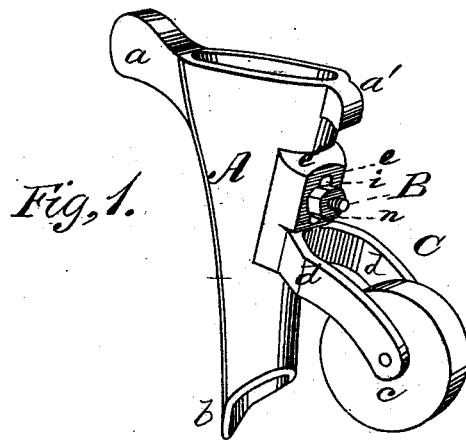


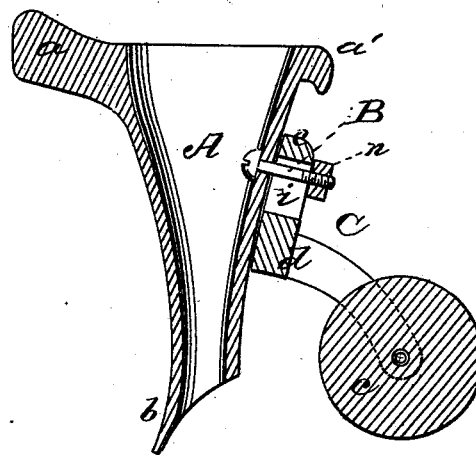
P. W. & H. G. BRIGGS.  
Grain-Drill Gage.

No. 214,094.

Patented April 8, 1879.



*Fig. 2.*



WITNESSES

*Villette Anderson.*  
*Frank J. Chase.*

INVENTORS

*P. W. Briggs -*  
*H. G. Briggs -*  
*by E. W. Anderson*  
ATTORNEY

# UNITED STATES PATENT OFFICE.

PHILANDER W. BRIGGS AND HIRAM G. BRIGGS, OF HOWELL, MICHIGAN.

## IMPROVEMENT IN GRAIN-DRILL GAGES.

Specification forming part of Letters Patent No. **214,094**, dated April 8, 1879; application filed December 7, 1878.

*To all whom it may concern:*

Be it known that we, PHILANDER W. BRIGGS and HIRAM G. BRIGGS, of Howell, in the county Livingston and State of Michigan, have invented a new and valuable Improvement in Grain-Drill Gages; 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 perspective view of a drill-tube, showing the drill attached; and Fig. 2 is a longitudinal section of the same.

This invention has relation to improvements in gages for the teeth of grain-drills.

The object of our invention is to devise a gage in connection with the teeth of grain-drills which, by limiting and regulating their penetration into the soil, will prevent the seed from being planted too deep in the ground, and, being readily applicable to any form of drill-tooth, may be rapidly and economically adjusted thereon.

The nature of our invention will be clearly understood from the following description and the claim appended thereto.

In the accompanying drawings, the letter A designates an ordinary grain-drill tooth, having the usual front and rear arms, *a a'*, for attachment to the frame, and terminating in a furrow-opener, *b*. Drill-teeth are usually cylindrical or elliptical in cross-section, and present regularly-rounded exterior surfaces. B indicates a screw-threaded headed bolt, extending from the inside through the rear wall of the tooth, and arranged at a suitable distance below the top of the tooth. C designates the gage, consisting, mainly, of a wheel, *c*, having its bearings in the forked lower ends of metallic standards *d d*. These standards are of angular form, as shown in Fig. 2, and the upper part, *e*, is flattened and concaved, as

shown at *e'*, so as to fit snugly against the correspondingly-convex rear wall of the tooth. The upper part of the bearing *e* of the gage is longitudinally slotted, as shown at *i*, and the bolt B projects through the said slotted portion. The gage is clamped to the tooth by means of a nut, *n*, applied upon the threaded end of bolt B and forcibly set up.

It is evident that the gage cannot swing laterally upon the bolt B, the nut *n* having been set up, for the reason that the bearing *e* conforms to the shape of the tooth, and cannot be displaced endwise, because of the restraint of the nut; but by loosening the said nut the gage may be raised, thus increasing the penetration of the said tooth into the ground, or lowered, thus lessening its penetration, as may be required, the adjustment thus obtained being secured by reapplying the said nut.

It will readily be seen how cheaply and expeditiously this gage may be applied, it being only necessary to its adjustment that a hole be cut in the rear wall of the tooth.

We are well aware that gages have heretofore been applied to grain-drill teeth, and therefore we make no broad claim to such a combination.

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

In a drill-tooth gage, the combination, with the tooth A and threaded bolt B, projecting from within through a hole in its rear wall, of the standards *d*, having the wheel *c* and bearing *e*, conforming to said tooth, and having oblong slot *i* and the nut *n* applied upon the projecting end of said bolt, substantially as specified.

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

PHILANDER W. BRIGGS.  
HIRAM G. BRIGGS.

Witnesses:

ISAAC W. BUSH,  
WALTER S. PAPWORTH.