

(No Model.)

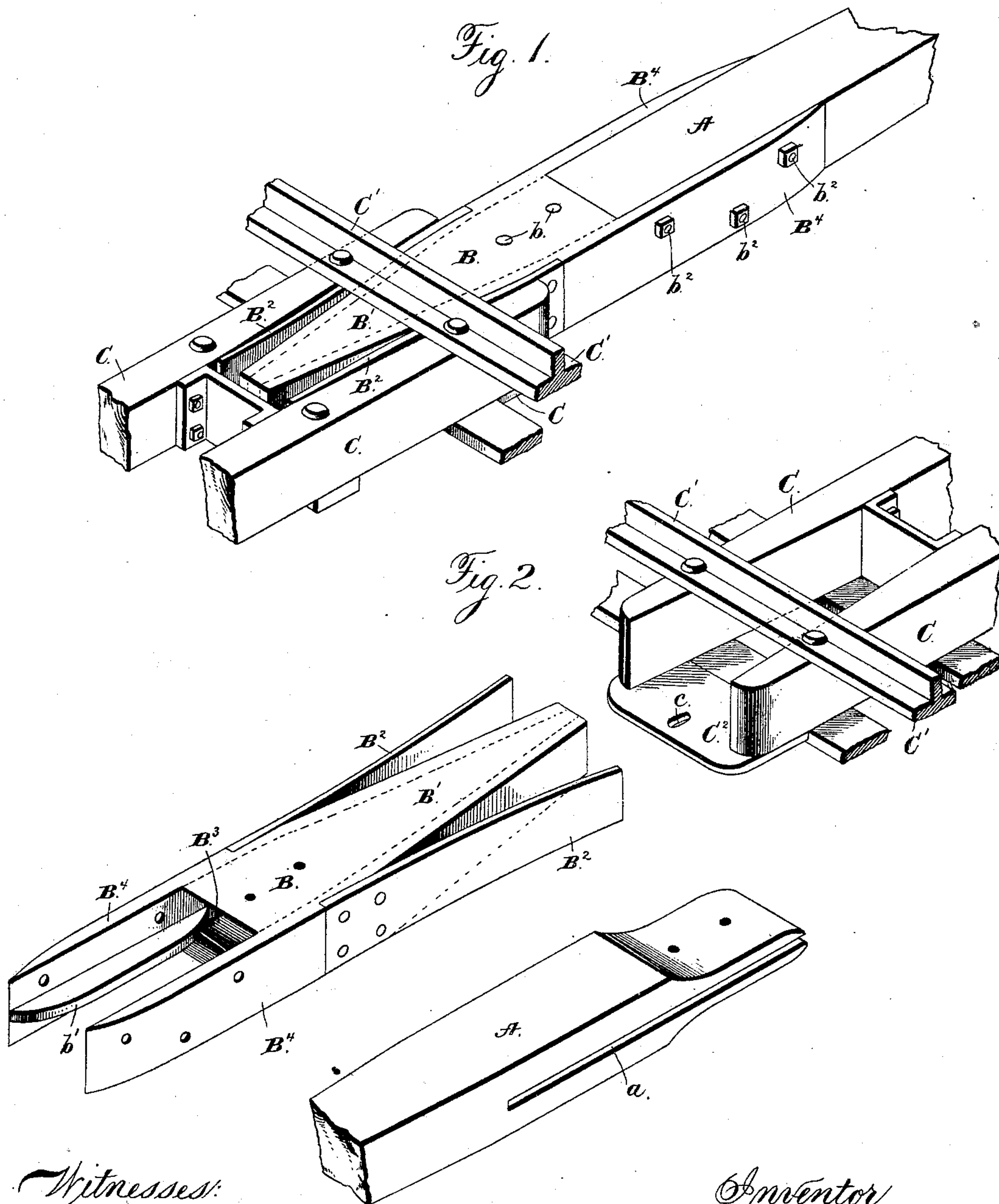
2 Sheets—Sheet 1.

D. S. TUTHILL.

WAGON POLE.

No. 430,493.

Patented June 17, 1890.



Witnesses:

Jack Hutchinson.

Henry C. Hazard.

Inventor

Daniel S. Tuthill  
by Prindle and Russell  
his attorneys

(No Model.)

2 Sheets—Sheet 2.

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Fig. 3.

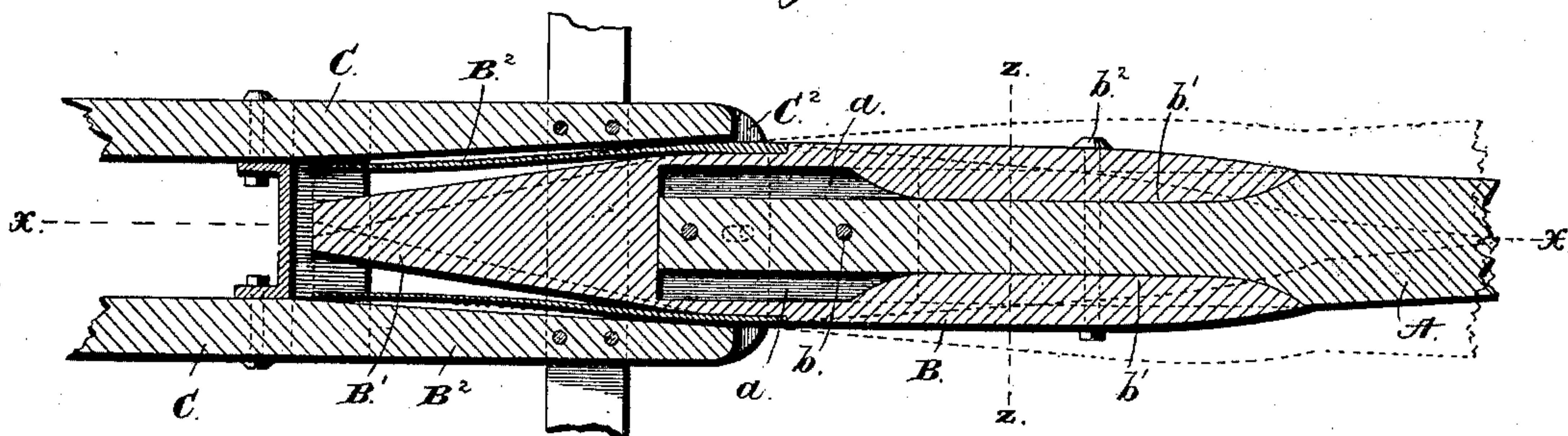


Fig. 4.

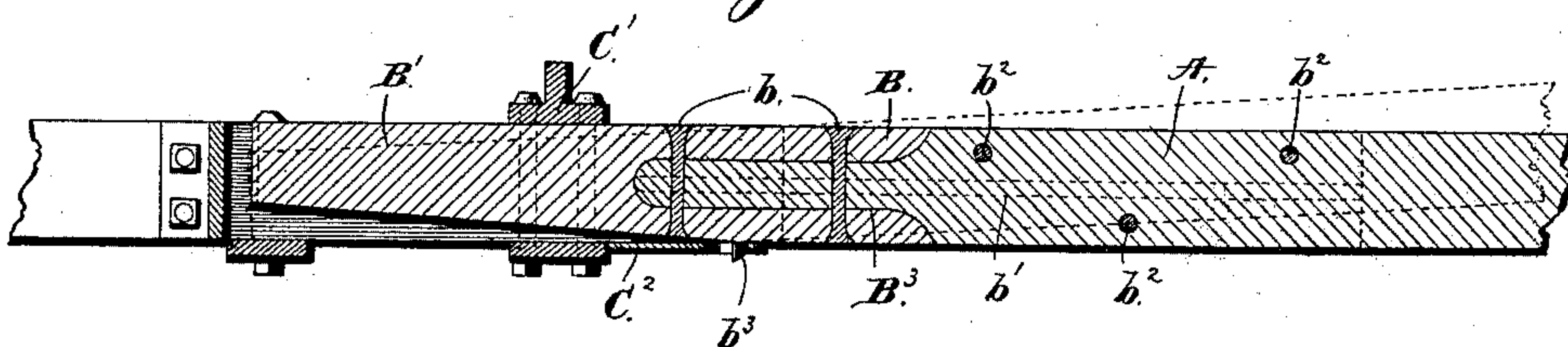
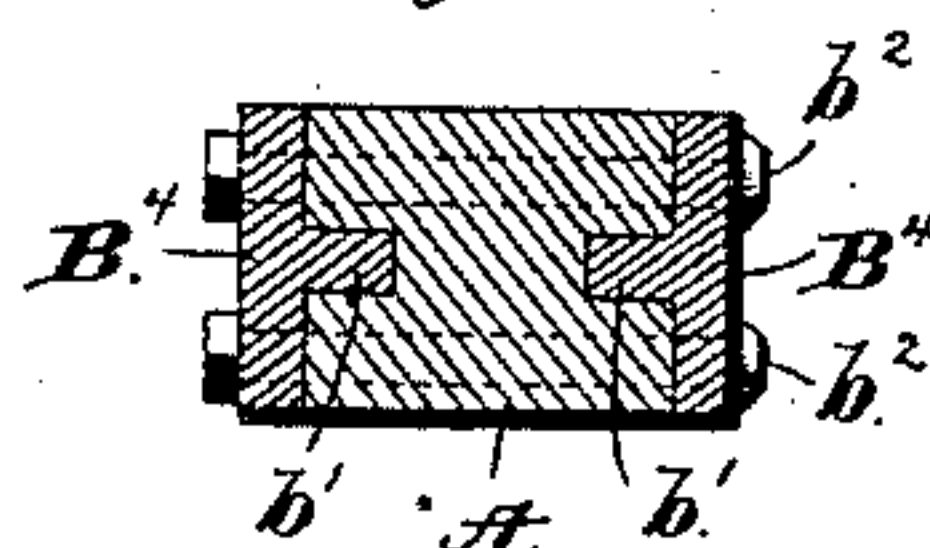


Fig. 5.



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# UNITED STATES PATENT OFFICE.

DANIEL S. TUTHILL, OF NEWBURG, NEW YORK, ASSIGNOR OF ONE-HALF TO  
HIRAM B. ODELL, OF SAME PLACE.

## WAGON-POLE.

SPECIFICATION forming part of Letters Patent No. 430,493, dated June 17, 1890.

Application filed April 7, 1890. Serial No. 346,957. (No model.)

*To all whom it may concern:*

Be it known that I, DANIEL S. TUTHILL, of Newburg, in the county of Orange, and in the State of New York, have invented certain  
5 new and useful Improvements in Wagon-Poles; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which—

10 Figure 1 shows a perspective view of my pole in place in the wagon-hounds; Fig. 2, a similar view showing the parts separated; Fig. 3, a view of a horizontal section on line  $x x$  of Fig. 1; Fig. 4, a view of a vertical longitudinal section on line  $y y$  of Fig. 3, and  
15 Fig. 5 a view of a transverse section on line  $z z$  of Fig. 3.

Letters of like name and kind refer to like parts in each of the figures.

20 The object of my invention is to provide certain improvements in wagon-poles; and to this end my invention consists in the wagon-pole constructed and arranged as hereinafter specified, and in the combination of the same  
25 with the hounds.

The special purpose of my invention is to provide an improved pole for wagons, which shall be so constructed and arranged to operate with the wagon-hounds that it will not  
30 only be less liable than the ordinary pole to be broken, but will bring less shock and strain upon the horses as the wagon runs over a rough pavement or road.

In the drawings, A designates the body of the pole proper, and B the ferrule or end  
35 which I place on the rear end of A, and which is to engage the hounds C, of any desired construction. As shown, these hounds have across their top, as usual, a bar or plate C',  
40 to keep the pole end from jumping up and out, and on their under side a plate C<sup>2</sup>, having the elongated hole or slot  $c$ . The end B, which I use as a ferrule or extension on the pole to engage the hounds and take all wear,  
45 has the main portion or body preferably made, as indicated in the drawings, in one piece, but not necessarily so. The material of which it is best made is metal, such as

steel, wrought-iron, or malleable iron. Its rear portion B', which is to extend between 50 the hounds, is made with its sides inclined toward each other, so as to cause a rearward taper.

Attached to the side of the forward portion of the body of B are the two rearwardly-extending springs B<sup>2</sup> B<sup>2</sup>, adapted to bear against 55 the inner faces of the hounds. At their outer ends these springs are preferably made flush with the sides of the widest part of B, as shown. 60

A recess B<sup>3</sup> is adapted to receive the pole A, and forwardly-extending arms B<sup>4</sup> B<sup>4</sup>, formed on or attached to the body of the pole end B, are adapted to extend along and engage the pole sides. Pins or bolts  $b b$  can be passed 65 through the upper and lower sides of the pole-receiving recess B<sup>3</sup> and the portion of the pole in the latter. On the inner faces of arms B<sup>4</sup> B<sup>4</sup> are the longitudinal inwardly-projecting ribs  $b' b'$ , engaging grooves  $a a$  in 70 the pole.

To most firmly attach the pole to end B, bolts  $b^2 b^2 b^2$  can be employed, passing from side to side through arms B<sup>4</sup> B<sup>4</sup> and the pole between them. The under side of the rear- 75 wardly-extending taper part of piece B is not horizontal or parallel with the upper side thereof, but is inclined rearward and upward, as shown best in Fig. 4, for a purpose to be hereinafter described. This incline begins at 80 a point forward of the bar or plate C', so that with the pole end B resting upon the plate C<sup>2</sup> it can have a rocking motion on such support to carry its rear portion up and down within the hounds. A pin B<sup>3</sup> on the under 85 side of B engages the slot  $c$ , so as to keep the pole end from being pulled out from between the hounds, while the abutments C<sup>3</sup> on the latter is so situated that the pin cannot be brought against the rear end of its 90 slot.

The springs B<sup>2</sup> B<sup>2</sup>, while shown as consisting of single plates, can be made in any form desired. They can, for instance, be made of several overlapping leaves attached to the 95 body of the pole end B in any suitable way.



Without departure from my invention I can, instead of making the pole end in one piece of metal with its pole-receiving recess, form it of two plates attached to a part of the pole extending in between them, as indicated in dotted lines in Fig. 2. Such plates would preferably have ribs on their inner sides, like those shown at  $b'$  on the arms  $B^4$   $B^4$ , to engage longitudinal grooves in the pole, like those shown at  $a$ . The plates so made to secure the greatest strength and the best hold upon the pole could be fastened to the latter by several bolts situated at suitable points.

The operation of my improved pole is briefly as follows: When the end B is inserted in the hounds with the pin  $b^3$  in the slot  $c$  in plate  $C^2$ , the weight of the pole will tend to keep the ferrule or end B rocked upon its support, so that its upper side bears up against bar or plate  $C'$ , and the engagement of the springs  $B^2$   $B^2$  with the inner faces of the hounds tends to keep the rearward extension of the pole end B in a central position, so that the pole extends straight forward. If now the wagon to which the hounds are attached be moved over a rough road or pavement, as the forward wheels ride over a stone or obstruction and drop down the descending hounds do not, as where the ordinary form of pole is used force the forward end of the pole down to cause a jerk upon the horses. As the forward ends of the hounds travel downward the rocking connection between the pole end and the hounds allows the forward part of the pole to remain unmoved. The upward and rearward inclination of the rear portion of part B is to allow for this rocking of the pole. As the wagon-wheels pass over or against any stone or obstruction which would give a sudden sidewise jolt to the wagon and the hounds, the taper of the pole end B allows the hounds to move without transmission of the shock to the horses through the forward end of the pole. The springs  $B^4$   $B^4$ , while yielding to allow the motion of the hounds in either direction in a horizontal plane without swinging of the forward end of the pole, tend to keep the pole in its normal position, extending straight forward from the hounds.

I desire it to be understood that while I have described my improved pole as used on a wagon my invention is applicable alike to the poles for carriages and lighter vehicles.

The pole end or ferrule made and applied to the pole in accordance with my invention, as hereinbefore described, affords a sure prevention of the danger of breaking a pole. The metal piece takes the greatest part of the strain and wear, so that very little breaking strain can come upon the pole, and the form of connections between the latter and the piece or ferrule are of the strongest and most secure kind, adapted to strengthen and support the attached part of the pole.

Having thus described my invention, what I claim is—

1. In combination with a wagon-pole having its end to project between the hounds tapered, and two springs on opposite sides of such end to engage the hounds, substantially as and for the purpose specified. 70

2. In combination with a wagon-pole having its end to project between the hounds, made with its sides inclined rearward toward each other and its under side inclined upward and rearward, and springs at the sides of the end to engage the hounds, substantially as and for the purpose shown. 80

3. In combination with the hounds of a wagon or other vehicle, a pole having its portion between the hounds made tapering rearward, and springs on the pole engaging the hounds on opposite sides of the former, substantially as and for the purpose set forth. 85

4. In combination with the hounds of a wagon or other vehicle, having a plate provided with a slot, the pole having its portion between the hounds tapered rearward, springs on opposite sides of the pole engaging the hounds, and a pin on the pole engaging the slot in the plate, substantially as and for the purpose described. 90

5. In combination with the hounds of a wagon or other vehicle, having the pole-supporting plate provided with a slot, and the plate or bar across the top of the space between the hounds, the pole having its portion between the hounds, with its sides inclined inward toward its rear end and its under side inclined upward and rearward, springs on opposite sides of the pole engaging the hounds, and the pin on the pole engaging the slot in the plate, substantially as and for the purpose specified. 100 105

6. In combination with a wagon-pole, a separate end therefor, adapted to be attached to it, having the tapering rear portion, and springs on opposite sides to engage the hounds, substantially as and for the purpose shown. 110

7. In combination with a wagon-pole, the end therefor, having plates with longitudinal ribs to engage longitudinal grooves in the side of the pole, substantially as and for the purpose set forth. 115

8. In combination with a wagon-pole, the end therefor, consisting of a piece of metal provided with means for attaching it to the pole, and having its rear portion made tapering rearward, and two springs attached to the piece on opposite sides, substantially as and for the purpose described. 120

9. In combination with a wagon-pole, the end therefor, consisting of a piece having the rearwardly-tapering portion, a socket to receive the pole, and arms to engage the sides of the latter, means for fastening the arms to the pole, and the springs on the side of the piece, substantially as and for the purpose specified. 125 130

10. In combination with a wagon-pole, the  
hound-engaging end therefor, consisting of  
a metal piece having a socket for the pole,  
and arms provided with longitudinal ribs  
5 engaging grooves in the pole sides, and bolts  
passing through such arms and the pole, sub-  
stantially as and for the purpose shown.

In testimony that I claim the foregoing I  
have hereunto set my hand this 28th day of  
February, 1890.

DANIEL S. TUTHILL.

Witnesses:

MAY E. SEEGER,  
WILLIAM F. SEEGER.