

F. & J. H. CULVER.

COLTER.

No. 169,678.

Patented Nov. 9, 1875.

Fig. 1.

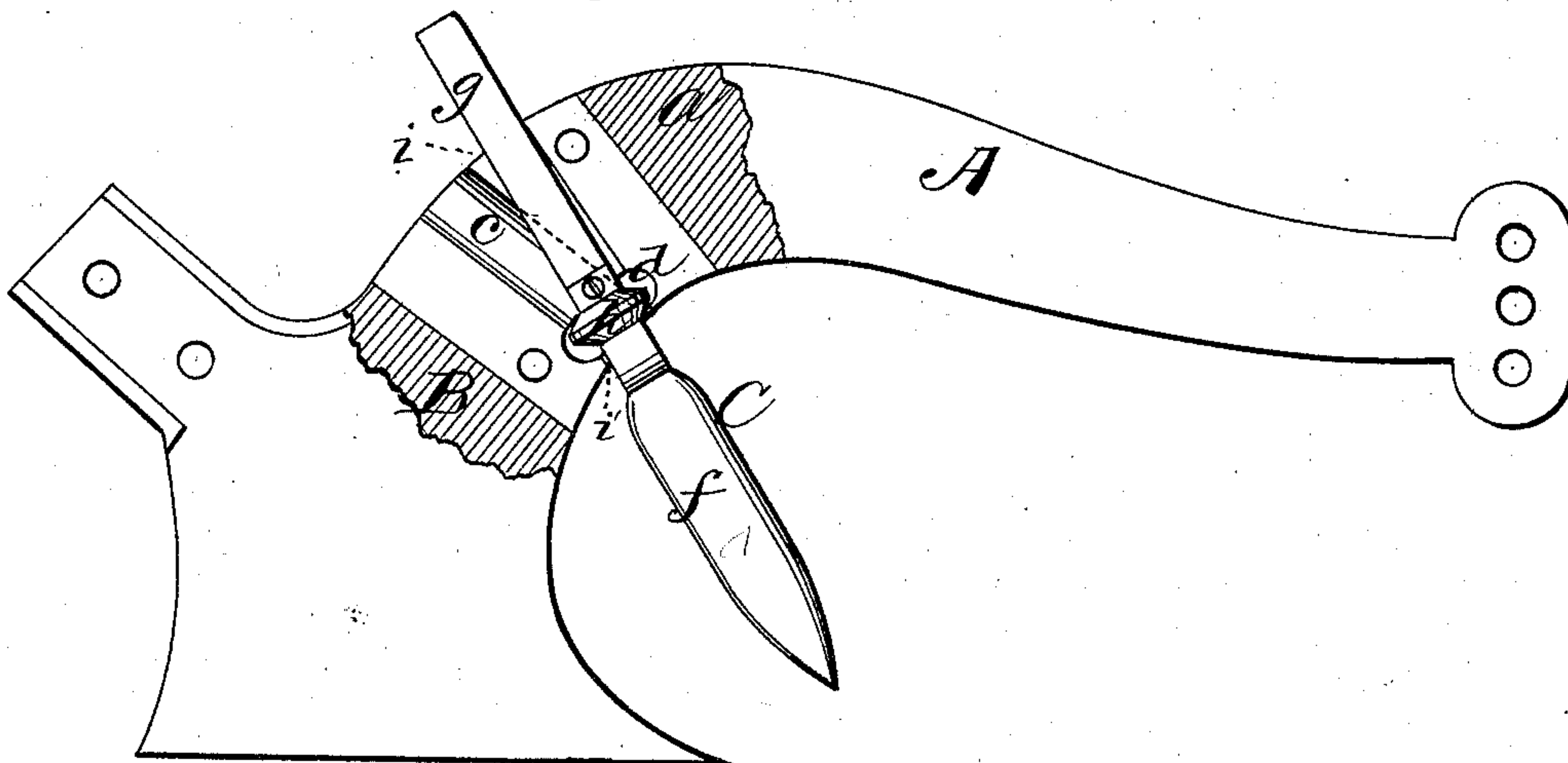


Fig. 2.

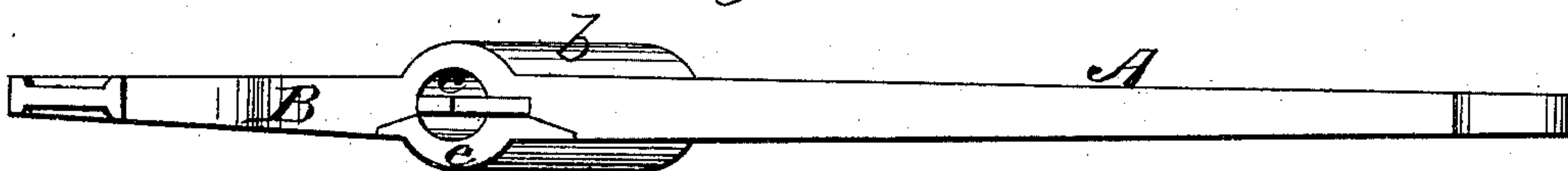


Fig. 4.

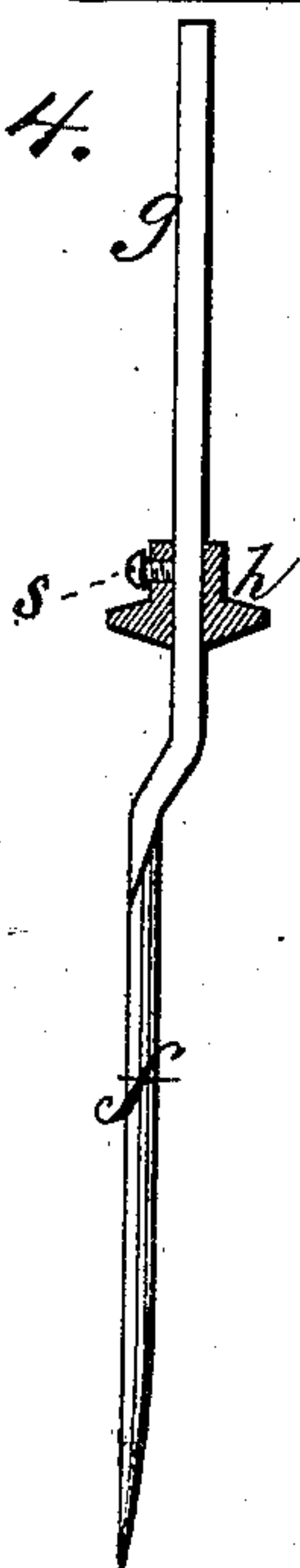
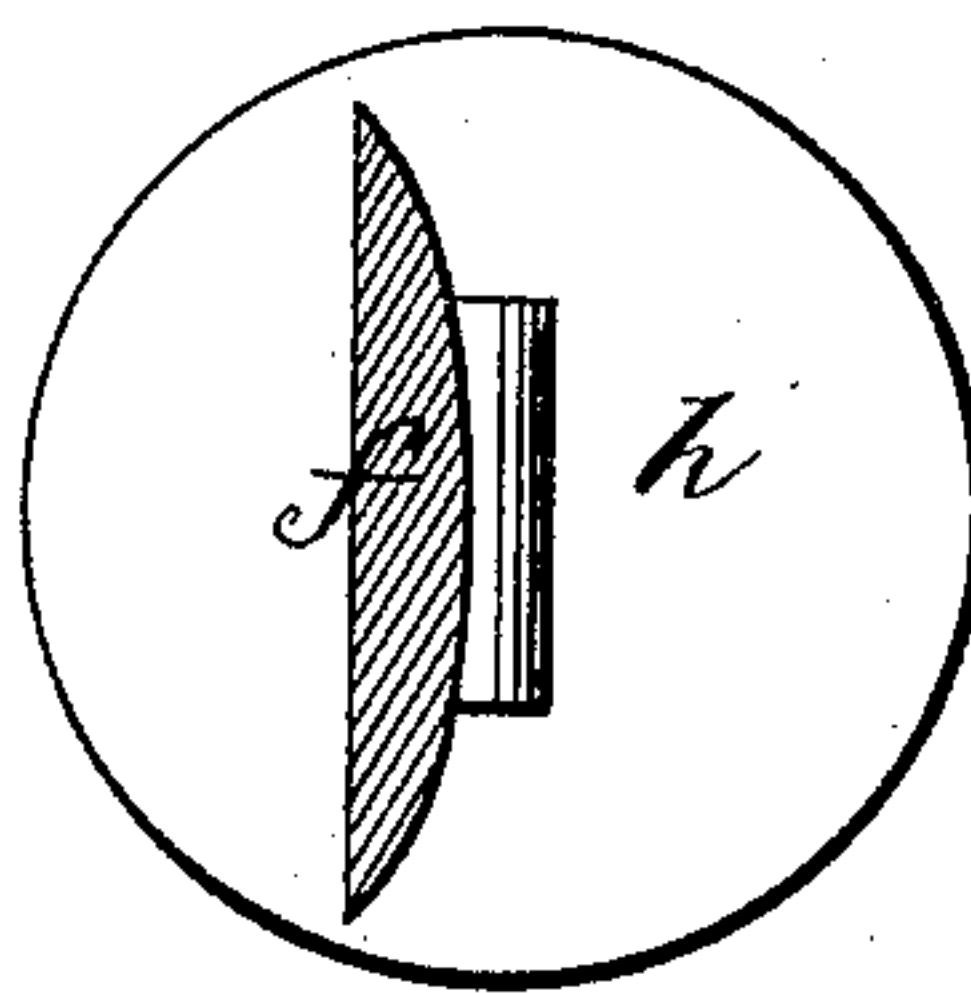


Fig. 3.



WITNESSES

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FREEMON CULVER AND JEFFERSON H. CULVER, OF WEST ONEONTA, N. Y.

IMPROVEMENT IN COLTERS.

Specification forming part of Letters Patent No. **169,678**, dated November 9, 1875; application filed September 4, 1875.

To all whom it may concern:

Be it known that we, FREEMON CULVER and JEFFERSON H. CULVER, of West Oneonta, in the county of Otsego and State of New York, have invented a new and valuable Improvement in Side-Hill-Plow Colters; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a side elevation of my plow, part sectional, and Fig. 2 is a plan view of the same. Figs. 3 and 4 are detail views.

This invention has relation to improvements in hill-side plows whereof the mold-boards are reversible, so that, in passing to and fro across the slope of the hill, the mold may be turned over downhill.

The nature of the invention consists in combining with a hill-side plow, having a reversible mold-board, a double-edged reversible colter, having a flat and a convex side, whereby, at the end of each furrow, the colter may be adjusted with its flat side up hill, and the convex face downhill, thereby acting as a guide, for the purpose of preventing and overcoming the tendency which the plow would have to gravitate down the slope of the hill, as will be hereinafter more fully explained.

In the annexed drawings, the letter A designates the beam of a hill-side plow, in connection with which I propose to illustrate my invention. This beam is preferably of iron, and is curved at or near the point of junction therewith of the plow-standard B. This curve, partly designated by the letter *a*, is provided with a cylindrical enlargement, *b*, the axis of which is inclined to the front, through which is cut or formed a cylindrical perforation or aperture, *c*, near the lower end of which is formed an annular rounded groove, *d*, for a purpose hereinafter explained. In practice, curved part *a* of the plow-beam will be sectional, so that one-half of the cylindrical opening *c* will be in the beam, and the other half in a detachable plate, *e*, which is bolted to the said beam. C designates my

improved colter, consisting of a double-edged blade, *f*, one of the faces of which is a plane and the other a convex surface, and of a prismatic shank, *g*, which last is adapted to be passed through a correspondingly-shaped perforation in a disk or collar, *h*. This collar or disk is designed to be received in the groove *d* of the aperture *c*, in the curved portion of the standard. Shank *g* is passed up through the collar, which is then inclosed in groove *d* by bolting-plate *e* onto the plow-beam.

By this means the colter is capable of axial rotation, and a degree of adjustment to increase or diminish its penetration is obtained by means of a set-screw or pin, *s*, passing through a screw-threaded perforation in the collar, and abutting against a flat portion of the shank.

The object of giving the colter axial rotation is to cause its flat face to be changed when the mold-board is reversed at the end of a furrow, so as to be on the land side of the plow, while its curved or rounded side will be on the mold-board side, by which means the plow is, as it were, steered upward of the hill, thereby overcoming the natural tendency of the implement to gravitate downhill, and thus relieving the plowman of great and unnecessary labor.

The flat and rounded faces of the colter being arranged as above described, it is locked against displacement by the engagement of the upper front and lower rear part of the shank in grooves *i i*, cut in the length of the beam, and respectively at the upper front and lower rear edges of apertures *c* cut through its beam. This will be readily accomplished by hand, the shank being rigidly clamped by screw or pin *s* to the collar, and the latter having a movement in annular groove, resembling that produced by the ball-and-socket joint; and in the event of the entanglement of a stone, a tough lump of clay, or of decaying or solid wood between the mold-board and colter, the latter may be vibrated to the front away and upward from the former by drawing the shank of the colter backward, thus allowing the obstructing substance to fall out.

What we claim as new, and desire to secure by Letters Patent, is—

1. In a reversible or hill-side plow, the colter C, having shank *g* and collar *h*, and adapted to be rotated axially, or vibrated vertically, and to be locked with its curved surface toward the mold-board side, substantially as specified.

2. The colter C, having a double-edged blade, *f*, which is on one face a plane and on the other a convex surface, and having a prismatic shank, *g*, substantially as specified.

3. The beam A, having cylindrical aperture *c*, annular groove *d*, and longitudinal grooves

i i, and the collar *h*, having a ball-and-socket movement in groove *d*, in combination with the shank *g* of a rotating colter, C, substantially as specified.

In testimony that we claim the above we have hereunto subscribed our names in the presence of two witnesses.

FREEMON CULVER.

JEFFERSON H. CULVER.

Witnesses:

S. M. OLIN,

WM. FRANCIS.