(No Model.)

# A. J. BEACH.

## WAGON RUNNING GEAR.

No. 291,132. Patented Jan. 1, 1884.

Fig. 1

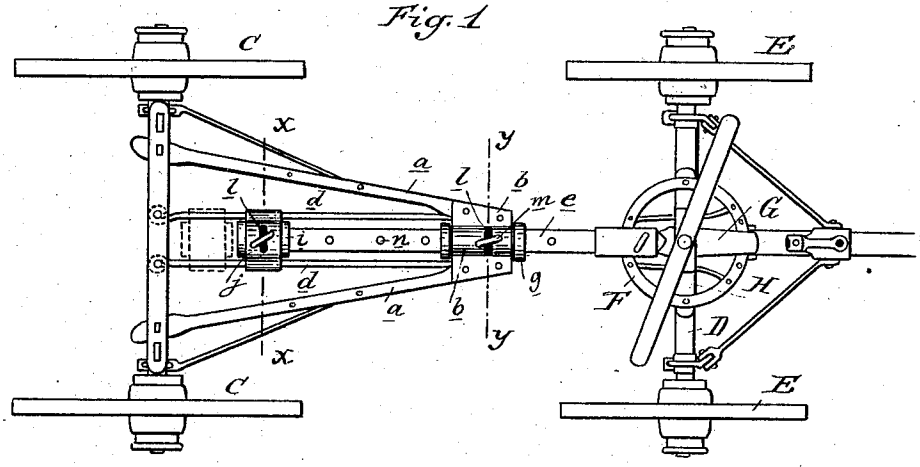



Fig. 2

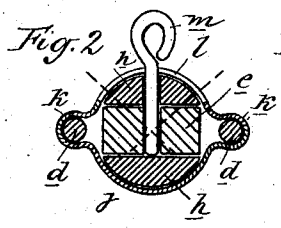



Fig. 3

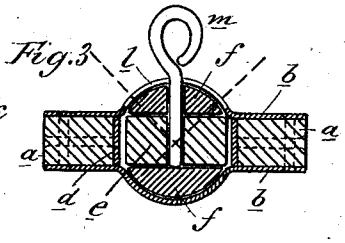



Fig. 4

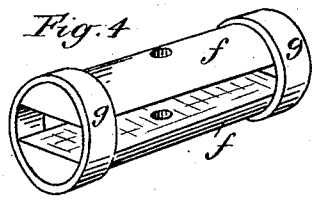
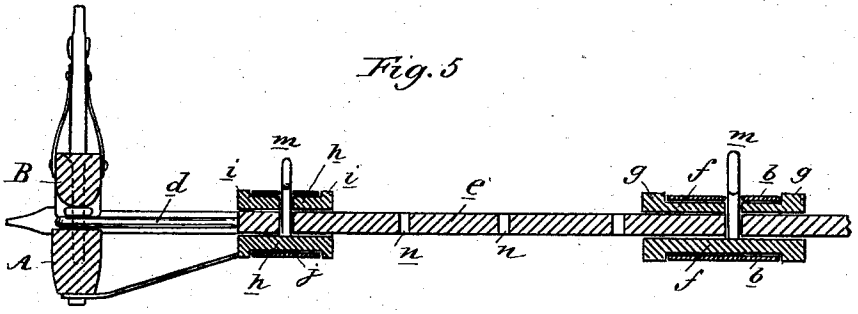



Fig. 5




Attest:

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# UNITED STATES PATENT OFFICE.

ALLEN J. BEACH, OF FLINT, MICHIGAN.

## WAGON RUNNING-GEAR.

SPECIFICATION forming part of Letters Patent No. 291,132, dated January 1, 1884.

Application filed August 8, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, ALLEN J. BEACH, of Flint, in the county of Genesee and State of Michigan, have invented new and useful Improvements in Wagons; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to certain new and useful improvements in the construction of farm-wagons, by means of which all torsional strain is avoided upon the reach by making what is ordinarily termed a "rolling" reach, which is also made extensible and retractible.

The invention consists in the peculiar construction of the various parts and their combination, as more fully hereinafter described.

Figure 1 is a plan view, showing my improvement, and in dotted lines showing the extensibility of the reach. Figs. 2 and 3 are vertical cross-sections on the lines *x x y y* in Fig. 1. Fig. 4 is a detached perspective of the rolling cylinder. Fig. 5 is a vertical longitudinal section taken at right angles to the line *x x* in Fig. 1.

In the accompanying drawings, which form a part of this specification, A represents the rear axle, B the bolster, and C the wheels; D, the forward axle; E, the front wheels; F, the fifth-wheel; G, the draw-bar, and H the yoke which is designed to support the forward bolster. These parts are all of any of the known constructions. The rear ends of the hounds *a* are secured to the rear axle in any of the known ways, while their forward ends are secured together by means of the two metal plates, *b*—one above and one below. The two plates may be done away with by the employment of a casting in one piece, which would perform the same office, without departing from the spirit of my invention. The plates are so constructed that each describes a segment of a circle, each side of the segments being provided with flat ears, by means of which they are secured to the hounds, leaving the segments to form a quasi cylinder between the forward ends of the hounds.

*d* are guide-rods, the rear ends of which are secured to the rear axle and their forward ends to the forward ends of the hounds, one on each side of the reach *e;* but one of these rods may be used, or a greater number may be used, without departing from the spirit of the invention. Upon the top and upon the under side of the reach rest the two filler-plates *f*, which are secured together by means of the two rings *g*, the filler-bars, with the reach, forming a shaft at that point, and the two rings preventing the displacement of the two bars, between which the reach itself has a reciprocating movement. The rear end of the reach is provided with similar filler-bars, *h*, one on top and the other on the bottom of the reach, and held in place by two similar rings, *i*. Between the two rings the shaft is embraced by a flat ring, *j*, provided with circular ears *k*, which engage with the guide-rods. The upper of the two plates *b* and the top of the ring *j* are provided with slots *l*, through which the pins *m* pass into coincident holes in the upper of the two filler-bars, and into any one of the series of holes *n* in the reach, the forward end of which is secured in any desired manner that will not interfere with the rolling of the reach, which is limited by the length of the slots in the plate and flat ring hereinbefore described. By this construction I provide a means of securing a rolling reach, which prevents any torsional strain thereon, and at the same time I provide the means for extending and retracting the length of said reach.

I am aware that rolling reaches are not new; neither is it new to provide such a reach with means for extending and retracting the same. Therefore I do not broadly claim a rolling reach nor an extension-reach; but

What I do claim as my invention is—

1. A farm-wagon provided with two supports for the reach, one secured at a fixed distance from the rear axle, and the other situated between the rear axle and the fixed support, and constructed to allow the reach to turn therein, and to move with the reach as the latter is adjusted, substantially as described.

2. In a farm-wagon, a reach adapted to roll in quasi metal cylinders, one of which secures the forward end of the rear hounds together, while the other slides upon guide-rods, such cylinders being provided with slots, by means

of which, and suitable pins engaging the parts together, the roll of the reach is limited, substantially as specified.

3. In a farm-wagon, the combination, with the reach *e* and filling-plates *f*, of the plates *b*, securing the hounds together, and forming, with the hounds, a hollow cylinder, in which the reach and filling-plates turn, substantially as described.

4. As a means of securing the rear end of a rolling reach and assisting in the extensibility thereof, the flat ring *j*, provided with circular ears *k*, in combination with the guide-rods, the rear ends of which are secured to the rear axle and the forward ends to the forward ends of the hounds, substantially as and for the purposes described.

5. In a farm-wagon, the combination therewith of the rear hounds, *a*, plates *b*, guide-rods *d*, reach *e*, filler-plates *f*, rings *g*, filler-bars *h*, rings *i*, flat rings *j*, such plates and flat rings being provided with slots *l*, and suitable pins and holes in the reach and filler-bars, the parts being constructed, arranged, and operating substantially as and for the purposes set forth.

ALLEN J. BEACH.

Witnesses:
H. S. SPRAGUE,
E. SCULLY.