No. 768,146. PATENTED AUG. 23, 1904.

J. M. REAMS.

CHAIN WRENCH.

APPLICATION FILED JAN. 21, 1904.

NO MODEL.

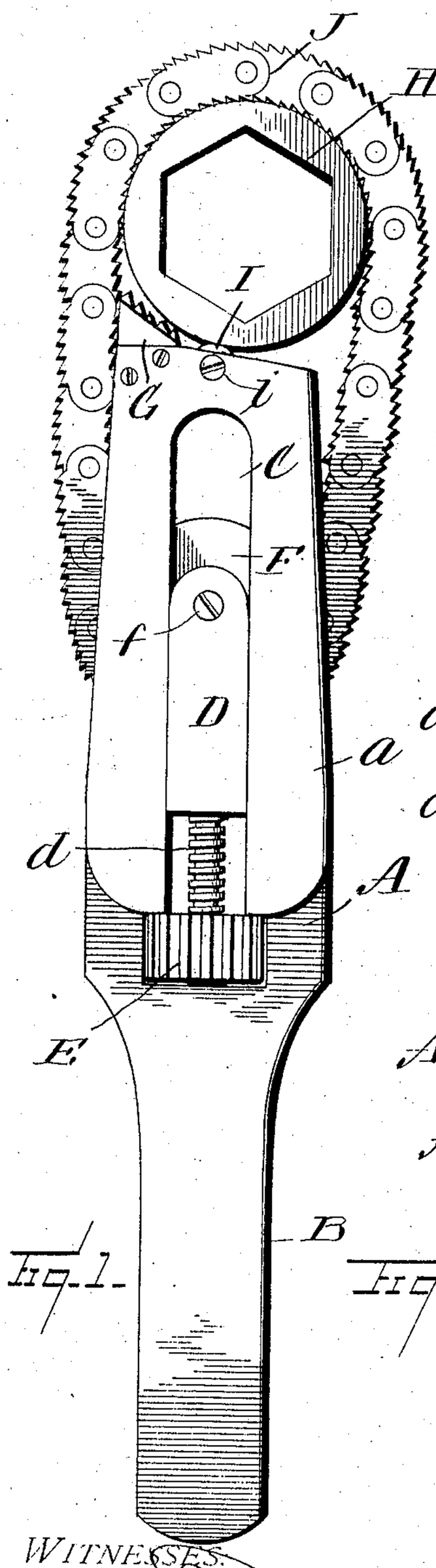

Fig. 1.

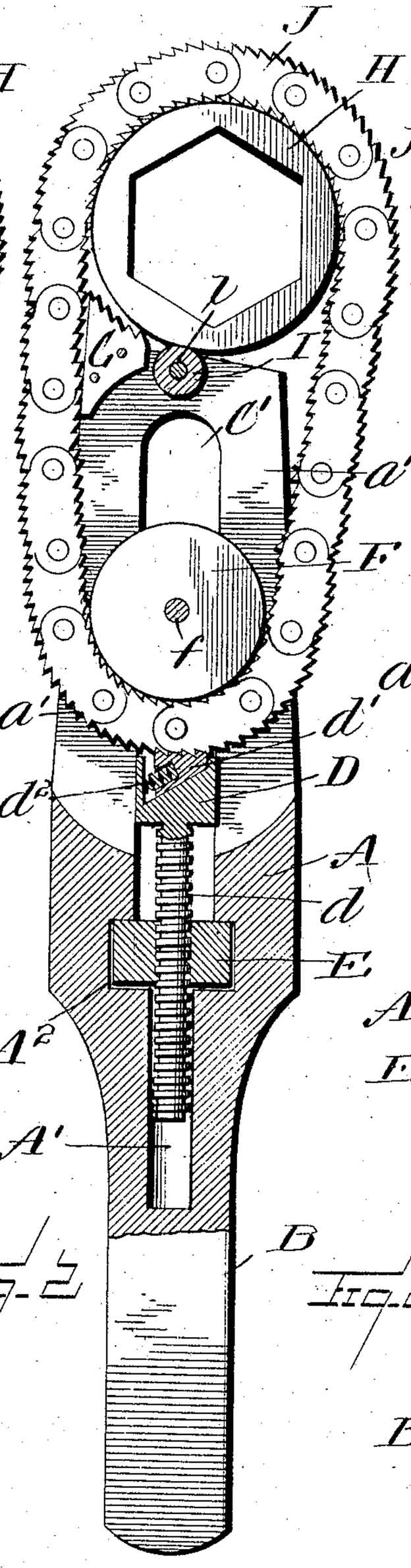

Fig. 2.

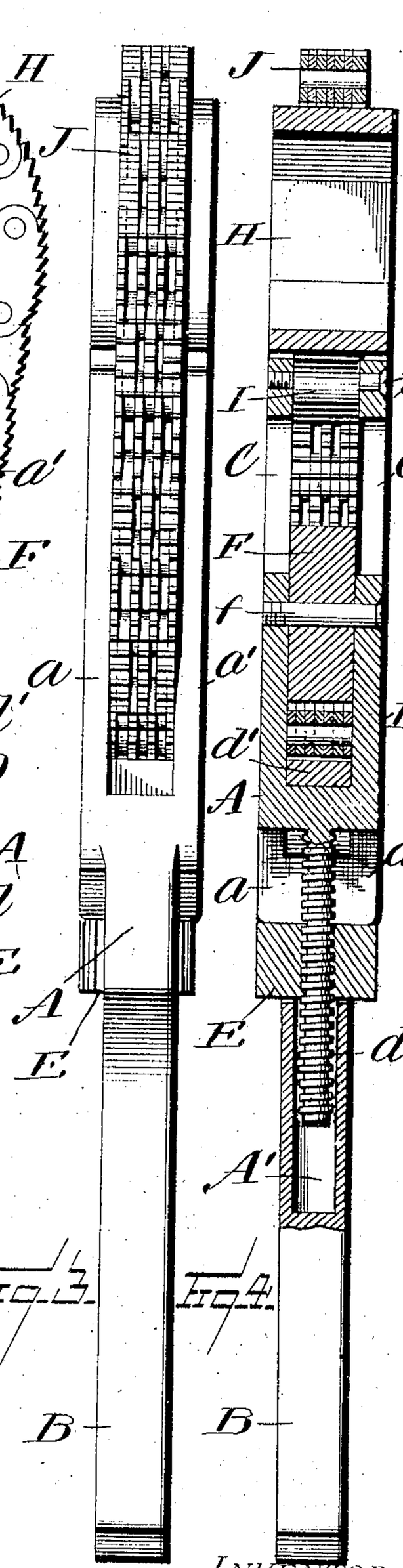

Fig. 3.

Fig. 4.

WITNESSES:

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No. 768,146. Patented August 23, 1904.

UNITED STATES PATENT OFFICE.

JOSEPH M. REAMS, OF GRAMPIAN, PENNSYLVANIA.

CHAIN WRENCH.

SPECIFICATION forming part of Letters Patent No. 768,146, dated August 23, 1904.

Application filed January 21, 1904. Serial No. 190,005. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH M. REAMS, a citizen of the United States, residing at Grampian, in the county of Clearfield and State of Pennsylvania, have invented certain new and useful Improvements in Chain Wrenches; 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 appertains to make and use the same.

My present invention relates to improvements in the class of chain wrenches; and its novelty lies particularly in the endless-chain construction in combination with means for adjusting the same to fit different-size socket portions and means for locking the several parts of the device whereby motion may be imparted to the socket portion in one direction.

In order that my invention may be thoroughly understood, I have clearly and fully described and illustrated the same in the annexed specification and drawings, in which—

Figure 1 is a side view of my improved device. Fig. 2 is a view similar to Fig. 1, but with a portion of the case removed. Fig. 3 is an edge view of my device. Fig. 4 is a longitudinal section of Fig. 3 with a portion of the handle shown in elevation.

In the several views like letters of reference designate similar parts of my device.

A in the drawings represents the case of my improved wrench, preferably constructed in one piece and provided with a handle B, which may be integral therewith, as shown, or secured thereto in any desired manner. Said case comprises a forked portion $a\,a'$, being the extending portions thereof, said extending portions being provided with longitudinally-extending slots C C′, respectively. D is a U-shaped slide adapted to be adjusted in said slots C C′ in said case A. A′ is a socket in said case A, adapted to receive the threaded projection d of said slide D, said projection being provided with an adjusting-nut E, whereby said slide D may be adjusted in said slots C C′ by turning said nut E. F is a roller mounted in said U-shaped slide upon a removable pin f. G is an inclined projection, preferably removably mounted in the end of said case and is provided with suitable teeth. H is a socket portion of any desired form and is adapted to be retained adjacent to the end of said case by an endless chain J, adapted to pass over said roller F in said slide D. I is a suitable roller mounted in the end of said case upon a removable pin i to permit said case to revolve around said socket portion.

In the drawings I have illustrated my preferred form of chain as composed of slightly-curved links comprised alternately of three and four sections provided on both edges with suitable teeth; but it should be clearly understood that I may employ various forms of chains without departing from the spirit of my invention. In the form of chain shown it will be noted that the teeth on the outer side thereof are oppositely disposed to those on the inner side and are adapted to engage teeth on a clutch d', located in said U-shaped slide D, to prevent said case from slipping on said chain in but one direction, said clutch being provided with a spring d^2, adapted to normally hold it in engagement with said chain.

From the foregoing description the operation of my device is obvious and as follows: A socket portion H, adapted to fit the object to be rotated, having been placed with said endless chain, the same is tightened through the medium of the roller F in said adjustable slide D to retain said socket portion against said roller in the end of said case. The socket portion is then fitted to the object to be rotated, and the handle on said case is moved in the direction of the inclined projection G on said case, thus forcing the same against said socket portion and also forcing the teeth on the inside of said chain against said socket portion. The clutch in said U-shaped projection simultaneously engaging with said chain it is apparent the continued movement of said handle will impart motion to said socket portion, thereby turning the nut or other object; but when the movement of said handle is reversed said projection G on said case will be thrown out of engagement with said socket portion and the clutch d' in said case will slip over said chain, whereby it is apparent that as the movement of the handle

is continued in this direction the case will slide on said chain, thereby permitting the socket portion to remain stationary until the movement of the handle is again reversed to take a new grip.

Although I have described and illustrated my device as used in connection with a socket portion, it should be understood that by removing said socket portion said chain may be placed around a pipe or other object if it is desirable to use the device in this manner, the operation being the same as already described.

What I claim, and desire to secure by Letters Patent, is—

1. In a wrench of the class described, the combination with a case provided with a handle, of a socket portion, an endless chain passing through said case and adapted to retain said socket portion adjacent to the end of said case and means for locking said case chain and socket portion whereby movement of said handle will impart motion to said socket portion in one direction, substantially as and for the purpose described.

2. In a wrench of the class described, the combination with a case provided with a handle, of a roller adjustably mounted in said case, an endless chain passing over said roller and having a portion exterior to said case, a socket portion within said exterior portion of said chain and adjacent to the end of said case, means for adjusting said roller to tighten said chain on said socket portion and means for locking said case chain and socket portion whereby movement of said handle will impart motion to said socket portion in one direction, substantially as and for the purpose described.

3. In a wrench of the class described, the combination with a case provided with a handle, of a socket portion, an endless chain passing through said case and adapted to retain said socket portion adjacent to the end of said case, a projection on said case adapted to engage said socket portion to prevent said case from slipping thereon and a clutch in said case adapted to engage said chain to prevent said case from sliding thereon in but one direction whereby movement of said handle will impart motion to said socket portion in one direction, substantially as and for the purpose described.

4. In a wrench of the class described, the combination with a case provided with a handle, of a roller adjustably mounted in said case, an endless chain passing over said roller and having a portion exterior to said case, a socket portion within said exterior portion of said chain and adjacent to the end of said case, means for adjusting said roller to tighten said chain on said socket portion, a projection on said case adapted to engage with said socket portion to prevent said case from slipping thereon, and a clutch in said case adapted to engage with said chain to prevent said case from sliding thereon in but one direction, whereby movement of said handle will impart motion to said socket portion in one direction, substantially as and for the purpose described.

5. In a wrench of the class described, the combination with a case provided with a handle, of a roller adjustably mounted in said case, an endless chain passing over said roller and having a portion exterior to said case, said chain being provided on both sides with clutching-teeth, a socket portion within said exterior portion of said chain and adjacent to the end of said case, means for adjusting said roller to tighten said chain on said socket portion, a roller in the end of said case adapted to bear against said socket portion, an inclined projection on said case adapted to engage with said socket portion to prevent said case from slipping thereon and a clutch in said case adapted to engage with said chain to prevent said case from sliding in but one direction, whereby movement of said handle on said case will impart motion to said socket portion in one direction, substantially as and for the purpose described.

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

JOSEPH M. REAMS.

Witnesses:
U. C. MILLER,
NELL STEPHENS.