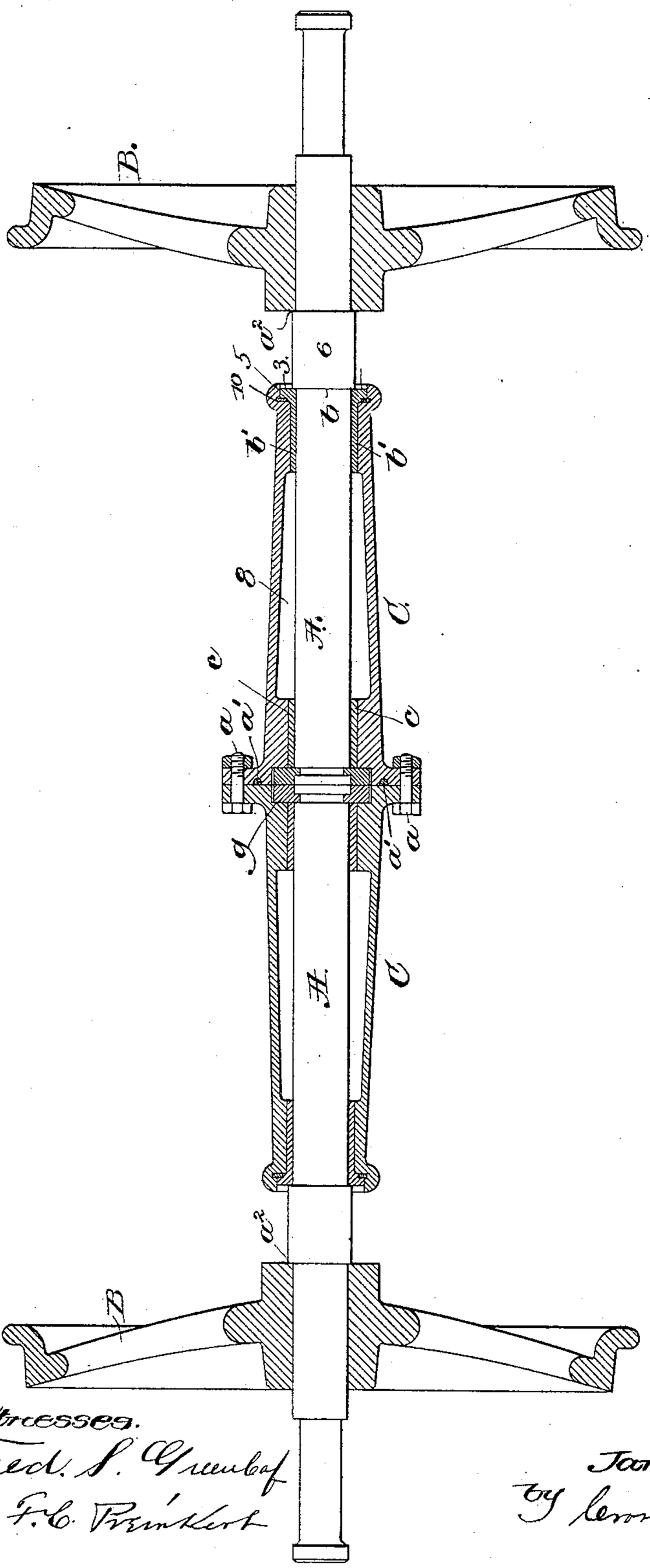
(No Model.)

J. H. EATON.

CAR AXLE.

No. 379,638. Patented Mar. 20, 1888.



Witnesses.
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UNITED STATES PATENT OFFICE.

JAMES H. EATON, OF LAWRENCE, MASSACHUSETTS.

CAR-AXLE.

SPECIFICATION forming part of Letters Patent No. 379,638, dated March 20, 1888.

Application filed October 21, 1887. Serial No. 252,982. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. EATON, of Lawrence, county of Essex, and State of Massachusetts, have invented an Improvement in Car-Axles, of which the following description, in connection with the accompanying drawing, is a specification, like letters on the drawing representing like parts.

This invention is an improvement upon that class of car-axle represented in United States Patent No. 305,370, dated September 16, 1884, the object being to prevent the entrance of dust and water into the oil-chamber in the truss, which forms bearings for the inner ends of the divided axle, to which the wheels are secured.

In accordance with this invention the bearing-surfaces of the truss travel upon metallic bearing-shells which are shrunk upon and thereby fixed to the divided axle, the fit between the bearing-shells and the divided axle being water, oil, and dust tight. In the patent referred to the upper ends of the truss were fitted to and made to embrace the inner ends of the hubs of the wheels; but herein the divided axles are provided with shoulders back of their journals, against which shoulders the hub of the wheel may be pushed when the wheel is forced upon and secured to the axle, if desired.

My invention consists, essentially, in the combination, with a bearing-truss and a divided axle, of bearing-shells shrunk upon and fitting the divided axle water, oil, and dust tight.

The drawing, in longitudinal section, shows a truss and wheels applied to a divided axle, the latter being in elevation.

The divided axle is composed of two like parts, A, the inner ends of which are grooved to form flanges, and the said ends are joined together by a sectional collar, *g*, as in the said patent.

The truss is composed of two parts, C C′, having flanges at their abutting ends, which are joined together by bolts *a*, a packing being used at *a′*, if desired, said packing being of any usual construction.

The wheels B, of usual shape and material, are forced in usual manner upon the arm of the axle or back to a shoulder, as a^2, thus leaving a portion of the axle exposed between the inner side of the hub and the end of the truss portions, so that water striking the axle may readily run off the same.

Each axle is shouldered, as at *b*, and at its shouldered part each half of the divided axle has shrunk upon it a bearing-shell, as *b′*, the same being made in two parts, and so, also, the divided axle has shrunk upon it near its inner end other bearing-shells, as *c*, the said shells being of metal. By shrinking these bearing-shells upon the axle the fit between the shells and axle is made water, oil, and dust tight, and yet when the bearing-shell becomes worn externally by reason of friction between it and the inner bearing-surface of the truss portions, then the bearing-shells may be struck by a hammer and forced or rounded off from the axle and other bearing-shells be substituted.

The bearing-shells *b′* have at their outer ends flanges, as 3, which enter a recess or chamber formed in the end of the truss, the junction, as 5, of the periphery of the flange of the bearing-shell with the metal of the truss being somewhat distant from the exposed portion 6 of the divided axle between the wheel and end of the truss, so that water—such as rain or snow—falling upon the axle cannot work into the truss, or so that dust cannot work into the truss and into the oil-chamber 8 therein.

The space between the rear side of the flange of the bearing-shell *b′* and the upright shoulder formed in the end of the truss C is closed by means of a suitable packing, as 10, it adding to the water and dust proof closing of the joint or space 5.

I claim—

1. The combination, with a truss, as C, recessed at its outer ends, and a divided axle having shoulders, as *b*, of bearing-shells shrunk or secured water, oil, and dust tight to the axle and against the said shoulders, and serving as a surface about which rotates the inner bearing-surface of the truss, substantially as described.

2. The divided axle, the shouldered bear-

ing-shell secured thereto and made to rotate in unison with the axle, combined with the truss taking its bearing upon and made movable with relation to the exterior of the said bearing-shell, combined with annular packing inserted between the shoulders of the said bearing-shell and the recessed end of the truss, to operate substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES H. EATON.

Witnesses:
JAS. H. CHURCHILL,
JOHN C. EDWARDS.