P. E. ERICKSON.

PIPE WRENCH.

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966,182. Patented Aug. 2, 1910.

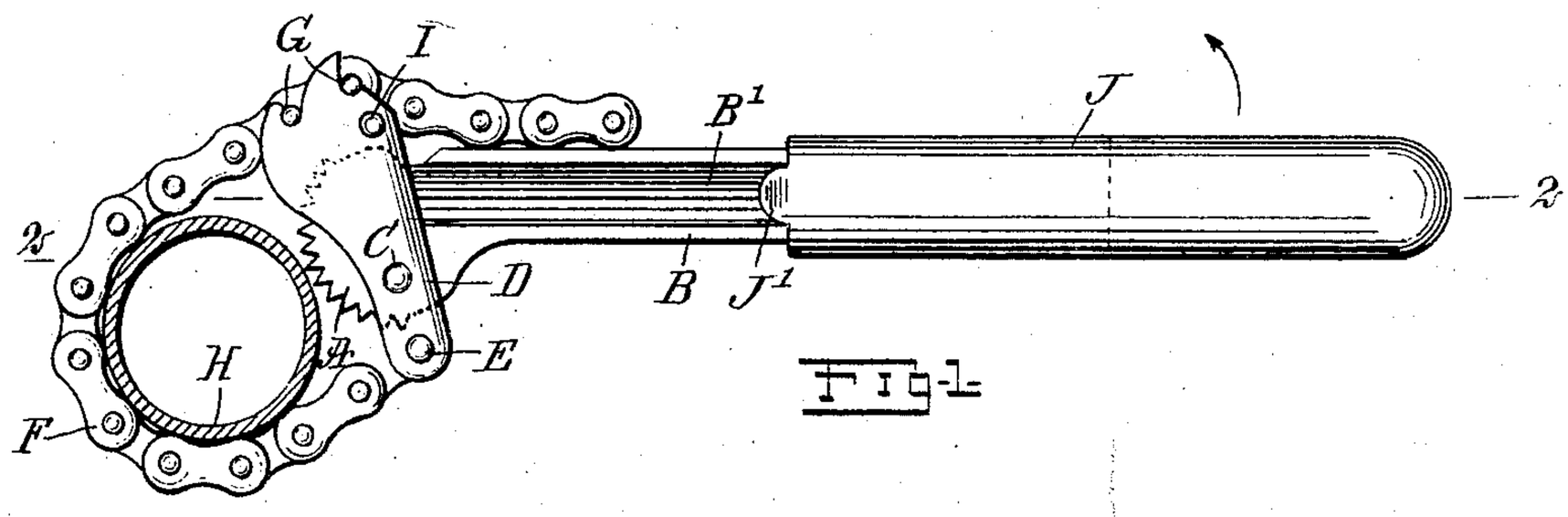

Fig. 1.

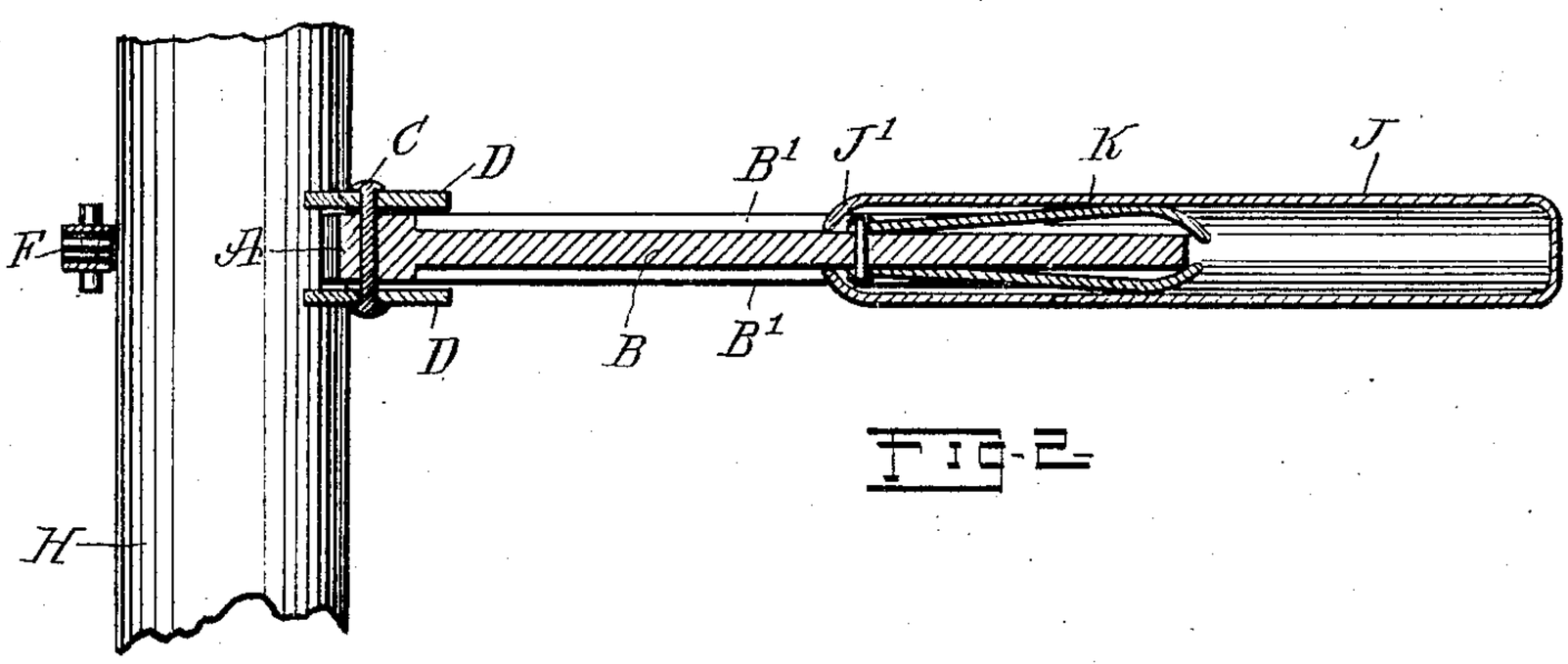

Fig. 2.

Fig. 3.

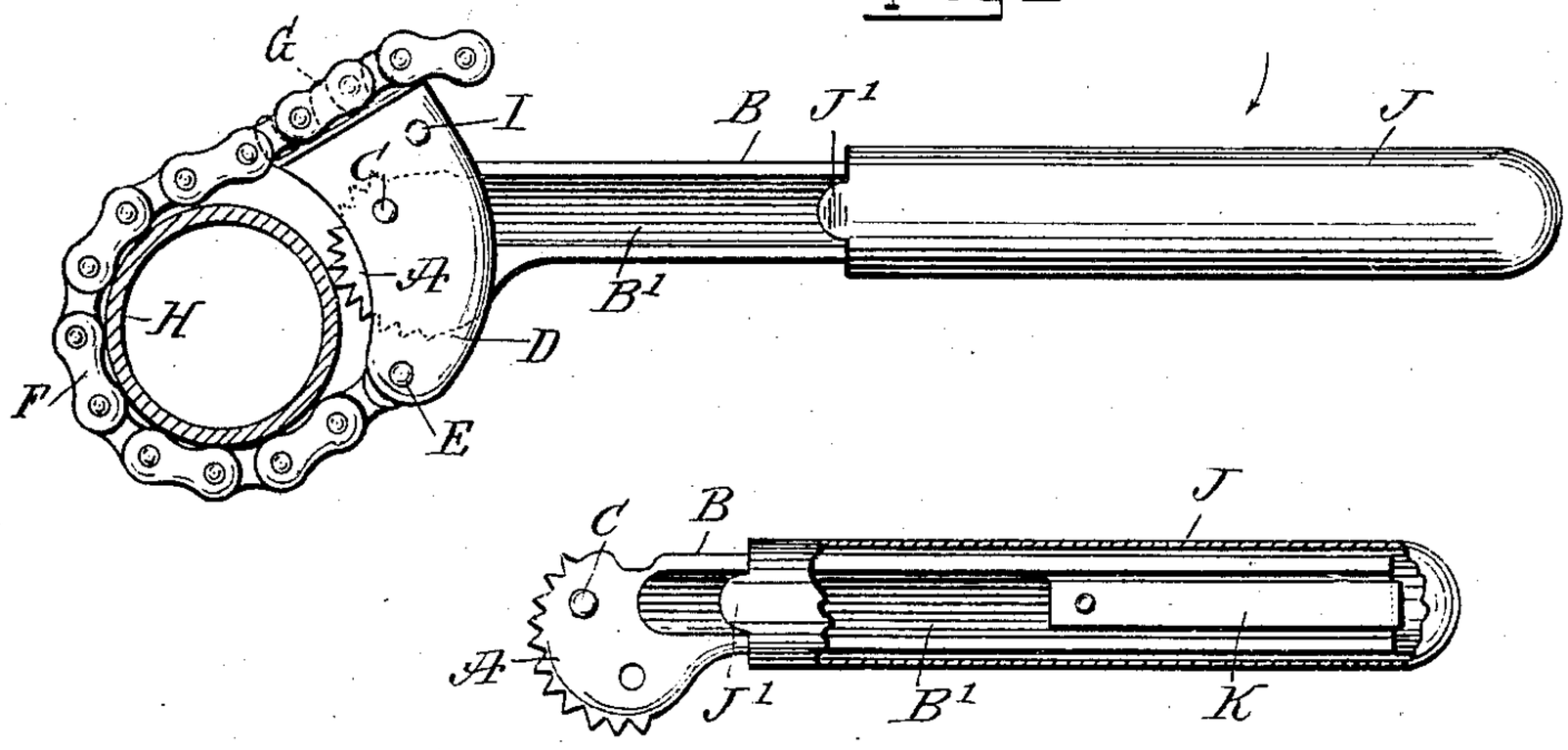

Fig. 4.

WITNESSES

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PIPE-WRENCH.

966,182. Specification of Letters Patent. Patented Aug. 2, 1910.

Application filed March 25, 1909. Serial No. 485,586.

To all whom it may concern:

Be it known that I, PETER E. ERICKSON, a citizen of the United States, and a resident of Port Chester, in the county of Westchester and State of New York, have invented a new and Improved Pipe-Wrench, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved pipe wrench, arranged to permit its convenient application to pipes of different sizes, and to insure a firm grip on the pipe without danger of slipping. For the purpose mentioned, a chain is permanently attached at one end to a lever, fulcrumed eccentrically on a handle jaw, the other end of the chain being arranged for removable connection with the lever.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the improvement as applied to a pipe, shown in cross section; Fig. 2 is a sectional plan view of the same on the line 2—2 of Fig. 1; Fig. 3 is a side elevation of a modified form of the improvement; and Fig. 4 is a side elevation of the handle jaw and the handle extension, part of the latter being broken out.

The segmental and preferably toothed jaw A is fixed at one end of the handle B, and on the said jaw A is arranged a transverse eccentrically-disposed pivot C for a lever D to swing on, the said lever being provided at one end with a pin E for connection with one end of a chain F adapted to be hooked onto teeth G, formed on the other end of the lever D, as plainly indicated in the drawings. By the arrangement described, the chain F is permanently connected with one end of the lever D and removably connected with the other end of the said lever, so that the chain F can be readily passed around the pipe H or other part to be turned, it being understood that the jaw A engages the pipe H or other part at a point approximately intermediate the portions of the pipe H engaged by the chain F. Now when the handle B is swung downward, it is evident that the jaw A firmly grips the pipe H, and as the jaw A and the lever D are eccentrically connected with each other, it is evident that the harder the operator bears on the lever D in a downward direction, the firmer the jaw A and the chain F grip the pipe H to prevent slipping. On swinging the handle B in an upward direction, the jaw A readily releases the pipe H, to permit of obtaining a new grip on the pipe for turning the same further, if desired. When the handle B is swung upward and the jaw A releases the pipe H, the chain F can be readily detached from the teeth G, to release the pipe H, if the latter has been turned to the desired distance. The swinging movement of the lever D is limited in one direction by the pin E and in the opposite direction by a stop pin I, the pins E and I engaging the bottom and top of the jaw A in case the lever is swung to the extreme in either direction.

The chain F may be in various shapes; for instance, as shown in Figs. 1 and 2, the chain has projecting pivotal pins for engagement with the teeth G of the lever D: but the chain may be in the form of an ordinary sprocket chain, as shown in Fig. 3, to hook onto the teeth G at points between the spaced links of a pair.

The handle B is preferably provided with an extension J, made tubular, and provided at its forward end with inwardly bent lugs J′, extending into longitudinal grooves B′ formed on opposite sides of the handle B. In the grooves B′ are secured flat springs K, bearing with their free ends against the inner surface of the tubular extension J, so as to hold the latter in an extended or a folded position, as will be readily understood by reference to the drawings. When the tubular extension J is moved outward by the operator, the lugs J′ finally abut against the inner ends of springs K, thus limiting the outward movement of the tubular extension.

The chain wrench shown and described is very simple and durable in construction and very effective in operation.

It will be observed that in both forms of my improved wrench, the plurality of teeth G on the lever D, and the fulcrum C are so disposed that in the gripping position of the wrench, the teeth on the lever range in a line oblique to the longitudinal axis of the wrench, the angularity of the line of the teeth varying somewhat with the size of the pipe. This brings the point of engagement between the lever and the chain directly in

the line of strain exerted on the chain in the operation of the wrench; and, moreover, it facilitates the engagement and disengagement with the lever, since the line of engagement corresponds with the position which the chain naturally tends to assume in the act of gripping. Moreover, it will be noticed that in the gripping position, the teeth G on the lever are brought in approximate alinement with the teeth of the toothed segment.

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

1. A pipe wrench comprising a serrated convex head forming one end of a handle, a bifurcated lever pivotally mounted on the said head with the said lever eccentrically mounted with respect to both the said head and the said handle, a plurality of teeth at one end of the said lever and a chain having connection at the other end of the said lever with one end of the chain free to encircle a pipe and removably engage the said teeth to more securely grip the said pipe.

2. A pipe wrench comprising a serrated convex head forming one end of a handle, a bifurcated lever pivotally mounted on the said head with the said lever eccentrically mounted with respect to both the said head and the said handle, and the said head being interposed between the bifurcated portions of the lever, a plurality of teeth on one end of the said lever, and a chain having connection at the other end of the said lever with one end of the chain free to encircle a pipe and removably engage the said teeth, to more securely enable the said chain to grip the said pipe.

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

PETER E. ERICKSON.

Witnesses:

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WM. O. REMSEN.