DE WITT H. WYATT.

APPARATUS FOR FORMING PIPE JOINTS.

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1,284,534. Patented Nov. 12, 1918.

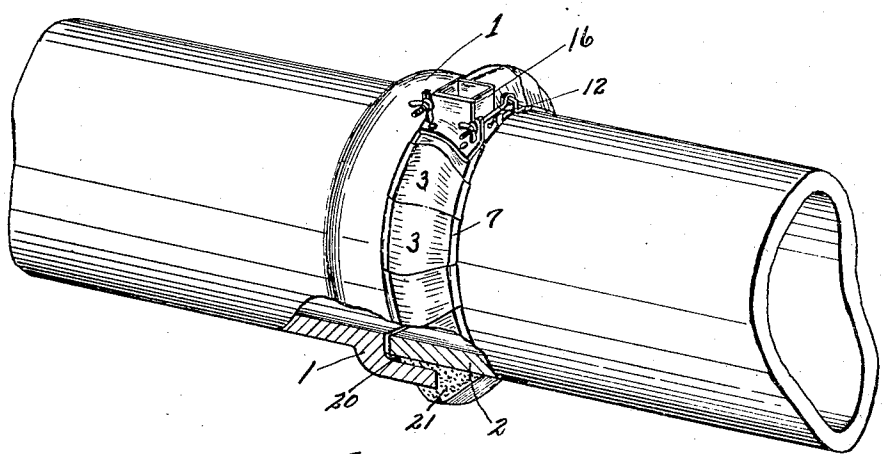


Fig 1

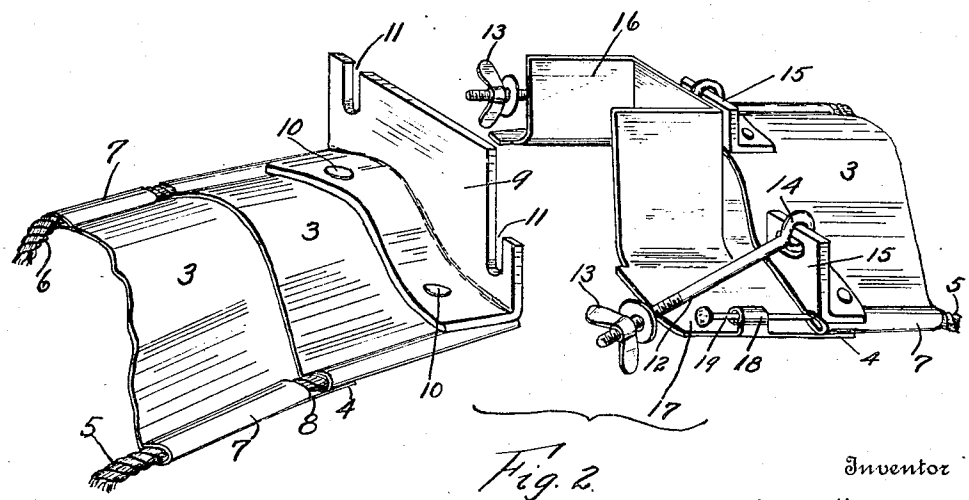


Fig. 2.

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UNITED STATES PATENT OFFICE.

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APPARATUS FOR FORMING PIPE-JOINTS.

1,284,534. Specification of Letters Patent. Patented Nov. 12, 1918.

Application filed October 12, 1917. Serial No. 196,246.

To all whom it may concern:

Be it known that I, DE WITT H. WYATT, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Apparatus for Forming Pipe-Joints, of which the following is a specification.

This invention relates to an apparatus for forming pipe joints designed for use on the bell and spigot ends of practically any type of pipe, wherein a tight joint is desired.

The main object of my invention resides in the provision of a structure which may be produced at a cost and which will produce a joint at a cost which is considerably less than the cost of a joint formed entirely by hand. To this end, my invention consists of a mold member formed of a plurality of sections joined substantially end to end and flexibly connected to each other to conform to the size of the pipe ends it is desired to join. In this connection, it may be well to state that these pipes as commercially produced, are not exactly uniform in size or shape and consequently it is necessary to produce a device which takes into account these irregularities.

Another object of my invention resides in the provision of a funnel structure attached to the mold member in such manner as to be adjustable thereon or floating in connection therewith, so as to be entirely independent of the means for uniting the two ends of the mold member in holding engagement with the meeting ends of two pipe sections.

The preferred embodiment of my invention is shown in the accompanying sheet of drawings, in which similar characters of reference designate corresponding parts, and in which:

Figure 1 is a view in perspective showing the meeting ends of two pipe sections joined by means of my improved apparatus, a portion being shown in section to disclose the type of joint formed, and,

Fig. 2 is a view in perspective showing the meeting ends of the flexible mold member employed by me.

In Fig. 1 the bell end of one pipe is designated by the reference numeral 1 and the spigot end of the other pipe by the reference numeral 2. These ends are always shaped to fit one within the other and it is to join these sections in fluid tight relation with each other, with which my invention is concerned. To accomplish this, I resort to the use of a mold member which is formed of a plurality of short sections 3, joined end to end and whose ends are made to overlap slightly as is shown at 4. These various sections are flexibly joined to each other by means of cables 5 and 6 located one on each side of the mold member and joined to the various sections by curling their side edges over onto the cable as shown at 7 and bringing them into holding engagement therewith. One end of each of the curled portions is preferably cut short as is shown at 8, to be spaced slightly from the meeting end of the adjacent section to allow for free flexibility of the parts. One end of the mold member is provided with an upstanding portion 9 which serves both as an end of the funnel member used by me and as a portion of the means for drawing the two ends of the mold member together. This member 9 is preferably stamped to L-shape as shown and riveted to the end section 3, as is shown at 10. This member is also provided with a pair of slots 11 designed to coöperate with the bolts 12 and wing nuts 13 rigidly carried by the section on the oposite end of the mold member. These bolts are preferably pivotally carried by this section after the manner shown at 14 and are secured to small angle clips 15 riveted to the end section. It will be understood that the two flexible cables are rigidly secured to each of the end sections 3, so that by drawing the ends of the mold members together by means of the nuts 13, the entire mold member will be brought into proper operative relation with the meeting ends of the pipes. One end of this mold member also carries a funnel structure 16 which latter is shaped at its lower end to conform to the general shape of the sections 3, as is shown at 17. This latter is also provided with a curled portion 18 along each side edge to slidably coöperate with nails or similar projections shown at 19. By this arrangement, the funnel member 16 is slidably mounted in connection with one of the end sections 3. The purpose of this is to allow compensation for variations in the size and shape of pipe ends. It will appear from Fig. 2 that the section 16 coöperates with the upstanding plate 9 and, as the two ends of the mold member are drawn toward

each other, the space between these ends is decreased. During this adjustment, the section 16 is free to slide upon the nails 19 to thus allow for any variation in size of the pipes.

From the foregoing description, it will be apparent that I have provided a structure which possesses considerable utility and one which is self adjusting to pipes varying slightly in size and also varying slightly in shape. This is accomplished in the first place by flexibly joining the various sections 3 and then by permitting the funnel section 16 to adjust itself to proper position upon the nails 19, which latter are rigidly carried by the adjacent end section 3.

The manner of employing my device is as follows: The mold member is made to encircle the meeting ends of two pipe sections after they have been properly assembled and after they have been calked to a slight extent, as is shown at 20. The mold member is brought into proper holding engagement by causing the bolts 12 to engage the slots 11 and adjusting the wing nuts 13. This action also causes the funnel 16 to properly adjust itself. After this, the material with which it is desired to make the joint, is poured or forced into the funnel and after it becomes hardened it forms a joint of the type shown at 21 in Fig. 1.

What I claim, is:

1. An apparatus for forming pipe joints comprising a mold member formed of a plurality of sections flexibly joined together end to end, a funnel portion, and means for drawing said member into close contact with the meeting ends of a pair of pipes, said funnel being adjustable to vary the effective length of said member.

2. An apparatus for forming pipe joints comprising a mold member formed of a plurality of sections flexibly joined together end to end, said section ends also overlapping each other, a funnel portion, and means for drawing said member into close contact with the meeting ends of a pair of pipes.

3. An apparatus for forming pipe joints comprising a mold member formed of a plurality of sections, a flexible cable for each side of said member to which said sections are attached, said cable forming the means for holding said sections assembled, a funnel portion, and means for drawing said member into close contact with the meeting ends of a pair of pipes.

4. An apparatus for forming pipe joints comprising a mold member formed of a plurality of sections, a flexible cable to which said sections are attached so that their ends overlap, said cable forming the means for holding said sections assembled, an adjustable funnel portion on said member to vary its effective length and means for drawing said member into close contact with the meeting ends of a pair of pipes.

5. An apparatus for forming pipe joints comprising a mold member formed of a plurality of sections, a flexible cable for each side of said member, said sections being secured to said cables along their sides and arranged so that their ends overlap, a funnel portion, and means for drawing said cables taut to bring said member into close contact with the meeting ends of a pair of pipes.

6. An apparatus for forming pipe joints comprising a flexible mold member, means for bringing said member into holding engagement with the meeting ends of a pair of pipes, and a funnel formed by the coöperating ends of said member, said funnel being adjustable on said member to compensate for pipes varying slightly in size.

7. An apparatus for forming pipe joints comprising a flexible mold member, an upstanding funnel piece on one end of said member, an upstanding funnel section slidably mounted on the other end of said member, and means for drawing the ends of said member together independently of said last named funnel section so that the latter is self adjusting on pipes varying slightly in size.

8. An apparatus for forming pipe joints comprising a flexible mold member, a funnel structure, a portion of which is slidably mounted on one end of said member, and means for drawing the ends of said member together independently of said funnel so that the latter is self adjusting on pipes varying slightly in size.

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

DE WITT H. WYATT.

Witnesses:
WALTER E. L. BOCK,
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."