T. SCOTT.

Gages for setting Axle Boxes.

No. 138,347. Patented April 29, 1873.

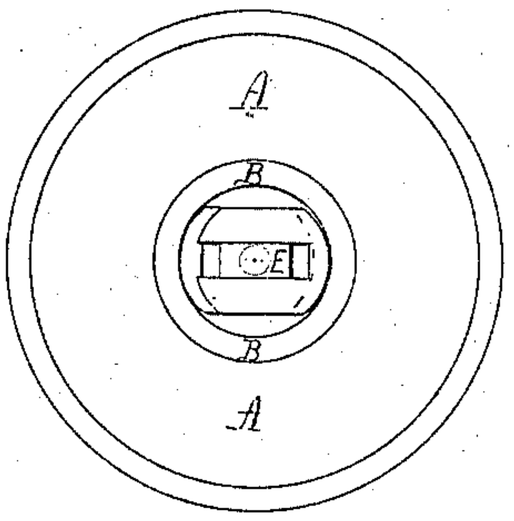

Fig. 3.

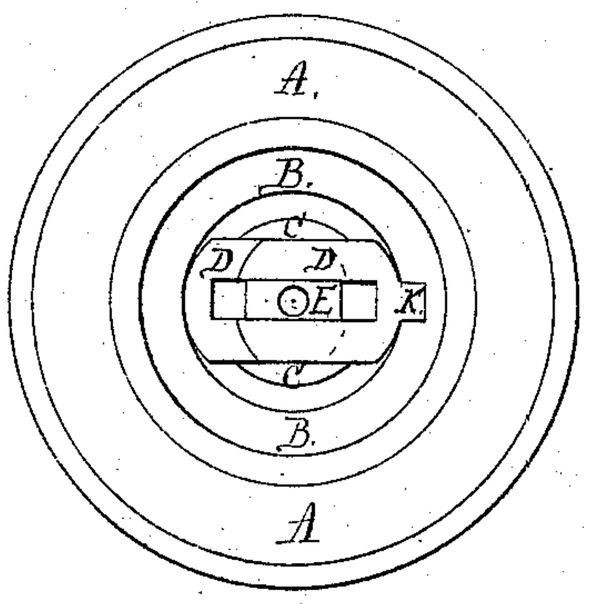

Fig. 2.

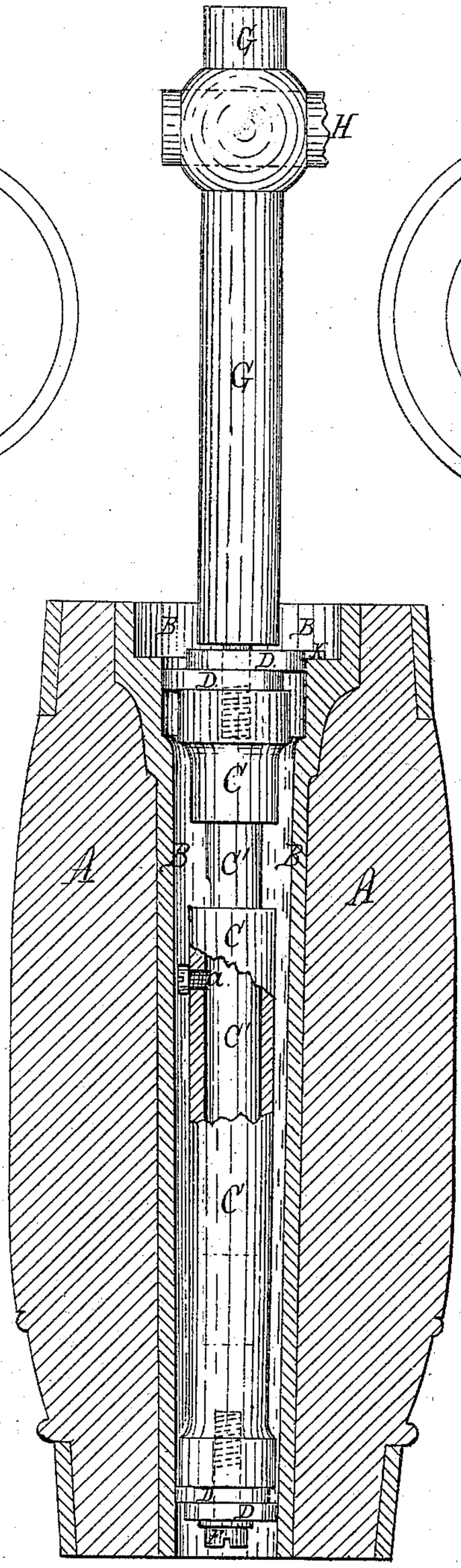

Fig. 1.

Witnesses.
F. C. Howes
John Freyburger

Inventor.
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Chas. F. Sleeper, Atty.

UNITED STATES PATENT OFFICE.

THOMAS SCOTT, OF ST. PAUL, MINNESOTA, ASSIGNOR OF ONE-HALF HIS RIGHT TO ALEXANDER KENRICK, OF SAME PLACE.

IMPROVEMENT IN GAGES FOR SETTING AXLE-BOXES.

Specification forming part of Letters Patent No. **138,347**, dated April 29, 1873; application filed February 8, 1873.

To all whom it may concern:

Be it known that I, THOMAS SCOTT, of St. Paul, in the county of Ramsey and State of Minnesota, have invented certain Improvements in Gages for Setting Axle-Boxes, of which the following is a specification:

My invention relates to gages for setting the axle-box of a wheel truly in the hub, or centering it, so that the fellies or tire may revolve in a plane exactly perpendicular to the axis. As this work is done it is necessary, after the box is inserted in the hub, to fit a mandrel or plug to the box, which will revolve in it and fit at both the larger and smaller ends. From an extension of this mandrel an arm projects in a horizontal direction, and from the end of the arm a spur extends downward to touch the felly of the wheel. If, on revolving this arm, the spur touches all parts of the felly, it is obvious that the wheel will run truly on its axis, but if it will only touch at one point it becomes necessary to wedge between the hub and the box until the right position is obtained. Axle-boxes differ in their length, size, and taper, and the usual method of forming the mandrel is to make a wooden plug, turning it to fit the especial box on which the artisan is at work. Among a large collection of such mandrels (and most carriage-makers are obliged to keep a quantity on hand) it may be impossible to find one to fit a special job of work, and thus a loss of time and labor is experienced in fitting one to the box. I have overcome this difficulty by making an adjustable mandrel, one that can be fitted easily to any box, whatever may be its length, size, or taper. This will dispense with the necessity of keeping on hand a quantity of various sizes, and will save a great deal of time in fitting the gage to the box.

In the drawing I have shown, in Figure 1, a section of a hub, and an axle-box with the gage adjusted to it. Fig. 2 is a top view of the same with the stem removed, and Fig. 3 is a bottom view with the screw removed.

A shows a hub, and B a box. C C′ is the mandrel, the part C′ being made to slide in the lower part of C and held in place by a set-screw, *a*. D D are leaves, which slide upon a projection, E, on the mandrel. F is a screw, which tightens the lower set of leaves to the mandrel; and G is a stem or shaft, from the bottom of which a screw enters the mandrel to tighten the upper leaves. The top of the stem G is enlarged and perforated to receive the arm H, from which a spur projects downward in the ordinary manner. K is a flange on the upper leaf to prevent the mandrel from dropping into the box.

To fit the gage to the box, I slide the leaves apart until they impinge upon the sides of the box, and then screw them firmly together. The mandrel will then revolve freely, the arm and spur describing a plane perpendicular to its axis. By using leaves of different lengths and by extending or shortening the mandrel a single gage may be made to fit any box from that of the lightest sulky to that of the heaviest wagon.

The extending apparatus may be dispensed with, and only the leaves used in some cases, but the gage is more generally useful with it.

I have experimented with different modes of separating the leaves, as by using wedges or by a tapered plug, and have contemplated splitting the upper and lower ends of the mandrel and forcing them apart by means of a wedge or similar contrivance, but consider the method shown as the most advantageous.

I claim as my invention—

1. A gage for "truing" axle-boxes made with a mandrel adjustable to fit varying sizes of axle-boxes by means of sliding leaves at the top and at the bottom, which leaves form the bearing-surface of the mandrel, substantially as described.

2. The gage for truing axle-boxes having sliding leaves upon its mandrel, and a lengthening device formed by dividing the mandrel and making one part to slide in the other, substantially as set forth and described.

THOMAS SCOTT.

Witnesses:

CHAS. F. SLEEPER,

JAMES B. BEALS.