July 11, 1933. C. O'DONNELL 1,917,878

OPERATING TOOL

Filed Oct. 30, 1930

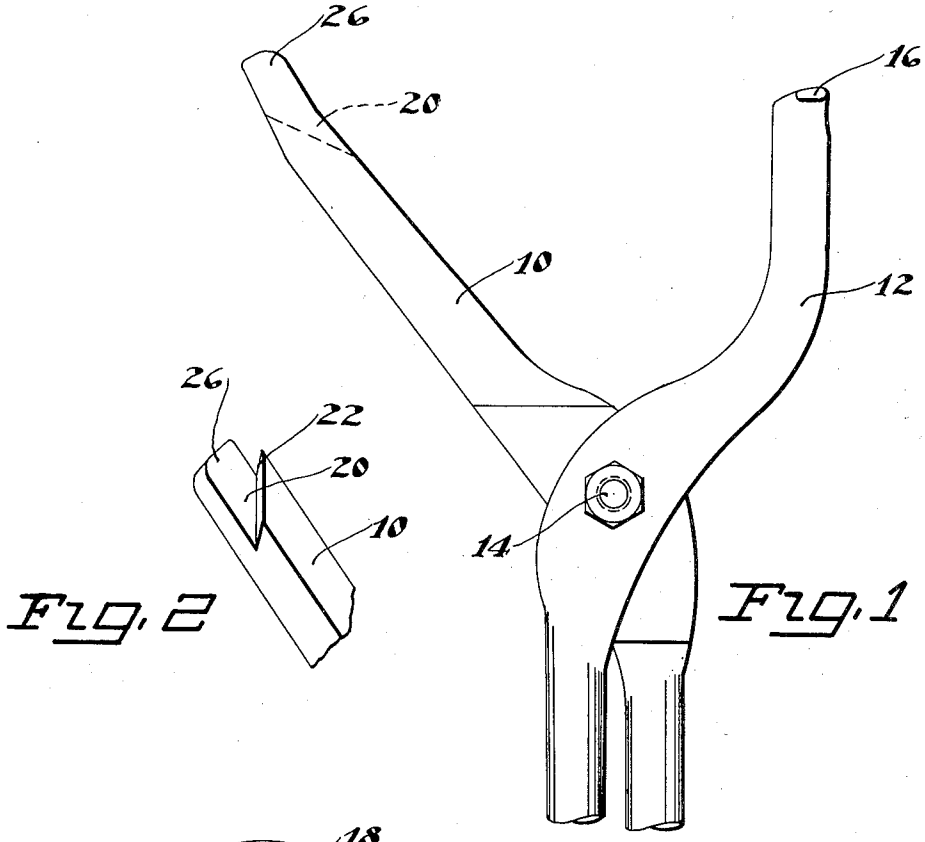


Fig. 1

Fig. 2

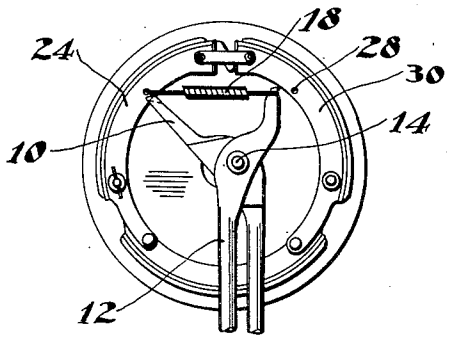


Fig. 4



Fig. 3

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UNITED STATES PATENT OFFICE

CLAUDE O'DONNELL, OF SOUTH BEND, INDIANA, ASSIGNOR, BY MESNE ASSIGNMENTS, TO BENDIX AVIATION CORPORATION, OF SOUTH BEND, INDIANA, A CORPORATION OF DELAWARE

OPERATING TOOL

Application filed October 30, 1930. Serial No. 492,258.

This invention relates to tools for attaching the return springs of brakes and the like, and is illustrated as embodied in a tool shaped generally like a pair of tongs and arranged to stretch a spring one end of which has been attached to a brake shoe, so that the opposite end may be attached to another shoe or to the backing plate or other point of attachment.

An important feature of the invention is in the construction of the tool so that the fulcrum arm need not engage the brake lining or any other part of the brake which could be damaged thereby, and to this end I prefer to form this arm of the tool with a notch so arranged as to form a sharp cutting edge disposed at an acute angle to the arm and adapted to bite into the inner edge of the web of the brake shoe, together with an adjacent projecting portion which engages the side of said web. The other arm of the tool is formed for engagement with the spring.

The above and other objects and features of the invention, including various novel and desirable details of construction, will be apparent from the following description of the illustrated embodiment shown in the accompanying drawing, in which:

Figure 1 is a side elevation of the tool, the lower parts of the arms being broken away;

Figure 2 is a perspective view showing the notching of the fulcrum arm as described above;

Figure 3 is a perspective view of the other arm of the tool showing how it is formed to hook into the eye of a spring; and

Figure 4 is an elevation showing the stretching of the main return spring of a Bendix three-shoe brake by my novel tool.

The tool in the form illustrated is generally like a pair of tongs and includes a fulcrum arm 10 and an operating arm 12 connected by means such as a pivot 14. The operating arm 12 is formed with a projection 16 at its upper end adapted to hook into the eye at one end of a brake return spring. For convenience of illustration, I have shown this hooked into the eye of the return spring 18 of a conventional Bendix three-shoe brake (Figure 4). The fulcrum arm is formed with a notch 20 at its end so arranged as to form a sharp cutting edge 22 which, as shown in Figure 4, is disposed at an acute angle to the fulcrum arm and arranged to dig into the inner edge of the web of the shoe 24 to which the spring 18 is attached, together with a projecting portion 26 which engages the side of said web.

With the tool in the position shown in Figure 4, the arms may be manipulated to stretch the spring 18 so that the hook or eye at its righthand end may be introduced into the opening 28 in the opposite shoe 30 so that the spring is tensioned between the shoes 24 and 30.

While one illustrative embodiment has been described in detail, it is not my intention to limit the scope of the invention to that particular embodiment or otherwise than by the terms of the appended claims.

I claim:

1. A tool generally formed like a pair of tongs and comprising a pair of arms pivoted together and one of which arms is notched at its end to provide a sharp edge adapted to bite into the edge of a web of a brake shoe and an adjacent projecting portion to engage the side of said web and the other of which arms is formed with a portion adapted to hook into the eye at the end of a brake return spring attached to said brake shoe so that the tool may be manipulated to elongate the spring.

2. A tool comprising a pair of arms pivoted together, one of said arms being notched at its end to provide a sharp edge disposed at an acute angle to said one arm and adapted to bite into the surface of a metallic member and an adjacent projecting portion adapted to engage the metallic member adjacent said surface, the other arm being formed with a projection adapted to receive the hooked end of a tension spring so that the tool may be manipulated to elongate the spring.

In testimony whereof, I have hereunto signed my name.

CLAUDE O'DONNELL.