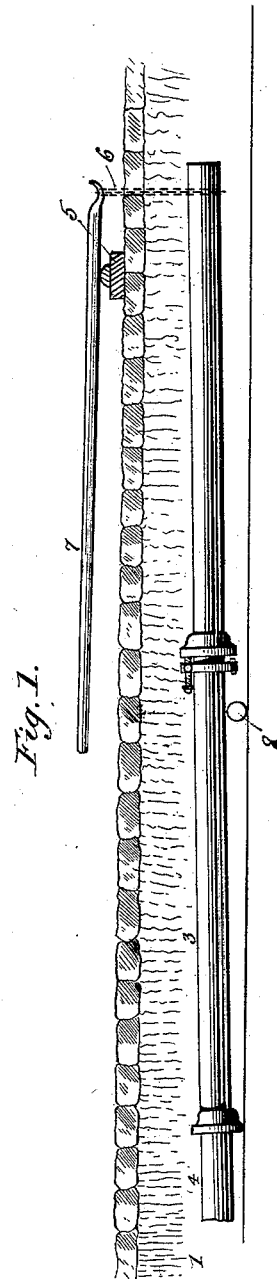
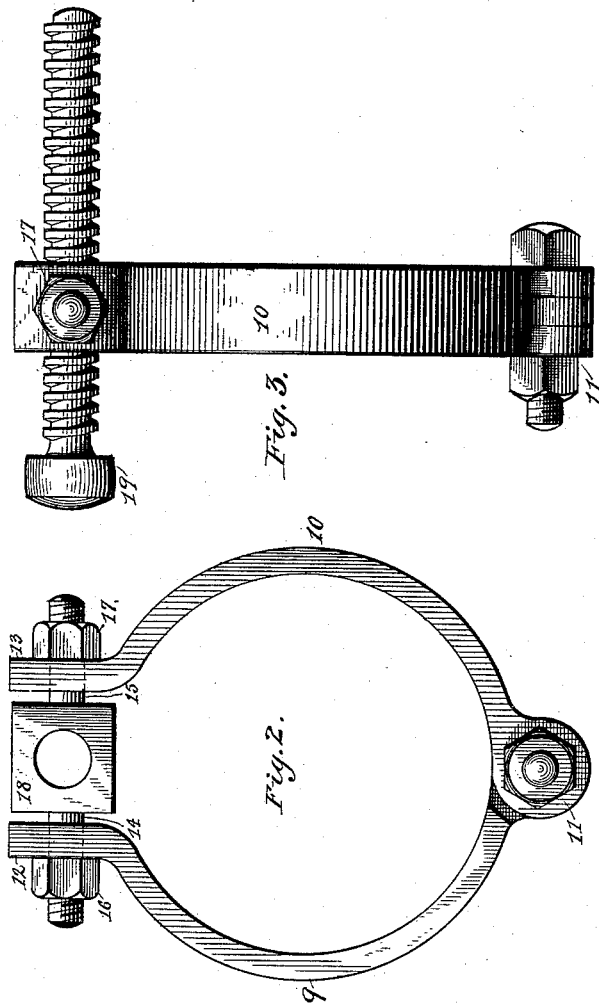


(No Model.)

J. W. HELPS.
METHOD OF DISJOINTING MAINS.

No. 422,212.

Patented Feb. 25, 1890.



Witnesses
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UNITED STATES PATENT OFFICE.

JAMES WILLIAM HELPS, OF CROYDON, COUNTY OF SURREY, ENGLAND.

METHOD OF DISJOINTING MAINS.

SPECIFICATION forming part of Letters Patent No. 422,212, dated February 25, 1890.

Application filed May 8, 1889. Serial No. 310,051. (No model.) Patented in England August 17, 1888, No. 11,914.

To all whom it may concern:

Be it known that I, JAMES WILLIAM HELPS, a subject of the Queen of England, residing at Croydon, in the county of Surrey, England, have invented certain new and useful Improvements in the Method of Disjointing Mains, (for which I have obtained a patent in Great Britain, No. 11,914, dated August 17, 1888;) 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.

In an application filed of even date herewith I have described and claimed a device adapted for use in disconnecting at the socket and spigot joints the sections of a gas, water, or other fluid-conducting main.

The present application relates to the method whereby, with the employment of the device referred to, or its equivalent, the separation of said main or pipe sections may be effected.

In the accompanying drawings, illustrative of my invention, Figure 1 represents in side elevation a trench containing a gas or other main provided with the device whereby my improved method is carried into effect. Fig. 2 represents an end elevation and, on an enlarged scale, the clip forming an element of one of the devices for effecting the separation of the main or pipe sections; and Fig. 3 represents the clip in side elevation, together with a screw forming the other element of said device.

Similar numerals of reference indicate similar parts throughout the several views.

Referring to the drawings, 1 indicates a trench within which is disposed in the usual manner a gas, water, or other main made up of a number of sections 2 3 4, &c., connected by the ordinary separable spigot and socket, jointed as indicated.

In carrying out my invention I first lay bare the main or the portion of its length which it is desired to remove, and then cut out the portion of said main in the ordinary manner. This being effected, the purpose of my invention is to disconnect the several remaining sockets at the spigot and socket joints, so as to save the trouble, expense, and

loss incurred by the method heretofore practiced of cutting the main at such joint. To this end I place across the trench a suitable fulcrum-block 5, and by means of the chain 6 and lever 7 raise the free end of the cut section of the main sufficiently high to allow of the introduction of a stout block 8 beneath the end of the adjoining pipe 2. In case of heavy pipes it may be found convenient to raise them into this inclined position by blocks and falls. I now clasp or clamp around the end of the pipe 3 the clip illustrated more fully in Figs. 2 and 3. This clip consists of arms 9 10, preferably of strong wrought-iron or other suitable material, hinged or otherwise connected at 11, as shown, and bent into form corresponding to the outer contour of the main. At their upper portion the arms 9 10 are provided with prolongations 12 13, having apertures through which pass lugs or pins 14 15, externally screw-threaded at their outer ends for the reception of clamping-nuts 16 17, said lugs 14 15 being integral with a block 18, as shown. The block 18 is internally screw-threaded for the reception of the screw 19, which fits therein. The main being in the inclined position illustrated in Fig. 1, the clip is placed upon the end of the section 3, as indicated in the said figure, and by revolving the ends 16 17 by means of a suitable wrench the curved arms 9 10 of the clip are caused to clasp tightly the periphery of said pipe end, so as to permit the clip to maintain its fixed position upon the pipe during the subsequent operation. The free end of the main or pipe section 2 is now raised, thereby raising also the pipe-section 3, whereupon the pipe-sections 2 and 3 are allowed to drop suddenly upon block 8. The effect of this jar, which may be repeated once or twice, if necessary, will be to loosen the joint and draw the socket away at the top side. The screw 19 is then turned by hand until its end abuts against the edge of the socket-rim, as shown in Fig. 3, and the process of lifting and dropping is repeated. This will still further draw the socket end of the pipe 2 from the spigot end of the pipe 3, as the socket-arm will be prevented by the screw from regaining its original position. The repetition of the operation

of lifting and dropping and tightening up the screw will in a short time completely draw the socket end of the pipe 2 from the spigot end of the pipe 3, thereby disconnecting the joint and enabling the pipe-section 2 to be lifted from the trench in the ordinary manner. The lead packing may thereupon be readily collected and recovered.

It will be evident that the size of the projections 14 15 upon the block 18 must be so proportioned to the size of the openings in the clip-arm projections 12 13 as to readily pass through the same when the clip has been placed upon or removed from the main.

Instead of the block 18, a modification may be employed in which one or both of the arms 14 15 may be movable. In such case the arms will be provided at their outer edge with square or hexagonal heads, and will be screw-threaded at their inner ends, so that they may pass through the holes or apertures in the clip-arm projections 12 13 and enter internally-screw-threaded recesses in the side of the block. With this construction by turning the arms or bolts the clip may be made to clasp the pipe or main tightly, as before.

Having thus described my invention, what I claim is—

1. The method of disconnecting the separable spigot and socket joints of a main, which

consists in cutting out a portion of said main, raising the free end of the pipe-section to be disconnected, and allowing said pipe-section to fall suddenly, thereby causing the socket to draw away at its top side, repeating the operation of raising and dropping the pipe-section until the joint is disconnected, and at the end of each dropping operation preventing the return of the top side of the section to its original position, substantially as described.

2. The method of disconnecting the separable spigot and section joints of a main, which consists in cutting out a portion of said main, interposing beneath said main and near the joint to be disconnected a firm support, raising the free end of the pipe-section to be disconnected and allowing said pipe-section to fall suddenly, thereby causing the socket to draw away at its top side, repeating the operation of raising and dropping the pipe-section until the joint is disconnected, and at the end of each dropping operation preventing the return of the top side of the section to its original position, substantially as described.

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

JAMES WILLIAM HELPS.

Witnesses:

EDMUND S. SNEWIN,
W. T. MARSHALL.