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LA VERNE DICKENS

2,433,743

ELECTRIC SAFETY CENTERING DEVICE

Filed July 19, 1945

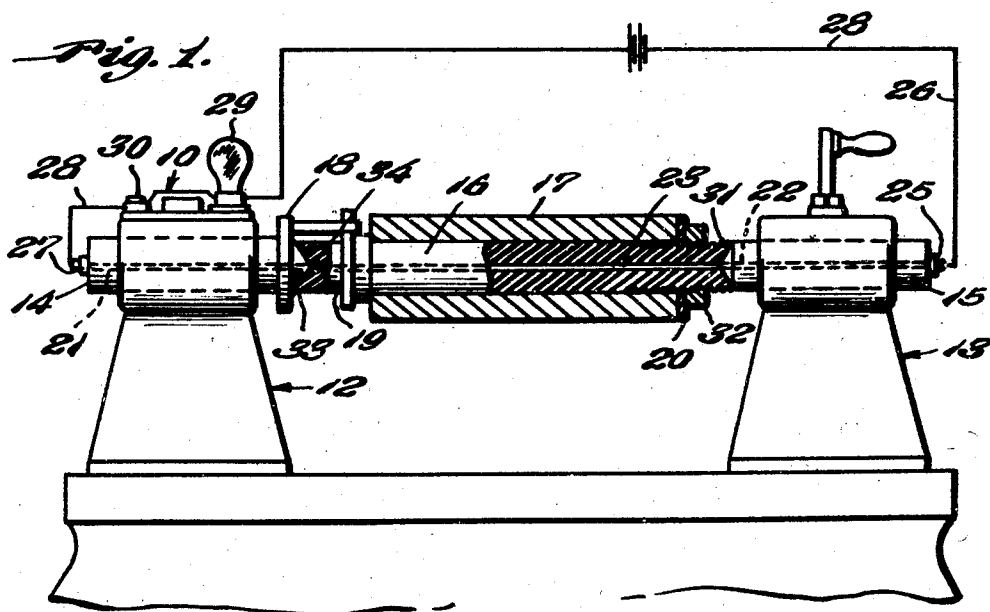
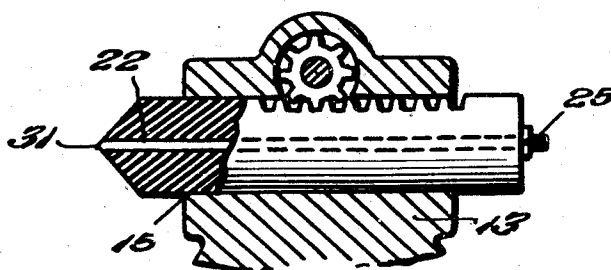


Fig. 2.



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UNITED STATES PATENT OFFICE

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ELECTRIC SAFETY CENTERING DEVICE

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1 Claim. (Cl. 177-311)

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This invention is a safety device both for operator and work and has for a primary object to provide means whereby a false or off center may not occur in any machine or tool in which centering is essential to a proper performance of the work without the knowledge of the operator.

Another object of my invention is to provide electrical signalling means for indicating on or off center of a piece of work in a machine.

A further object of the invention is to provide an indicator of a nature which will save injury or possible loss of life of an operator, save the breaking of tools, machinery, scrapping of work, loss of time, etc. and to speed up production and remove fear complex of the operator resulting in easier and more efficient operation.

Other features and advantages will become more readily apparent from the following description and the accompanying illustrative drawings in which:

Figure 1 is an elevational sectional view of a lathe embracing my invention, and

Figure 2 is a similar detail view of a tail stock center thereof.

In the accompanying drawings as above enumerated and in the following specification, like characters of reference indicate like parts throughout and in which 10 is the machine used for illustration purposes and is a lathe comprising a head stock 12, a tail stock 13, centers 14 and 15, an arbor 16 for supporting the work 17, a driver 18, dog 19, and a clamp nut 20 to secure work to the arbor.

The above designated lathe members 14, 15, 16, 18, 19 and 20, are formed of a non-conducting alloy, hard fiber or plastic and the cores 21, 22 and 23, of members 14, 15 and 16, respectively are of steel. Connected to the outer terminal 25 of core 22, is an electric conductor wire 26, and connected to the outer terminal 27 of center 14, is a similar wire 28, said wires leading to a source of current. Included in the circuit of said wires is a preferably green signal lamp 29 and a fuse 30, which is a safety fuse adapted to blow when and if the lamp 29 is burned out.

The cores 22 and 23 contact one another only when the terminals 31 and 32 of the tail-stock end meet on exact center. Similarly the cores 23 and 21 contact one another only when the terminals 33 and 34 thereof touch one another. Therefore, the circuit embracing lamp 29 cannot be closed to light the lamp except when said

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terminals 31, 32, 33 and 34, are all in contact with one another and the lighting of the lamp 29 indicates that said elements 14, 16 and 15 are exactly centered upon one another. The least deviation of the centering of these members will cause the lamp to go out and thus indicate to the operator of the machine that there is an off center and probable danger to himself or work through breakage of parts of the machine on the work.

It is thought that persons skilled in the art to which the invention relates will be able to obtain a clear understanding of the invention after considering the description in connection with the drawings. Therefore, a more lengthy description is regarded as unnecessary.

Changes in shape, size and rearrangement of details and parts such as come within the purview of the invention claimed may be resorted to, in actual practice, if desired.

Having now described my invention that which I claim as new and desire to procure by Letters Patent is:

In a lathe including spaced centers and an intermediate arbor detachably supported therebetween and in axial alignment therewith, said centers and arbor being formed of a non-electricity conducting material and having axially aligned bores therethrough, electricity conducting cores of relatively small diameter in said aligned bores, a signal light, and source of electric energy supply connected with the cores of said centers, whereby an electric circuit will be completed therewith to operate said signal light if and when the cores in said centers and arbor are in exact axial alignment one with the other and with said cores in electric contact with each other.

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