H. B. BEACHLER.

DEVICE FOR REMOVING PULLEYS, WHEELS, &c., FROM SHAFTS.

APPLICATION FILED SEPT. 28, 1916.

1,247,489.

Patented Nov. 20, 1917.

2 SHEETS—SHEET 1.

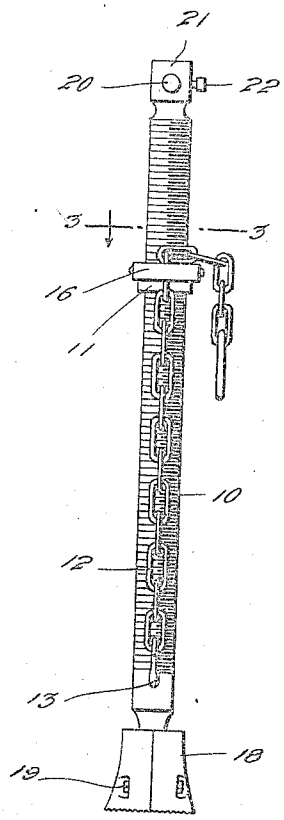


Fig. 1.

Fig. 3.

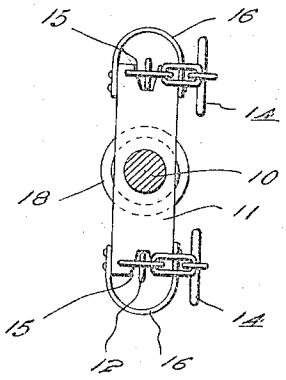


Fig. 4.

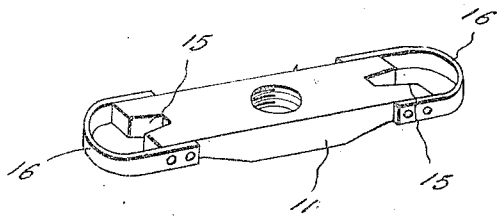
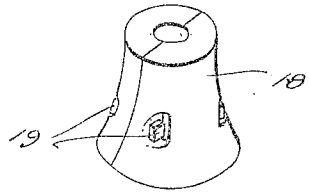


Fig. 5.



Inventor

H. B. Beachler.

By John Louis Wales

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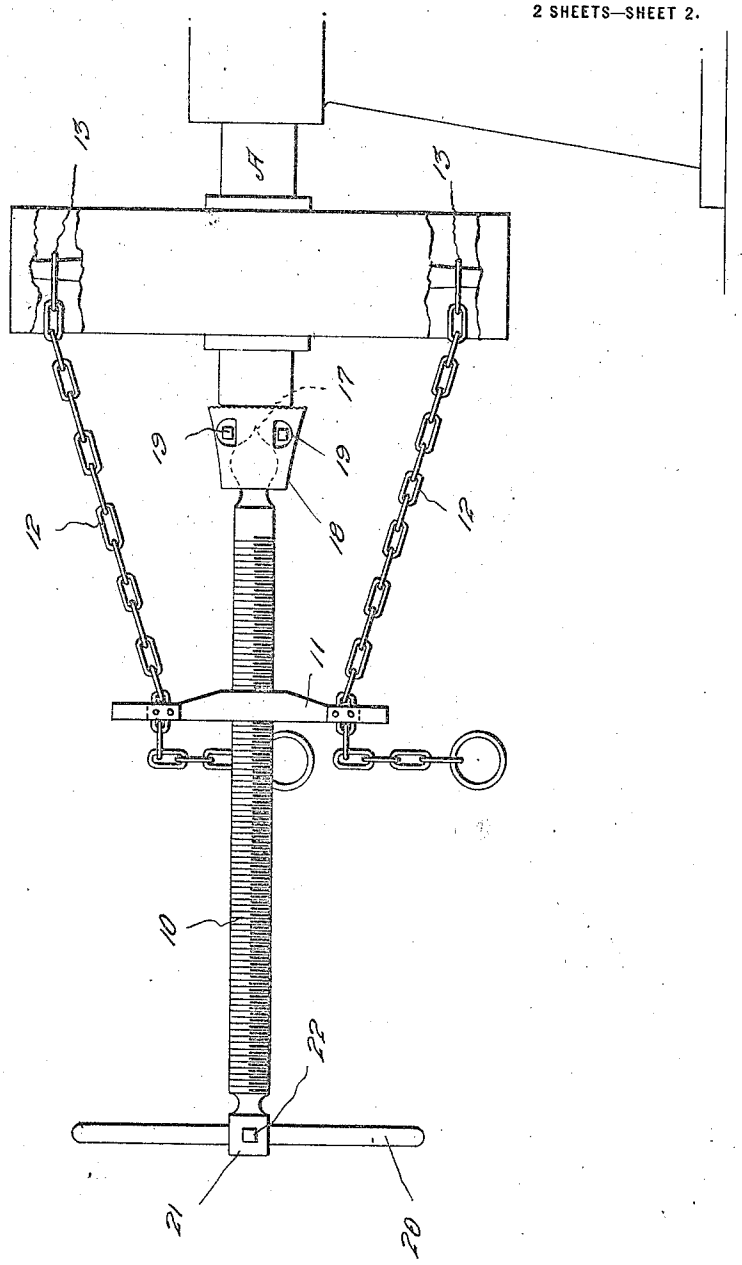


Fig. 2.

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UNITED STATES PATENT OFFICE.

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DEVICE FOR REMOVING PULLEYS, WHEELS, &c., FROM SHAFTS.

1,247,489. Specification of Letters Patent. Patented Nov. 20, 1917.

Application filed September 28, 1916. Serial No. 122,719.

To all whom it may concern:

Be it known that I, HARVEY B. BEACHLER, a citizen of the United States, residing at Surrey, in the county of Ward and State of North Dakota, have invented certain useful Improvements in Devices for Removing Pulleys, Wheels, &c., from Shafts, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention aims to provide a tool by means of which pulleys, wheels and other objects can be removed from a shaft with the least exertion, when they become stuck thereon.

The invention embodies among other features a screw adapted to bear against the end of the shaft, and having mounted thereon a traveling cross piece with which the pulley or wheel engaging elements are so connected, that upon rotation of the screw in one direction, the cross piece will be forced to move rearwardly thereon, exerting a pull upon the part to be removed from the shaft.

One of the chief characteristics of the invention resides in the provision of means for quickly adjusting the pulley or wheel engaging elements longitudinally of the screw, and with regards to the object to be removed from the shaft, as the occasion may require.

In carrying out the invention I also provide the screw with a handle for rotating the same, and which is removably associated with the screw, so that it can be quickly detached therefrom when using the tool where the space is limited, at which time a wrench or other suitable instrument can be applied to the angular extremity of the screw.

A still further object of the invention resides in providing the screw with a pointed extremity, normally covered by a non-rotatable foot for the screw, and which latter can be removed when its use is not desired, thus presenting the pointed extremity for engagement with the shaft.

The nature and advantages of the invention will be better understood when the following description is read in connection with the accompanying drawings, the invention residing in the construction, combination and arrangement of parts as claimed.

In the drawings forming part of this specification like numerals of reference indicate similar parts in the several views and wherein:—

Figure 1 is a front elevation of the tool constructed in accordance with my invention.

Fig. 2 is a side elevation showing the manner of using the same.

Fig. 3 is a sectional view taken on line 3—3 of Fig. 1 looking in the direction of the arrow.

Fig. 4 is a detail view of the cross piece.

Fig. 5 is a similar view of the foot removed from the screw.

Referring more particularly to the drawings in detail, 10 indicates an operating screw which may be of any suitable dimensions, and having mounted thereon a cross piece 11 provided with a threaded opening for the reception of the screw, so that the cross piece 11 is caused to travel upon the screw when the latter is rotated.

A plurality of pulley or wheel engaging elements are indicated at 12, and as shown in this particular instance preferably consist of chains adapted to be connected to the opposite extremities of the cross piece 11, and associated with the pulley or other object to be removed from the shaft A, so as to exert a pull upon the object to be removed from the shaft upon rotation of the screw in the proper direction, causing the cross piece 11 to move rearwardly thereof. Each of the elements 12 is preferably provided with a hook 13 at one extremity, and a ring-like member 14 at its opposite extremity. The elements 12 are intended for adjustment longitudinally of the screw 10, thus permitting the elements 12 to be properly positioned with regards to the object to be removed from the shaft, in a quick and easy manner when the tool is used in close places where the space is limited. This adjustment can be accomplished in various manners, but as shown in this particular instance the opposite extremities of the cross piece 11 are provided with substantially V-shaped notches which are adapted to receive the flexible elements, and wherein the links of the elements are so positioned that the latter are held fixed relatively to the cross piece 11. Closing the notches 15 are loops 16 into which the elements 12 may be moved when it is desired to adjust the same longitudinally of the screw 10. Subsequent to the proper adjustment of the elements 12, the latter are arranged within the notches 15 to provide a rigid connection between the cross piece 11 and the object to be removed from the shaft. It might here be stated that the

ring-like members 14 are slightly larger than the loops 16 thus preventing the elements 12 from slipping therethrough, or in other words becoming casually disengaged or separated from the cross piece 11.

The lower extremity of the screw 10 terminates to provide a point 17, while the pointed extremity is normally covered by means of a non-rotatable socket 18 constituting a foot for the screw, the end 17 of the latter being swiveled in the said foot. The foot 18 is removably fitted upon the lower extremity of the screw, and can be readily separated therefrom when desired by removing the bolts 19. As shown in Fig. 2, in using the tool, the screw 10 is adapted to engage against the extremity of the shaft A, while the hooks 13 of the elements 12 are arranged to engage the hub of the pulley or wheel to be removed from the shaft. Subsequent to the proper adjustment of the elements 12, the screw 10 is rotated in the proper direction to cause the cross piece 11 to move rearwardly thereon, thus exerting a pull upon the pulley or other object, with a view of removing or separating the latter from the shaft A. The socket or foot 18 has its lower surface roughened to obtain an effective purchase upon the end of the shaft A, but when the foot is not in use, the pointed extremity 17 of the screw is adapted to engage the shaft to hold the tool properly centered.

The opposite end of the screw 10 is preferably square to accommodate a wrench or other instrument for the purpose of rotating the screw, in close places where the handle 20 cannot be used. Ordinarily, the handle 20 is employed for rotating the screw, and is extended through an opening in the squared extremity 21, and held fixed relatively to the screw by means of a set screw 22.

While it is believed that from the foregoing description the nature and advantages of the invention will be readily apparent, I desire to have it understood that the same is merely illustrative of what I now consider the preferred embodiment of the invention, and that I do not limit myself to the exact construction and arrangement of parts shown and that such changes may be resorted to when desired as fall within the scope of what is claimed.

What is claimed is:—

A tool of the character described comprising a foot formed in separable sections, an adjusting screw having one end swiveled in said foot, a cross piece centrally threaded on the adjusting screw and having substantially V-shaped notches in opposite ends, a pair of chains, each trained through one of the notches in the cross piece and adapted for the disposition of any one of its lengths crosswise of the notch to engage the cross piece and lock the chain in adjusted position, hook members carried by the chain, loops fixed to the end of the cross piece, and rings connected with the chains and being of a size to prevent the passing of said rings through the loops.

In testimony whereof I affix my signature.

HARVEY B. BEACHLER.