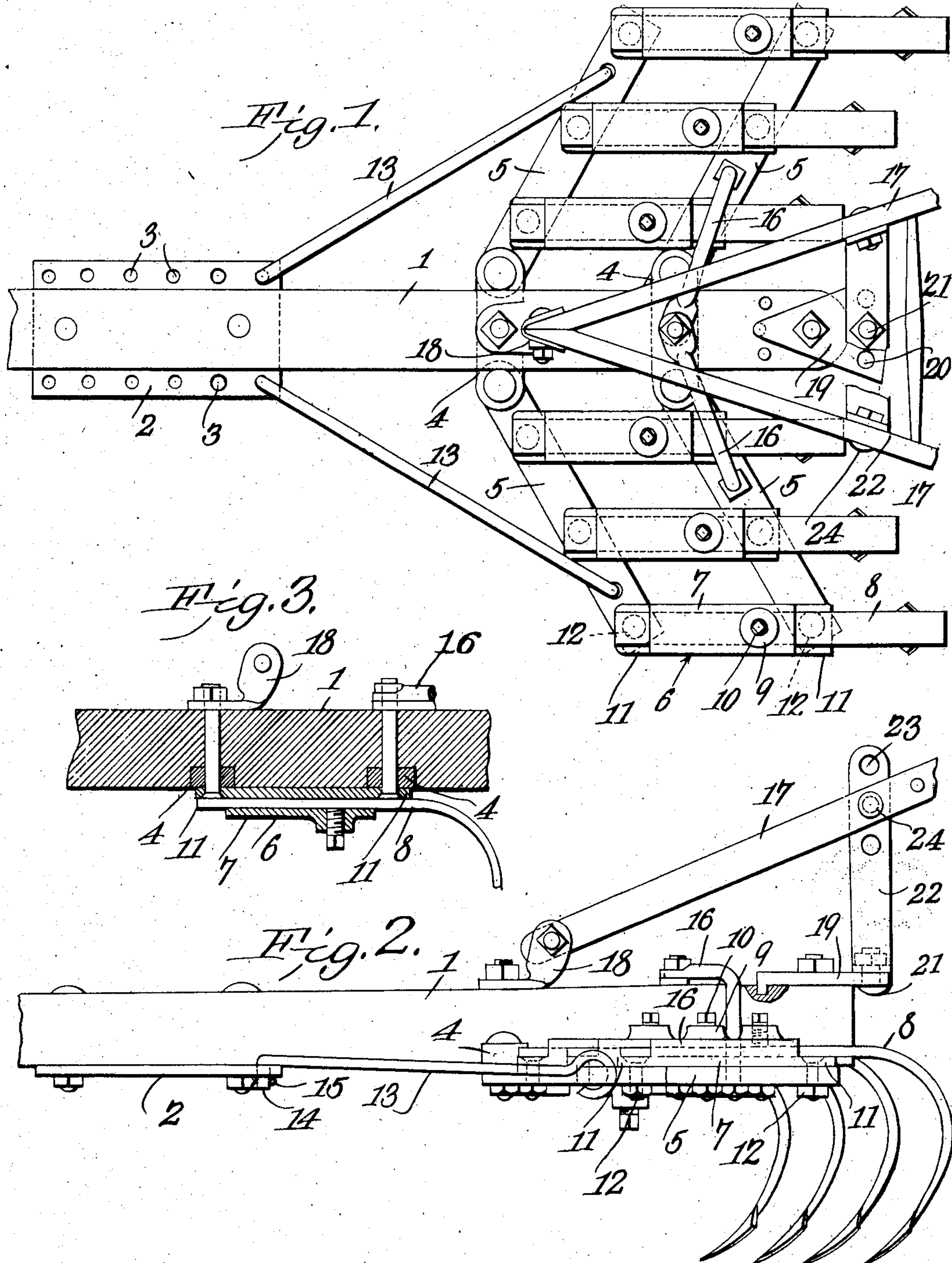


No. 834,300.

PATENTED OCT. 30, 1906.

T. HENDERSON.  
HARROW.

APPLICATION FILED JULY 5, 1906.



WITNESSES:

*E. J. Stewart*  
*W. H. Harker*

*Thomas Henderson*, INVENTOR.

By

*C. A. Snow & Co.*

ATTORNEYS



# UNITED STATES PATENT OFFICE.

THOMAS HENDERSON, OF TENNESSEE COLONY, TEXAS.

## HARROW.

No. 834,300.

Specification of Letters Patent.

Patented Oct. 30, 1906.

Application filed July 5, 1906. Serial No. 324,910.

*To all whom it may concern:*

Be it known that I, THOMAS HENDERSON, a citizen of the United States, residing at Tennessee Colony, in the county of Anderson and State of Texas, have invented a new and useful Harrow, of which the following is a specification.

This invention has relation to harrows; and it consists in the novel construction and arrangement of its parts, as hereinafter shown and described.

The object of the invention is to provide a harrow, preferably of the spring-tooth type, the teeth of which are mounted upon bars which are adapted to swing in horizontal parallel relation. Sleeves are mounted upon the said bars and are pivotally attached at their ends to the same, and as the said bars swing, as above indicated, the said sleeves are carried in a forward or rearward direction; but the said sleeves at all times maintain parallel relation with each other.

A means is provided for securing the arms at the proper angle or inclination with relation to the beam of the harrow, and a means is provided for adjusting the lateral position of the handles with relation to the beam of the harrow. Also braces are provided for reinforcing the arms in relation to the beam of the harrow.

In the accompanying drawings, forming a part of this specification, Figure 1 is a top plan view of the harrow. Fig. 2 is a side elevation of the same, and Fig. 3 is a longitudinal sectional view of part of the beam of the harrow.

The harrow consists of the beam 1, upon the under side of which is secured a plate 2. The longitudinal edges of the said plate 2 are located beyond the vertical sides of the beam 1, and the said plate 2 in such portions as are beyond the vertical sides of the beam 1 is provided with the perforations 3. The transversely-extending bars 4 4 are attached to the under side of the beam 1 and are preferably countersunk in the same. The arms 5 5 are pivotally attached at their inner ends to the ends of the bars 4. The sleeves 6 6 are pivotally attached at their ends to the bars 5 5. All of the said sleeves 6 are of the same construction, and a description of one will answer for all.

Each sleeve consists of the intermediate portion 7, which is adapted to receive the horizontal portion of a harrow-tooth 8. The boss 9 is provided upon the portion 7 of the

said sleeve, and the set-screw 10 is screw-threaded into the said boss 9. The inner end of the set-screw 10 is adapted to engage the tooth 8 and maintain the same in proper relation with the said sleeve. The sleeve is provided at its ends with the horizontal extensions 11 11, which are secured, by means of the pivot-bolts 12, to the arms 5 5. The rods 13 are pivoted at their rear ends to the forward arms 5 and are provided at their forward ends with the hook portions 14, which are adapted to enter the perforations 3 of the plate 2. The said hooks 14 may be retained within the perforations 3 by the cotter-pins 15 or other suitable similar-retaining devices applied thereto. The braces 16 are pivoted at their inner ends to the beam 1 and are pivotally attached at their outer ends one to each of the rear arms 5. The handles 17 are pivotally secured at their forward ends to the yoke 18. The said yoke is in turn pivotally attached to the top of the beam 1 and may swing horizontally thereon. The plate 19 is pivoted at the rear end of the beam and may swing horizontally thereon. The said plate 19 is provided with a number of perforations 20, any one of which is adapted to receive the bolt 21, whereby the yoke 22 is fixed to the said plate. The upper ends of the yoke 22 are provided with a number of perforations 23, which are adapted to receive the bolts 24, whereby the upper ends of the yoke are secured to the handles 17.

From the above description it is obvious that the angle of inclination of the said handles 17 with relation to the beam 1 may be varied to suit occasion and fancy and that the said handles may be swung laterally and suitably secured. It is also obvious that the arms 5 may be swung in parallel relation, so as to bring the working ends of the teeth 8 in substantial alinement across the harrow, or the teeth of one side of the harrow may be arranged in a row which extend at an angle to the line of teeth located on the other side of the harrow.

There is a sleeve located under the beam 1 at a point between the inner ends of the arms 5. The said sleeve 6 is fixed with relation to the beam 1 and carries the harrow-tooth 8, as above described.

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

1. A harrow comprising a beam, arms pivoted to the beam in parallel relation to each



other, sleeves connecting said arms together, and harrow-teeth carried by said sleeves.

2. A harrow comprising a beam, arms pivotally attached to said beam and adapted to swing laterally with relation thereto, harrow-teeth carried by said arms, and handles pivoted to the beam and adapted to be adjusted laterally thereto.

3. A harrow comprising a beam, arms pivoted to the beam, harrow-teeth attached to said arms, handles pivoted to the beam and means for adjusting the vertical position of the rear ends of the handles and the lateral position thereof.

4. A harrow comprising a beam, arms pivotally attached in parallel relation to the beam, sleeves pivoted at their ends to said

arms, and harrow-teeth retained within said sleeves.

5. A harrow comprising a beam, arms pivoted to said beam in parallel relation to each other, sleeves pivotally attached at their ends to said arms, harrow-teeth retained by said sleeves and adapted to be adjusted longitudinally therein, and set-screws passing through the sleeves and engaging said harrow-teeth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

THOMAS HENDERSON.

Witnesses:

J. W. KAY,

M. M. AVANT.