

E. D. BROWN.

Vehicle Pole.

No. 80,055.

Patented July 21, 1868.

Fig. 1

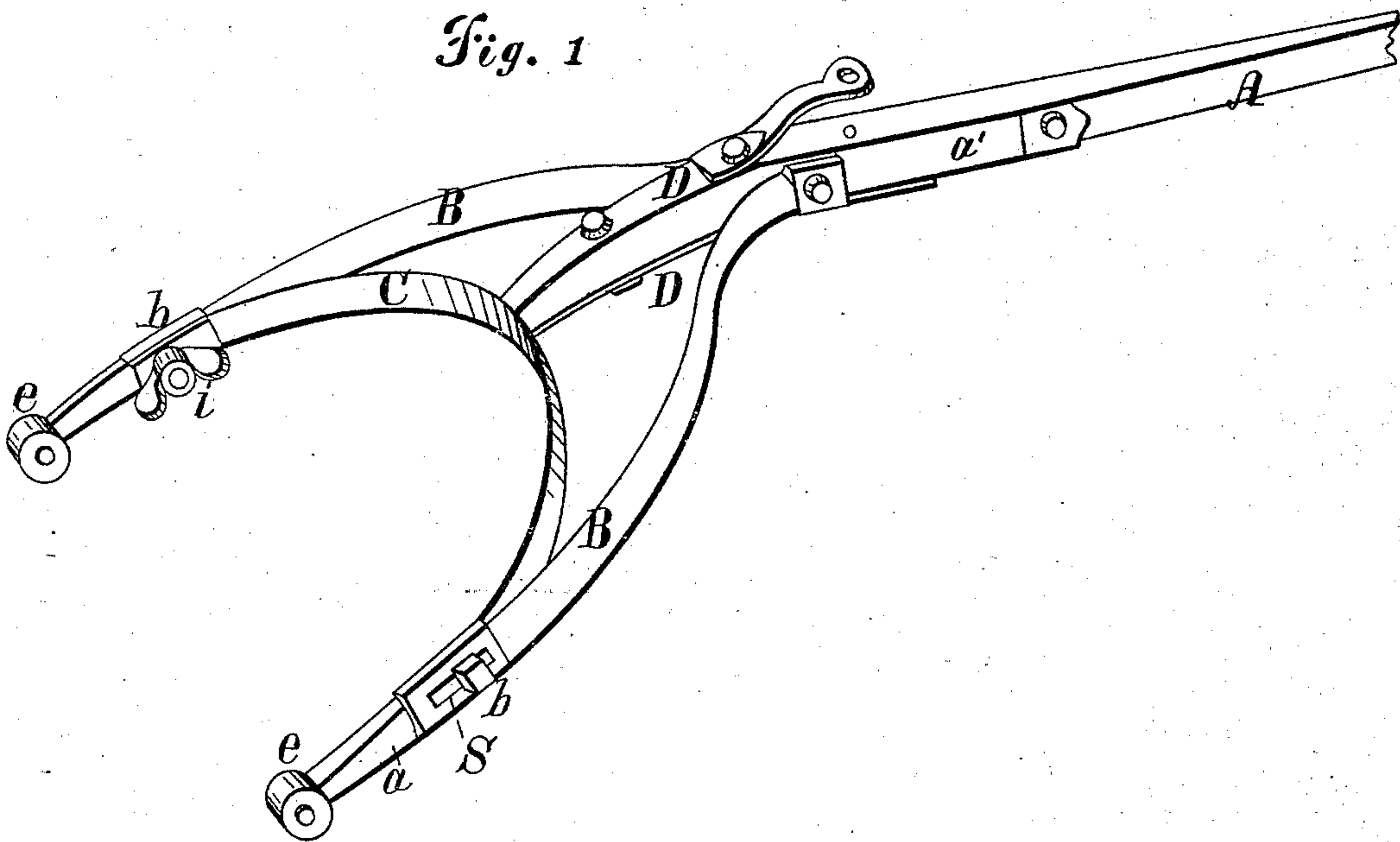
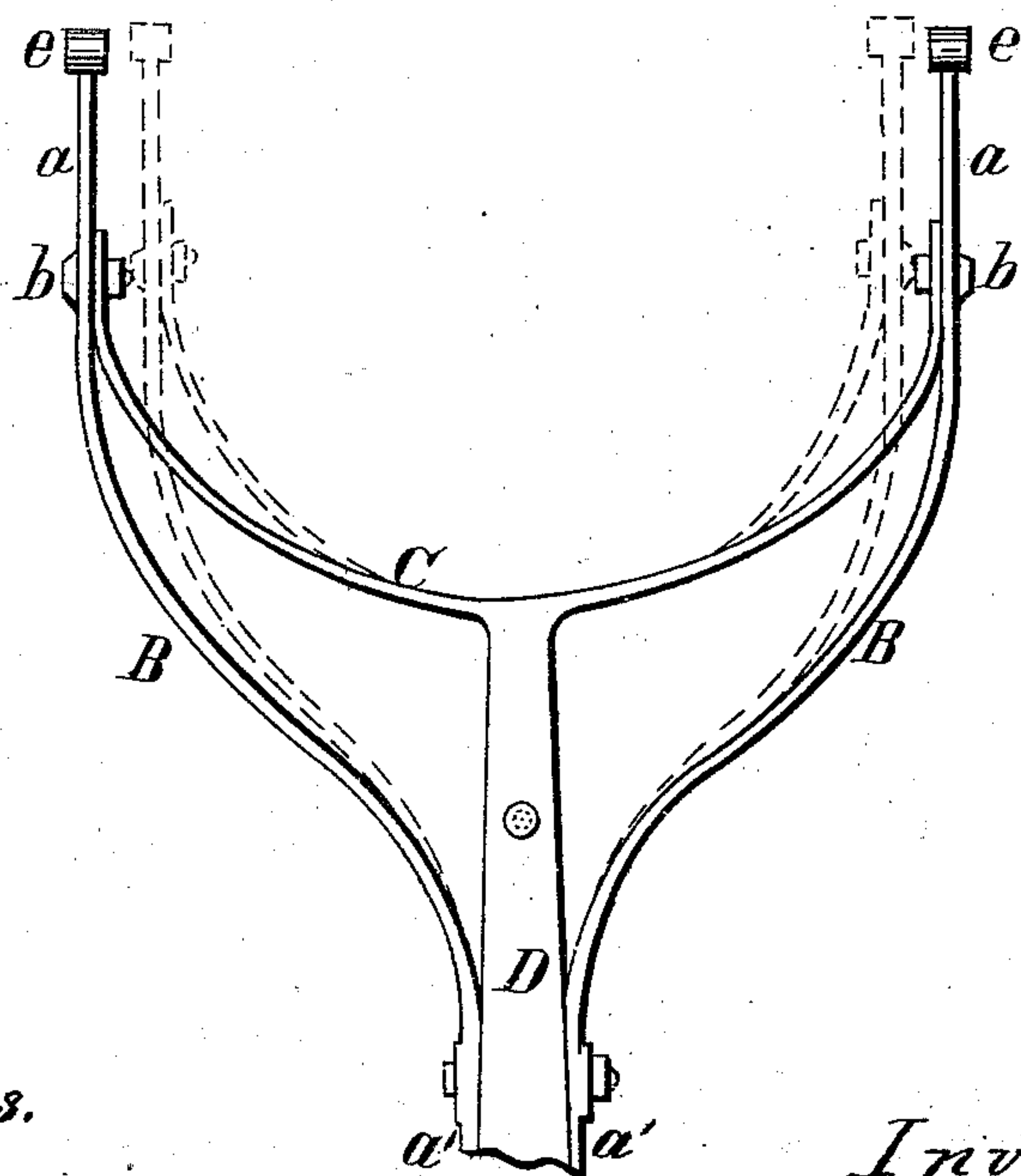


Fig. 2



Witnesses.
R. S. Tomlinson.
George Johnson.

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EDMUND D. BROWN, OF BATTLE CREEK, MICHIGAN.

Letters Patent No. 80,055, dated July 21, 1868.

IMPROVEMENT IN POLES FOR VEHICLES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, EDMUND D. BROWN, of the city of Battle Creek, in the county of Calhoun, and State of Michigan, have invented certain new and useful Improvements in Poles for Vehicles; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view.

Figure 2 is a partial top view.

The same letters of reference indicate corresponding parts in both figures.

My invention relates to certain improved modifications in the construction of the bow and brace connections of vehicle-poles, by means of which the coupling-arms may be readily adjusted, so as to correspond with the coupling-clips of any vehicle, including sleighs, without multiplication of parts or material increase of cost in construction; and the better to enable others skilled in carriage-making to make and use my invention, I will proceed to describe it.

A represents a wooden vehicle-pole, shaped in the usual way, and B exhibits the two branching arm-braces, the strap portions of which are bolted to the sides of the pole-head, in the ordinary manner, and furnished at the outer ends with coupling-eyes, *e*, to receive the bolts, which connect them to the axle-clips (not shown) in the common way.

C represents what is termed the "bow." The general practice is to make this rigid, and of wood, and connect it with the pole-head by T-headed straps or plates.

Instead of making the bow of rigid material, I make it of such metal and in such proportions as will best adapt it to be sprung in or cut to a smaller or larger circular arc, with the least permanent alteration of its free original form of a true curve, yet having sufficient stiffness to act as a cross-brace in resisting the tensional strain.

I usually prefer making this bow of spring-steel, but it may be made of iron, or iron and steel combined. I weld the hammer-straps, D, to the centre of the spring-bow C, and fitting the head of the pole between said straps, bolt them firmly together, substantially as seen. I then connect the free ends of said bow to the arm-braces B, near to the coupling-eye, by one or more bolts, *b*, which pass through a short slot or slots, *s*, made either in the arm or bow, as may be deemed best.

The straight portions of the arm-braces, at *a* and *a'*, are generally forged in separate pieces, with flattened surfaces where the bolts pass, and then welded to the curved intermediate parts of the brace, which are usually of the common oval iron of suitable size.

The necessity and consequent advantage of being able to adjust the distance apart between the coupling-ends of a carriage-pole arise from the well-known fact that there is no uniform rule among carriage-builders in setting the coupling-clips on the axles, and the clips cannot be changed to match a pole without disfiguring the paint-work.

In constructing the curve of my spring-bow, I therefore adopt such a radius for the curve as will leave the coupling-ends of the arm-braces a medium distance apart, as between the extremes of greatest variation in practice, so that adjustments may be made by expanding or contracting the curve of the bow in springing it together or apart, as the case may require.

It will be readily seen that in my combined arrangement of the spring-bow with the curved arm-braces, a compensating effect is produced, which tends to preserve the parallelism of the coupling-arms, as exhibited in the new adjustment indicated by dotted lines in fig. 2.

The nuts to the bolts *b* (which may be of the "thumb" kind, as at *i*, to be tightened up first by hand and then with anything that will act as a lever between the ears, or, of the common kind, to be tightened with an ordinary wrench) being first loosened for a readjustment, the operator springs, together or apart, the arm-braces B, as the case may be, the slots *s* permitting a free sliding action to the ends of the bow in assuming a

corresponding curve, and then tightens up the nuts at the required point, which will maintain the bow-ends and arm-braces in firm contact, and preserve the new form and proportions communicated by the springing action.

I am aware that the brace-arms have been jointed to the pole and adjusted by clamping to an additional cross-bar, but this arrangement increases the number of parts, and is expensive, cumbrous, and ungraceful in appearance.

What I claim as my invention, and desire to secure by Letters Patent, is the following:

I claim the arrangement and combination of the spring-bow C and slotted arm-braces B with each other and with an ordinary vehicle-pole, A, substantially in the manner and for the purpose of adjustability, as set forth.

EDMUND D. BROWN.

Witnesses:

R. G. TOMLINSON,
GEORGE JOHNSON.