

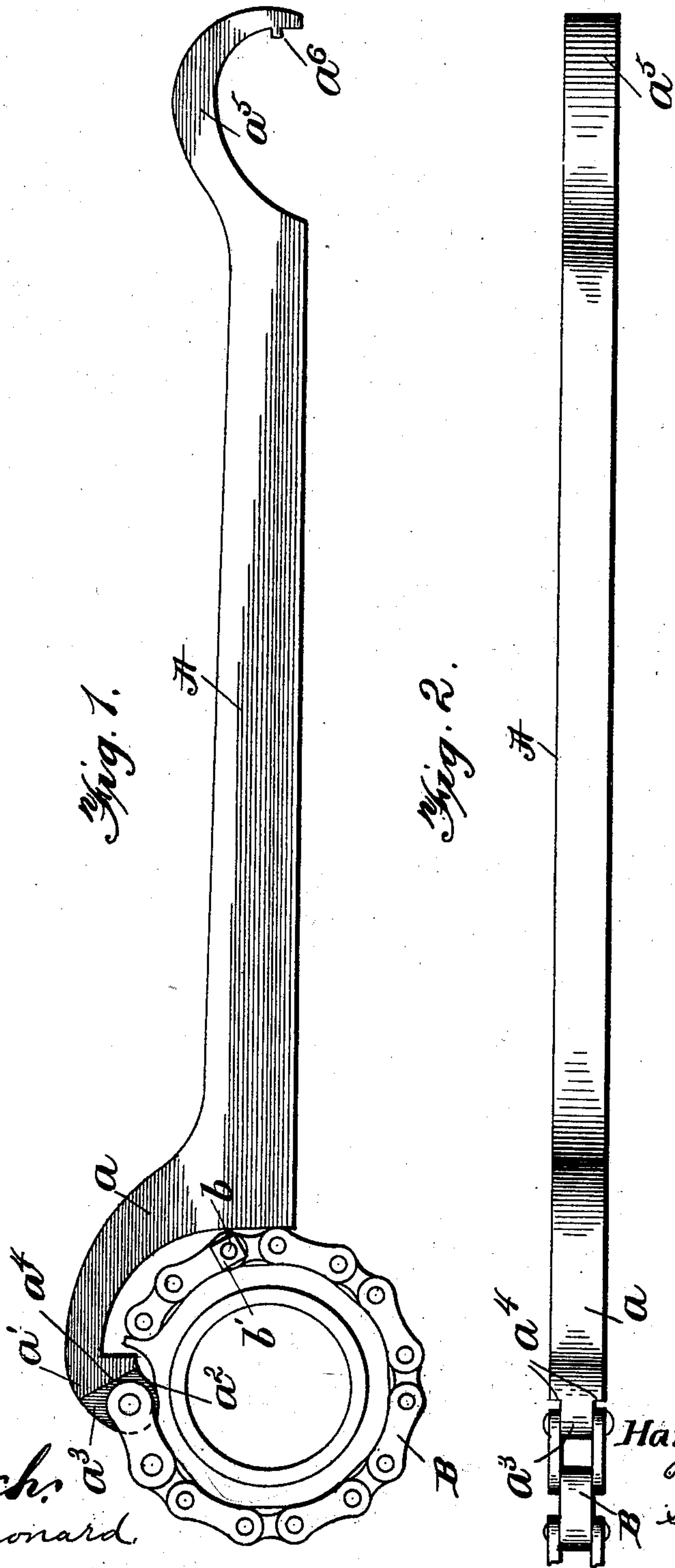
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H. J. CORDLE.
WRENCH FOR SPROCKET WHEELS

(Application filed May 23, 1900.)

(No Model.)



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UNITED STATES PATENT OFFICE.

HAMNER J. CORDLE, OF LITTLETON, NORTH CAROLINA.

WRENCH FOR SPROCKET-WHEELS.

SPECIFICATION forming part of Letters Patent No. 666,131, dated January 15, 1901.

Application filed May 23, 1900. Serial No. 17,702. (No model.)

To all whom it may concern:

Be it known that I, HAMNER J. CORDLE, a citizen of the United States, residing at Littleton, in the county of Halifax and State of North Carolina, have invented certain new and useful Improvements in Wrenches for Sprocket-Wheels and the Like; and I do 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 appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in wrenches particularly adapted for use in applying and removing sprocket-wheels and the like. Heretofore devices of this nature have included a handle with a sprocket-chain attached thereto, and in use this chain has been engaged with the teeth of the wheel while the end of the handle has rested against another tooth. When strain is exerted upon the handle, there therefore results a great amount of pressure against the tooth engaged by the handle, this pressure being sufficient in many instances to break the tooth.

The object of the present invention is to provide a wrench which firmly grasps the wheel and by the use of which all danger of breaking or bruising the wheel-teeth is removed.

To this end and also to improve generally upon devices of the nature indicated my invention consists in the various matters hereinafter described and claimed.

Figure 1 is a side elevation of the wrench in position on a sprocket-wheel. Fig. 2 is a top plan view of Fig. 1.

Referring now more particularly to said drawings, A represents the handle of the tool, and B a sprocket-chain connected to said handle and adapted to engage the teeth of the wheel. At the end of the handle adapted to lie adjacent the wheel is an arm *a*, which curves laterally and forwardly, and to the end of said arm the said chain is pivotally secured, the attaching-link being preferably somewhat enlarged for strength. It will now be apparent that when the chain is engaged with the wheel-teeth and laid about the wheel, as shown, with the outer portion of said chain

engaged between the wheel and the end of the handle proper the wheel is firmly grasped and can be turned; but no undue strain is exerted upon the teeth, the pressure being directly upon the periphery of the wheel and in a line passing through the wheel-center. The outer end of the arm *a* has an inwardly-extending enlargement or projection *a'*—i. e., an enlargement extending toward the wheel when the wrench is in operative position—whereby a space is left between the wheel and the arm. The free end of the sprocket-chain lies in this space when the wheel is engaged, and thus the entire chain and the end of the arm lie snugly against the wheel and firmly grasp the same by band-pressure.

The end *a*² of the handle proper which engages the free end of the chain is relatively smooth—i. e., it is not provided with teeth or the like for engaging the links of the chain—and by reason of this the wrench can be fitted upon a wheel of any size.

In order to protect the link attached to the arm and its attaching member from accidental blows and consequent injury, I reduce the end of the arm, as at *a*³, whereby shoulders *a*⁴ are produced. The link straddles this reduced end, and thus is protected by the body portion of the arm, the link ends not standing out from the arm proper.

Certain of the end links forming a section of the chain are made detachable by reason of being connected to the body portion of said chain by a removable bolt *b* and nut *b'*. Thus the chain can be varied in length to cause the same to fit wheels of different sizes, an unwieldy excess of chain being avoided when the device is used upon small wheels.

Upon the end of the handle opposite that carrying the chain I form a spanner for removing the cap usually fitted on the outside of the sprocket-wheel upon a bicycle. The spanner comprises an outwardly-curved arm *a*⁵, having on its inner face a lug *a*⁶. The use of such spanner will at once be apparent, and therefore further reference to the same is believed to be unnecessary.

The present wrench comprises but few parts, is simple and cheap in construction, firmly grasps the wheel, is adapted for use upon wheels of various sizes, and presents no danger to the wheel-teeth.

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

1. A wrench comprising a handle having a
5 relatively smooth end, an arm on said handle
and a sprocket-chain upon said arm, the free
end of which chain is adapted to lie between
the wheel and the said smooth handle end
when the wrench is applied to a wheel or the
10 like, substantially as described.

2. A wrench comprising a handle, an arm
therein having an inwardly-extending pro-
jection, and a sprocket-chain upon said arm,
whereby when the chain is engaged about a
15 wheel its free end is adapted to lie in the space
produced by the said projection between the
arm and the wheel, substantially as described.

3. A wrench comprising a handle having a

relatively smooth end, a laterally and for-
wardly curved arm upon said end of the han- 20
dle, an inwardly-extending enlargement upon
the end of said arm, and a sprocket-chain
upon the end of said arm, whereby when the
wrench is in operative position the chain lies
about the wheel engaged and its free end lies 25
between the wheel and the smooth wrench
end and projects into the space between the
wheel and the arm produced by the said en-
largement, substantially as described.

In testimony whereof I affix my signature 30
in presence of two witnesses.

HAMNER J. CORDLE.

Witnesses:

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