

(No Model.)

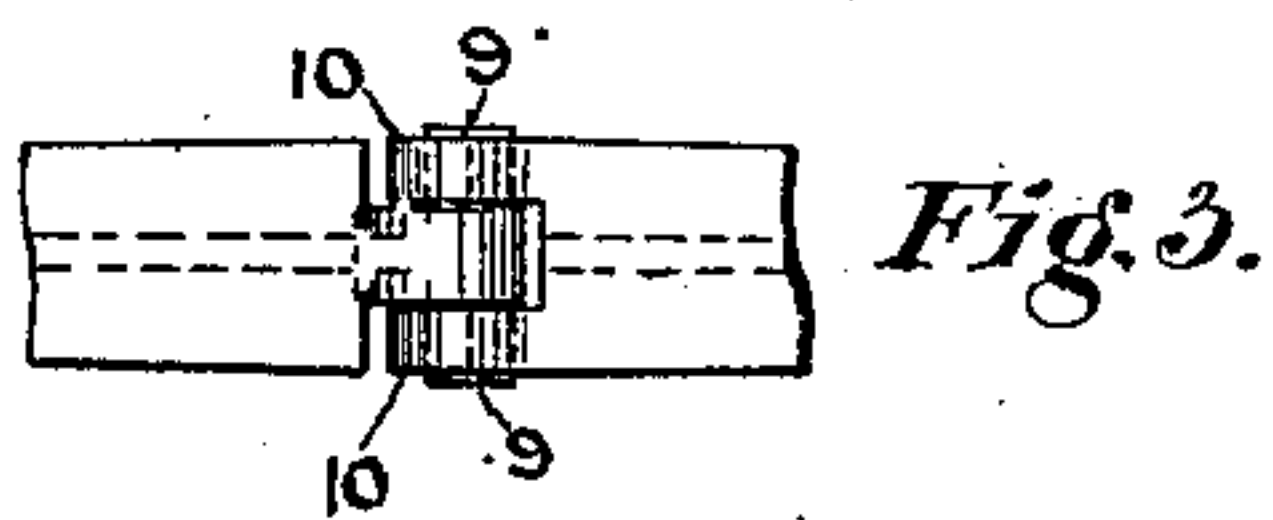
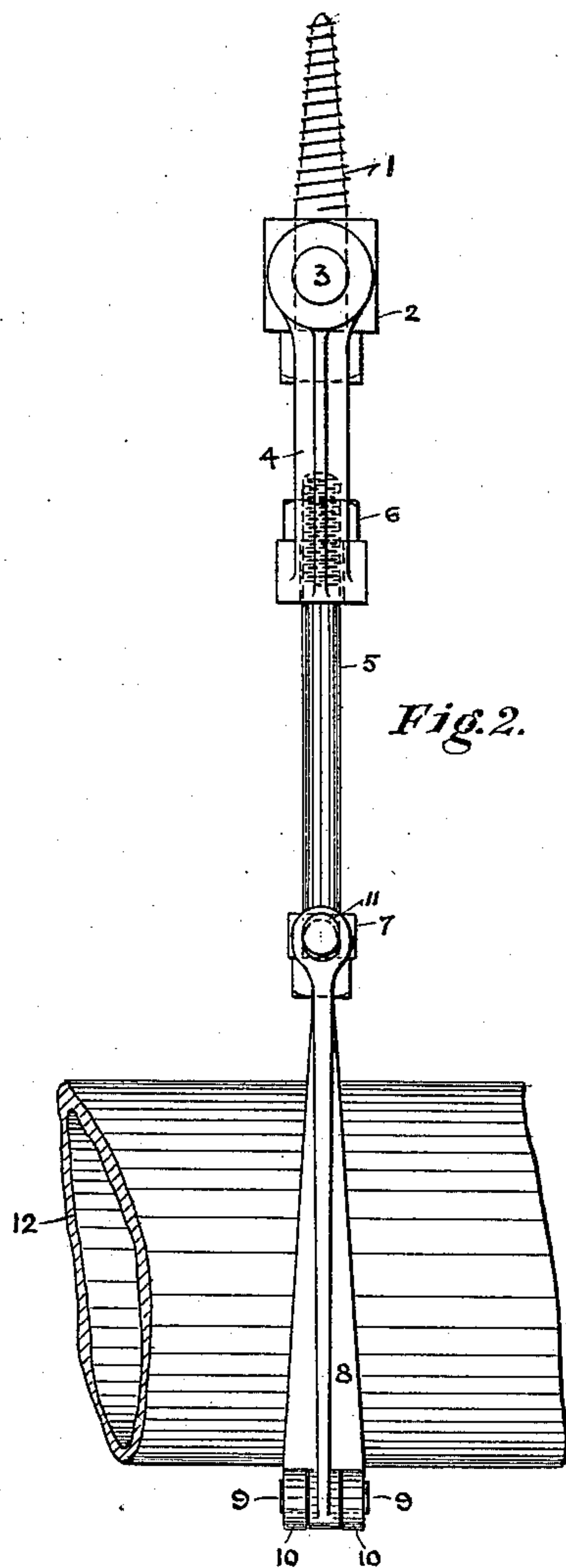
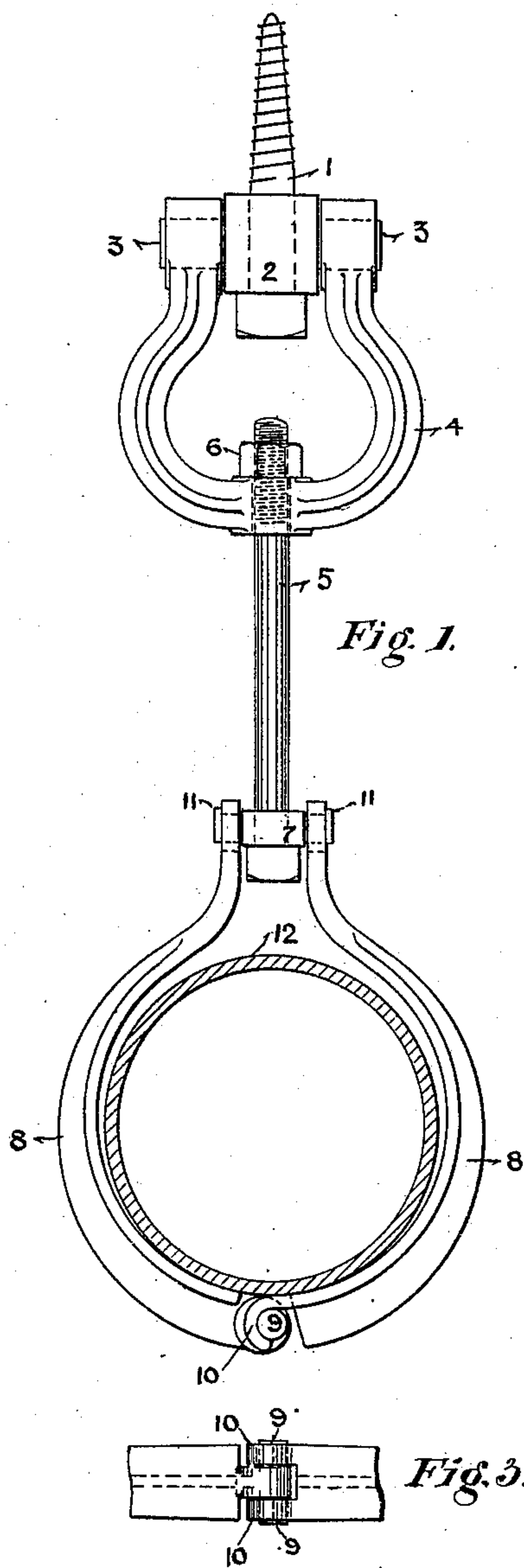
2 Sheets—Sheet 1.

P. N. KENWAY.

PIPE HANGER.

No. 376,480.

Patented Jan. 17, 1888.



Witnesses,

Charles H. Fisher.
Channing Whitaker.

Inventor,

Percy N. Kenway.

(No Model.)

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2 Sheets—Sheet 2.

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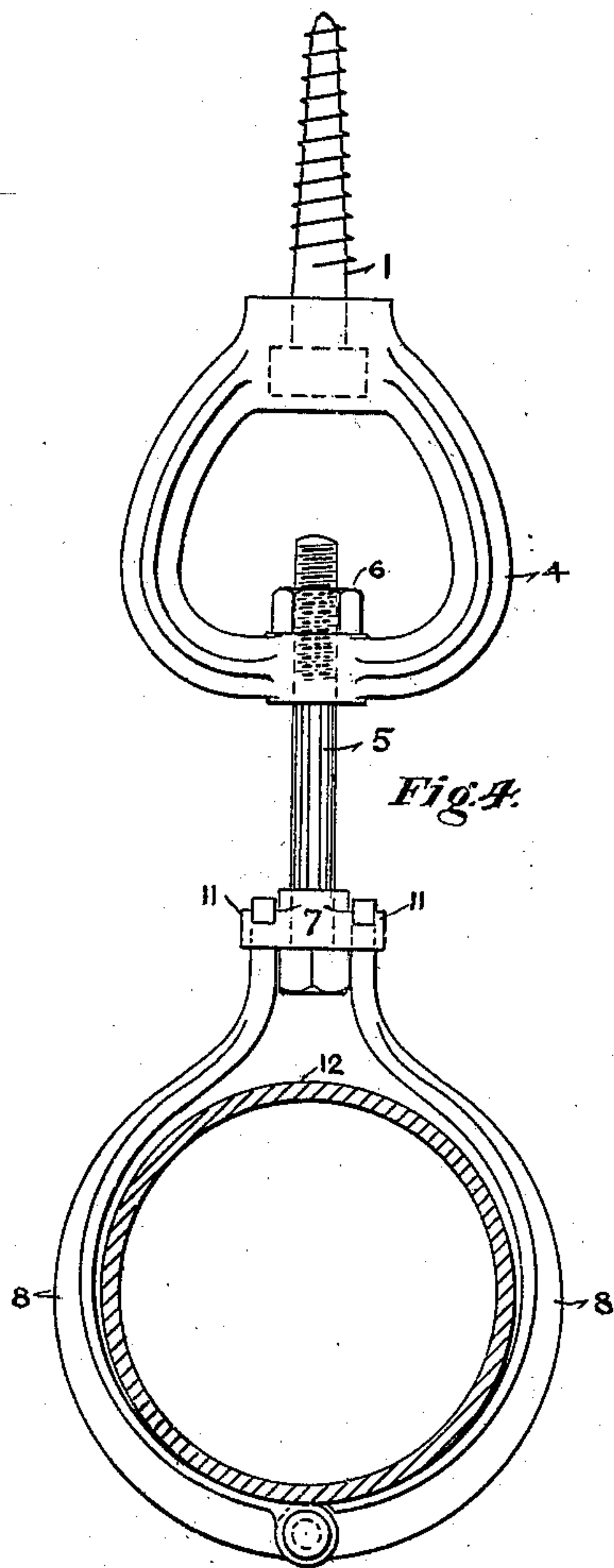


Fig. 4.

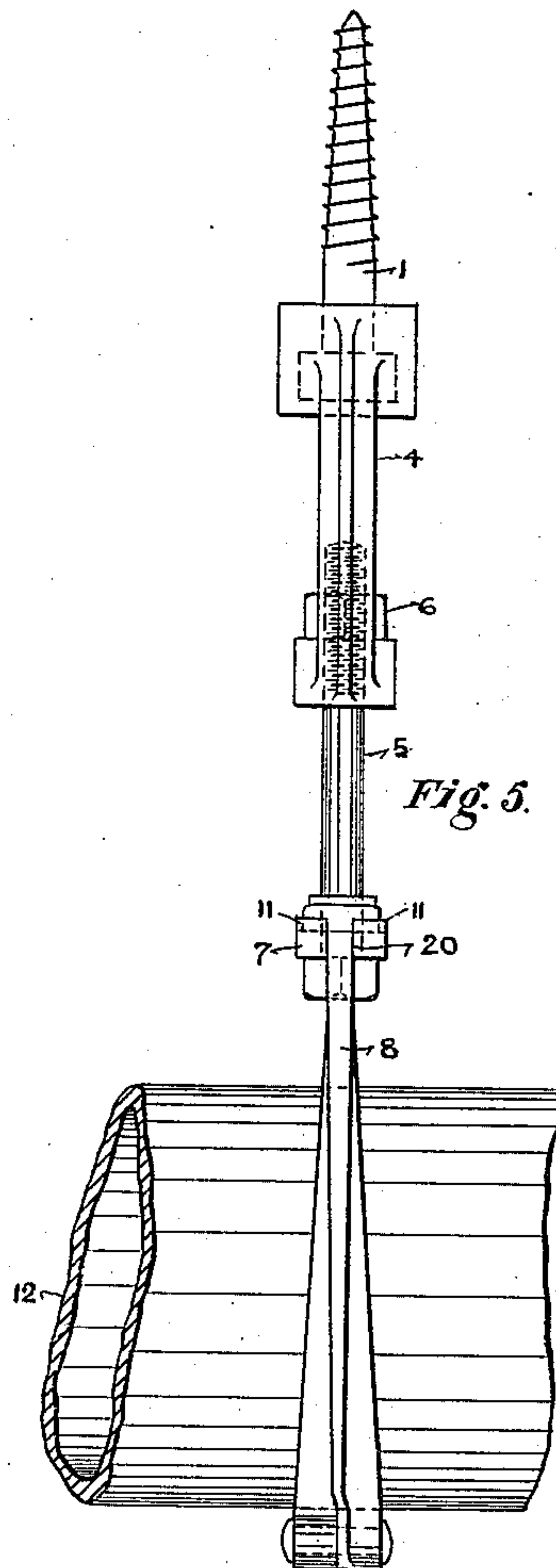


Fig. 5.

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UNITED STATES PATENT OFFICE.

PERCY N. KENWAY, OF LOWELL, MASSACHUSETTS.

PIPE-HANGER.

SPECIFICATION forming part of Letters Patent No. 376,480, dated January 17, 1888.

Application filed January 8, 1887. Serial No. 223,745. (No model.)

To all whom it may concern:

Be it known that I, PERCY N. KENWAY, a subject of the Queen of Great Britain, and a resident of Lowell, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Pipe-Hangers, of which the following is a specification.

My invention relates to pipe hangers which are suspended from a beam or ceiling; and it has for its object to provide an inexpensive means of suspending pipes in such situations in such a manner that the pipe may be readily suspended or taken down, its height easily and exactly adjusted, and provision made for the expansion and contraction of the pipe due to changes in its temperature.

My invention is illustrated in the accompanying drawings, in which Figure 1 is an end elevation, and Fig. 2 a side elevation, of the hanger with a pipe suspended therein, as I prefer to make it. Fig. 3 is a plan of a portion of the pipe straps, showing the manner in which I prefer to lock them together at the bottom of the pipe. Fig. 4 is an end elevation of a modified and somewhat inferior form of my pipe-hanger with a pipe suspended therein, and Fig. 5 is a side elevation of the same.

Similar reference-numbers refer to similar parts in all of the views.

In Figs. 1 and 2 there is illustrated a form of pipe-hanger which is suspended upon a lag-screw, 1, or other convenient support, that is intended to be firmly secured to the ceiling of a room or to the lower edge of a horizontal timber. The support 1 is shown as passing through the cross-bar 2, in which it may fit loosely or tightly, as desired. This cross-bar 2 is provided with cylindrical ends 3, upon which the ends of the stirrup 4 fit and turn. The stirrup 4 may be made either of malleable metal or of cast-iron. If made of cast-iron, the cross-bar 2 should be placed in the mold when the stirrup is cast, the ends 3 being protected during the operation by a coating of plumbago or other suitable material of greater or less thickness, as desired, and the melted iron caused to flow around it. Through a hole in the bottom of the stirrup 4 there passes a bolt, 5, that is provided with a nut, 6, at one end—preferably the upper—and a head at the

other. Upon the lower end of the bolt 5 there is supported a yoke-piece, 7, upon the ends of which are supported the pipe-straps 8. These pipe-straps are preferably locked together at their lower ends, and one desirable form of such locking is shown in Figs. 1, 2, and 3, one strap being provided with the projections 9, formed integrally therewith, which engage with the open hooks 10 upon the other strap. The upper ends of the pipe-straps are preferably each provided with a hole of such shape that the strap may be easily passed over the end of the yoke-piece 7. These ends of the yoke-piece 7 are preferably cylindrical for a portion of their length, and are provided with upwardly-projecting lips 11, which prevent the straps 8 from slipping longitudinally and off the ends of the yoke-piece when the strap is in position thereon and the pipe supported thereby. By this construction I am enabled to remove the straps 8 with but little effort, whenever it is desirable to do so, either by raising the pipe 12 slightly or by lowering the bolt 5 and the yoke-piece 7, while the straps 8 freely swing upon the ends of the yoke-piece as pivots, allowing the pipe to move longitudinally to a slight extent. The height of the pipe 12 may be easily and accurately adjusted by means of the nut 6 upon the bolt 5. The straps 8 are shown as of a variable T-shaped section, although they may be made of any other desirable section. I have illustrated this hanger as supporting a portion of a pipe, 12, which may be supposed to be near the end of a long length thereof, where the amount which the pipe expands and contracts would be very considerable. The possible movement of the stirrup 4 upon the ends of the cross-bar 2 and of the straps 8 upon the ends of the yoke-piece 7 make it easy for this expansion and contraction to take place without excessive strain upon the pipe or hanger. Should it be desirable to support a pipe near an elbow, where the elbow will be caused to move, in consequence of the expansion of both branches of the pipe, in a direction which is not that of the axis of either branch, this motion may readily be provided for by placing the axis of the cross-bar 2 in a position at right angles to that of the axis of the yoke-piece 7. In this case the expansion of one branch of

the pipe would be provided for by the joint at 3, while that of the other branch would be provided for by the joint at 7.

I am sometimes enabled to dispense with the stirrup 4 and the illustrated supports therefor and pass the bolt 5 directly through the floor above or through any other suitable form of support, and even to replace the said bolt by a lag-screw, which may be screwed more or less deeply, as desired, into a timber above the pipe, thus roughly securing a vertical adjustment for the suspended pipe. In the latter case it is desirable to make the yoke-piece 7 so long that the head of the lag-screw may turn freely between the ends of the straps 8.

The form of pipe-hanger which is illustrated in Figs. 4 and 5 is a modified and still less expansive form of my invention, which is suitable for use where but little longitudinal motion of the pipe takes place or where the pipe is to be supported such a long distance below the structure which supports it that the bolt 5 may be made very long. In this case the supporting lag-screw 1 is shown as cast within the stirrup 4, while the ends of the yoke-piece 7, instead of being cylindrical, are divided by a slot, 20, and the ends of the straps 8 formed into a T shape and the shank of the T inserted in the said slot. The straps 8 are prevented from slipping out of place by upwardly-projecting lips 11, as in the structure shown in Fig. 1. In this structure, also, the straps 8 are shown as secured together at their lower ends by an ordinary hinge-joint instead of the hooks and projections shown in Figs. 1, 2, and 3.

When my invention is used where vertical adjustment of the pipe is not necessary, the upper end of the bolt 5 may be secured in any other convenient way, instead of being provided with the nut 6.

I do not claim as of my invention a pipe-hanger made in two sections, said sections being provided, respectively, at their lower parts, one with a transverse pin and slot and the other with a curved portion or hook adapted to enter the slot and engage the transverse pin, whereby the said sections are locked together; nor do I claim a hinged pipe-strap as of my invention; but

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

1. The pipe-hanger consisting of the yoke-piece having the central hole and the pipe-strap-retaining lips at its ends, the support for the hanger passing through the said central hole and movable therein, and the straps locked together at their lower ends and hung upon the ends of the said yoke-piece, substantially as described, and for the purposes specified.

2. The pipe-hanger consisting of the yoke-piece having the central hole and the pipe-strap-retaining lips at its ends, the support for the hanger, that is adjustable in length, passing through the said central hole and movable therein, and the straps locked together at their lower ends and hung upon the ends of the said yoke-piece, substantially as described, and for the purposes set forth.

3. The pipe-hanger consisting of the yoke-piece having the central hole and the pipe-strap-retaining lips at its ends, the support for the hanger passing through the said central hole and movable therein, and the straps locked together at their lower ends with the open hook and the pin 9, substantially as described, and for the purposes specified.

4. The yoke piece having the central hole, the pipe-strap-retaining lips, and the cylindrical portions between the said central hole and the said lips, combined with the pipe-straps locked together at their lower ends and with their upper ends supported by the said cylindrical portions, and a support for the hanger passing through the central hole in the yoke-piece, substantially as described, and for the purposes specified.

5. The yoke-piece having the central hole, the pipe-strap-retaining lips at its ends, and the cylindrical portions between the said hole and the said lips, combined with a support adjustable in length, passing through the central hole in the yoke-piece, and the straps locked together at their lower ends and with their upper ends supported by the cylindrical portions of the said yoke-piece, substantially as described, and for the purposes specified.

6. The yoke-piece having a cylindrical portion near each end and the straps supported thereon, and means of preventing the said straps from slipping off the ends of the said yoke-piece, combined with the cross-bar 2, with its cylindrical ends, and a means of supporting the same from an object above it, the stirrup engaging with the ends of the said cross-bar, and a means of connecting the said yoke-piece to the said cross-bar, substantially as set forth.

7. The yoke-piece and the pipe straps supported near the ends thereof, and means of preventing the said straps from slipping off the ends of the said yoke-piece, combined with the cross-bar with the stirrup swinging thereon, and means of supporting the said cross-bar from an object above it, and means adjustable in length of connecting the said stirrup and yoke-piece, substantially as described, and for the purposes specified.

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Witnesses:

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