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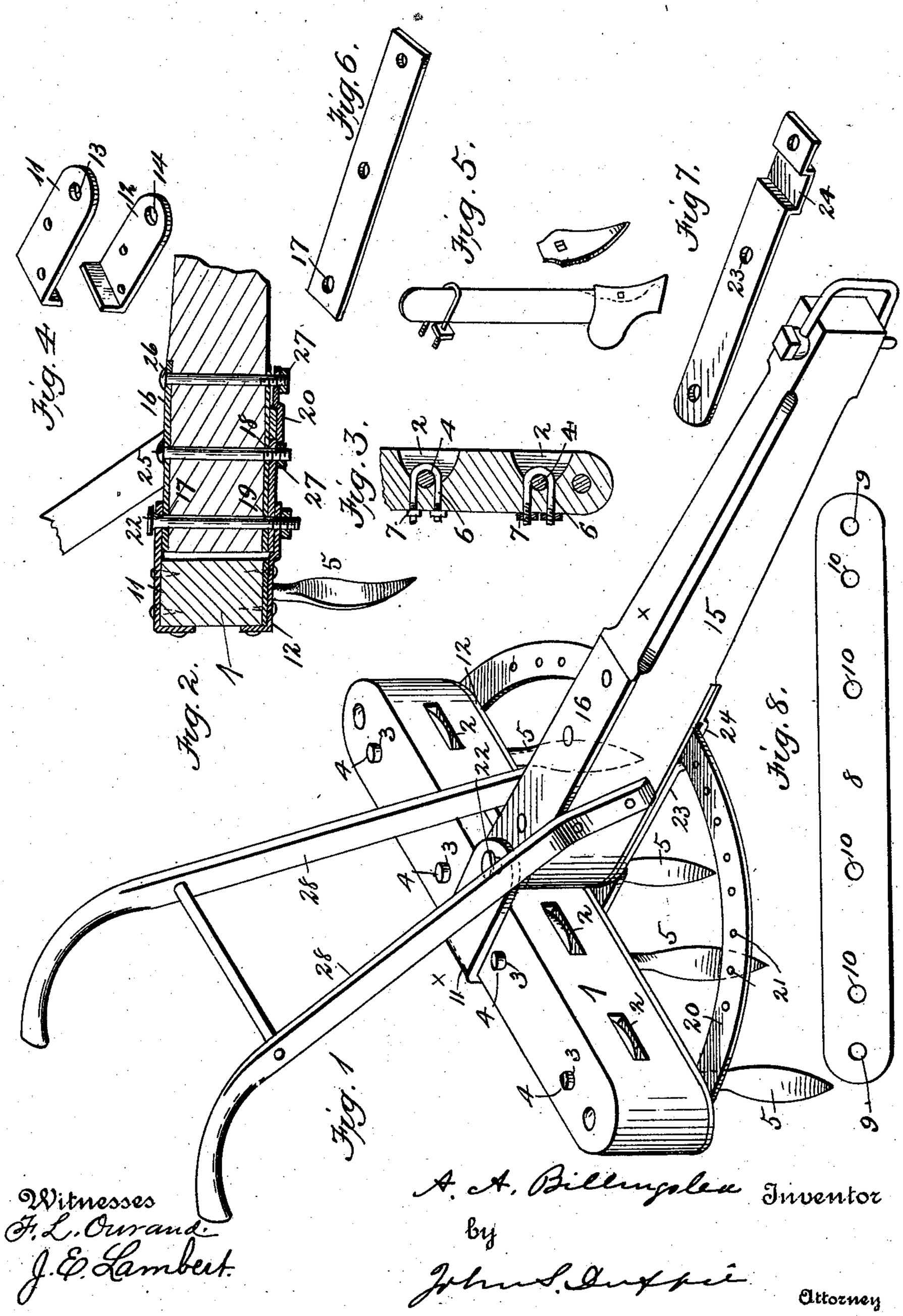
A. A. BILLINGSLEA.

COMBINATION HARROW AND CULTIVATOR.

(Application filed July 2, 1901.)

(No Model.)



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COMBINATION HARROW AND CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 686,575, dated November 12, 1901.

Application filed July 2, 1901. Serial No. 66,869. (No model.)

To all whom it may concern:

Be it known that I, ASA A. BILLINGSLEA, a citizen of the United States, residing at Sheridan, in the county of Grant and State of Arkansas, have invented certain new and useful Improvements in Combination Harrows and Cultivators, of which the following is a specification.

My invention is a combination harrow and cultivator; and it consists of a cross-beam carrying adjustable teeth, a tongue-beam, and a circular brace with bolts and nuts for carrying the angle of the tongue-beam and holding the various parts of the device together.

In the accompanying drawings, Figure 1 is a perspective view of my device. Fig. 2 is a longitudinal vertical sectional view of Fig. 1 on the line X X, the front end of the tongue and the upper end of the handle being left off. Fig. 3 is a horizontal sectional view of one end of the cross-beam, showing the manner in which the teeth are secured in the same. Fig. 4 shows perspective views of the two rear plates to which the tongue is hinged. Fig. 5 is a perspective view of a standard adapted to carry plow-feet. Fig. 6 is a perspective view showing one of the two plates used, one on the upper and the other on the lower face of the tongue-beam. Fig. 7 is a perspective view of a clamping-plate secured to the lower face of the tongue-beam and below the circular brace. Fig. 8 is a perspective view of a perforated plate secured to the under face of the cross-beam.

My invention is described as follows:

1 is a cross-beam provided with recesses 2 in its front face, running back horizontally, and running down through the cross-beam so as to connect with these recesses 2 are perforations 3. Through these perforations are inserted the standards 4 of harrow-teeth 5. These harrow-teeth may be made integral with the standards or they may be secured thereto in the same manner as plow-points may be secured thereto, as shown in Fig. 5. These standards 4 are held in place by U-shaped bolts 6, which pass through perforations leading from said recesses through the rear of the cross-beam and press said standards against the rear wall of said recesses by means of nuts 7 on the threaded ends of these U-shaped bolts, so that it will be seen the nuts can be loosened up a little, and the harrow-teeth or plow-points, whichever may be used, may be set at any angle desired. To strengthen this cross-beam, I secure to the lower face of it a perforated plate 8, bolts passing through the two end perforations 9 and the standards through the middle perforations 10.

Secured to the middle of the cross-beam are two plates 11 and 12, having its rear end turned down to fit against the rear face of the cross-beam and having in its front end a perforation 13, the lower plate having its rear end turned up to fit against the rear face of the cross-beam and having in its front end a perforation 14. A tongue-beam 15 is hinged to the front face of the cross-beam between the two plates 11 and 12, just mentioned above. To the upper face of the tongue-beam is secured a plate 16, having in its rear end a perforation 17, which corresponds to the perforations 13 and 14 in plates 11 and 12, and to the lower face of the tongue-beam is secured another plate 18, similar to plate 16, having in its rear end a perforation 19, corresponding to perforation 17 in plate 16.

Secured to either end and to the under face of the cross-beam is a circular brace 20, its bowed part extending forward and under the tongue-beam. This bowed part rides under the lower plate 18 and near its front end. This circular brace is provided with a number of perforations 21. It is not material as to the exact number of perforations nor to the exact distance they may be apart.

The tongue-beam is hinged to the cross-beam by means of a bolt 22, which passes through the perforations 13 and 14 in plates 11 and 12, and through the perforations 17 and 19, through the plates 16 and 18, and a perforation through the rear end of the tongue-beam, or said tongue-beam may not reach quite to the bolt 22, and in that case it would not be necessary to have a perforation through its rear end.

Hinged to the lower face of the lower plate 12 and secured to the lower face of the tongue-beam 15 is a plate 23, having a recess or offset 24 to accommodate the circular brace. The circular brace rides against the lower face of the plate 16 and rides in said offset 24, said offset, however, not being as deep as the

circular brace is thick. Bolts 25 and 26 pass through the plates 16, 18, and 23 and having on their lower ends threaded nuts 27, so that by screwing these nuts up the said tongue-beam may be set at any angle in relation to the cross-beam. The nuts and bolts are usually sufficient to hold the brace tightly between the two plates 18 and 23; but in order to provide against great strain in stumpy and rooty ground I have provided the perforations 21, so that a little pin may be dropped, one on each side of the tongue-beam, through these perforations when deemed necessary.

The device is provided with suitable handles 28.

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

A combination harrow and cultivator, consisting of a cross-beam, provided with horizontal recesses in its front face; perpendicular perforations passing through said beam and said recesses; a perforated plate secured to the bottom face of said cross-beam; standards passing up through the perforations in the bottom plate, perforations and recesses in the cross-beam; threaded U-shaped bolts entering the recesses, and passing through rearward perforations, and around said standards, and adapted to clasp said standards and bind them against the rear walls of said recesses; said U-shaped bolts being provided on their threaded ends with threaded nuts; two hinge-plates secured, one to the bottom, and the other to the top face and center of the cross-beam, their rear ends bent against the rear face of the cross-beam, and their front ends provided with perforations; plates, one secured to the upper, and the other to the lower face of a tongue-beam, their rear ends provided with perforations; said tongue-beam hinged to the cross-beam by means of the four plates, just above mentioned and a bolt passing through the perforations in said plates; a perforated circular brace having each end secured to the ends of the cross-beam, its bowed part riding against the lower plate of the tongue-beam, near the forward end of said plate; a plate provided with an offset near its front end, and secured to the hinged plate of the cross-beam at its rear end; its front end perforated and adapted to be pressed up against the circular brace by means of bolts and nuts; handles secured to said hinge-tongue, and means secured to the front end of said tongue to attach a team, substantially as shown and described and for the purposes set forth.

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

ASA A. BILLINGSLEA.

Witnesses:

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