

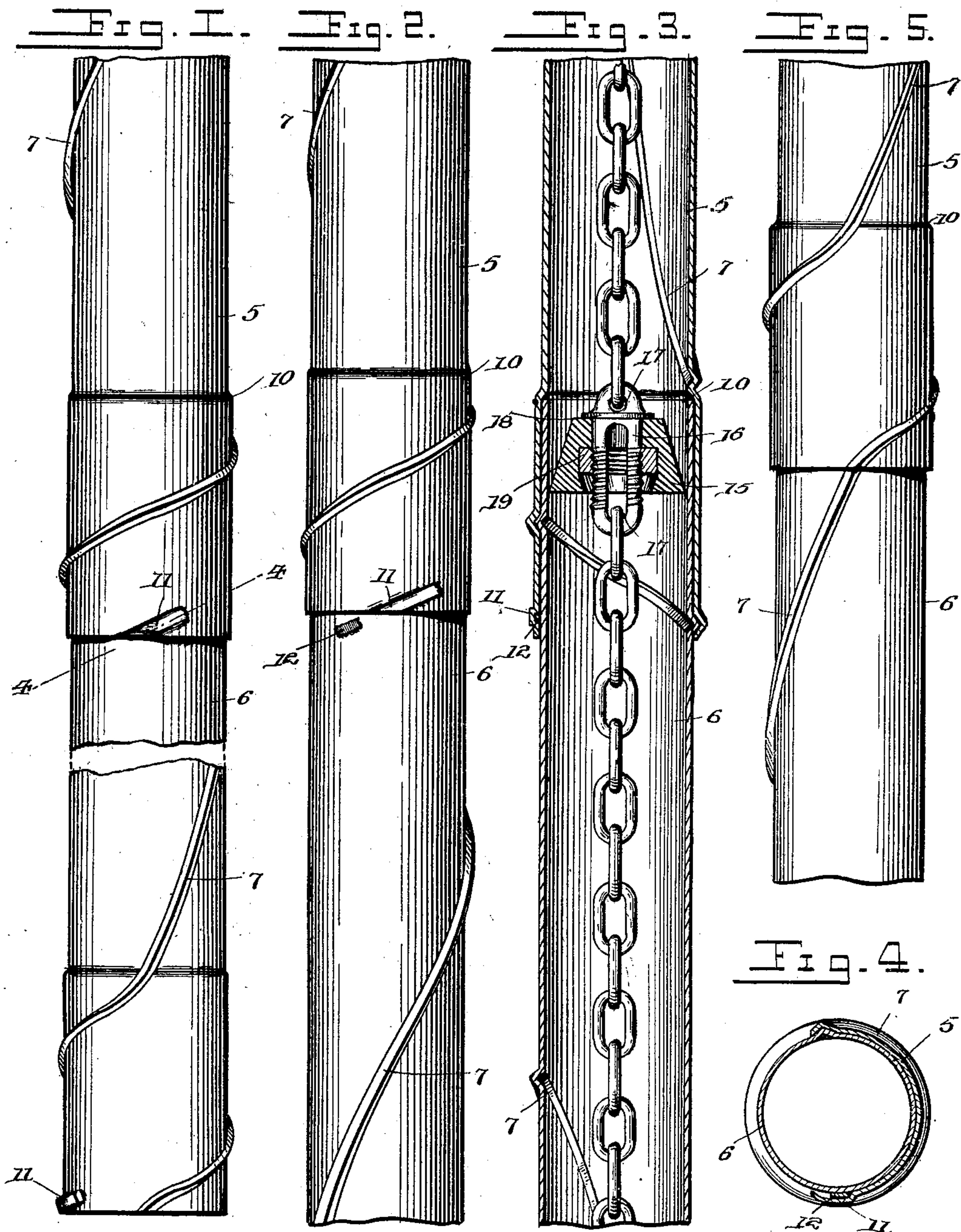
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F. T. BROSI.  
PUMP TUBE.

(Application filed Nov. 11, 1899.)

(No Model.)



Witnesses  
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# UNITED STATES PATENT OFFICE.

FRED THEODORE BROSI, OF QUINCY, ILLINOIS.

## PUMP-TUBE.

SPECIFICATION forming part of Letters Patent No. 646,634, dated April 3, 1900.

Application filed November 11, 1899. Serial No. 736,630. (No model.)

*To all whom it may concern:*

Be it known that I, FRED THEODORE BROSI, a citizen of the United States, residing at Quincy, in the county of Adams and State of Illinois, have invented a new and useful Pump-Tube, of which the following is a specification.

This invention relates to pumps in general, and more particularly to that class employing a metallic barrel or tube, and has particular reference to this tube, one object of the invention being to provide a form of tube which will have a continuous helical drain-channel in its inner periphery to insure an even wear of the buckets in the pump, a further object of the invention being to present a comparatively even surface at the joints of the sections of the tubes and to provide means for positively locking the sections together.

In the drawings forming a portion of this specification, and in which similar numerals of reference designate like and corresponding parts in the several views, Figure 1 is an elevation of a portion of a pump-tube constructed in accordance with this invention. Fig. 2 is a view similar to Fig. 1, and showing the sections partially withdrawn from their engagement and illustrating the position of the locking-lug upon its pipe-section and the proportions of the locking-lug and its cooperating channel. Fig. 3 is a longitudinal central section of Fig. 1. Fig. 4 is a section on line 4 4 of Fig. 1. Fig. 5 is an elevation showing the connection at the end portions of the tube-sections and illustrating the change in the pitch of the bead.

Referring now to the drawings, the tube of the present invention consists of a number of sections, of which two are shown in the present instance, as shown at 5 and 6. Each of these sections consists of sheet metal or analogous material, provided with a helical up-struck bead 7. This bead has a constant curvature between the ends of the sections, as shown in the drawings, the bead at the ends of each section being greatly reduced in pitch for a purpose which will be presently described. This bead forms an interior drain-channel and forms exteriorly a strengthening-rib, whereby bending or buckling of the tube is prevented.

The pitch of the end portions of the beads

of the several sections is equal, so that one section may be screwed into the other, the outwardly-extending portion of the bead of one section entering the corresponding groove of the adjacent section. To permit this telescopic action, and, moreover, to present a substantially even interior surface, the exterior end of the connecting-joint is slightly increased in diameter to form an interior shoulder 10, against which the end of the connected section is adapted to rest.

In one end of each of the tube-sections is formed a short supplemental groove 11, which is produced by striking up the material to form an exterior bead. This groove or channel lies parallel with the adjacent first-named bead and extends from the end of the section inwardly for a slight distance only. The engaging end of the second section is provided with an upstruck lug 12, having a length less than the groove or channel 11, so that it may pass entirely within said groove or channel to permit the bending of the upper wall of the latter inwardly behind the lug 12 to prevent its withdrawal. The lug 12 may be soldered or otherwise fixed to the exterior surface of the pipe-section 6, and the forward edge of this lug is tapered to pass under the outer edge of the top wall of the groove 11, this edge being bent slightly inwardly to reduce the depth of the groove at this point, and thus to have a snapping action to permit the entrance of the lug and preclude its withdrawal. After the lug is in place the open end of the groove may be entirely closed by beating down the top wall.

From the foregoing description it will be seen that there is provided a pump-tube, which may be constructed of sheet metal, while having the requisite transverse strength to resist the strain to which devices of this kind are subjected under ordinary conditions, and that, furthermore, the groove or channel in the interior of the tube forms a drain in the employment of the tube in connection with the ordinary chain-buckets, the buckets employed, as shown in Fig. 3 of the drawings, consisting of shells 15, of rubber or other similar yieldable material, tapered at their upper ends, a core 16 extending axially through the center of the shell and provided at opposite ends with eyes 17, with which are engaged



the adjacent links of the carrying-chain. A fixed collar 18 is provided adjacent the upper eye to bear against the upper end of the shell, and an adjustable collar 19 is threaded upon the core within the shell and clamps the inwardly-extending flange at the upper end of the shell against said fixed collar.

In the employment of a tube such as above described there is an even wear upon the buckets, which wear is continuous about the periphery of the bucket, and at the same time the water above the bucket is permitted to drain downwardly. Moreover, by decreasing the pitch of the helical bead an effective screw is formed for holding the parts together, while the supplemental groove and its engaging lug present a latch which may be permissive in its action to enable the parts to be disconnected when desired and which may also be operated to positively lock the parts together.

What is claimed is—

1. A pump-tube, comprising similar sections, each section having an exterior helical

bead and a corresponding drain-channel throughout its length, the bead at the ends of the section being reduced in pitch to receive in its channel the bead at the adjacent end of the succeeding section.

2. A pump-tube, comprising a plurality of sections adapted for telescopic connection, each of the sections having a helically-disposed bead throughout its length and a corresponding channel, the bead at the ends of the sections being reduced in pitch and adapted to engage with the beads of the succeeding sections, and a supplemental channel at one end of each section adapted to receive a lug upon the adjacent end of the succeeding section, the wall of the supplemental channel being adapted for closure behind the lug.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

FRED THEODORE BROSI.

Witnesses:

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J. C. IVINS.