

C. W. Griffith,

Centering-Plate for Axle-Boxes.

No 25,504.

Patented Sep. 20, 1859.

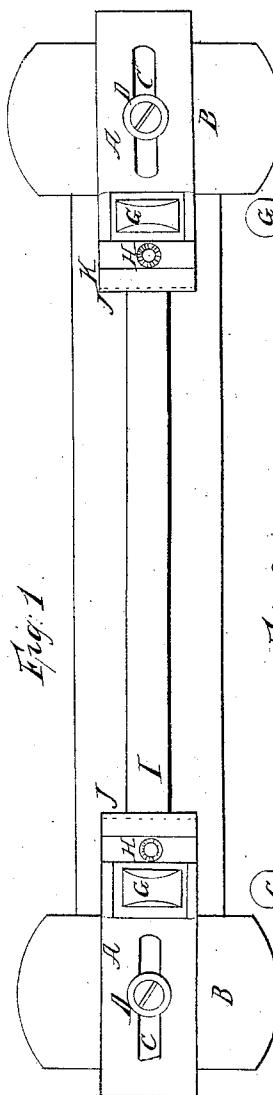


Fig. 1

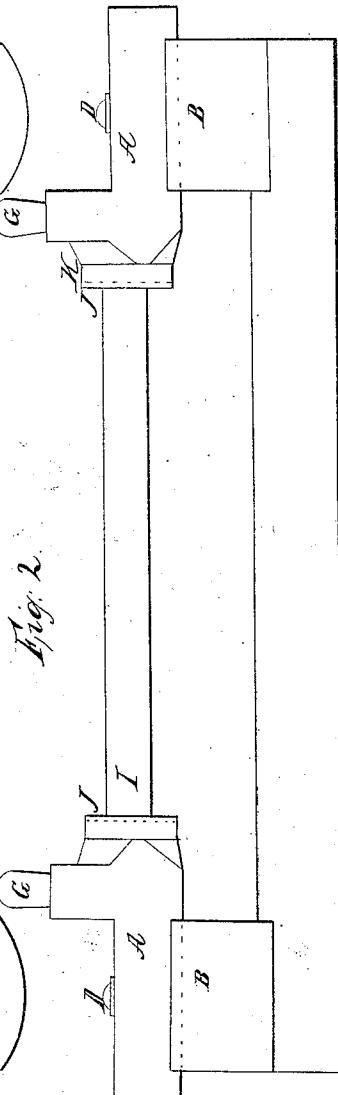


Fig. 2

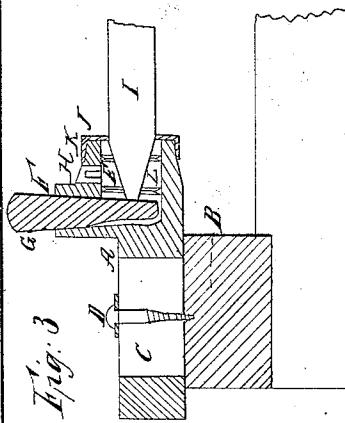


Fig. 3

Witnesses:  
Geo. M. Younger  
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Inventor:  
Collins W. Griffith

# UNITED STATES PATENT OFFICE.

COLLINS W. GRIFFITH, OF DAYTON, OHIO.

## IMPROVED GAGE AND BOX FOR CASTING JOURNALS IN SOFT METAL.

Specification forming part of Letters Patent No. 25,504, dated September 20, 1859.

To all whom it may concern:

Be it known that I, COLLINS W. GRIFFITH, of Dayton, in the county of Montgomery and State of Ohio, have invented a new and useful gage or centering-plate to hold arbors and shafts in hollow boxes while the metal is cast around them in which they are to turn; and I do hereby declare that the same is described and represented in the following specification and drawings.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and the mode of using it, referring to the drawings in which the same letters indicate like parts in each of the figures.

Figure 1 is a plan of a shaft, boxes, and plates. Fig. 2 is an elevation of the same. Fig. 3 is a section of one of the boxes and centering-plate cut through the center.

The nature of my invention consists in a loose or removable gage or centering-plate fitted and fastened to or held against a hollow box so as to hold the shaft in its proper position in the box, and at the same time retain or prevent the melted metal that is poured in to form a box around the shaft from running out.

In the accompanying drawings, A A are two boxes fitted to scores in the bars B B, and provided with slots C C for the screws D D, which fasten the boxes to the bars, as shown in the drawings. These boxes A A may be made in the form shown in the drawings or in such other form as will adapt them to the purposes or circumstances in which they are to be used—that is, the box must be made with a hole, E, in it much larger than the shaft, as shown in Fig. 3, and may have another opening or hole, F, from the inner end of the hole E, which may be filled with a key or block of wood or metal, G, for the end of the shaft to come against, when it is placed in the box to have the melted metal poured in around it through the hole H in the top of the box A.

To prevent the melted metal from running out of the hole E around the shaft I, and to hold the shaft in its true or proper position in the box while the melted metal is run around it, the gage or centering-plate J is made with a hole in it to fit the shaft I and hold it as desired while the plate is held in position on the box by its flange K, fitted to the outside of the

box, as shown in section, Fig. 3. When the boxes are made, they should be fitted to a centering-plate, which should always be kept with them, so that whenever the boxes wear out they can be melted out by dipping the end into some melted metal, and then replaced on the frame with the centering-plates on them and the shaft put in and the boxes filled with melted metal again, and this may be done by any person competent to tend the machine where the boxes are used without anything more than a common iron vessel to melt the metal in, and it can be done so quick as not to delay or stop the machine more than half an hour. The lower end of the block or key G should be so much smaller than the hole in the box that the melted metal will run entirely around and under its lower end, so as to form a complete cup for the oil or tallow applied to lubricate the shaft after the key is removed, and the top of the box should have a tin cover fitted to it to keep the dust and dirt out. Besides, the metal which forms the cup prevents the shaft from pushing the box of metal back, and to hold it securely in its place I make some ribs on the inside of the hole E, as shown at L, so that as the box is filled the metal runs around them and shrinks against them, so as to hold the box tight and firm in its place.

The above-described centering-plate is a most excellent contrivance, of great practical utility and small cost, and most easily and successfully used by persons of limited skill, and makes a far better and more perfect bearing or box, and one that is better fitted to the shaft than the most skillful workman could make by boring and reaming. The oil-cup of this box is at the small end of the bearing and may be kept covered, so that very little dust will get in. If any does get in, there is room for it to settle below the end of the shaft, so that the oil supplied to the shaft will be comparatively free from dirt and dust. There may be cases in which this centering-plate may be used that it may be desirable to hold it in place by pins, dowels, screws, or clamps, which I consider as equivalents for the flange.

I contemplate that my centering-plate may be made in two parts, with flanges for screws to hold the parts together around the shaft, so that the plate can be removed after the box is cast without disturbing the shaft or box,

and that skillful artisans will modify it and adapt it to their purposes without departing from the merits or principles of my invention.

I believe I have described and represented my invention so as to enable any person skilled in the art to make and use it.

I will now state what I desire to secure by Letters Patent, to wit:

In combination with a hollow box, a loose removable gage or centering-plate fitted and

fastened to or held against the box, so as to hold the shaft in its proper position in the box, and at the same time retain or prevent the melted metal that is poured into the hollow box to form a box around the shaft from running out.

COLLINS W. GRIFFITH.

Witnesses:

GEO. M. YOUNG,  
H. B. CHANDLER.