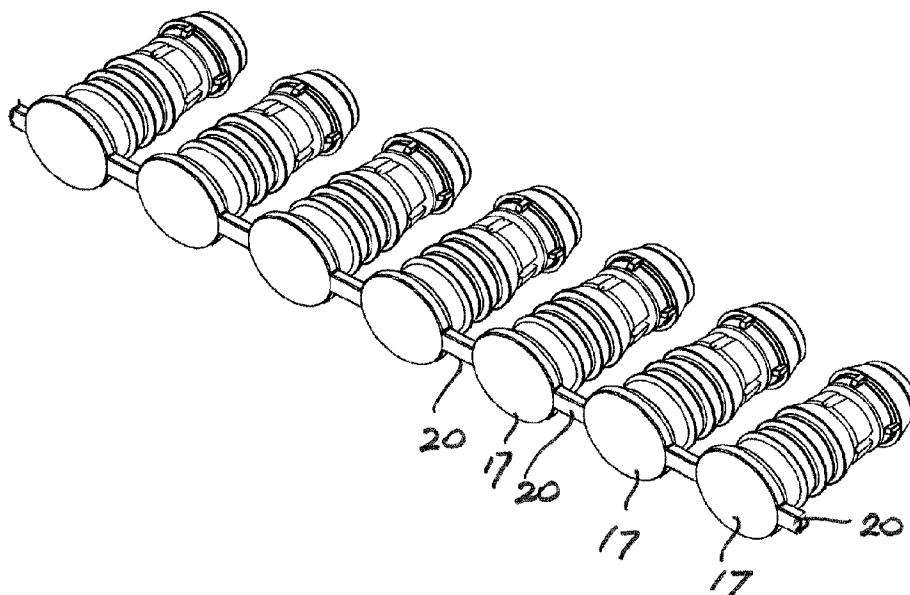




(86) Date de dépôt PCT/PCT Filing Date: 2018/11/23
(87) Date publication PCT/PCT Publication Date: 2020/05/28
(45) Date de délivrance/Issue Date: 2023/10/03
(85) Entrée phase nationale/National Entry: 2021/05/04
(86) N° demande PCT/PCT Application No.: EP 2018/082368
(87) N° publication PCT/PCT Publication No.: 2020/104040

(51) Cl.Int./Int.Cl. *F16L 33/30* (2006.01),
F16L 55/11 (2006.01)
(72) Inventeur/Inventor:
RYMAN, MORGAN, SE
(73) Propriétaire/Owner:
OETIKER SCHWEIZ AG, CH
(74) Agent: KIRBY EADES GALE BAKER

(54) Titre : RACCORD
(54) Title: CONNECTOR



(57) Abrégé/Abstract:

A connector has an outer surface for engagement by a hose, an inner through-bore for receiving a pipe nipple to be connected to the hose, and a sealing O-ring for sealing the hose to the pipe nipple. Up to the final assembly of the connector, a plug is placed in the through-bore to hold the parts of the connector together and protect its interior against the entry of dirt. The plug has a shaft to be inserted into the through-bore and an end disc for closing an end of the through-bore. A plurality of connectors may be linked together to form a belt-type arrangement for handling in an automatic assembly line.

Abstract

A connector has an outer surface for engagement by a hose, an inner through-bore for receiving a pipe nipple to be connected to the hose, and a sealing O-ring for sealing the hose to the pipe nipple. Up to the final assembly of the connector, a plug is placed in the through-bore to hold the parts of the connector together and protect its interior against the entry of dirt. The plug has a shaft to be inserted into the through-bore and an end disc for closing an end of the through-bore. A plurality of connectors may be linked together to form a belt-type arrangement for handling in an automatic assembly line.

Connector

Field of the Invention

[0001] The present invention pertains to the field of connectors. More particularly, the present invention relates to hose-pipe connectors.

Prior Art

[0002] Hose-pipe connectors are known that are made of a number of structural parts including O-rings for sealing against the hose and the pipe. In assembly, the connector is inserted into the end of the hose and, finally, the pipe is pushed into a through-bore of the connector.

Summary of the Invention

[0003] It is a general object of the present invention to overcome deficiencies as occur with prior-art connectors. As a more specific object, the invention seeks to provide a connector that is easier to handle during assembly and is, preferably, suited to be handled by an automatic assembly line. This object is met by a connector which has an outer surface for engagement by a hose, an inner through-bore for receiving a pipe nipple to be connected to the hose, sealing means for sealing the hose to the pipe nipple, and a plug that has a shaft adapted to be inserted into the through-bore and an end disc for closing an end of the through-bore in a non-installed condition of the connector.

[0004] The invention is specifically suited for connectors of the type disclosed in international PCT application PCT/EP2018/082355 entitled "Multi-part connector assembly", where the plug has also the purpose of holding the three parts of the connector together until the connector is finally assembled with the hose and pipe.

[0005] The invention also relates to a connector arrangement which includes a plurality of connectors as referred to above, wherein each pair of adjacent end discs are interconnected by a severable web formed integrally with the end discs.

[0006] In accordance with some embodiments, there is provided a connector arrangement comprising: a plurality of connectors, each connector having an outer surface for engagement by a hose, an inner through-bore for receiving a pipe nipple to be connected to the hose, and sealing means for sealing the hose to the pipe nipple, and a plurality of plugs, each plug having a shaft that is inserted into the

through-bore and an end disc for closing an end of the through-bore in a non-installed condition of the connector, wherein each pair of adjacent end discs are interconnected by a severable web formed integrally with the end discs.

Drawing

[0007] An embodiment of the invention will be explained with reference to the drawing in which:

Fig. 1 is a perspective view of a connector;

Fig. 2 is a side view of the connector of Fig. 1;

Fig. 3 is a cross-section of the connector of Figs. 1 and 2; and

Fig. 4 is a perspective view of an arrangement which includes a plurality of the connectors shown in Figs. 1 to 3.

Embodiment

[0008] The connector shown in Figs. 1 to 3, which is intended to connect a hose (not shown) to a pipe nipple (not shown), comprises a front tubular member 10, a rear tubular member 11 and a sealing O-ring 12. The front and rear tubular members 10, 11 have the same inner diameter and form a common through-bore 13 for receiving the pipe nipple. The outer surfaces of the front and rear members 10, 11 are formed with annular projections for gripping the hose. The O-ring 12 has a generally circular cross-section, its inner and outer diameters being so dimensioned that it projects inward into the through-bore 13 and projects outward beyond the adjacent portions of the tubular members 10 and 11. In the finally assembled condition of the hose and pipe nipple connection, the O-ring 12 will thus bear on the outer side of the pipe nipple and on the inner side of the hose.

[0009] In the condition illustrated in the drawings, a plug 15 is placed in the through-bore 13. The plug 15 has a shaft 16 which is generally cylindrical with an outer diameter corresponding to that of the pipe nipple for which the connector is intended. When fully inserted, the inner end of the shaft 16 abuts an inner flange 18 formed at the rear end of the rear tubular member 11 and a disc 17 formed at the end of the plug 15 abuts an outer flange 19 provided at the front end of the front tubular member 10.

[00010] The plug 15 serves to hold the three parts 10, 11 and 12 of the connector together and to seal the interior of the connector against dirt until the connector is

finally assembled with a hose and a pipe nipple. In addition, the plug facilitates pressure testing prior to final assembly.

[00011] Fig. 4 illustrates a belt-type connector arrangement in which a plurality of connectors, each as shown in Figs. 1 to 3, are linked together by webs 20 that are made integrally with the discs 17, each interconnecting a pair of adjacent plugs 15. This arrangement is of advantage in that it facilitates packaging and shipping and, especially, processing in an automatic assembling plant, where the interconnecting webs (20) are severed.

Reference Numbers

10	Front tubular member
11	Rear tubular member
12	O-ring
13	Through-bore
15	Plug
16	Shaft
17	Disc
18	Inner flange
19	Outer flange
20	Web

Claims

1. A connector arrangement comprising:
a plurality of connectors, each connector having an outer surface for engagement by a hose, an inner through-bore for receiving a pipe nipple to be connected to the hose, and sealing means for sealing the hose to the pipe nipple, and
a plurality of plugs, each plug having a shaft that is inserted into the through-bore and an end disc for closing an end of the through-bore in a non-installed condition of the connector,
wherein each pair of adjacent end discs are interconnected by a severable web formed integrally with the end discs.
2. The connector arrangement of claim 1, wherein the shaft is dimensioned so as to contact the sealing means.
3. The connector arrangement of claim 2, wherein the shaft is dimensioned for sealing engagement with the sealing means.
4. The connector arrangement of any one of claims 1 to 3, wherein the shaft and the end disc are one integral structural part.

