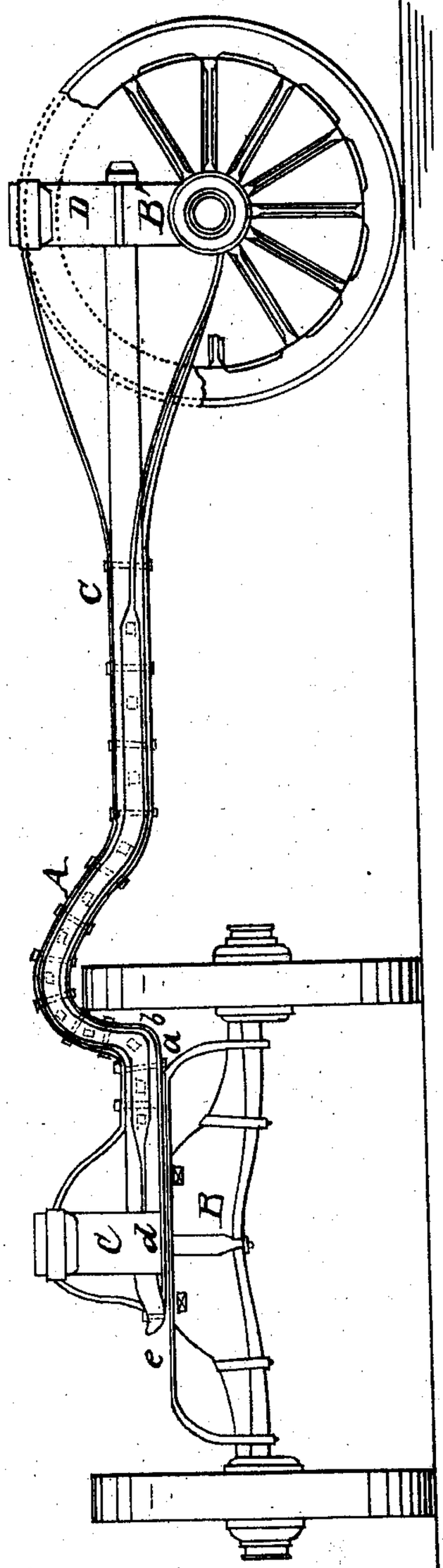
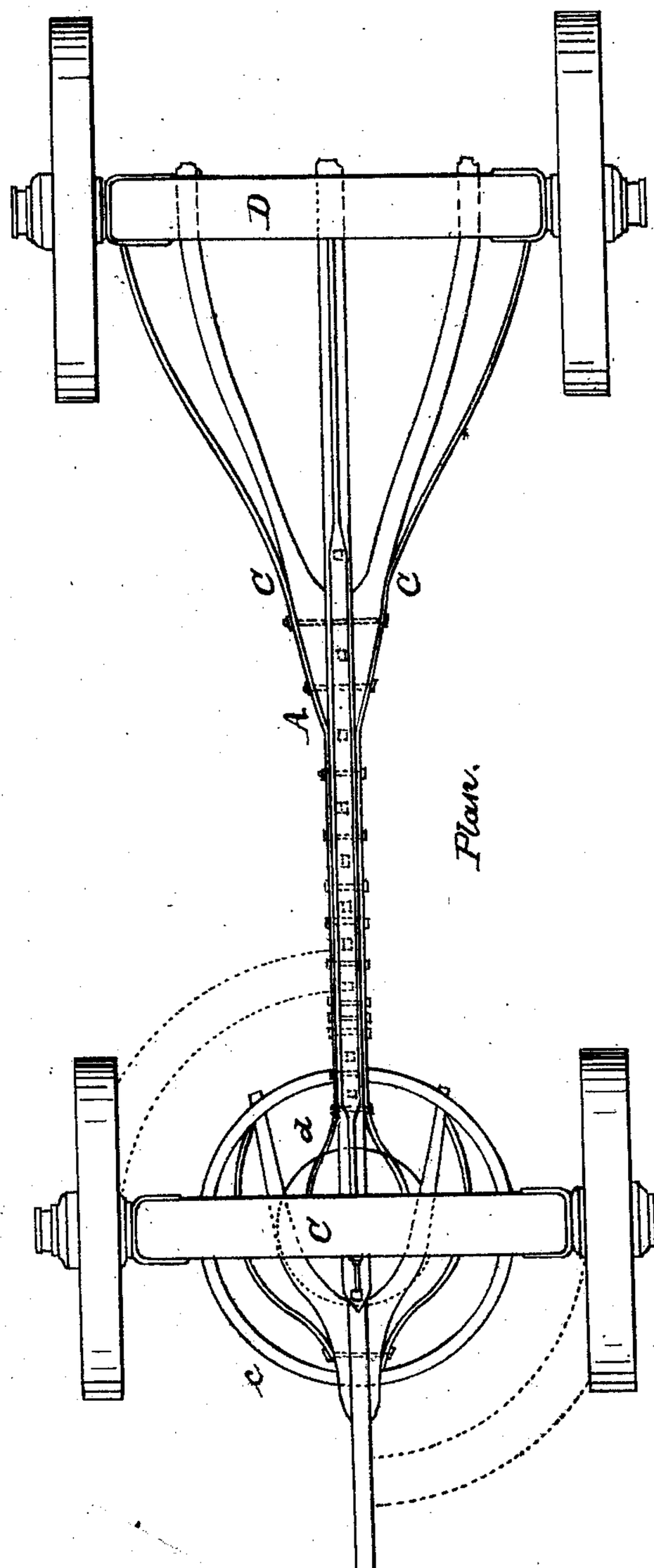
E. F. FLOOD.

Running-Gear.

No. 69,789. Patented Oct. 15, 1867.



Elevation.



Plan.

Witnesses:

C. A. Stott

E. S. Sherrivan

Inventor:

Edward F. Flood

United States Patent Office.

EDWARD F. FLOOD, OF CHICAGO, ILLINOIS.

Letters Patent No. 69,789, *dated October* 15, 1867.

IMPROVEMENT IN WAGON-REACH.

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, EDWARD F. FLOOD, of Chicago, Cook county, Illinois, have invented a certain new and useful improved Wagon-Reach; and I do declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side view or elevation.

Figure 2 a top or plan view.

Like letters refer to like parts.

The object of my invention is to so construct a wagon-reach that the vehicle with which it is used can be turned in the least possible space, and so that the wheel can never strike against the reach. I accomplish this object by making my reach of peculiar form, giving it a sharp turn or curve upward at the point where the wheel would strike the ordinary reach, which is always straight.

To enable others skilled in the art to make and use my invention, I describe its construction and operation.

My reach is made of wood and iron, the form being shown in the drawings. The wooden part may be cut from a plank of sufficient width and thickness, though I usually take a piece of timber of such dimensions as I would use if making the reach straight, as is usual, and then halve on to this straight reach or piece of timber, at the points *a b*, a piece of timber having its upper part curved as the finished reach is to be, and as shown in the drawings. This piece of timber which is halved on must be of such width that the lower side may be cut away, so as to permit the wheel to pass under it; and this piece may be fastened to the straight piece in any suitable manner, but the fastenings must not interfere with the ironing of the reach, and the bolts used to fasten the irons to the reach can be so placed as to secure the two wooden parts of the reach together. On to each side of my curved reach I place a bar of iron, half an inch thick and an inch and a half wide. These irons are made to fit the curve of the reach, and are bolted firmly to the reach. These side irons do not extend to the rear end of the reach, but at *c* are bent outward and downward, and so made and fitted as to allow them to be fastened to the clips at the shoulders of the axles. When the reach has been properly cut away on the under side at the proper point, so as to allow the wheel when in use to pass freely under it, I attach to the reach two other pieces or bars of iron, one on the under side, one on the upper, both being made and formed so as to fit the reach, as curved. These pieces or bars of iron are bolted firmly to the reach. The upper iron, at each end, is bent upward, a short distance from the end of the reach, and bolted to the bolsters, while the under iron is, near the rear end, bent downward and fastened to the rear axle. These irons on the sides and top and bottom of the reach give it great strength, and their attachment to the bolsters and axle, as described, thoroughly brace the several parts. It will be observed that the ends of the reach occupy the same position as in a straight reach, so that while I have the advantage of a curved reach, I do not change the line of draught, and do not bring any additional strain upon any part. The top of the reach comes up nearly to a line drawn from the top of one bolster to the other, and does not in any way interfere with the bed or box of the vehicle. I use the ordinary fifth-wheel *d*, and also what may be called a sixth-wheel, *e*, which is a continuation of the ironing of the sway-bar, which is attached to the hounds, on which the reach rests and moves when the forward wheels are being turned. It is necessary to extend this ironing of the sway-bar farther forward than is usual, in order that when one of the forward wheels is turned under the reach, the reach will still have a point of support. This iron, which I call the sixth-wheel, is fastened to the sway-bar in the usual manner, and to the hounds in front, and the evener-bolt passes through it.

This reach is exceedingly useful for heavy truck-wagons, and the dimensions given are with reference to such wagons. It can be used to advantage on express-wagons and other vehicles, and in size must be adapted to the vehicle for which it is made.

The advantages which this reach has over any other in use are numerous. Among others may be mentioned—

First, the wagon can be turned in less space; it can be in fact turned in the length of the wagon, one of the hind wheels remaining in a fixed point.

Second, the wagon can be driven by the side of the platform or other place where it is desired to bring the rear end of the wagon, and then the rear end can be brought to the desired position without backing the

horses, they being made to pull in the right direction. Much time and trouble are saved, and the labor is much easier for the horses.

Third, the wagon can easily be drawn out of a cramped position. With the ordinary reach, when the forward wheels are so turned that one touches the reach, it operates as a lock, and the whole weight of the load must be lifted before it can be moved. With my reach the wheel cannot hit the axle. To overcome the difficulties I have mentioned some vehicles have their boxes or beds placed high up on springs, and the reach is not used; but this is very expensive, and the use of the reach also gives much greater strength.

For truck-wagons I use on the upper side of the reach an iron three-fourths of an inch thick and three inches wide, and on the under side I use an iron half an inch thick and three inches wide, the same. The bolts pass through the reach and through the irons on the opposite sides of the reach.

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

1. A curved or bent reach, when so constructed that the line of draught is the same as in the straight reach, and so that the reach rests on and is supported by the sway-bar, as in the ordinary reach, substantially as and for the purposes set forth.

2. The curved reach A, in combination with the iron *e* of the sway-bar, when such iron is extended, and so constructed as to furnish a support for the reach in all positions, substantially as and for the purposes mentioned.

EDWARD F. FLOOD.

Witnesses:

E. B. SHERMAN,

E. A. WEST.