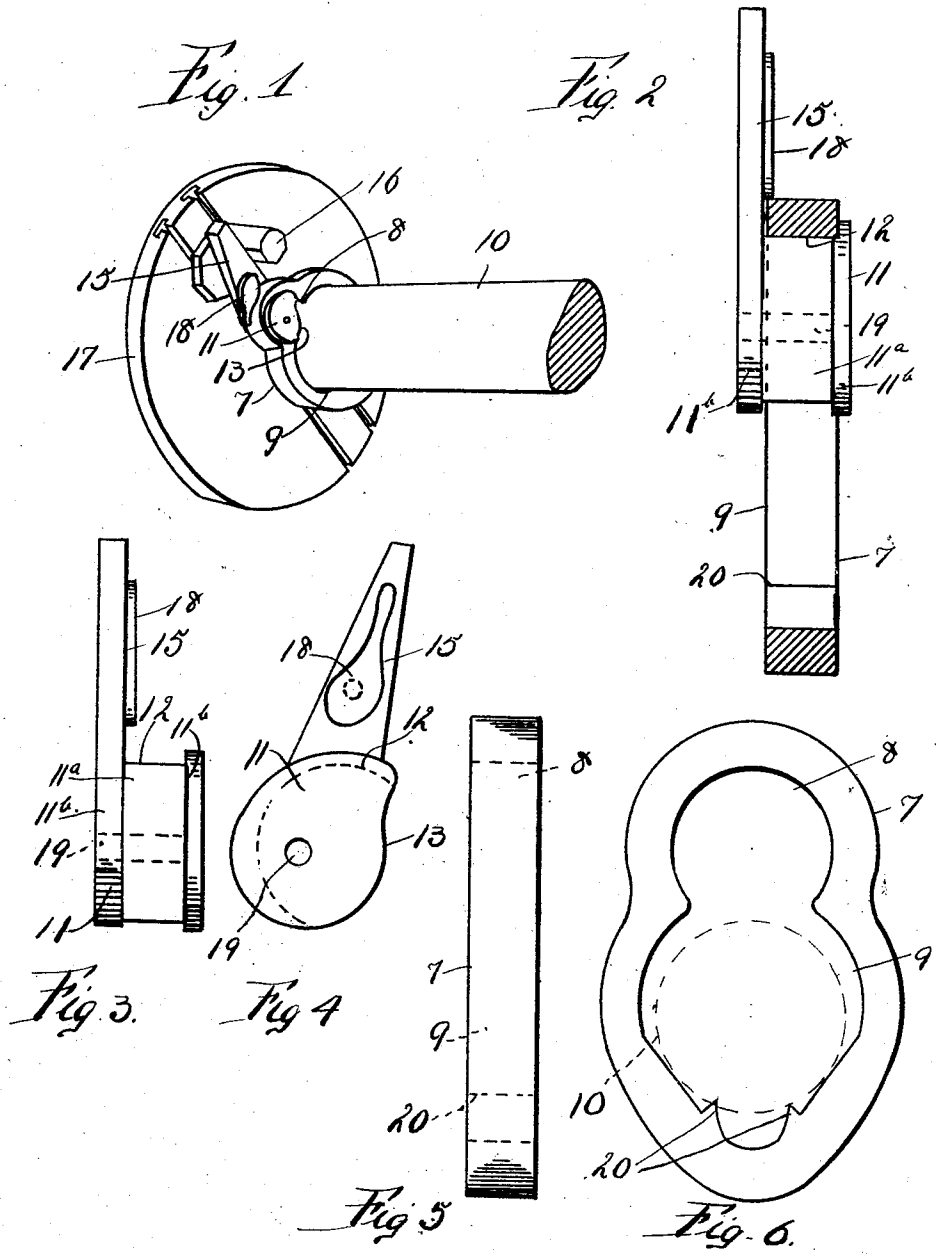


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CLAMPING DOG FOR LATHES

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CLAMPING DOG FOR LATHES

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My invention relates to new and useful improvements in a clamping dog for lathes, and has for its primary object to provide an exceedingly simple and effective device of this character which may be made in different class to accommodate work of different dimensions, but which may be used on work of a smaller diameter than that for which the clamp is specifically constructed by the use of packing.

Another object of the invention is to provide a clamping dog which is independent or free of the lathe but actuated thereby when in use so as to firmly clamp the work.

A further object of the invention is to provide a clamping dog consisting of a collar of unique construction provided with two communicating passages, one of which is designed to receive the work, while in the other is rotatably mounted a cam to clamp upon the work and a portion of said cam carries a locking member to lock or hold the cam in different adjusted positions, particularly when in an inoperative condition.

A still further object of the invention is to provide for lifting the clamp dog as a whole.

With these ends in view, this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claim.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, I will describe its construction in detail, referring by numerals by the accompanying drawings forming a part of this application, in which:

Fig. 1 is a perspective view of the head of a lathe, a piece of work and my improved clamping dog connected therewith.

Fig. 2 is a longitudinal sectional view through the clamping collar with the cam illustrated in elevation and shown in position.

Fig. 3 is a side elevation of the cam.

Fig. 4 is a face view thereof.

Fig. 5 is an edge view of the collar.

Fig. 6 is a face view of the same.

In carrying out my invention as herein

embodied, 7 represents the clamping dog collar of substantially oval shape and having two passages 8 and 9 communicating with each other, the latter passage being for the reception of the piece of work such as a rod, shaft or other structure circular in cross section as shown at 10, Fig. 1. Within the passage 8 is rotatably mounted a cam 11 including a body 11^a and flanges 11^b and the body is provided with a true circular edge portion 12 for coaction with the inner edge surface of the collar within the passage 8, while the flanges are provided with sigmoid surfaces 13, the convex portion of which acts as the clamping element for engagement with the work while the concave portion provides for spacing the cam from the work when the clamping dog is being placed on said work.

The cam is preferably rotated through the medium of an arm 15 which projects therefrom to be engaged by the driver 16, suitably mounted on the lathe head 17 and this arm may be held or locked in different positions by a locking member 18 pivoted on the arm 15 and coacting with the collar.

The cam is also provided with a lifting hole 19 into which a person's finger may be inserted if the clamping dog is of small size, or into which an eye bolt or other suitable connection may be temporarily inserted so that a crane hook may be attached thereto if the device is of very large size.

In order to position packing elements to decrease the effective size of the passage 9, I provide projections 20 within the passage 9 and projecting from the inner surface of the collar and said projections are so arranged as to be outside of the space occupied by the largest piece of work which may be accommodated by the clamp, such work being indicated in dotted lines in Fig. 6.

In actual practice, the clamping dog is placed upon the work 10 prior to the work being finally positioned in the lathe after which said work is set and the clamping dog then moved into proximity to the head 17 and so positioned that the driver 16 will engage the arm when the lathe begins to operate.

As soon as the driver engages the arm 15 the cam 11 will be rotated until the convex portions of the sigmoid surfaces engage the work, thus forcing said work snugly against the inner edges or surfaces of the collar in the region of the passage 9, thus firmly clamping the dog on the work.

If the work is smaller than that indicated by the dotted circle in Fig. 6, then suitable blocks or strips are placed within the passageway 9 so that the ends of said blocks rest against the projections 20, and since the clamping dog need not be central relative to the work, and since it has nothing to do with centering said work, the packing blocks or strips do not have to be equal on both sides.

Where the clamping dog is used on the finished or polished surface of a piece of work, any suitable protecting device may be placed between the work and the contracting walls of the clamping dog, said protecting device generally being a strip of soft metal, such as copper, but unless the surface is a highly finished one, the protecting device is not needed because there is little likelihood of the clamping dog marring the surface.

Of course I do not wish to be limited to the exact details of construction as herein shown, as these may be varied within the limits of the appended claim without departing from the spirit of my invention.

Having thus fully described my invention, what I claim as new and useful is:—

In a device of the kind described, a collar provided with a work receiving passageway and a bearing, a cam body rotatably mounted in the bearing, cam flanges at the ends of the body and lying on opposite faces of the collar, a cam arm projecting from one of the flanges, and means carried by said arm for coaction with the edge of the collar to hold said cam in different adjusted positions.

In testimony whereof, I have hereunto affixed my signature.

HOWARD H. PEACOCK.

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