

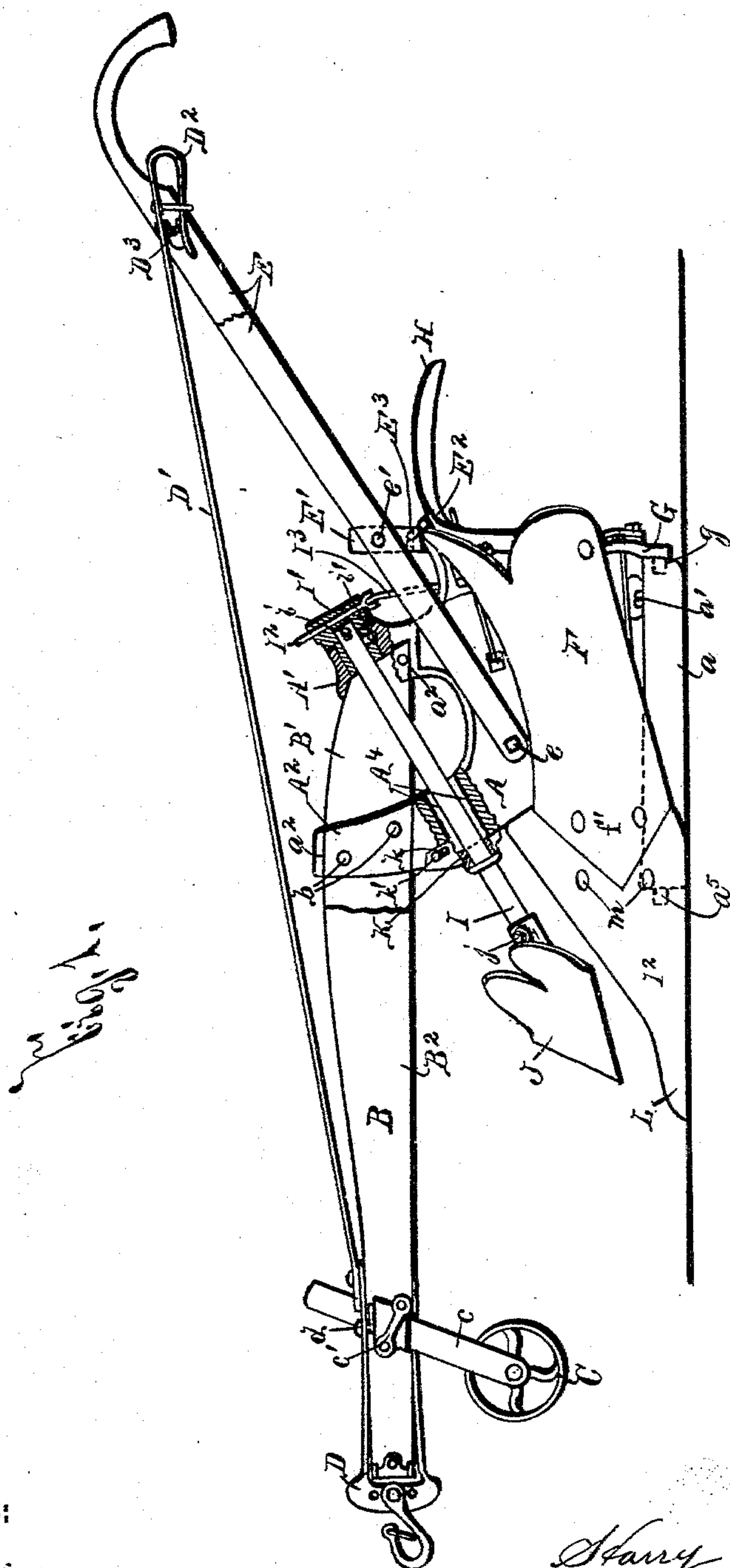
(No Model.)

3 Sheets—Sheet 1.

H. WIARD.  
PLOW.

No. 515,417.

Patented Feb. 27, 1894.



WITNESSES:

*E. A. Weitzburg.*  
*H. Chase,*

INVENTOR

*Harry Wiard*

BY

*Abby Wilkins & Parsons*  
ATTORNEYS.

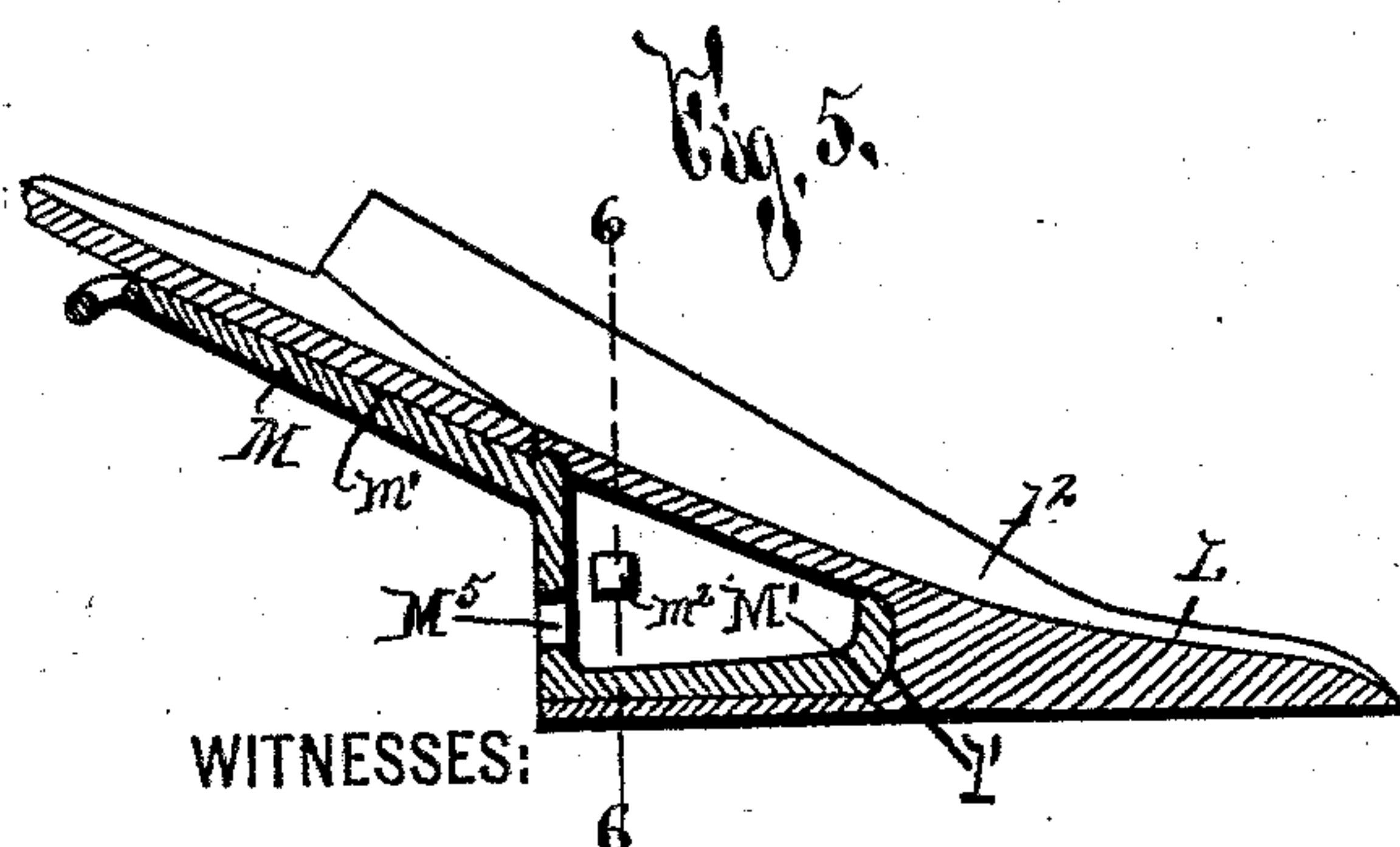
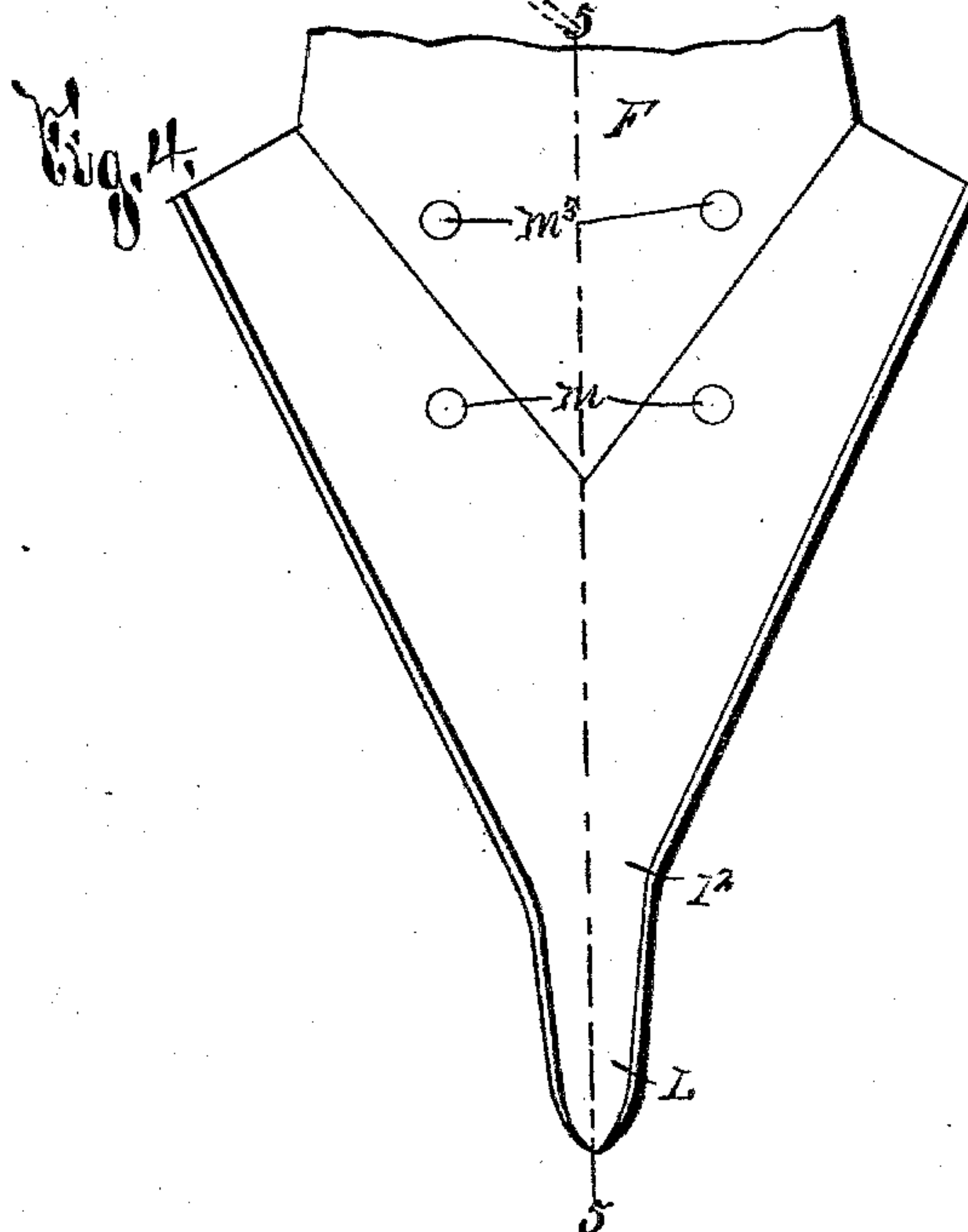
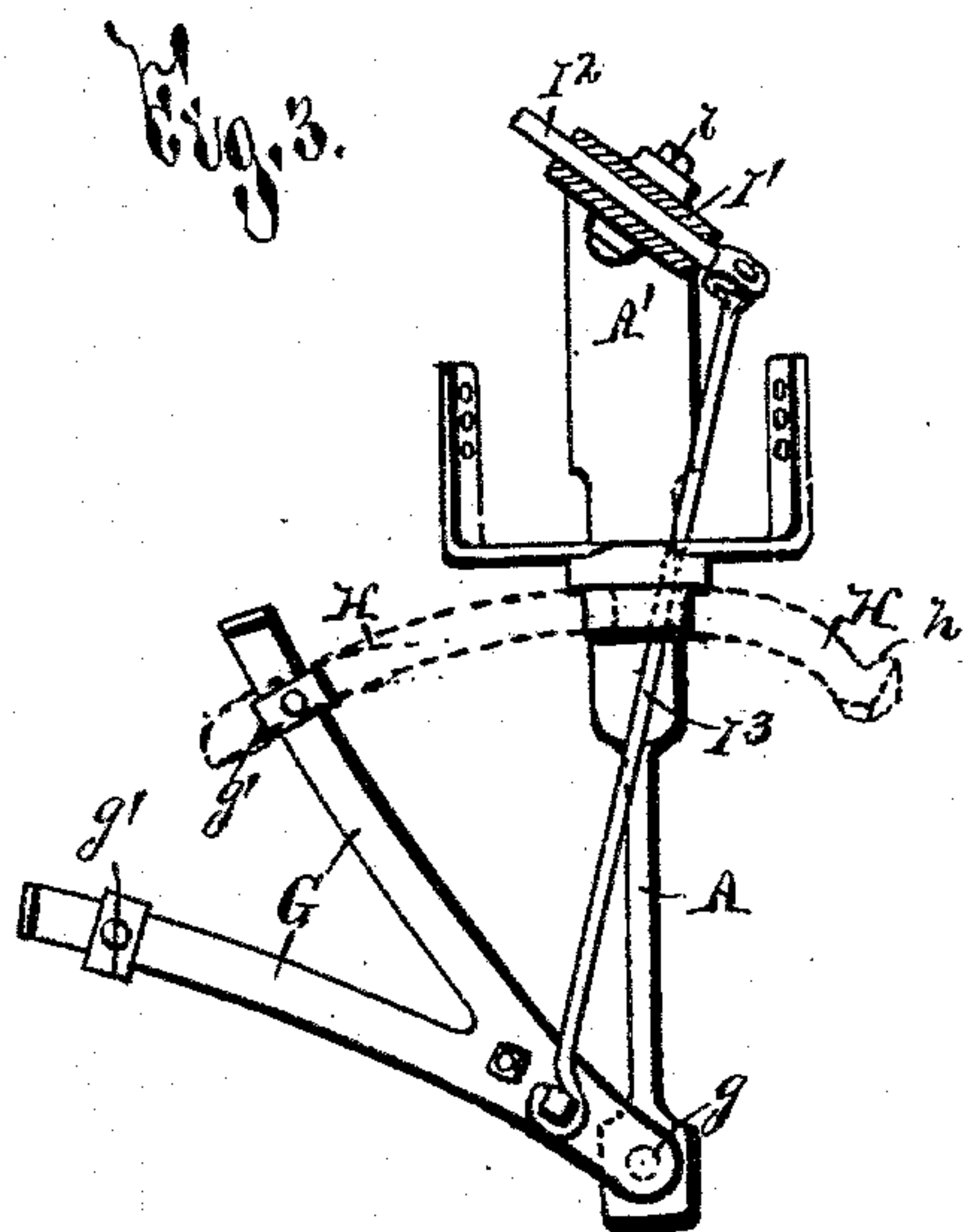
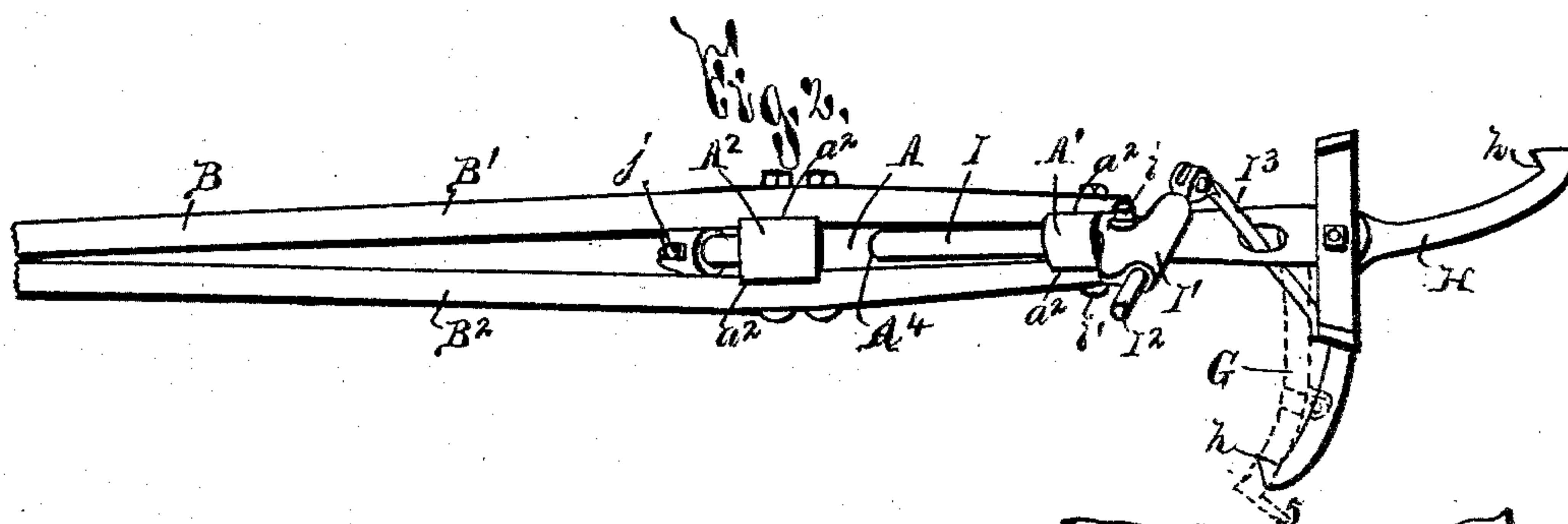
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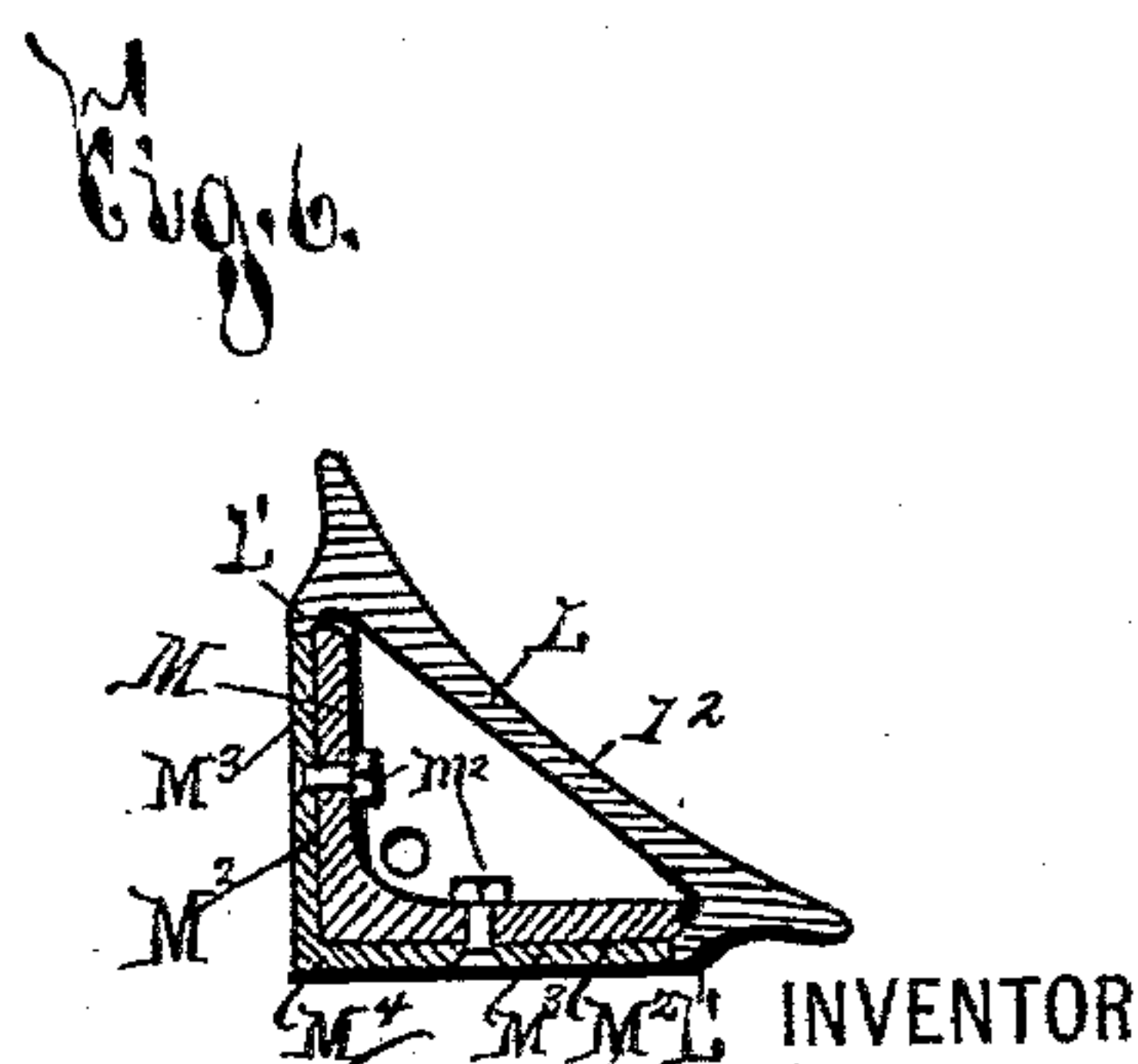
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E. A. Mearns.  
H. E. Chase,



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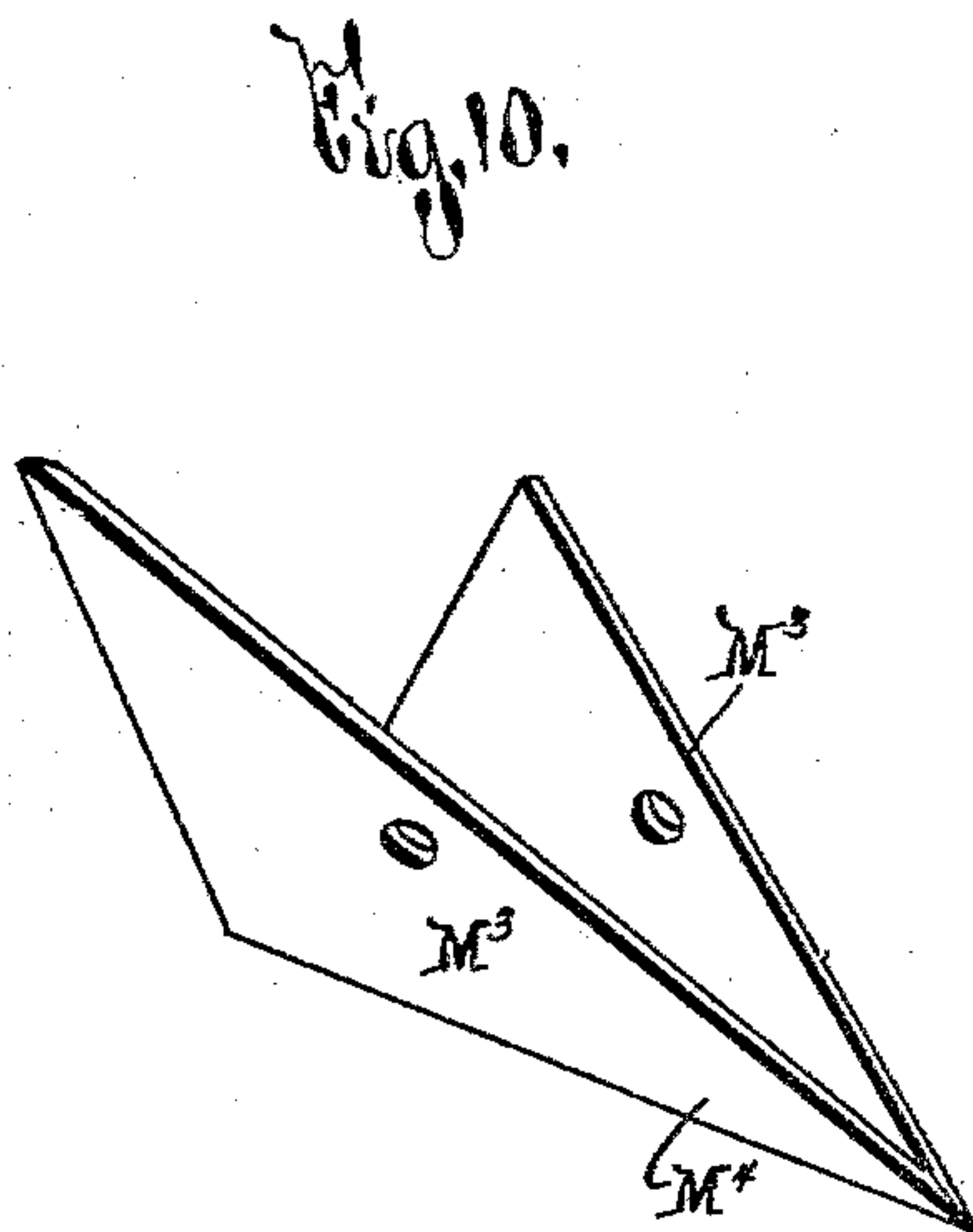
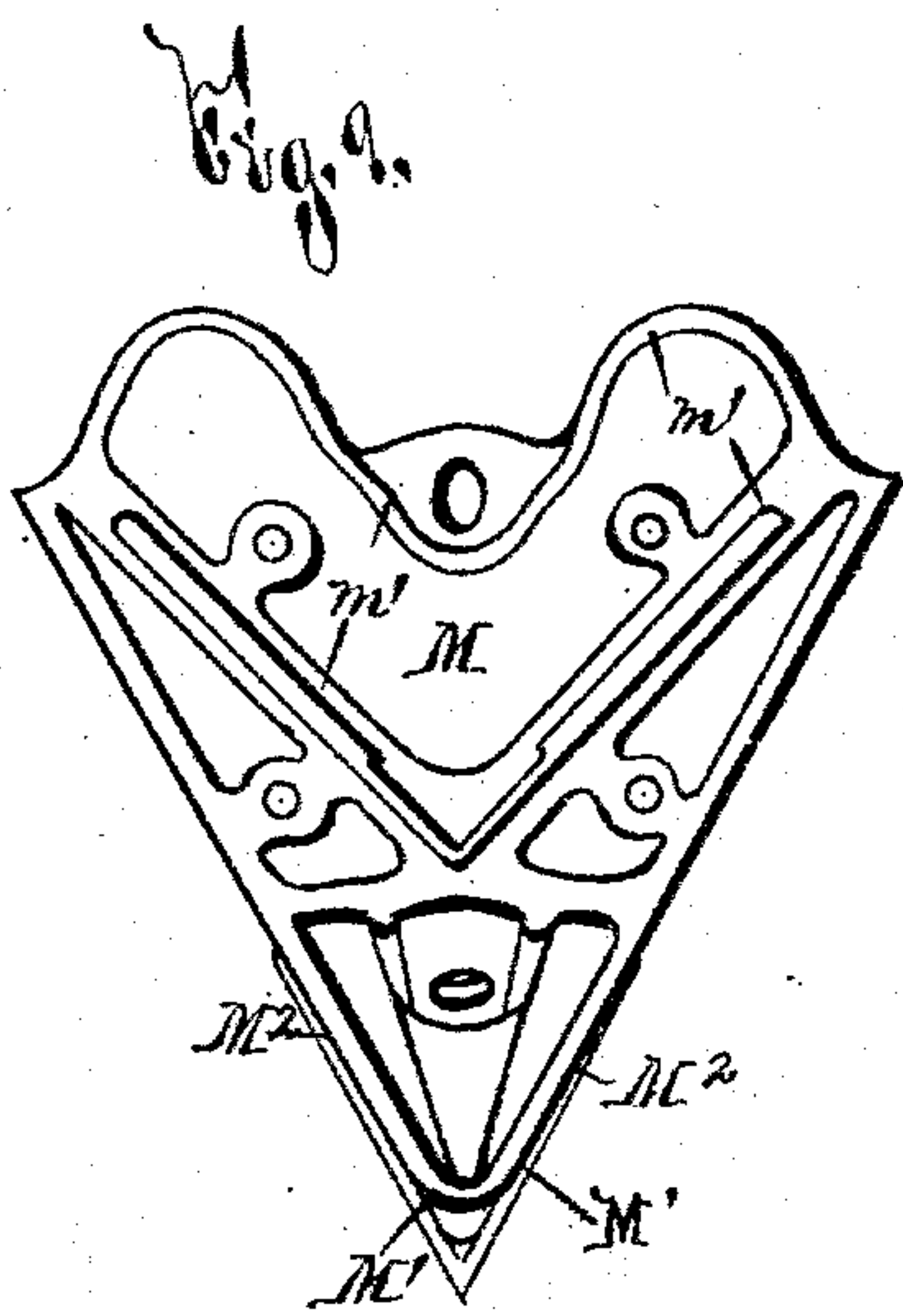
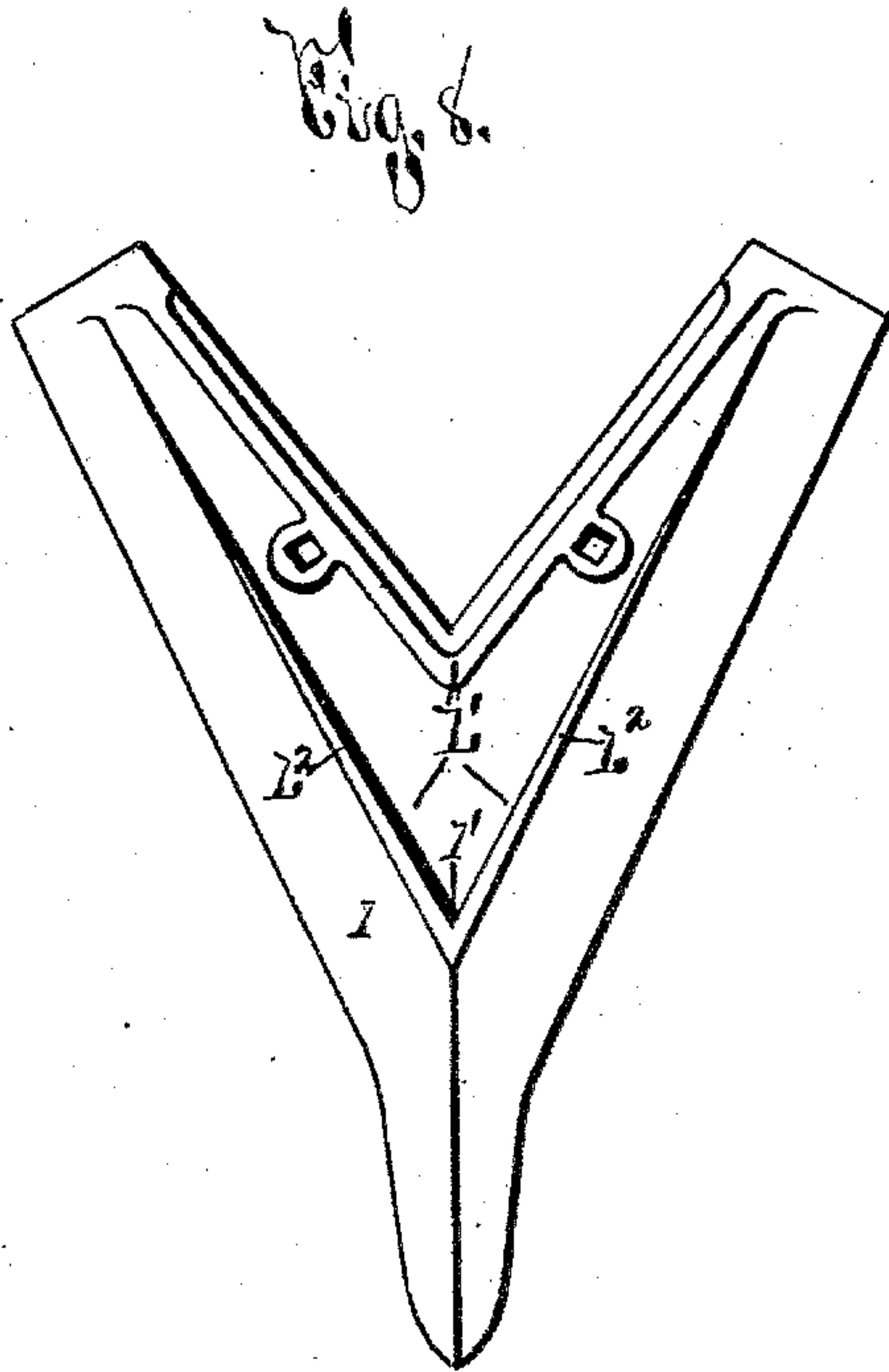
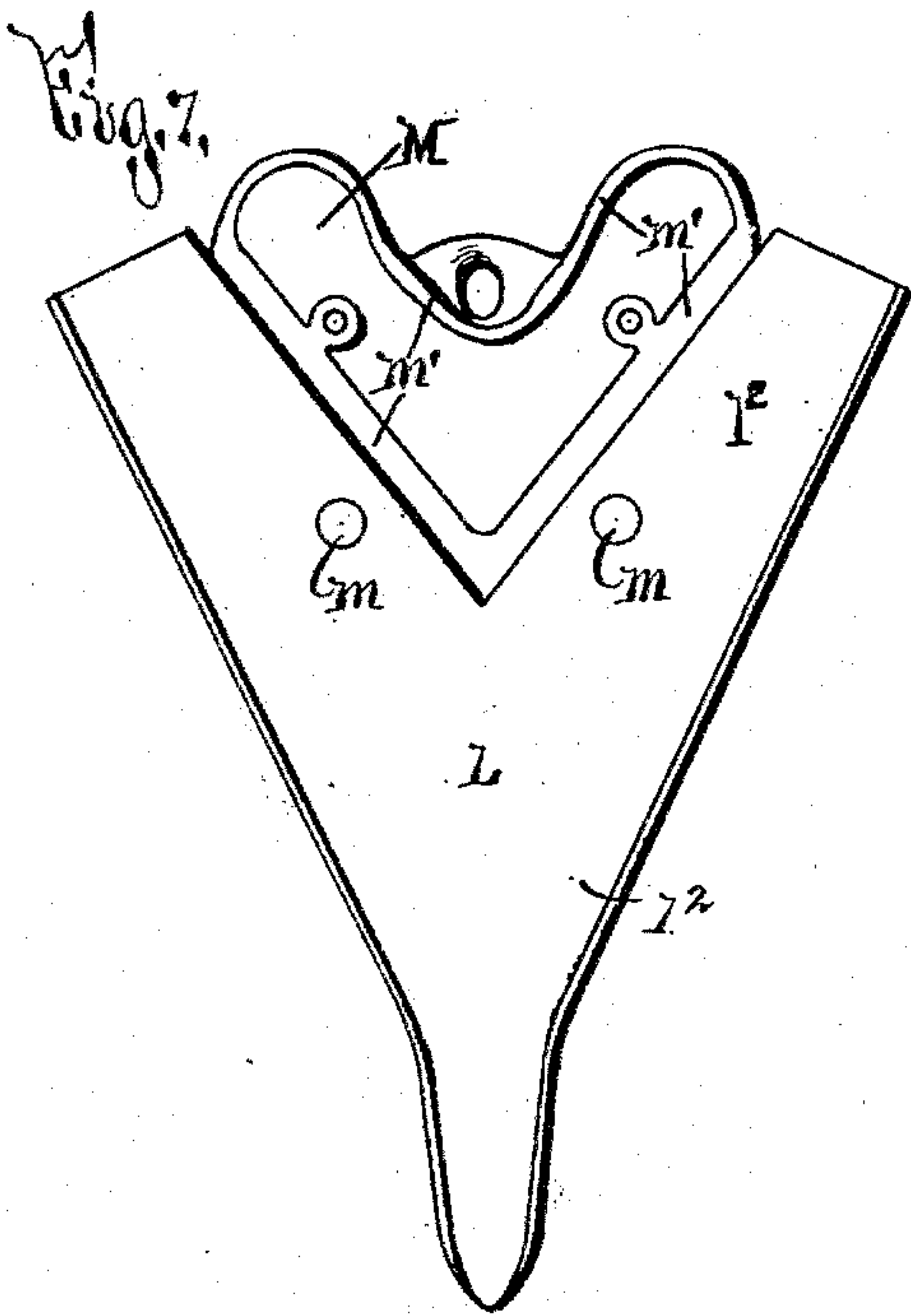
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3 Sheets—Sheet 3

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WITNESSES:

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# UNITED STATES PATENT OFFICE.

HARRY WIARD, OF SYRACUSE, NEW YORK.

## PLOW.

SPECIFICATION forming part of Letters Patent No. 515,417, dated February 27, 1894.

Application filed May 3, 1892. Serial No. 431,673. (No model.)

*To all whom it may concern:*

Be it known that I, HARRY WIARD, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful  
5 Improvements in Plows, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to improvements in  
10 hillside plows, and has for its object the production of a simple and effective device, particularly practical, durable in wear, and economical in manufacture; and to this end it consists, essentially, in a standard, a divided  
15 beam secured to the standard, a jointer standard passed diagonally through the divided rear end of the beam and the plow standard, a detachable point having the rear extremity of its under face formed with a depressed en-  
20 gaging face and provided with forwardly extending shoulders at the forward edge of said face, a frog detachably secured to the point and having its forward end formed with substantially right angular faces depressed with-  
25 in the plane of the outer face of the forwardly inclined shoulders of the point, a wearing plate having substantially right angular walls secured to the depressed faces of the frog and having their outer faces disposed in planes  
30 substantially coincident with those of the outer faces of said shoulders of the point, and a mold-board having its forward end secured to the rear end of the frog.

The invention furthermore consists in the  
35 detail construction and arrangement of the parts, all as hereinafter more particularly described and pointed out in the claims.

In describing this invention, reference is had to the accompanying drawings, forming  
40 a part of this specification, in which like letters indicate corresponding parts in all the views.

Figure 1 represents a side elevation of my improved invention. Fig. 2 is a top plan view  
45 of the detached rear end of the beam, the plow standard, and the catch for holding the mold-board in position. Fig. 3 is a rear elevation of the plow standard, the mold-board bracket and the movable connection between the mold-  
50 board bracket and the jointer standard for varying the position of the jointer. Fig. 4 is a top face view of the plow point and the for-

ward end of the mold-board. Fig. 5 is a longitudinal vertical sectional view, taken on line —5—5—, Fig. 4. Fig. 6 is a transverse  
55 vertical sectional view, taken on line —6—6—, Fig. 5. Fig. 7 is a view representing the top face of the detached point and the frog operatively secured together. Fig. 8 is a view of the under face of the detached point, the frog  
60 being removed. Fig. 9 is a view representing the top face of the detached frog, and Fig. 10 is an isometric perspective of the detached wearing plate secured to the forward end of the frog.

—A— represents the plow standard, which is of desirable form, size, and construction, and is provided with a removable shoe —a— secured thereto by bolts —a'—. At the up-  
65 per end of the standard —A— are arms —A'— and —A<sup>2</sup>—, and secured to said arms by bolts —b— is the beam —B—. As best seen at Fig. 2 the beam —B— is split or divided, and consists of sections —B'— and —B<sup>2</sup>— having their rear ends arranged on opposite sides of  
75 the standard arms —A'—A<sup>2</sup>— and engaged by shoulders —a<sup>2</sup>—a<sup>2</sup>— upon the arms —A'—A<sup>2</sup>—.

The beam —B— is provided with a suitable land wheel —C— journaled in an adjustable  
80 bearing —c— movable through metallic loops —c'—, and is also provided with an adjustable clevis —D— pivoted to the beam at —d— and rigidly secured at —d'— to the clevis shifter —D'—. The rear end of the clevis  
85 shifter is formed with a spring loop —D<sup>2</sup>— and engages notches in a cross bar —D<sup>3</sup>— between the handles —E—. The forward ends of the handles are secured at —e— to the standard —A—, and at —e'— to a cross brack-  
90 et —E'— formed with the depressed central portion —E<sup>2</sup>— secured by a bolt —E<sup>3</sup>— to a rear arm —A<sup>3</sup>— upon the plow standard —A—.

—F— is the mold-board and —G— the  
95 usual bracket for supporting the rear end of the mold-board. The lower end of this bracket —G— is provided with a lug —g— journaled in the standard shoe —a—, and is held in either its left or right hand position by a  
100 suitable catch —H— consisting of a lever pivoted to the arm —A<sup>3</sup>— and provided with hooks —h— for engaging shoulders —g'— upon the bracket —G—.



—I— is the jointer standard, which, as best seen at Fig. 1, is disposed in an inclined plane, and is passed between the sections of the beam —B— and through openings —A<sup>4</sup>— in the plow standard arms —A'—A<sup>2</sup>— at the rear of the forward end of the arm A<sup>2</sup>. Secured by a pin —i— to the upper end of the jointer standard —I— is a head —I'— secured to the arm —A'— by a pin —i'—.

—I<sup>2</sup>— is a bar movable lengthwise in the head —I'—, and —I<sup>3</sup>— is a link having one end hinged to the lower end of said bar and the other to the lower end of the bracket —G—. The lower end of the jointer standard is directly beneath the beam —B—, and secured thereto by a setscrew —j— is the jointer —J—, which is of any desirable form, size, and construction.

—K— is a bearing for the lower end of the jointer standard formed with a slot —k— through which is passed a bolt —k'— for adjustably securing said bearing to the standard arm —A<sup>2</sup>—. As the mold-board is shifted in the usual manner from its right hand to its left hand position the jointer is correspondingly shifted by means of the movable bar —I<sup>2</sup>— and the link —I<sup>3</sup>—.

—L— represents the plow point, and —M— the frog. The rear extremity of the under face —l— of the plow point is formed with the depressed engaging face —L'—, and the forwardly inclined shoulders —L<sup>2</sup>—, the outer face of which form alternately a part of the landsides of the point. The upright faces of these shoulders form engaging shoulders —l'— and, as best seen at Fig. 5, these engaging shoulders are inclined rearwardly. The frog —M— is mounted beneath the engaging face —L'—, and its forward end is provided with forwardly inclined shoulders —M'— adapted to engage the shoulders —l'— and firmly hold the forward end of the frog in position.

—m—m— represent suitable clamps, as bolts, for securing the frog to the rear end of the point, and, as best seen at Fig. 7, the rear extremity of the frog projects rearwardly from the rear end of the point —L—, and its top face —m'— is depressed below the plane of the corresponding face —l<sup>2</sup>— of the point —L—.

The frog —M— is formed at its forward extremity with substantially right angular shoulders —M<sup>2</sup>—M<sup>2</sup>— depressed within the plane of the outer faces of the shoulders —L'—, as best seen at Fig. 6, and secured to these faces by clamps or bolts —m<sup>2</sup>— are the opposite substantially right angular walls —M<sup>3</sup>—M<sup>3</sup>— of a wearing plate —M<sup>4</sup>—. As also seen at Fig. 6 the outer faces of these walls —M<sup>3</sup>—M<sup>3</sup>— are disposed in planes substantially coincident with those of the outer faces of the shoulders —L'—L'—, and consequently, as these walls become alternately the land side of the frog, they are coincident with the land side of the point and do not retard the forward movement of the plow as would

be the case did the outer faces of said walls project beyond the land side of the point.

The frog —M— is preferably formed with an opening —M<sup>5</sup>— for receiving a stud —a'— upon the shoe —a— in order to pivot the forward end of the mold-board to the plow standard.

The forward end —f'— of the mold-board —F— is mounted upon the depressed face —m'— of the frog, and is secured thereto by suitable clamps, as bolts —m<sup>3</sup>—.

As previously described my invention is provided with a divided beam, and consequently the same is not weakened in the slightest by securing the jointer in position, and the peculiar arrangement of said plow standard, beam, and jointer standard presents a neat and pleasing appearance. More over the wearing point —M<sup>2</sup>— greatly lengthens the life of my plow, as, when worn, the same may be readily replaced at a slight cost and there is no necessity for throwing away the frog or the frog and mold-board when the frog and mold-board are formed integral.

The operation of my invention will be readily perceived from the foregoing description and upon reference to the drawings, and it will be evident that the same is particularly simple, practical, durable, efficient, and economical in manufacture. It is evident, however, that the detail construction and arrangement of the parts of my plow may be somewhat varied without departing from the spirit of my invention, hence I do not herein limit myself to such precise detail construction and arrangement.

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

1. In a hillside plow, the combination of a standard, the opposite sections of a beam secured to said standard and having portions of their rear ends separated, a movable jointer standard passed diagonally between said separated portions of the beam sections, the portion of said standard interposed between said beam sections being formed of less diameter than the distance between said separated portions for permitting the standard to move freely between the beam sections, and a reversible jointer secured to said jointer standard, substantially as and for the purpose described.

2. In a hillside plow, the combination of a standard, a beam removably secured to the standard, a jointer standard passed diagonally through the longitudinal central portion of the rear end of the beam and passed through the standard at a point beneath the beam, a bearing for the jointer standard adjustably secured to the standard and a reversible jointer secured to said jointer standard, substantially as and for the purpose specified.

3. In a hillside plow, the combination of a standard, a mold-board hinged to the standard, a frog having depressed substantially



right angular faces, and a point having forwardly inclining shoulders in advance of said faces; of a wearing plate formed with substantially right angular walls secured to said depressed faces and arranged with their outer faces in planes substantially coincident with the outer planes of said shoulders, substantially as and for the purpose described.

4. In a hillside plow, the combination of a standard, a mold-board hinged to the standard, a point, a frog detachably secured to the mold board and formed with substantially right angular faces, and a wearing plate having substantially right angular walls secured to said faces and adapted to alternately become the landside of the frog, substantially as specified.

5. In a hillside plow, the combination of a standard, a detachable point, a mold-board hinged to the standard and provided with a frog having substantially right angular faces depressed within the plane of the outer faces of the point; of a wearing plate formed with substantially right angular walls secured to said depressed faces and arranged with their outer faces in planes substantially coincident with those of the adjacent portions of the outer faces of the point, substantially as and for the purpose set forth.

6. In a hillside plow the combination of a standard, a mold board hinged to the standard, a frog detachably secured to the mold board and formed with substantially right angular faces, and a wearing plate having substantially right angular walls secured to said faces and adapted to alternately become the landside of the frog, and a point detachably secured to said frog, substantially as and for the purpose described.

7. In a hillside plow, the combination of a detachable point having a depressed attaching face at the rear extremity of its under side, a frog having its forward end secured to the depressed attaching face of the point and arranged with its upper face beneath the plane of the corresponding face of the rear

end of the point and provided with substantially right angular faces at its forward extremity, a wearing plate having substantially right angular walls secured to said faces for alternately becoming the landside of the frog, and a mold-board having its forward end secured to the upper face of the frog and having the forward portion of its upper face disposed in a plane substantially coincident with the adjacent portion of the point, substantially as and for the purpose specified.

8. In a hillside plow, the combination of a detachable point having a depressed attaching face at the rear extremity of its under side and forwardly inclining shoulders on its under side, a frog having its forward end secured to the depressed attaching face of the point and its rear end projecting rearwardly from the rear edge of the point and arranged with its upper face beneath the plane of the corresponding face of the rear end of the point and provided with substantially right angular faces at its forward extremity disposed within the planes of the outer faces of the forwardly inclining shoulders of the point, a wearing plate having substantially right angular walls secured to said faces and arranged with their outer faces substantially coincident with the planes of the outer faces of the inclined shoulders of the point for alternately becoming the landside of the frog, and a mold-board having its forward end secured to the upper face of the frog and having the forward portion of its upper face disposed in a plane substantially coincident with the adjacent portion of the point, substantially as and for the purpose specified.

In testimony whereof I have hereunto signed my name, in the presence of two attesting witnesses, at Syracuse, in the county of Onondaga, in the State of New York, this 2d day of May, 1892.

HARRY WIARD.

Witnesses:

CLARK H. NORTON,  
E. A. WEISBURG.