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E. A. LEARY

1,921,978

CONNECTING RING

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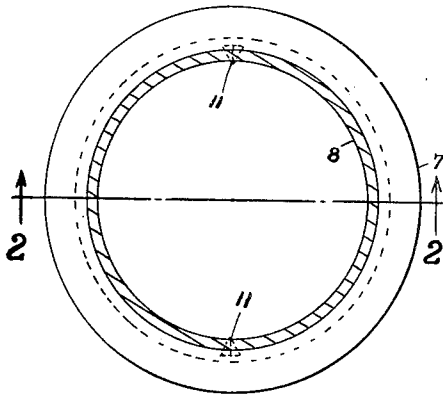


Fig. 1.

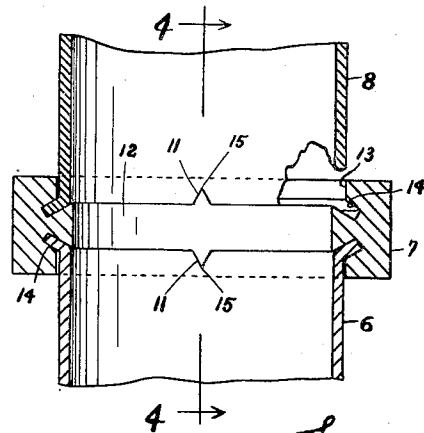


Fig. 3.

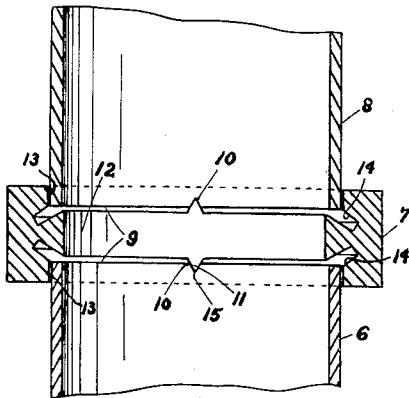


Fig. 2.

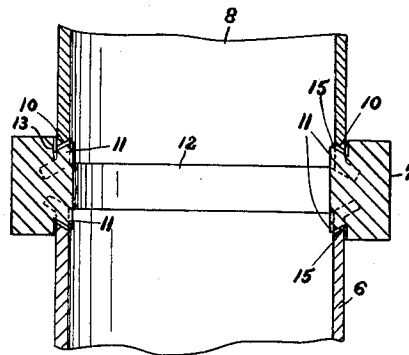


Fig. 4.

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UNITED STATES PATENT OFFICE

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CONNECTING RING

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4 Claims. (Cl. 285—193)

This invention relates to a connecting ring or collar for use with tubular casings or piling for construction work and the like and has for its object the provision of a means that will positively lock together the sections of casing as they are successively sunk under the impact of a pile driver.

Another object is to provide means in such a connecting ring to insure the proper turning of the connecting ends of the pile casing within undercut channels in the rings.

Another object of the invention is to provide a ring of this character which is effective and yet inexpensive to manufacture.

These and other objects are attained by the means described herein and disclosed in the accompanying drawing in which:

Fig. 1 is a top plan view of a casing ring of the invention.

Fig. 2 is a view taken on line 2—2 of Fig. 1 showing pile casings partly inserted.

Fig. 3 is a fragmental cross-sectional elevational view of a pair of pile casings connected by the ring of the invention.

Fig. 4 is a view taken on line 4—4 of Fig. 3.

In the drawing the end of a casing 6 is shown with the connecting ring of the invention, indicated generally at 7, seated thereover and a casing 8 entered in the top of ring 7. The casings are in the form of the ordinary cylindrical tubes with adjacent ends 9 adapted to be split or cut at one or more places 10 by cutting wedges 11 which are cast integral with an interior annular rib 12 on the ring. The rib 12 is of an inside diameter substantially equal to the inside diameter of the casings 6 and 8. The larger bore 13 at the outer edges of the ring 7 are slightly larger than the outside diameter of the casings 6 and 8. The ring is annularly undercut to form the groove 14 on each side of the rib, said groove extending angularly to the plane of the ring so that the split ends 9 of the casings 6 and 8 may be turned outwardly and thus interlocked to the ring which then connects the casings.

The wedge members 11 may have their cutting edges 15 inclined very slightly to the rear in order to assist in the turning of the split ends of the casings as they are being driven, with the ring interposed into the ground.

It has been found that it is essential to the efficiency of the device that the cutting wedges be used in order to insure proper bending or turning of the ends. If an annular groove on each side of an intermediate annular rib is used

without a cutting wedge so that the seating ends of the casings remain continuous, it frequently happens that the pipe will be deformed inwardly as often as outwardly with the result that no absolutely secure connection is made. In the event that the end of the pipe should turn inwardly within the ring and the series of pile casings should strike a hard ledge at one side, the further driving of the pile casing would result in the bending of the series of casings at any of the ring connections wherein the pipe was not securely and properly seated in the annular undercut grooves.

The construction herein described avoids this difficulty in that the connection tends to stabilize and assist in vertically sinking the pile casing.

What is claimed is:

1. In a connecting device of the class described a flat endless band having a pair of spaced annular grooves undercut in the inner face thereof, a dovetailed annular rib between said grooves and a cutting wedge extending from each side of the rib.

2. In a device of the class described the combination of a relatively wide flat ring, an abutment rib on the inner circumference of the ring intermediate the edges thereof, the rib and the ring body adjacent thereto being undercut to provide a pair of tapered angularly disposed annular channels and cutting wedges on opposite sides of the rib and closing the immediately adjacent portions of said channels.

3. In combination with a driven tubular casing, of a collar slidably seated on the top of said casing, an undercut abutment rib on the collar adapted for and seating on the end of said casing, the collar being undercut annularly beyond the external diameter of the casing cutting wedges on the opposite sides of said rib, a second casing entered in the top of the collar, the wedges being adapted, upon impact delivered to the second casing, to effect longitudinal splitting of the ends of both casings and to assist in the outward turning of said split ends into the undercut grooves.

4. In a device of the class described the combination of a ring having a pair of spaced annular internal grooves, an internal rib extending between adjacent edges of said grooves and cutting means on the rib extending transversely across the groove.

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