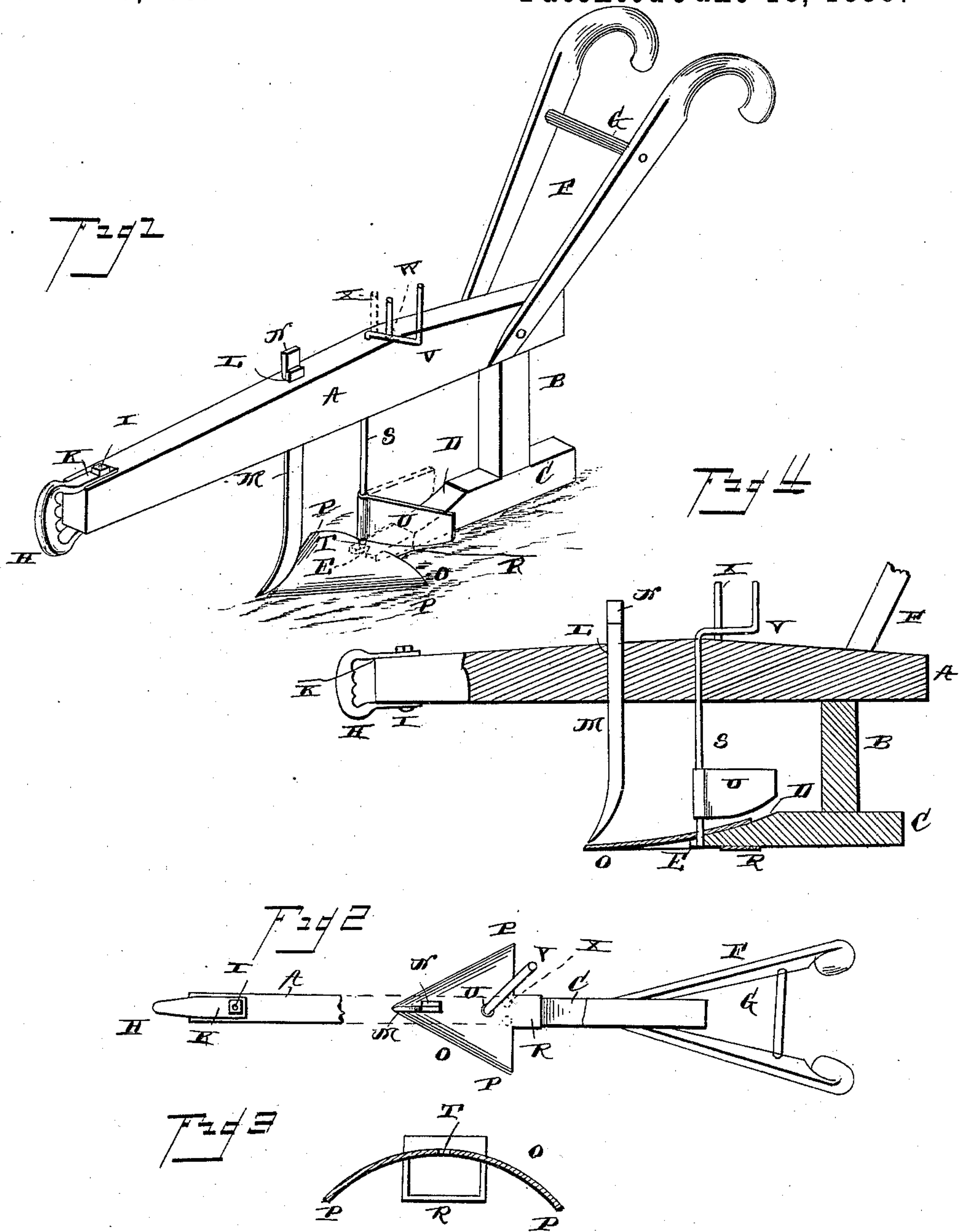


(No Model.)

F. KUNTZMAN.  
SIDE HILL PLOW.

No. 405,489.

Patented June 18, 1889.



Witnesses  
John Smieie  
Ed Siggers

Inventor  
Fred Kuntzman

By his Attorneys  
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# UNITED STATES PATENT OFFICE.

FRIEDRICH KUNTZMAN, OF TROY, ILLINOIS.

## SIDE-HILL PLOW.

SPECIFICATION forming part of Letters Patent No. 405,489, dated June 18, 1889.

Application filed March 27, 1889. Serial No. 304,953. (No model.)

*To all whom it may concern:*

Be it known that I, FRIEDRICH KUNTZMAN, a citizen of the United States, residing at Troy, in the county of Madison and State of Illinois, have invented a new and useful Side-Hill Plow, of which the following is a specification.

My invention relates to an improvement in side-hill plows; and it consists in the peculiar construction and combination of devices, that will be more fully set forth hereinafter, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of a plow embodying my improvements. Fig. 2 is a top plan view of the same, with a portion of the beam removed, so as to disclose the plowshare and the pivoted mold-board. Fig. 3 is a transverse section through the share, and Fig. 4 is a longitudinal section of the plow.

Depending from the rear end of the beam A is the standard B, to the lower end of which is secured the forward-extending arm C. The latter should be preferably made of iron or steel, but the beam and standard may be made of wood or any other suitable material. The front upper corner of the arm C is cut away and curved, as at D, and thereby the front end of the said arm is substantially wedge-shaped. In the extreme front end of the arm is a re-entering notch E. The usual handles F are attached to the rear end of the beam, and are provided with the stay bar or rung G, and a clevis H is pivotally attached to the front end of the beam by a bolt I, which passes through a vertical opening in the beam and through openings in the rearward-extending arms K of the clevis.

At a suitable distance from the front end of the beam is a vertical rectangular opening L, which extends entirely through the same, and in the said opening is fitted the upper end or standard of a colter or cutter M, the latter having its lower end curved forward, as shown, and being sharpened on its front edge. A wedge-shaped key N is inserted in the opening L and bears against the standard of the colter, and thereby serves to secure the latter firmly to the plow-beam.

The plowshare O is V-shaped, and is thereby provided with laterally-extending wings P,

which project beyond opposite sides of the arm C. At the rear end of the plowshare, at the center of the same, is formed a rectangular loop or keeper R, into which the wedge-shaped front end of the arm C is inserted, and thereby the plowshare is firmly attached to the said arm and is adapted to be removed therefrom when necessary. The plowshare is concavo-convex in transverse section and has its convex side uppermost, and the said plowshare is arranged, when attached to the arm C, in a slightly-inclined position, with its rear side higher than its point, and with the cutting-edges of its wings P arranged in an approximately horizontal plane.

The front end or point of the plowshare is arranged under the colter or cutter with the point of the latter almost or quite in contact with the share.

A vertical shaft S is journaled in a vertical opening in the plow-beam above the share, and the lower end of the said shaft is journaled in a central opening T near the rear side of the plowshare. To the said shaft at a suitable distance above the plowshare is rigidly secured a wing or mold-board U, which has its lower edge curved upward and outward, as shown, and has its upper edge substantially horizontal. At the upper end of the shaft S is a crank-arm V, and in the plow-beam at a suitable distance in rear of the opening through which the shaft extends and near the sides of the said beam are a pair of vertical openings W. A pin or stud X is adapted to be inserted in either of the said openings, and the arm V of the shaft is adapted to bear against the said pin, so as to secure the mold-board in an oblique position when extended from either side of the plowshare.

The operation of my invention is as follows: The plowshare cuts a relatively broad furrow under the earth and the colter or cutter cuts the said furrow longitudinally in its center. The mold-board must be so adjusted as to throw one half of the furrow downhill as it turns the furrow over, and when the end of the furrow is reached the plow is turned, the share is inserted in the same furrow, and the mold-board adjusted to the opposite side of the plowshare, and caused thereby to throw

the remaining half of the furrow in the same direction as the first half. By shifting the position of the mold-board at each end of each furrow all the furrows may be thrown in the same direction, as will be readily understood.

Having thus described my invention, I claim—

1. The beam A, having the depending standard B, provided with the forwardly-projecting arm C, having the share O fitted thereupon, in combination with the crank-rod S, journaled in the beam, and arm C, and provided with the rearwardly-projecting wing U, substantially as specified.

2. A plow-beam A, having the standard B, and arm C, the latter cut away, as at D, and

recessed, as at E, and the share O, having keeper R, adapted to receive the cut-away portion D, and having an opening vertically aligning with the recess E, in combination with the crank-rod S, vertically journaled in the beam A, and terminating in the recess E, and having the wing U, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

FRIEDRICH KUNTZMAN.

Witnesses:

JOHN DEIMLING,  
JOHN H. NEARY.