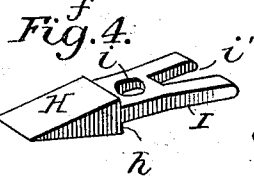
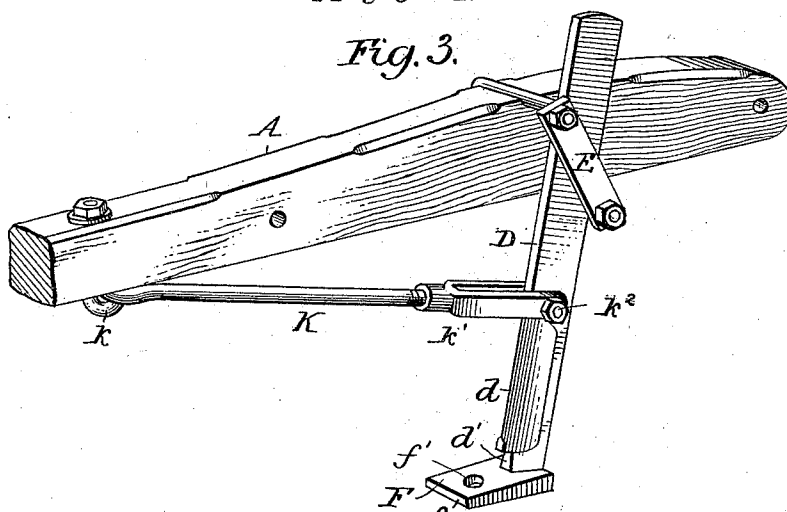
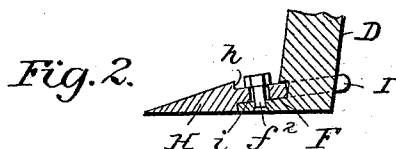
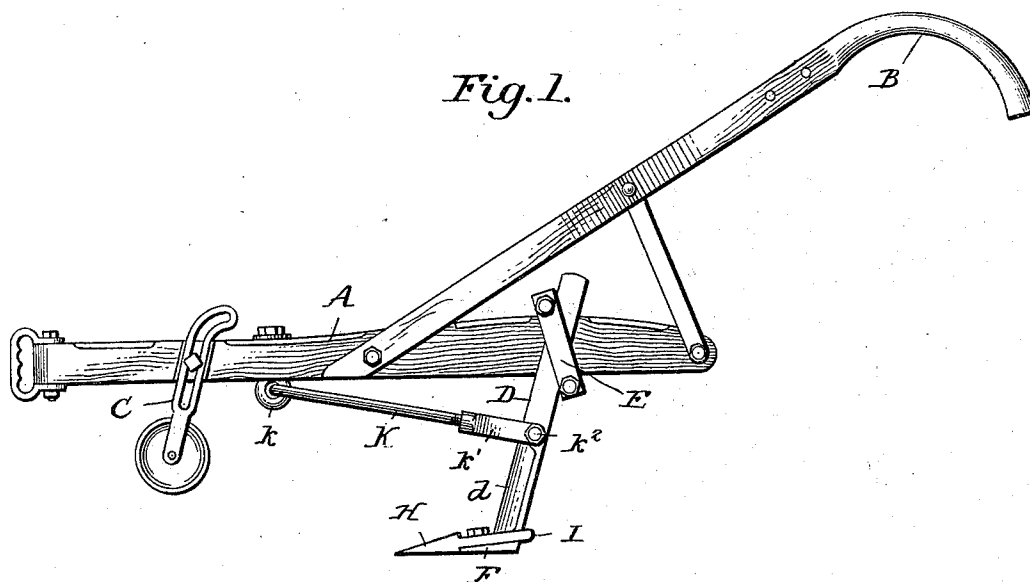


(No Model.)

A. B. CUMMINGS.  
SUBSOIL PLOW.

No. 555,804.

Patented Mar. 3, 1896.



Witnesses

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# UNITED STATES PATENT OFFICE.

AUGUSTUS B. CUMMINGS, OF JONESBOROUGH, TENNESSEE.

## SUBSOIL-PLOW.

SPECIFICATION forming part of Letters Patent No. 555,804, dated March 3, 1896.

Application filed November 30, 1895. Serial No. 570,578. (No model.)

*To all whom it may concern:*

Be it known that I, AUGUSTUS B. CUMMINGS, a citizen of the United States, residing at Jonesborough, in the county of Washington and State of Tennessee, have invented certain new and useful Improvements in Subsoil-Plows, of which the following is a specification.

My invention relates to an improvement in subsoil-plows; and the object of the invention is to produce a plow of this class which is simple and strong in construction, durable and effective in operation, and the share of which may be easily renewed or repaired when worn.

I shall now proceed to describe the invention in detail, reference being had to the accompanying drawings, in which—

Figure 1 is a side view of a subsoil-plow made according to my invention. Fig. 2 is an enlarged central sectional view of the plowshare and part of the standard. Fig. 3 is a perspective view of the standard and draft-rod, the plowshare being removed; and Fig. 4 is a perspective view of the share.

Referring to the drawings, A indicates the beam, B the handles, and C the wheel-frame, all of which are of the usual construction. The standard D is rectangular in section at its upper end and adapted to be clamped to the beam in any desired adjustment by the clamp E. The lower portion of the standard has its front edge *d* sharpened and adapted to form a colter. At the lower end of the standard and integral with it is a foot F, the lower face of which is horizontal when the plow is in operative position. The foot extends forward from the standard. Its upper surface is slightly inclined in a forward direction and it terminates in a square end or toe *f*. About the middle of the foot is a bolt-hole *f'*, which is preferably countersunk at its lower end to receive the head of the bolt *f*<sup>2</sup>. Just above the foot F a notch or recess *d'* is cut in the front edge of the standard.

The plowshare H is wedge-shaped and provided with a shank I. The shank is in line with the wedge and the share is entirely symmetrical, so that it may be reversed and operated with either side up. At the head of the wedge there are two shoulders *h*, which

are preferably of the same area as the end *f* of the foot, and when the share is in position these shoulders fit against the foot, and the lower surface of the share is in the same plane as the bottom of the foot. The shank I is provided with a slot or elongated hole *i* to receive the bolt *f*<sup>2</sup>, and with a wedge-shaped opening *i'* in its end adapted to straddle the lower end of the standard. The crotch of the opening *i'* fits in notch *d'*, which prevents the shank from rising when the point of the plowshare sticks in the ground or strikes any hard object, and thus takes a great deal of the strain off of the bolt. The hole *i* is elongated so as to render the share adjustable and enable the shoulder *h* to be brought up close against the toe *f* of the foot.

A draft-rod K is attached at one end to an eye or suitable fastening *k* upon the beam, and at the other end it is adjustably connected to the standard. The rod K is threaded and screwed into the end of a bale *k'*, which is attached to the standard by a bolt *k*<sup>2</sup>.

In operation the share becomes rapidly dulled and the point is rounded off on the lower side. To correct this it is only necessary to remove the nut of the bolt *f*<sup>2</sup> and reverse the plowshare, thus bringing the edge to the lower surface and the rounded portion to the upper surface of the wedge. The square toe *f* resists the backward thrust of the share and the notch *d'* resists the tendency of the share to tip downward at its point. The action of the wedge is to lift the subsoil with the least possible expenditure of energy, and the combined colter and standard, being also wedge-shaped in cross-section, cuts through the soil without disturbing it and leaves the loosened soil in place. It is desirable to have the lower face of the plowshare and foot in a horizontal plane when the plow is in working condition, and for that reason it becomes necessary to adjust the draft-rod when the standard is raised or lowered. In making this adjustment it is only necessary to remove the bolt *k*<sup>2</sup>, swing the draft-rod down until the bale can be turned without interfering with the standard, then turn the bale until the draft-rod is adjusted to the proper length, and then bolt the bale to the standard again.

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

1. In a subsoil-plow, the combination with  
5 the standard having the forwardly-projecting  
foot F and square toe *f*, of the wedge-shaped  
plowshare having shoulders *h* adapted to fit  
against the toe, a shank adapted to fit upon  
the foot and having a notch or opening adapt-  
10 ed to straddle the standard, and a bolt pass-  
ing through said foot and shank, the lower  
surface of the foot and share being located  
in the same plane, substantially as described.

2. In a subsoil-plow, the combination with  
15 the standard having its lower forward edge

sharpened to form a colter and having a lock-  
ing-notch *d'*; and the forwardly-projecting  
foot, integral with the standard, and provided  
with a square toe *f*, and bolt-hole *f'*, of the  
wedge-shaped share provided with shoulders 20  
*h*, and a shank I having an elongated open-  
ing *i* and a notch *i'*, said shank being adapted  
to fit upon the upper surface of the foot and  
in the notch *d'*, substantially as described.

In testimony whereof I affix my signature 25  
in presence of two witnesses.

AUGUSTUS B. CUMMINGS.

Witnesses:

J. A. WATSON,

T. H. REEVES.