No. 749,158. PATENTED JAN. 12, 1904.

B. F. BRAKEBILL.

HARROW.

APPLICATION FILED AUG. 19, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

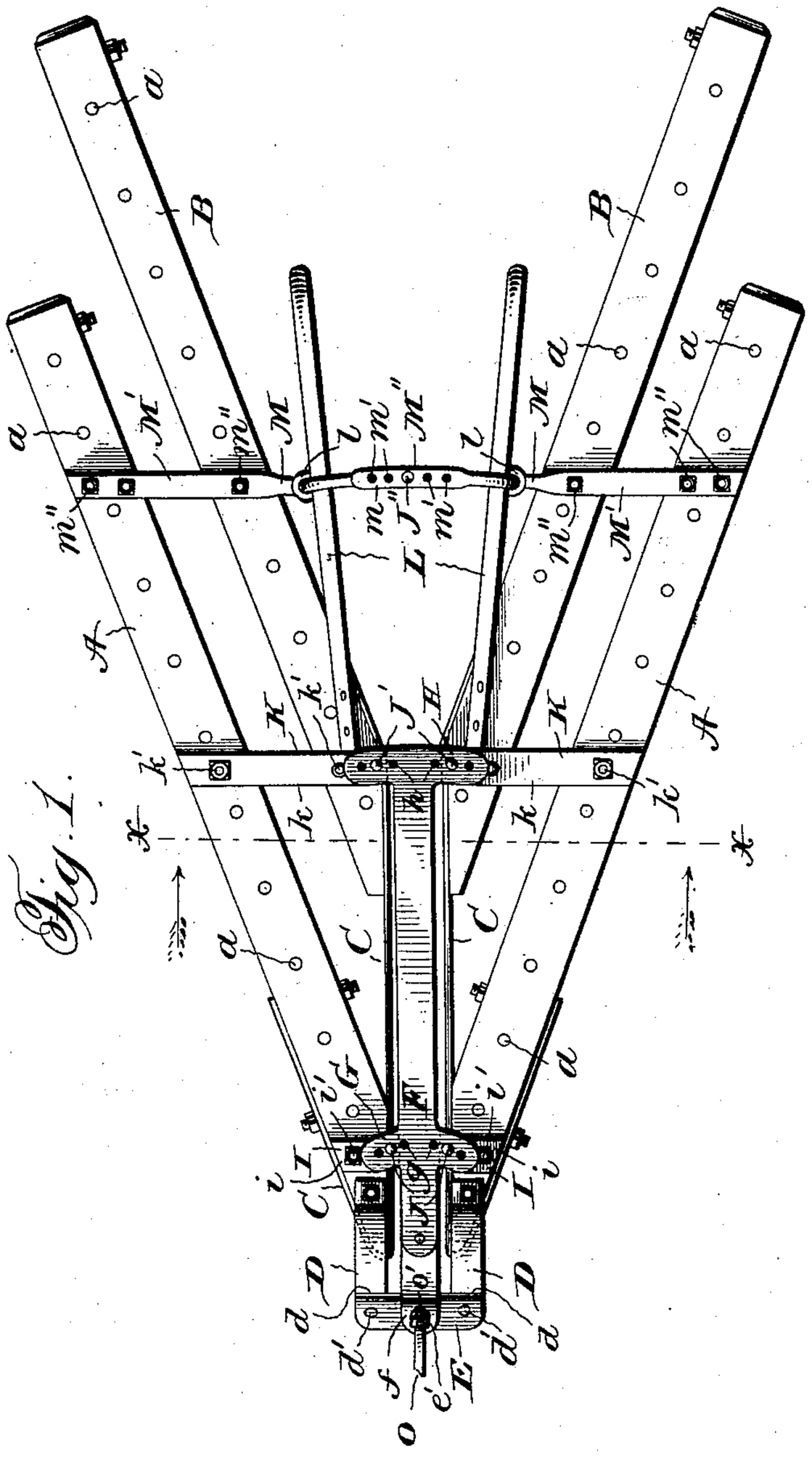

Fig. 1.

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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 2.

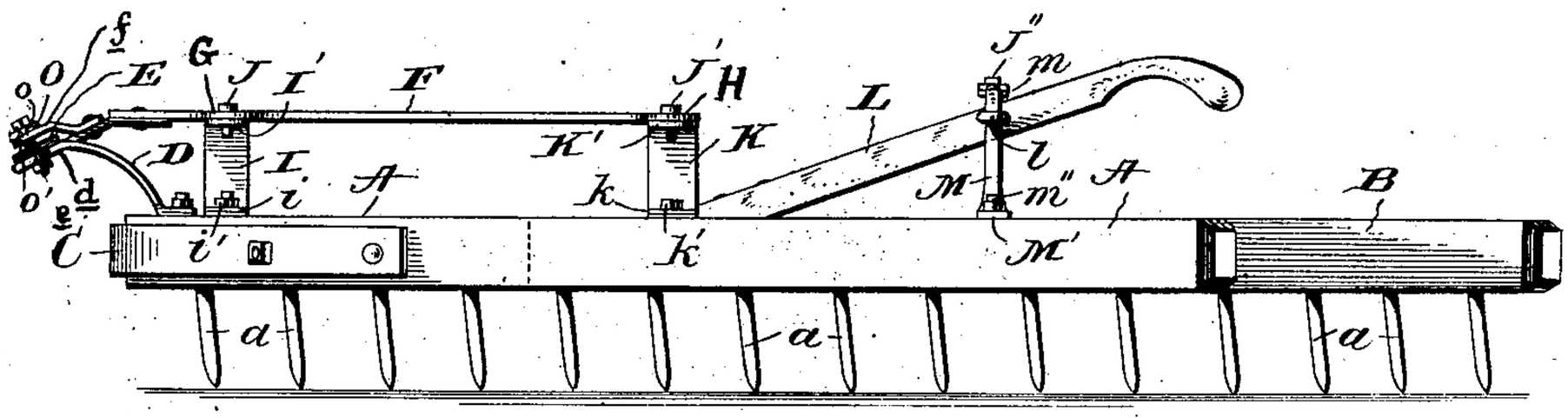


Fig. 3.

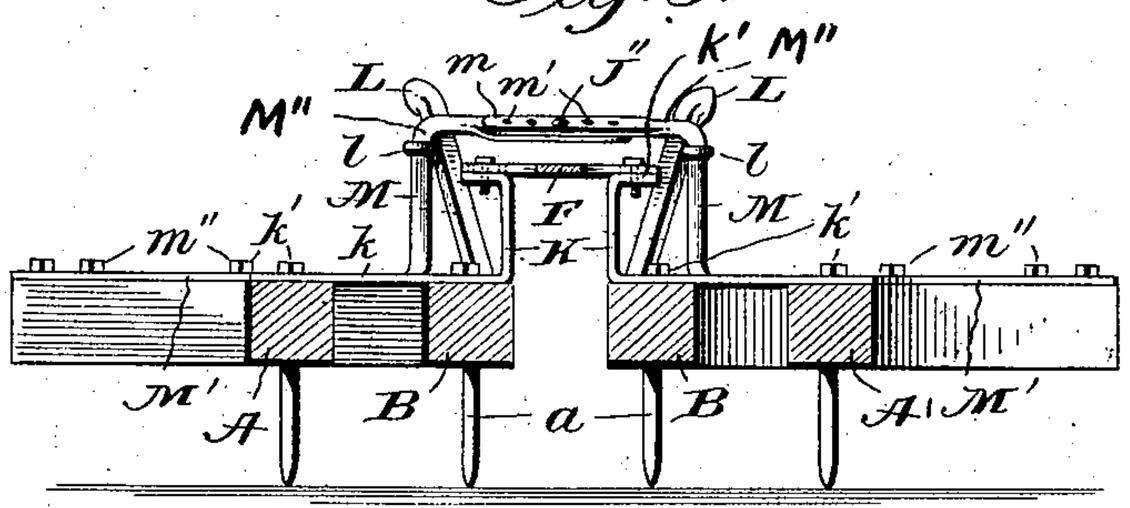


Fig. 4.

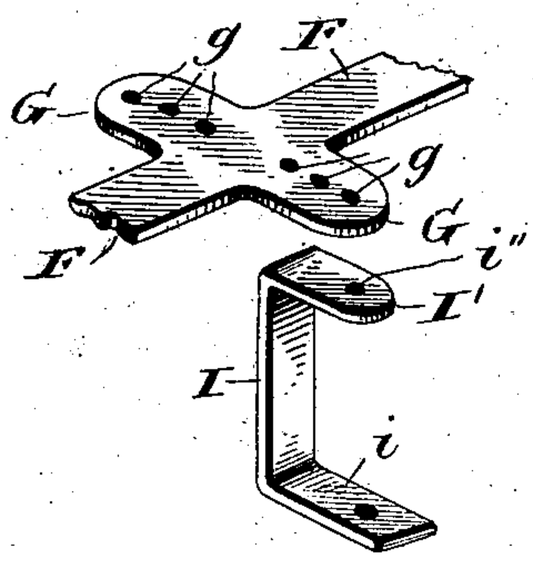
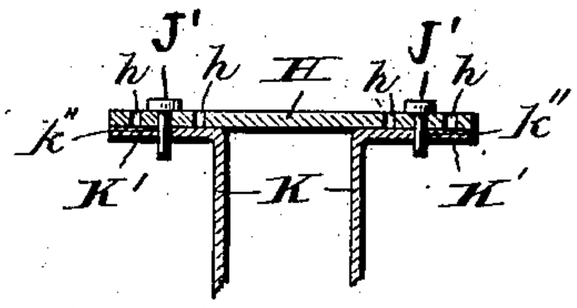


Fig. 5.



Witnesses

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No. 749,158. Patented January 12, 1904.

UNITED STATES PATENT OFFICE.

BENJAMIN FRANKLIN BRAKEBILL, OF PINHOOK LANDING, TENNESSEE.

HARROW.

SPECIFICATION forming part of Letters Patent No. 749,158, dated January 12, 1904.

Application filed August 19, 1903. Serial No. 170,003. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN FRANKLIN BRAKEBILL, a citizen of the United States, residing at Pinhook Landing, in the county of Meigs and State of Tennessee, have invented new and useful Improvements in Harrows, of which the following is a specification.

My invention relates to improvements in harrows, and more particularly to expansible harrows; and it consists of novel means for readily adjusting the wings or sections in relation to each other and retaining them in their adjusted position, together with other novel features to be more particularly pointed out in the following detailed description.

Referring to the accompanying drawings, forming part hereof, wherein a preferable embodiment of my invention is disclosed for the purpose of illustration, Figure 1 is a top plan view of my harrow with portions cut away. Fig. 2 is a side elevation. Fig. 3 is a cross-section on the line *x x* of Fig. 1, and Figs. 4 and 5 are detail views.

Referring now more particularly to the drawings, wherein like reference characters designate corresponding parts in the several views, A designates angularly-arranged outer beams for the harrow, and B similarly-arranged intermediate beams, thus forming a pair of beams or wings A B upon the opposite sides of the harrow, all of said beams having the usual teeth *a* projecting therebeneath. Arranged to rigidly connect the adjoining front ends of the intermediate and outer beams are suitable nose-plates C. Secured to the outer beams A at a point adjacent to the front ends thereof are upwardly-curved arms D, terminating at their upper ends in a straight portion *d*, to which is pivotally secured at *d'* a bridge-piece E. Extending rearwardly from the bridge-piece E and connected thereto is an elongated longitudinal bar F, having transverse cross-plates G and H, slightly curved throughout their length and having a plurality of apertures *g* and *h*, respectively, therethrough. Arranged to support the bar F at its forward end are upwardly-extended brackets I, having feet *i*, secured by bolts *i''* to the outer beams A and having at their upper ends outward extensions I', apertured at *i''*, said apertures arranged to register with the apertures *g* of the plate G, through which registering apertures pins J are adapted to pass for connecting the parts G and I' in various adjusted positions. Arranged to support the rear portion of the bar F are upwardly-extended brackets K, having elongated feet *k* secured by bolts *k'* to the respective pairs of beams A B upon the opposite sides of the harrow. The brackets K terminate at their upper ends in outward extensions K', having apertures *k''*, said apertures arranged to register with the apertures *h* of the cross-plate H, through which registering apertures pins J' are adapted to pass to connect the parts H and K' in adjusted positions. L are handles extending upwardly and rearwardly from the forward end of the intermediate beams B. Brackets M, having elongated feet M' secured to the respective pairs of beams A B by bolts *m''*, are arranged to pass through ears *l* on the handle L and have inwardly-turned extensions M'' passing over the handles, said extensions having flat overlapping ends *m*, with a series of registering apertures *m'*, through which is passed a pin J'', whereby the overlapping portions are connected.

The operation is obvious. When it is desired to adjust the relative positions of the pairs of beams or wings A B, the pins J, J', and J'' are removed, when the beams A B will be free to swing inwardly or outwardly from their respective pivots *d'* through the instrumentality of the handles thereon. When the desired angularity of the beams is obtained, the pins J, J', and J'' will be again passed through the appropriate registering apertures, which will retain the parts in their adjusted position while the operation of the harrow is proceeded with.

The bridge-piece E is preferably apertured at *e*, and an elongated spring member *f*, secured to the bar F, extends over said bridge-piece and has a complementary aperture *e'*, between which bridge-piece E and member *f* any suitable draft attachment O, apertured at *o*, may be placed and secured by a bolt *o'*.

Many minor changes may be made in the

details of the construction of my device without in the least departing from the spirit of my invention.

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

1. In a harrow, the combination of outer beams, having upwardly-curved arms at their forward ends, a bridge pivotally connecting the arms, a longitudinal bar extending rearwardly from the bridge, a transverse bar secured thereto and having a series of apertures therethrough, intermediate beams secured to the outer beams, brackets secured to the intermediate and outer beams, and having flanges at their upper end apertured complementary to the apertures in the transverse bar, and a pin arranged to pass through said complementary apertures.

2. In a harrow, the combination of outer beams having upwardly-curved arms at their forward ends, a bridge pivotally connecting the arms, intermediate beams secured to the outer beams, a rearwardly-extending longitudinal bar secured to said bridge, supporting-brackets for the bar, secured to the outer beams, and an adjustable connection between the same and the bar, supplemental brackets secured to and extending between the intermediate and outer beams, and an adjustable connection between said supplemental brackets and the longitudinal bar.

3. In a harrow, the combination of the beams having a pivotal connection at their forward ends, handles on the beams, ears on the handles, brackets on the beams, said brackets passing through the ears on the handles, and an adjustable connection between the inner ends of the brackets.

4. In a harrow, the combination of outer beams, intermediate beams secured thereto, handles upon the intermediate beams, ears upon the handles, brackets secured to the intermediate and outer beams and passing through the ears of the handles, and an adjustable connection between the inner ends of the brackets.

5. In a harrow, the combination of outer beams, a bridge pivotally connecting the forward ends thereof, intermediate beams secured to the outer beams, a rearwardly-extending longitudinal bar secured to said bridge, supporting-brackets for the bar secured to the outer beams, and an adjustable connection between the same and the bar, supplemental brackets secured to and extending between the intermediate and outer beams, and an adjustable connection between said supplemental brackets and the longitudinal bar.

6. In a harrow, the combination of beams, having upwardly-curved arms at their forward ends, a bridge pivotally connecting the arms, a longitudinal bar extending rearwardly from said bridge, a curved transverse bar secured thereto and having a series of apertures therethrough, brackets secured to said beams and having flanges at their upper ends apertured complementary to the apertures in the transverse bar, and a pin arranged to pass through said complementary apertures.

7. In a harrow, the combination of beams having upwardly-curved arms at their forward ends, a bridge pivotally connecting the arms, a rearwardly-extending longitudinal bar secured to said bridge, supporting-brackets for the longitudinal bar secured to the beams at their lower ends and adjustably secured to the bar at their upper ends, handles on the beams, ears on the handles, supplemental brackets on the beams passing through the ears on the handles, and an adjustable connection between the inner ends of said supplemental brackets.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

BENJAMIN FRANKLIN BRAKEBILL.

Witnesses:
T. F. HEIRD,
SIDNEY HEIRD.