-carriage is formed of flat or angle iron riveted or bolted together, and is of the shape shown in Fig. 1. In the center of said beam are two corresponding blocks, B B', hemispherically hollowed out on their opposing faces, to receive and hold between them the ball C, the latter being bored through and threaded to receive the screw-spindle D, having preferably a flat thread. The spindle D is journaled vertically, or substantially so, in the frame E, to which is rigidly attached the axle F. The spindle D terminates above in the lever handles G, so that by turning the latter the beam A may be raised or lowered. The ball-and-socket bearing gives great freedom of movement to the beam. To prevent the ball C from revolving between the cheek-bearings B B', the former is provided with pins H, projecting to the front and rear. The beam carries two cross-bars, J J, terminating in hooks, or the like, K K, and to these hooks are attached chains L L L L, connected

to eyebolts M M on the base of the wheel-frame E. The chain or rope N, by which the plow is drawn, is likewise connected to the base of the wheel-frame. When the rope N is pulled, the plow-beam is tipped over thereby, and the respective implements on the rear arm thereof are drawn through the soil, as shown in Fig. 1, owing to the leverage produced by the manner of attaching the chains L. The wheels O O on the axle F are arranged at different heights—one for riding on the land, the other in the furrow. There may likewise be placed at each end of the beam a wheel, P, for supporting the respective end of the beam. The plow-beam carries a seat at each end for the driver, so that his weight may assist the leverage of the plows, &c., in the soil.

To the wheel-frame is attached by two lateral pivots the fork Q of the steering-rod R, so that the latter may be moved about its pivots for the steering of the wheel-frame from either end of the beam. The brackets S, attached to the plow-beam, are used for supporting the rod R, said brackets having recesses for the holding of the rod.

When the steering-rod R is moved to the right or left, it turns the wheel-frame about the spindle D, as on a pivot, so that while the beam of the plow remains parallel to the line of draft the wheel-frame is moved athwart the latter and the plow moved laterally to the left or right accordingly.

What I claim is—

In balance-plows, the combination of the beam A with frame E, supported by wheels, screw-spindle D, journaled in said frame, and ball C, threaded for the passage of said spindle, together with cheek-bearings B B' on said beam, adapted to hold said ball C, as and for the purpose set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

CHRISTIAN RUDOLPH SACK.

Witnesses:

EDMUND ZACLER,  
MAX MATTHÄI.