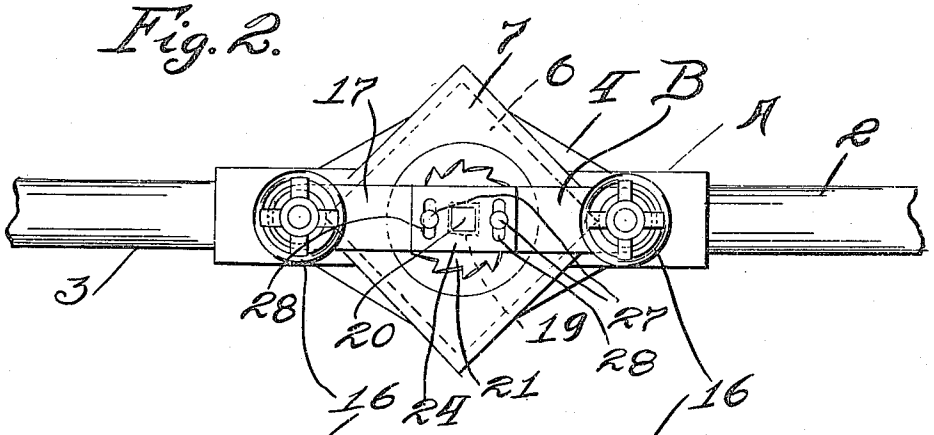
D. HITCHCOCK.

REAMER ATTACHMENT FOR DIE STOCKS.

APPLICATION FILED DEC. 22, 1914.

1,156,290. Patented Oct. 12, 1915.

Fig. 2.



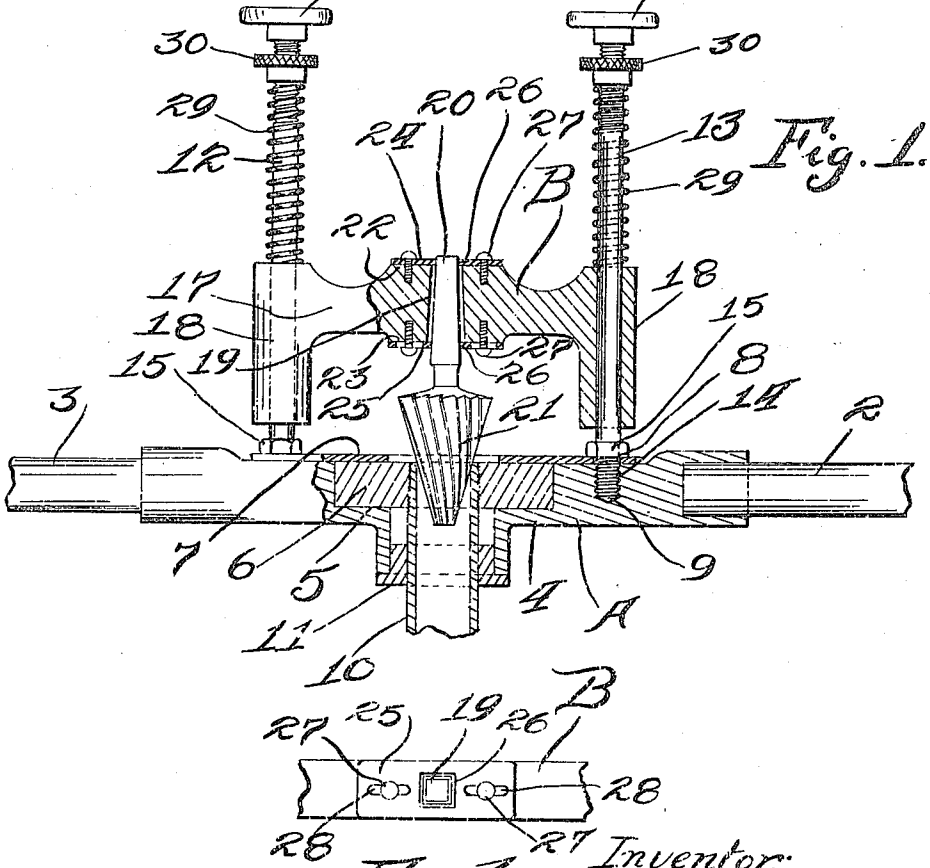


Fig. 1.

Fig. 3.

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UNITED STATES PATENT OFFICE.

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REAMER ATTACHMENT FOR DIE-STOCKS.

1,156,290. Specification of Letters Patent. Patented Oct. 12, 1915.

Application filed December 22, 1914. Serial No. 878,478.

To all whom it may concern:

Be it known that I, DELBERT HITCHCOCK, a citizen of the United States, residing at St. Paul, in the county of Ramsey and State of Minnesota, have invented a new and useful Improvement in Reamer Attachments for Die-Stocks, of which the following is a specification.

This invention relates to a reamer attachment for die stocks, the primary object thereof being to provide a device, which is readily and quickly adjustable to different sizes of pipes, whereby the pipes may be threaded, and the burs resulting from cutting, reamed out and removed in a single operation. In a device of this general character it has been found in practice, that the reamer must be held with its cutting edges against the inner edge of the end of the pipe which is being threaded, so that it will not engage too abruptly and bite into the pipe, causing either the reamer to break or the end of the pipe to be cut unevenly or too deeply. This objection I have overcome by providing a reamer attachment, which holds the reamer to its work under spring pressure and which is readily adjustable to different kinds of work, and to different sizes of reamers which are employed.

A further object of the invention is to provide a reamer attachment, which can be mounted upon the die stock and made to hold the plate, which fastens the thread cutting elements in the stock, in place of the screws, which are ordinarily employed for fastening said plate in position.

A still further object is to provide an attachment of the character stated, which will adjustably hold the reamer, so that it can be properly centered in the end of the pipe to be reamed.

To these ends my invention, comprises the features of construction, and combination of parts, which will be hereinafter more particularly described and set forth in the claims.

In the drawing, Figure 1 is a side elevation partly in section of an embodiment of my invention, a detail portion of a die stock being shown; Fig. 2 is a plan of the construction illustrated in Fig. 1, and Fig. 3 is a plan of a detail.

In the drawing, A indicates a portion of a die stock, having the usual handles 2 and 3 secured in the usual socket pieces, which are formed integral with the body 4 of the stock. The body 4 has the usual recess or chamber 5, in which the thread cutting elements 6 are held in the usual manner by a cover plate 7. This cover plate ordinarily is fastened by screws not shown passing through openings 8 in the plate, and entering threaded openings 9 in the body. Said screws are removed when it is desired to secure my improved attachment B to the die stock. In use the stock is applied to the end of a pipe, such as 10 to be threaded, said stock having its throat 11 passing over the pipe during the operation of cutting the thread.

My improved attachment consists of a pair of guide arms 12 and 13 having threaded ends such as 14, which are passed through openings 8 in the plate 7, and engage in the threaded openings 9 of the body, shoulders 15 being formed on the guides which press downwardly against the plate 7, and hold the latter firmly with the thread cutting elements 6 engaged within the chamber 5. The guide arms 12 and 13 are parallel and extend outwardly in the same general direction from the body, suitable handles 16 being formed on their outer ends by which they can be easily and quickly turned for attachment to or detachment from the die stock. Mounted upon the guides 12 and 13 is a yoke frame 17, having two sleeve portions 18, slidably mounted over the guides. The bridge portion 17 of the yoke is formed with a socket 19 in which the square shank 20 of the reamer such as 21 is received. The upper and lower faces 22 and 23 of the bridge adjacent the socket have secured thereto adjustable plates 24 and 25, each of which is formed with an opening 26, said opening being adapted to receive and hold the shank 20 snugly. These plates are fastened to the bridge by screws such as 27, slots such as 28 being formed in the plates, so that the plates can be adjusted and held in selected position to vary the angle at which the reamer is held by the reamer support or yoke. The slots 28 in the plate 24 are disposed at right angles to the slots in the plate 25, this disposition of the slots permitting the movement of the reamer and its adjustment at any angle desired, so that its tapering cutting face will enter the center of a pipe and ream its edge evenly and smoothly.

The reamer is held against its yoke under spring pressure by means of the compression

springs 29, which are placed over the guides with their lower ends pressing against the upper ends of the sleeve portions 18 of the yoke, and their upper ends held under compression below the adjusting nuts 30, which are threaded upon the guides. Thus by varying the compression of the springs 29, the force with which the cutting edges of the reamer are pressed into engagement with the pipe to be reamed is adjusted. The adjustment of the nuts 30 also varies the time when the reamer is made to engage and perform its work, it being necessary to vary this time of engagement according to the sizes of reamers employed, and the kinds of material which are being threaded and reamed. In use the guides are secured to the body 4 over the plate 7. After the reamer such as 21 is placed with its shank in engagement with the plates 24 and 25 on the reamer support, the nuts 30 are then adjusted as desired, and the die stock employed to cut threads on pipes in the usual manner. It is not necessary to pay any particular attention to the reaming operation, as the reamer will automatically, during the threading of a pipe, perform its function in an efficient and effective manner.

In accordance with the patent statutes, I have described the principles of operation of my invention, together with the apparatus which I now consider to represent the best embodiment thereof, but I desire to have it understood that the construction shown is only illustrative and that the invention can be carried out by other means and applied to uses other than those above set forth within the scope of the following claims.

Having described my invention, what I claim as new and desire to protect by Letters Patent is:—

1. In combination with a die stock, a reamer, a holder for said reamer having a socket to receive and hold the shank of the reamer in working position and a pair of sleeves near the extremities of said yoke, a pair of guide arms upon which said sleeves are slidably mounted, said arms being secured by their ends to the body of the die stock, compression springs on said guides pressing downwardly against said sleeves on said yoke and means for adjustably compressing said springs on said guides to vary the pressure at which the reamer is pressed by the yoke into engagement with its work.

2. In combination with a die stock and a reamer, a yoke frame having guide sleeves upon its ends and an opening between its ends into which the shank of said reamer is received freely, plates mounted upon said frame having openings to receive and hold the shank of said reamer, said plates being movably supported upon said frame so that their positions may be varied to change the angle at which said reamer is supported, guides mounted upon said die stock upon which said sleeves are slidably mounted, compression springs on said guide rods pressing downwardly upon said frame to force said reamer into engagement with its work and means on said guides for changing the compression of said springs.

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

DELBERT HITCHCOCK.

Witnesses:
STELLA L. WASCHENBERGER,
F. G. BRADBURY.