

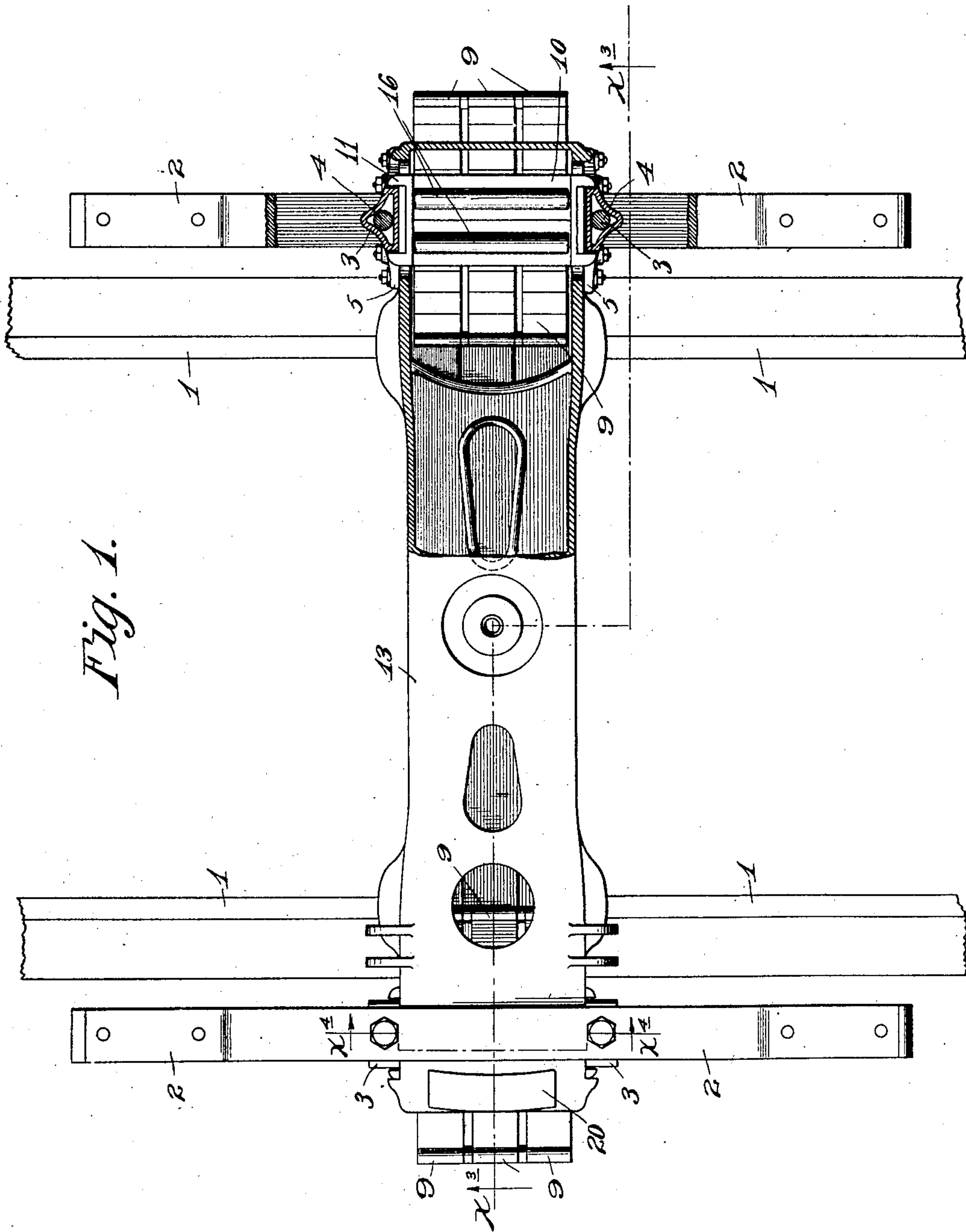
No. 779,574.

PATENTED JAN. 10, 1905.

J. C. BARBER.
CAR TRUCK.

APPLICATION FILED JUNE 17, 1904.

3 SHEETS—SHEET 1.



Witnesses.

Е. Ш. Жукович.

A. H. Osch.

Inventor.
John C. Barber.
By his Attorneys.

Williamson Michael

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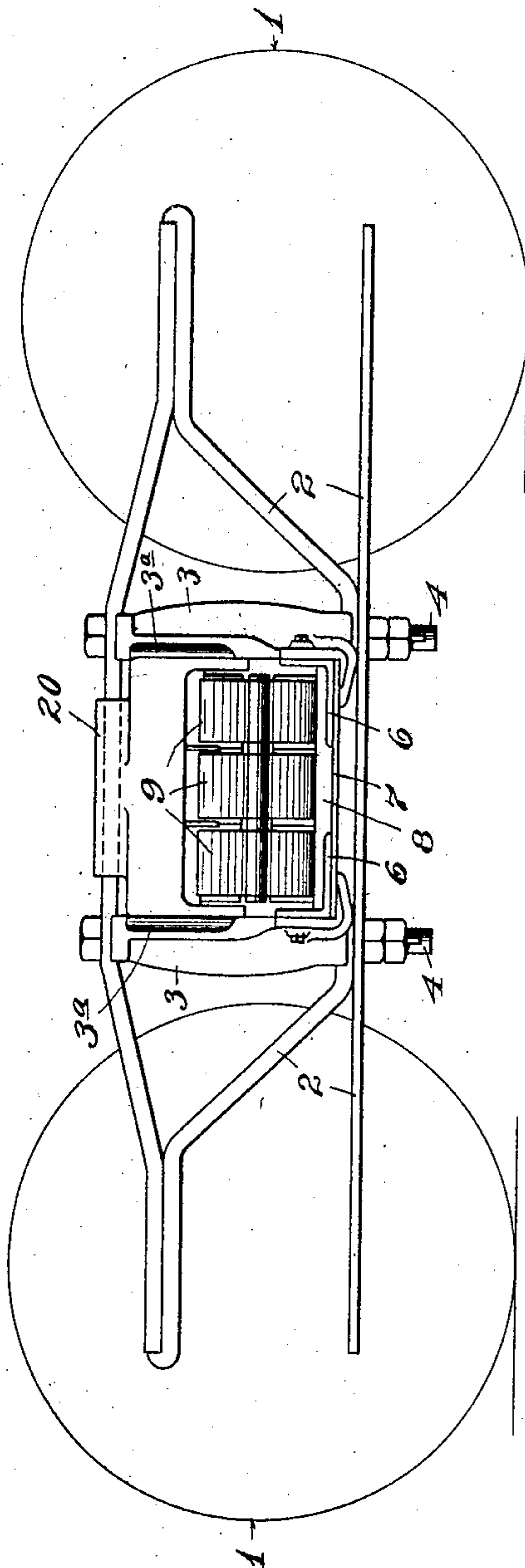
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3 SHEETS—SHEET 2.

Fig. 2.



Witnesses.

E. W. Jeppson.

A. H. Opsahl.

Inventor.

John C. Barber.

By his Attorneys.

William M. Murchand

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3 SHEETS—SHEET 3.

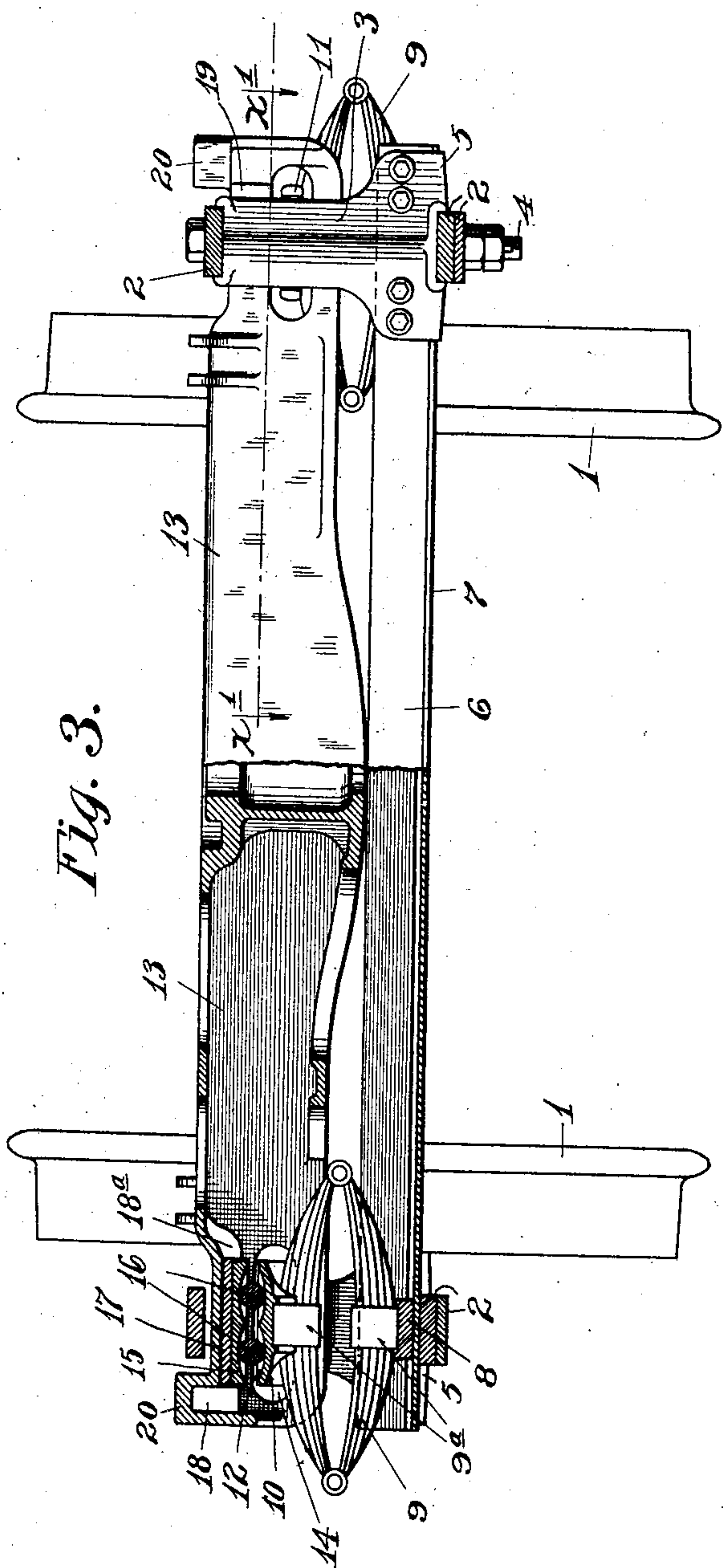


Fig. 3.

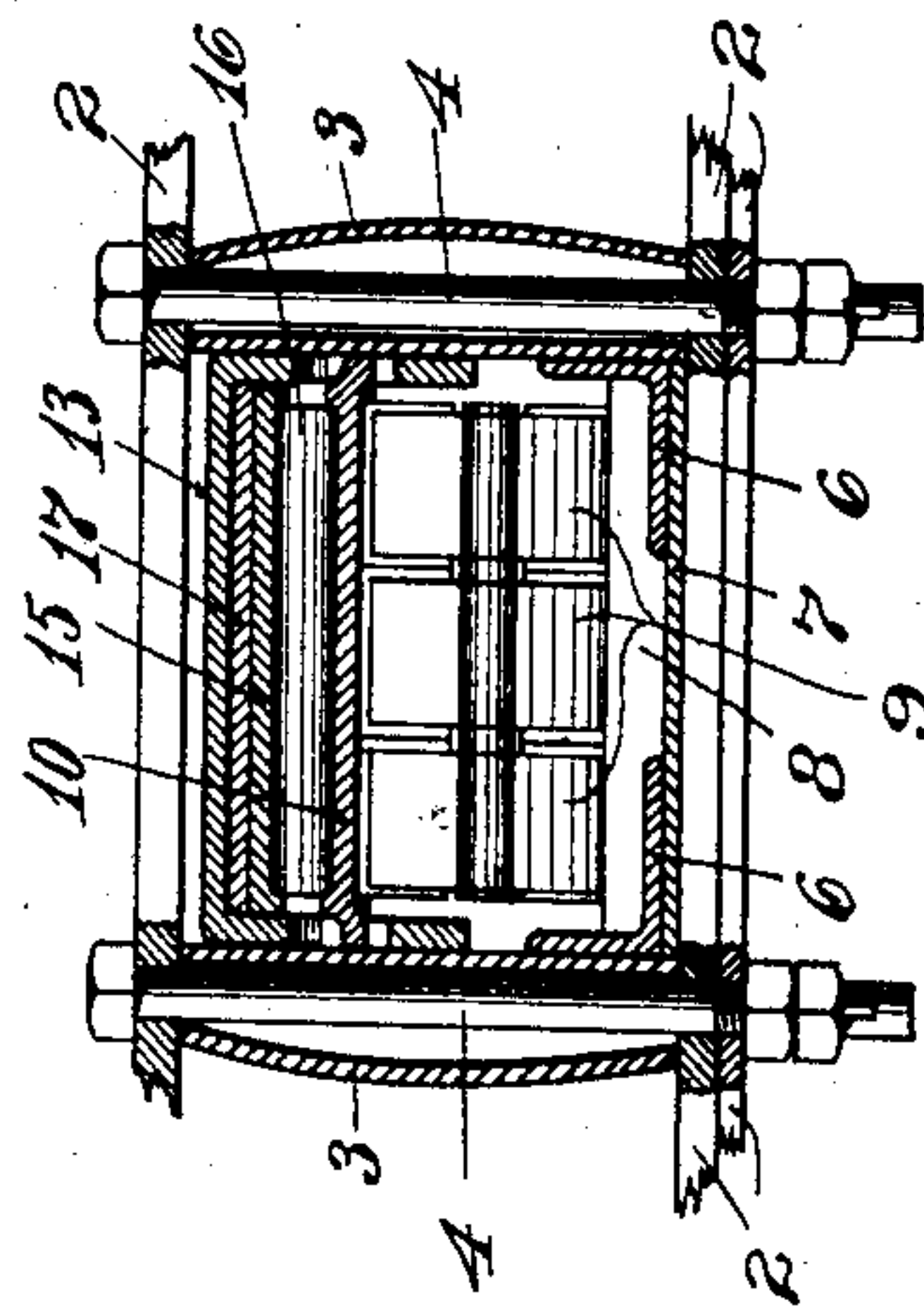


Fig. 4.

Witnesses.
E. W. Jeppesen.
A. H. Opsahl.

Inventor.
John C. Barber.
By his Attorneys.
William M. Merchant

UNITED STATES PATENT OFFICE.

JOHN C. BARBER, OF CHICAGO, ILLINOIS.

CAR-TRUCK.

SPECIFICATION forming part of Letters Patent No. 779,574, dated January 10, 1905.

Application filed June 17, 1904. Serial No. 212,939.

To all whom it may concern:

Be it known that I, JOHN C. BARBER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Car-Trucks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to car-trucks, and particularly to car-trucks of the type known to the trade as the "Barber lateral-motion truck."

The present invention has for its especial object to improve the devices which support the bolster with freedom for limited endwise movements transversely of the truck.

The invention consists of the novel devices and combinations of devices hereinafter described, and defined in the claims.

In the accompanying drawings, which illustrate my invention, like characters indicate like parts throughout the several views.

Figure 1 is a plan view of the improved truck, some parts being broken away and some parts being sectioned on the line $x'x'$ of Fig. 3. Fig. 2 is side elevation of the truck, some parts being shown diagrammatically and some parts being removed. Fig. 3 is a transverse vertical section taken approximately on the irregular line x^3x^3 of Fig. 1, and Fig. 4 is a vertical section taken approximately on the line x^4x^4 of Fig. 1.

The numeral 1 indicates the wheels, and the numeral 2 the trussed side frames of the truck, which trussed side frames include laterally-spaced pairs of bolster-columns 3, interposed between the upper and lower bars of said frames and rigidly secured thereto by means of vertical column-bolts 4. The bolster-columns 3 at their bases are formed with angular flanges 5, to which are bolted or otherwise rigidly secured the ends of angle-iron tie-bars 6 and the ends of the reinforcing-plate 7, which coöperates with the said tie-bars 6 to form a channel-like transom, rigidly tying together the two side frames of the truck. Resting on the inturned flanges of the tie-bars 6 and on the intermediate portion of

the plate 7, just over the lower bars of the side frames 2, are bar-like spring-bases 8, upon which in the construction illustrated are rested multiple double elliptical springs 9. Resting upon each set of springs 9 is a combined spring-cap and roller-base 10, the ends of which are notched or recessed to afford guide-lugs 11, that embrace the adjacent parallel and vertically-disposed sides 3^a of the bolster-columns 3. In the construction illustrated the said combined caps and bases 10 are formed each with a pair of concave roller-seats 12. The lower bearing-blocks 9^a of the springs 9 rest in depressions formed in the spring-bases 8, while the upper bearing-blocks 9^a thereof rest in pockets formed in the under sides of the combined spring-caps and roller-bases 10.

The truck-bolster 13, which is preferably of cast-steel, is formed with side flanges that extend from the central portion of the ends thereof with but slightly-diminished vertical dimensions and near the ends of the said bolster are formed with elongated passages 14, through which the ends of the combined spring-caps and roller-bases 10 work loosely. The said passages or slots 14 are of such length that they will permit the required endwise movements of the truck-bolster transversely of the truck.

Upper roller-bearing plates 15 are applied to the end portions of the top plates of the bolster 13 immediately over the combined spring-caps and roller-bases 10, and bearing-rollers 16 are interposed between the concave roller-seats 12 of the latter and concave seats of the said bearing-plates 15. As shown, shimming blocks or plates 17 are directly interposed between said roller-bearing plates 15 and the top plate of the bolster 13, and the said plates 15 and the top plate of the bolster 13, and the said plates 15 and shimming-blocks 17 are held in position by the side flanges of the bolster and by retaining-lugs 18 and 18^a, formed on the top plate of the bolster.

At its sides outward of the bolster-columns the truck-bolster 13 is formed with stops 19, which engage with the outer surfaces of the bolster-columns to limit the extreme movement of the bolster transversely of the truck.

At its extreme ends outward of the side frames of the truck the bolster is formed with raised bearing lugs or surfaces 20, which afford so-called "outside" bearings for the car-body.

5 (Not shown.)

In placing the combined spring-cap and roller-base 10 in working position it is first slid through the perforations 14 in the flanges of the bolster 13, and the rollers 16, upper roller-bearings 15, and shimming-plates 17 are placed in working positions. The springs 9 must of course be placed in working position before the bolster is applied in working position. To permit the bolster to be applied in
10 working position, the top bars of the truck side 2 must be removed, and this being done the bifurcated or notched ends of the combined spring-caps and roller-bases 10 may then be slid down onto the bolster-columns. The top
20 bars of the truck side frames being then applied in working positions, the truck-bolster is locked in working position with freedom for vertical up-and-down movements under the yielding actions of the springs and for a
25 limited endwise movement transversely of the truck under the action of the lateral-motion devices afforded by the rollers 16 and cooperating bearing-plates 10 and 15. It is evident that the truck-bolster is locked against end-
30 wise displacement by the so-called "combined spring-caps and roller-bases" 10 and that the latter are in turn locked to the bolster-columns.

Hitherto bolsters have been spring-supported with freedom for movements transversely
35 of the truck; but as the combined spring-caps and roller-bases which were guided for vertical movements by the bolster-columns were passed entirely below the ends of the bolster
40 it was necessary to greatly reduce the thickness or vertical dimension of the ends of the bolster. The present demand for cars of very large carrying capacity makes necessary the provision of truck-bolsters of very great
45 strength. My present invention makes it possible to carry down the flanges or sides of the truck-bolster at its ends or near its ends materially below the combined spring-caps and roller seat or base, thereby to give the re-
50 quired strength to the end portions of the bolster. Furthermore, the interlocking features above pointed out and which are incident to passing the combined spring-cap and roller-base through the side flange of the bol-
55 ster are in themselves important.

The side bearings 20, located outside the truck side frames, gives the widest possible

base of support to the car-body and are especially desirable when used to support wide car-bodies, such as are lately coming into quite
60 general use.

From what has been said it will of course be understood that the devices described are capable of modification within the scope of my invention as herein set forth and claimed.
65

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. The combination with a truck-frame having bolster-columns, of a bolster, and devices supporting said bolster from the sides of the
70 truck-frame, with freedom for movements transversely thereof, said devices involving bearing-plates locking said bolster to said bolster-columns, substantially as described.

2. The combination with a truck-frame hav-
75 ing bolster-columns, of a bolster working between said bolster-columns, a combined spring-cap and roller-base spring-supported from the sides of the truck-frame and working through said bolster, and engaging said bol-
80 ster-columns, and movable vertically thereon, substantially as described.

3. The combination with a truck-frame having bolster-columns, of a bolster having at its
85 ends slotted side flanges, and lateral-motion devices involving a pair of roller-bearing plates and interposed rollers, one of which plates is applied to said bolster, and the other of which is supported from the adjacent side
90 of the truck-frame and projects through the slots of said bolster side flanges, the projecting ends of which engage the bolster-columns, and are guided thereby, substantially
as described.

4. The combination with the truck-frame
95 having bolster-columns, of a bolster having at its ends depending flanges formed with elongated slots, combined spring-caps and roller-bases working through the said slots of the
100 bolster side flanges and engaging the bolster-columns and guided vertically thereby, springs supporting said combined caps and bases from the sides of the truck-frame, rollers supported
by said combined caps and bases, and upper
105 roller-bearing plates interposed between said rollers and said truck-bolster, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN C. BARBER.

Witnesses:

L. W. BARBER,
A. M. LOVE.