(No Model.) 2 Sheets—Sheet 1.

# J. N. KAUFHOLZ.

## MACHINE FOR CENTERING SHAFTS, AXLES, &c.

No. 272,704. Patented Feb. 20, 1883.

*Fig. 1.*

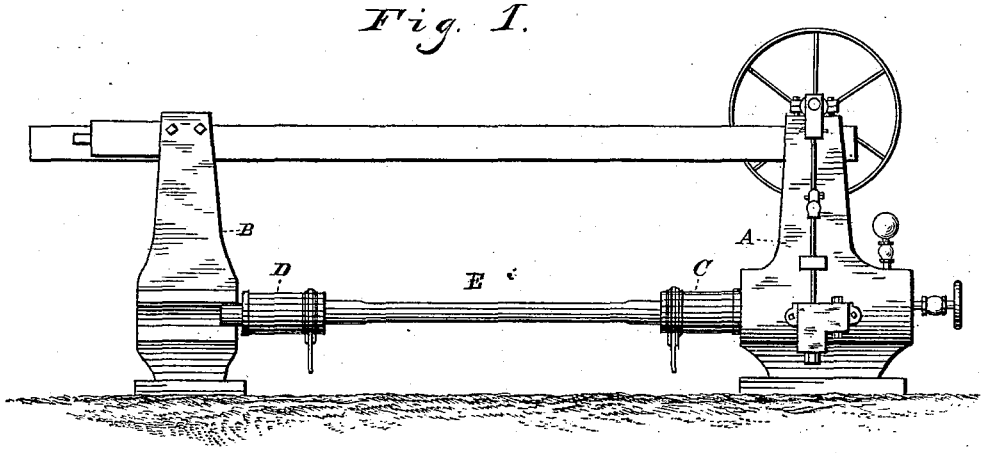
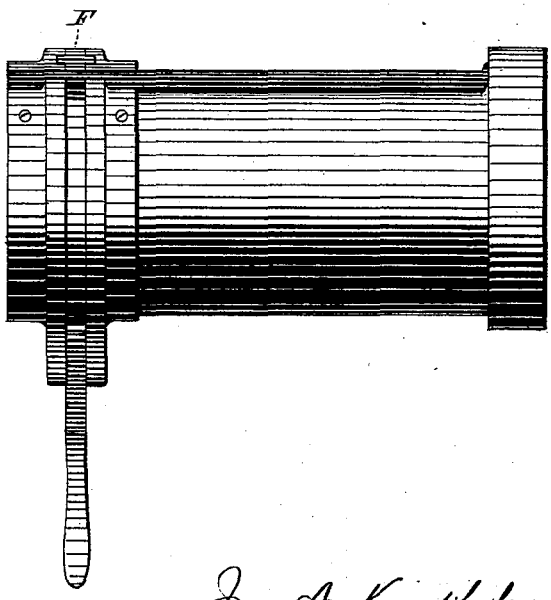



*Fig. 2.*




WITNESSES

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(No Model.) 2 Sheets—Sheet 2.

# J. N. KAUFHOLZ.

## MACHINE FOR CENTERING SHAFTS, AXLES, &c.

No. 272,704. Patented Feb. 20, 1883.

Fig. 3.

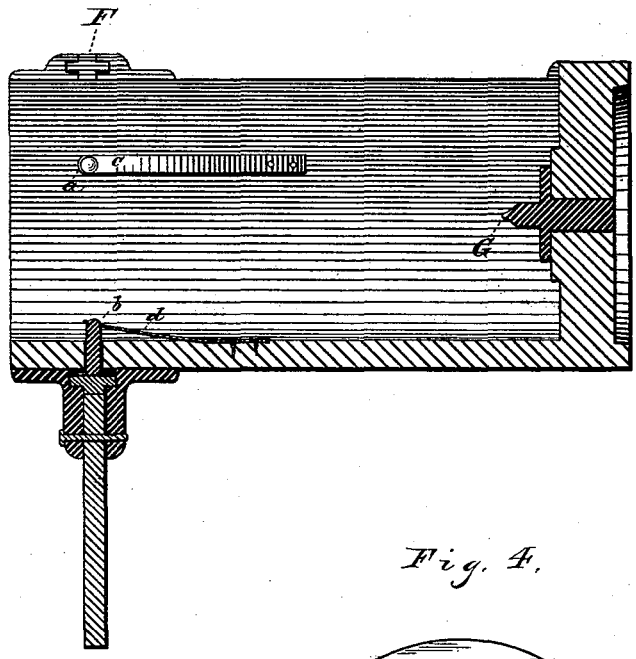



Fig. 4.

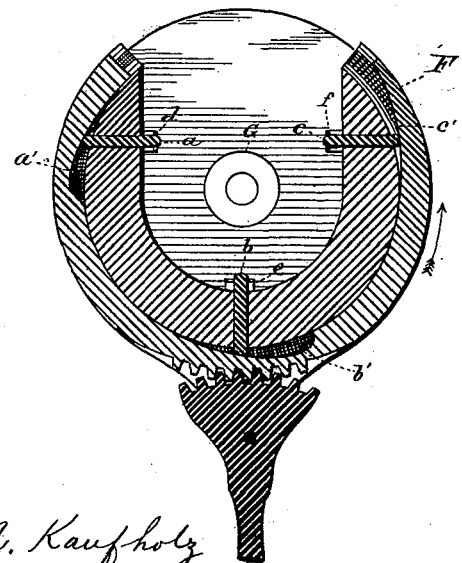
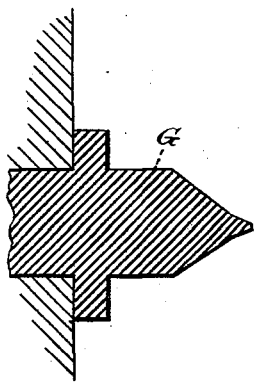



Fig. 5.

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# UNITED STATES PATENT OFFICE.

JOHN N. KAUFHOLZ, OF CLEVELAND, OHIO, ASSIGNOR TO HIMSELF AND S. M. CARPENTER, OF SAME PLACE.

## MACHINE FOR CENTERING SHAFTS, AXLES, &c.

SPECIFICATION forming part of Letters Patent No. 272,704, dated February 20, 1883.

Application filed September 26, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN N. KAUFHOLZ, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Machines for Centering Shafts, Axles, and the like; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to a device for centering shafts, axles, and the like that are to be turned in a lathe; and it consists in the peculiar construction of said device, as will be hereinafter fully set forth and claimed.

In the drawings, Figure 1 is a view in side elevation of a hydraulic press having my device attached. Fig. 2 is a view in side elevation of my improved chuck or shaft holder. Fig. 3 is a longitudinal vertical section, and Fig. 4 is a vertical cross-section taken through the same, showing its construction and the manner of operating it. Fig. 5 is a view in longitudinal section of the forward or pointed end of my center-punch.

A is a hydraulic or other suitable press.

B is the tail or end block of the same.

C and D are two chucks, (see Figs. 1, 2, 3, and 4,) one, C, being secured to the piston of the press A, and the other, D, being secured to the tail or end block, B. These chucks C and D are provided with pins, set-screws, or any like device or devices which will operate to adjust the axle or shaft E.

One manner of adjusting the shaft or axle E is shown in Figs. 3 and 4, and consists of three pins, *a*, *b*, and *c*, which pass through the body of the chuck. These pins *a*, *b*, and *c* are so arranged that their inner ends act to support the axle or shaft E—the pin *b* from below and the pins *a* and *c* on either side. The outer ends of the pins *a*, *b*, and *c* engage with inclines *a'*, *b'*, and *c'*, which are formed in a ring, F, said ring partly surrounding the chuck, (see Fig. 4,) and adapted to be moved thereon. This ring F is operated in any suitable manner, one manner being shown in Fig. 4, which will be readily understood. The pins *a*, *b*, and *c* are held against the inclines by means of springs *d*, *e*, and *f*. Thus it will be seen that when the ring F is revolved in the direction of the arrow, Fig. 4, the pins *a*, *b*, and *c* will be forced inward, and when the ring F is revolved in the opposite direction the pins will move outward.

G is the centering-punch, formed preferably as shown in Fig. 5. Of these punches G there are two, (one inserted in the end of each chuck,) as shown in Fig. 3.

The operation of my device is as follows: The shaft or axle E is laid in the chucks, the upper ends of the chucks being formed open. It is then adjusted by means of the pins *a*, *b*, and *c*, as hereinbefore described. The press is now set in operation, which forces out the chuck C, and the shaft or axle being compressed between the two centers G G, a depression is thus formed in both ends of the shaft or axle. These depressions act as centers, and are much preferable to drilled centers, inasmuch as they are more smooth and compact, and partake in their shape more of the contour of the center of the lathe on which the shaft or axle is to be turned.

What I claim is—

1. The combination, with a suitable press and the tail or end block of the same, of the two chucks, arranged opposite each other and carried by the end block and piston or forcing portion of the press, respectively, said chucks being open laterally, and each provided with adjusting-pins and a center-punch, substantially as described.

2. The combination, with the press A and the end block, B, of the chucks C and D, open at their sides and ends, and provided with center-punches, G, said chucks being carried by end block and press-piston, respectively.

3. The chucks herein described, having one side and one end open, and provided with the adjusting-pins and center-punch, substantially as described.

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

JOHN N. KAUFHOLZ.

Witnesses:

W. E. DONNELLY,

E. C. WRIGHT.