(No Model.)

C. C. BRADLEY.

VEHICLE AXLE.

No. 368,992. Patented Aug. 30, 1887.

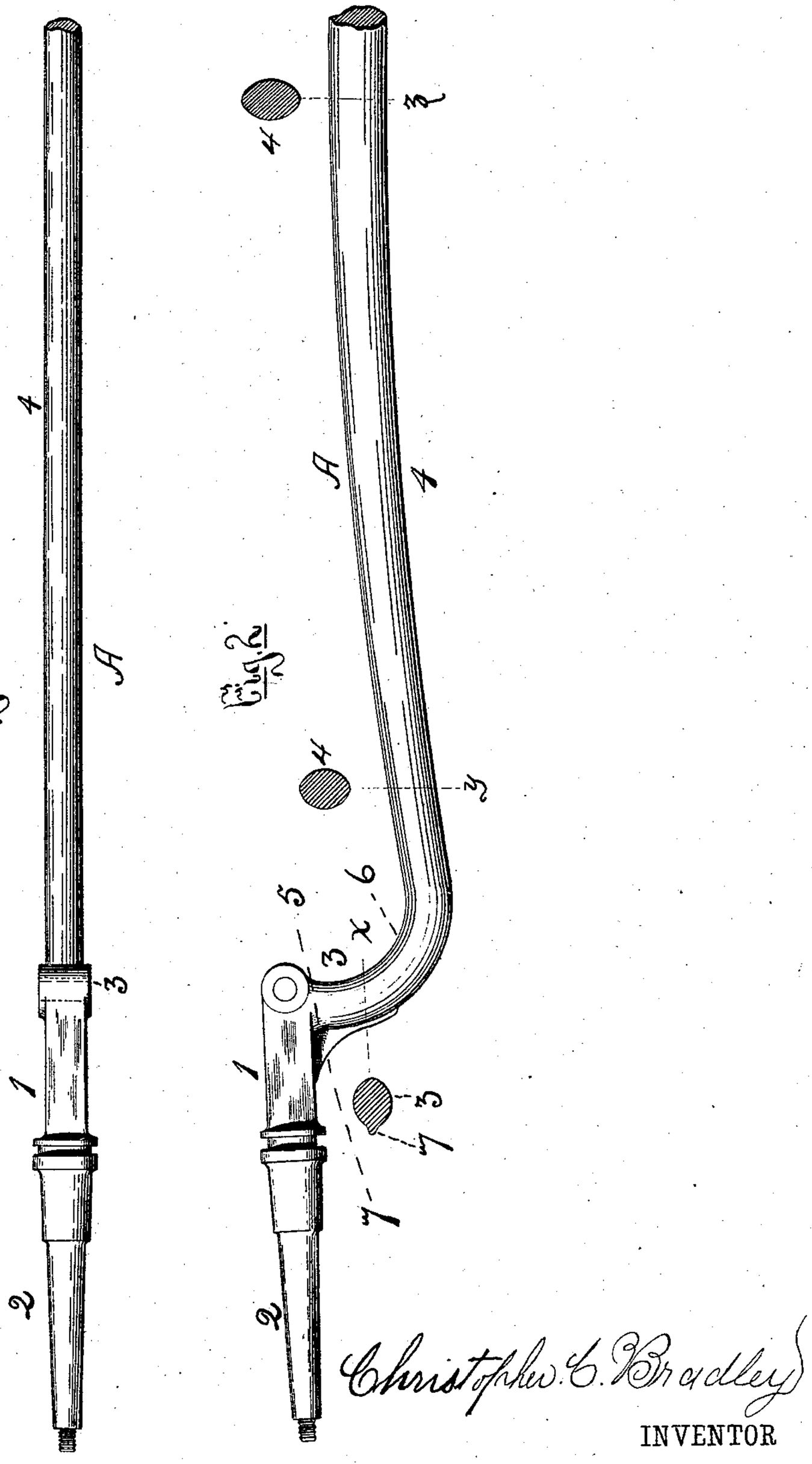

Fig. 1.

Fig. 2.

Christopher C. Bradley

INVENTOR

WITNESSES:

C. F. Smith

C. L. Stevens

UNITED STATES PATENT OFFICE.

CHRISTOPHER C. BRADLEY, OF SYRACUSE, NEW YORK.

VEHICLE-AXLE.

SPECIFICATION forming part of Letters Patent No. 368,992, dated August 30, 1887.

Application filed May 20, 1887. Serial No. 238,845. (No model.)

To all whom it may concern:

Be it known that I, CHRISTOPHER C. BRADLEY, of Syracuse, county of Onondaga, in the State of New York, a citizen of the United States, have invented certain new and useful Improvements in Vehicle-Axles, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a top plan view of one end of the axle. Fig. 2 is a side elevation of a portion of the same, together with transverse sections on the lines *x y z*.

My invention relates to the construction of the axle for wheeled vehicles, and my object is to improve the strength and utility; and it consists in increasing the strength at the points subject to the greatest strain, as follows: first, in inserting a fillet into one or all of the bends or angles, creating the crank in what is commonly known as a "crank-axle," which fillet is either integral with the axle or rigidly secured thereto; second, in enlarging the size of the central portion of the axle between the crank-arms by a gradual taper from a point adjacent to each crank-arm inwardly to a point adjacent to the center of the axle; third, in constructing the crank-bends and that part of the axle between them of an oval or ovoid form in cross-section, the ovoidity being vertical.

A is the axle, comprising the axle-shanks 1, provided with the spindles 2 at their outer ends, and at their inner ends with the arms 3, connecting or uniting the shanks to the body 4 of the axle 1, such connecting-points constituting the crank-bends 5 and 6.

In the angle or bend 5, I place the fillet 7, extending outward along the underside of the shank, and also downward along the arm 3, as far as may be desired in either direction, and either integral with the shank and arm or rigidly secured in position. This fillet re-enforces the axle at this point. It can extend downward and around under the bend 6, if desired; also, a fillet can be placed on top of the bend 6, extending upward about to the upper part of the bend 5, or to the coupling connecting the spring to the axle.

Starting at a point adjacent to the bend 6, the body 4 enlarges in size inwardly toward the center, arriving at its greatest size at a point adjacent to the center, the taper being gradual. This construction gives me an additional weight of metal to carry the center bearing strain, stiffening the central portion of the axle, so that the crank-arms cannot be drawn inwardly by the strain of the load upon the springs, and thus increasing the carrying capacity.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A crank-axle constructed with a fillet in the bend or angle between the crank-arm and the shank, substantially as described, for the purposes set forth.

2. A crank-axle consisting of shanks 1, spindles 2, arms 3, and body 4, enlarging centrally, and angle-fillets 7, substantially as described.

In witness whereof I have hereunto set my hand this 12th day of May, 1887.

CHRISTOPHER C. BRADLEY.

In presence of—
C. W. SMITH,
F. L. STEVENS.