(No Model.)

I. B. KILGORE.

SIDE HILL PLOW.

No. 302,341. Patented July 22, 1884.

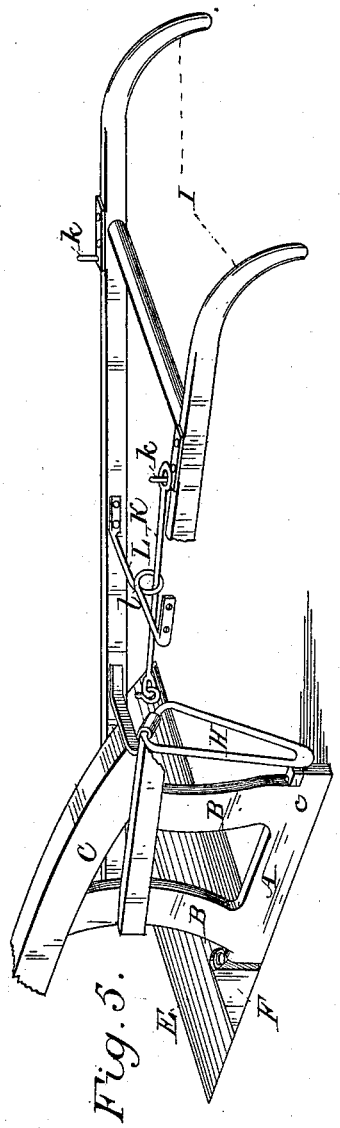

Fig. 5.

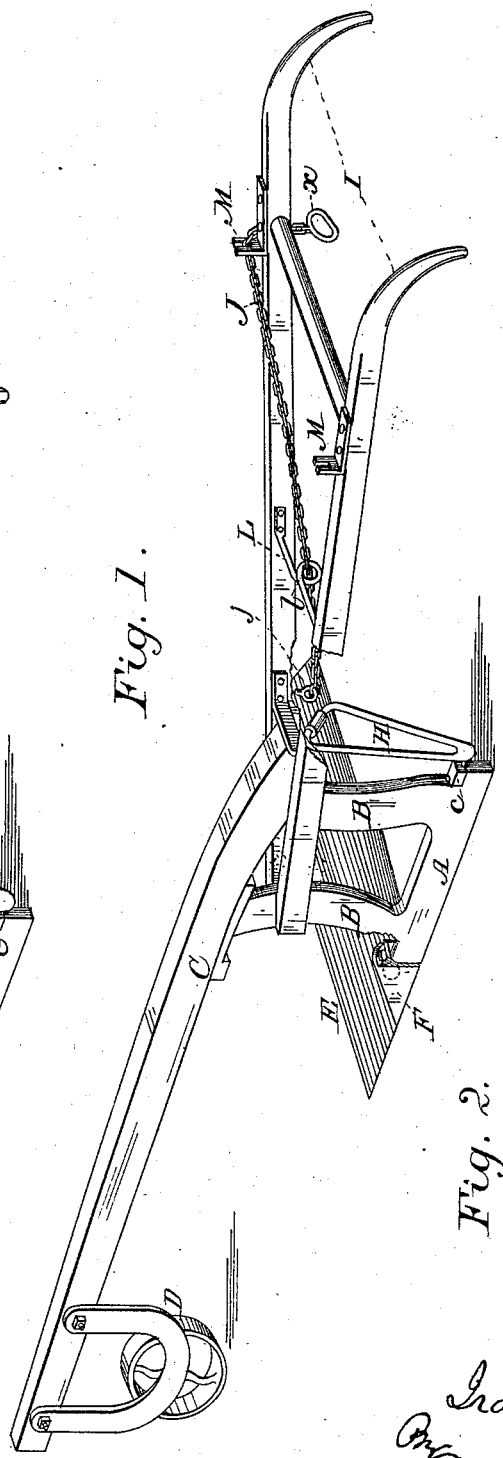

Fig. 1.

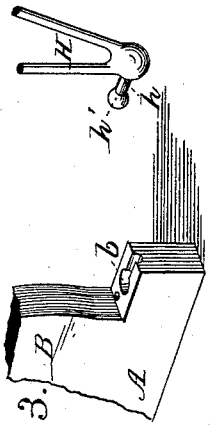

Fig. 3.

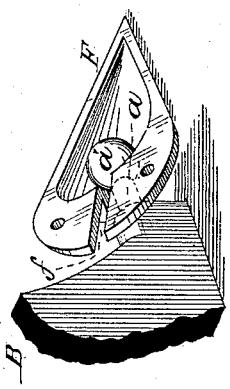

Fig. 2.

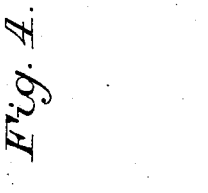

Fig. 4.

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UNITED STATES PATENT OFFICE.

IRA B. KILGORE, OF SAN JOSÉ, CALIFORNIA.

SIDE-HILL PLOW.

SPECIFICATION forming part of Letters Patent No. 302,341, dated July 22, 1884.

Application filed March 7, 1884. (No model.)

To all whom it may concern.

Be it known that I, IRA B. KILGORE, of San José, county of Santa Clara, and State of California, have invented an Improvement in Side-Hill Plows; and I hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to that class of plows in which the plow-bottom is pivoted and is adapted to swing on a longitudinal horizontal line from one side of the standard to the other. to adapt it for use on hill-sides, from which use the class derives its name of side-hill plows.

My invention consists in a novel pivot-connection between the plow-bottom (the combined share and mold-board) and the landside, in means for securing said plow-bottom when adjusted in place, in a novel combined double standard and landside, and in a novel point of connection between the handles and the standard, all of which, with the particular use or object of each, I shall hereinafter fully explain by reference to the accompanying drawings, in which—

Figure 1 is a perspective view of my plow, a portion of one of the handles being broken away to show the connection of the securing-chain with the upper end of the mold-board or share. Fig. 2 is a perspective detail view of the pivot-connection between the front of the landside and the nose-piece under the point of the share. Fig. 3 is a view showing one-half the socket formed at the rear end of the landside. Fig. 4 is a view of the round-headed pin on the base of the arms H, and which is adapted to fit in the bearing shown in Fig. 3. Fig. 5 is a view of a portion of the plow to show the rod K, connecting the upper end of the mold-board with the handles, and which may be used as the equivalent for the chain J.

A is the landside, and B the standards, cast in one piece with the landside, as shown.

C is the beam, to which the standards are bolted, and D is the beam-wheel.

E is the plow-bottom, of any suitable form which has been adopted for this class of plow.

F is a nose-piece, Fig. 2, which is bolted under the share near its point, as shown in Fig. 1. This nose-piece is recessed on its upper side, and has a groove, *f*, in its rear edge, communicating with the recess. The forward end of the landside is provided with a pin, *a*, on the end of which is a ball, *a'*. The pin fits the groove *f*, and its round head or ball lies in the recess of the nose-piece, as in Fig. 2, and is confined therein when said nose-piece is bolted to the share, as in Fig. 1. A journal is thus formed which constitutes a simple, free, and effective pivot-connection between the forward end of the landside and the share. By unbolting the nose-piece access may be had to the journal. At the rear a similar pivot-connection is formed. The rear end of the landside is provided with a socket-bearing, *b*, formed by a recess and groove in the end of the landside, Fig. 3, and in a cap, *c*, bolted on, as in Fig. 1.

H are arms secured above to the upper end of the mold-board, and having their lower ends joined. A pin, *h*, with a round head or ball, *h'*, is formed with or secured to the lower end of the arms, Fig. 4. The pin *h* rests in groove of the socket-bearing in the landside, and its round head in the recess thereof, wherein it is confined by means of the cap *c* and its bolt. The advantage of this pivot-connection for the plow-bottom lies in its simplicity and effectiveness. It is easy and practicable to make, and can be reached readily, and at the same time holds the bottom very securely to the landside and standards, and allows it to be shifted readily from side to side.

I are the handles, the attachment of which I shall presently notice. By lifting them up the plow is raised on the beam-wheel as a fulcrum, and a slight side movement is sufficient to swing the bottom around on its pivotal axis to either side.

It is necessary to have some means of fastening the bottom when adjusted, and it is usual to employ some kind of automatic latching device on the mold-board and standards for this purpose. These devices are objectionable in being somewhat complicated and adding expense to the plow, besides being a constant source of trouble from getting out of repair. I discard entirely such a latch, and instead use a simple device, such as is shown by the chain J in Fig. 1, or by the rod K in Fig. 5. The chain is secured by a staple, *j*, to the upper inner end of the mold-board, and

thence passes back through a guide-loop, *l*, on a cross-rod, L, between the handles, to a slotted upright lug or piece, M, bolted to one of the handles. It is secured in this lug by turning one of its links on edge and slipping it down in the slot, so that the back adjacent link, lying crosswise, forms a fastening. By releasing the chain the plow-bottom may be moved to either side, when the chain may again be secured to hold it to its place. The loop *l* not only acts as a guide for the chain, but also, in connection with the terminal link *x* of said chain, forms a rest or stop to keep the chain within easy reach. The link *x* also forms a handle by which the plow-bottom can be pulled to position, and when stopped by loop *l* allows the chain to be slack enough for the easy swing of the plow-bottom. In the case of the rod K in Fig. 5, which I use as an equivalent for the chain, I require a fastening, *k*, for it on both handles, because, not being flexible as the chain, I have to shift its end to the handle opposite to the position of the plow-bottom. Usually the handles are secured to the rear end of the landside by means of a socket, and by this method are brought upward at quite a sharp angle, and being usually fastened to the rear end of the beam.

In my plow I have the double standard B, consisting of a front standard joined by its lower end to the forward end of the landside, and of a rear standard joined by its lower end to the rear end of the landside. The front and rear standards and landside are all formed in one solid piece, and the upper ends of the said double standard thus formed are bolted directly to the beam, independent of any and all other fastenings. By this construction I secure the greatest power of resistance with the use of the least weight of material.

Having thus secured the standards firmly to the beam independently of any other portion of the plow, I fasten the handles, one on either side of the forward standard, a short distance below the beam, and extend them back at a slight angle, whereby the operator has greater control of the plow. The handles thus attached also form a lateral brace for the front standard, which is not secured by any other method, and by this means add strength to the plow where it is most needed, and in this position they do not interfere with the chain, but give room enough for its action and also for the arms H.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a side-hill plow, the landside, in combination with the plow-bottom and pivot-connection between them, consisting of round-headed or ball pins on one fitting in socket-bearings on the other or on an attachment thereto, substantially as described.

2. In a side-hill plow, the landside A, having a round-headed pivot-pin at one end and socket-bearing at its other end, in combination with the plow-bottom E, having a socket-bearing in which the pin of the landside is journaled, and a round-headed pin journaled in the socket-bearing of the landside, substantially as described.

3. In a side-hill plow, the landside A, having the round-headed or ball pin *a* on its forward end and socket-bearing *b* on its rear end, as described, in combination with the plow-bottom E, having the recessed and grooved nose-piece F, forming between itself and share a socket-bearing for the ball-pin *a*, and the arms H, having the round-head or ball pin *h* fitting the socket-bearing *b*, formed in the rear end of the landside, substantially as herein described.

4. In a side-hill plow, the longitudinally pivoted and swinging plow-bottom E, in combination with the handle I and the chain J, or its equivalent, secured to the upper end of the mold-board and to the handles, substantially as herein described.

5. In a side-hill plow, the longitudinally pivoted and swinging plow-bottom E, in combination with the handles I, the chain J, secured to the upper end of the mold-board, cross-rod L, loop *l*, and the slotted lug or piece M, secured on the handles for fastening the chain, substantially as herein described.

6. In a side-hill plow, the landside A, standards B, and swinging plow-bottom E, having arms H, in combination with the handles I, secured to the forward standard, and the chain J, substantially as and for the purpose herein described.

In witness whereof I have hereunto set my hand.

IRA B. KILGORE.

Witnesses:
JERE LEITER,
STEPHEN BIGELOW.