

April 21, 1931.

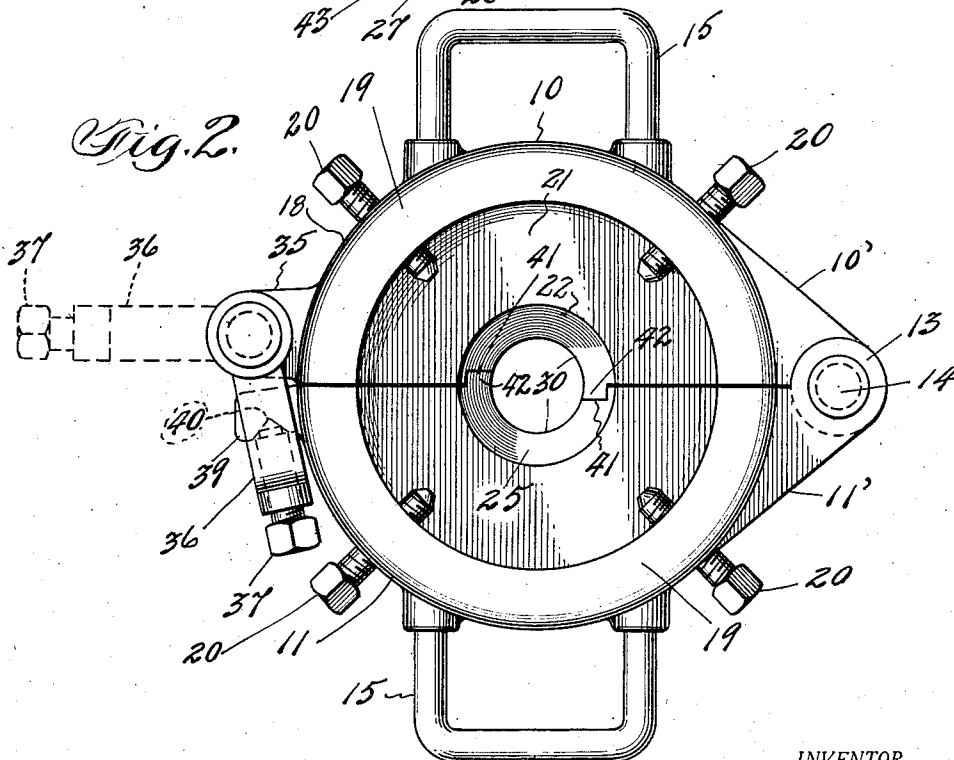
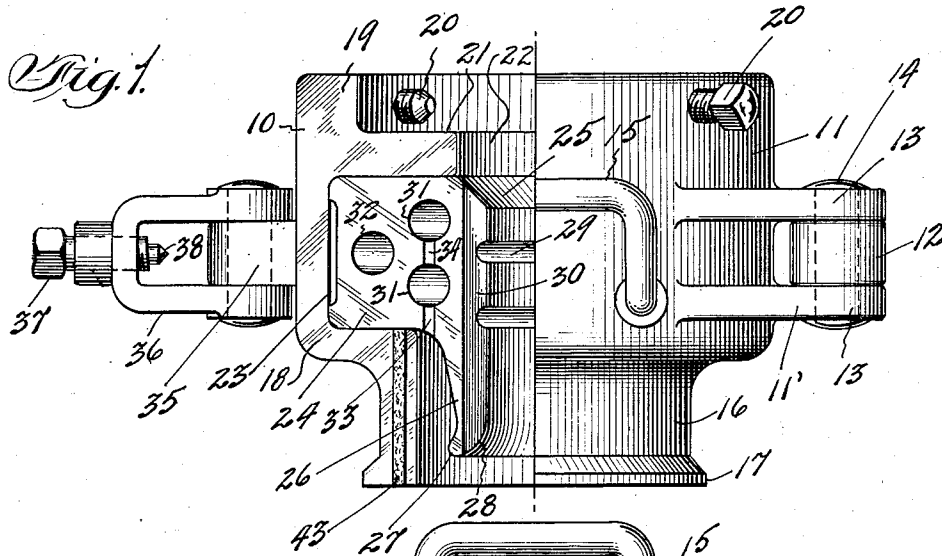
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1,801,995

TUBING STRIPPER

Filed July 15, 1926

2 Sheets-Sheet 1



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Fig. 3.

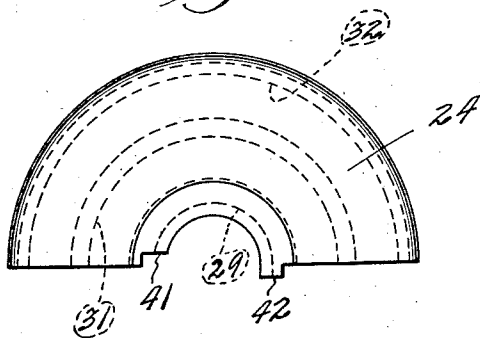


Fig. 4.

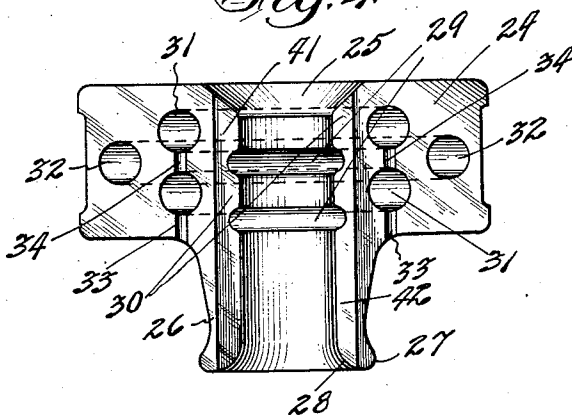
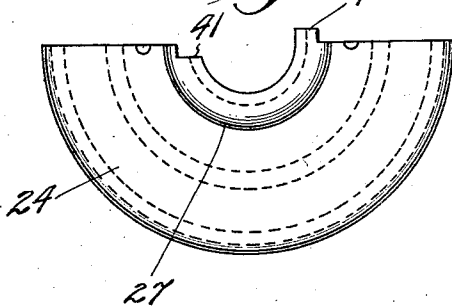


Fig. 5.



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UNITED STATES PATENT OFFICE

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TUBING STRIPPER

Application filed July 15, 1926. Serial No. 122,635.

This invention relates to new and useful improvements in tubing strippers.

The object of the invention is to provide certain improvements over the tubing stripper shown in my co-pending application, Serial No. 741,772, which has matured in Patent No. 1,639,209.

An important object of the invention is to provide elastic contact or stripping members having annular cavities or cellular portions arranged to compensate the distortion of the stripping ribs.

A further object of the invention is to provide fluid inlets to the cavities adjacent the stripping ribs, whereby the cavities may fill with fluid and also whereby said fluid may be expelled or drained from said cavities.

Another object of the invention is to break the joints between the semi-circular stripping members in such a way as to prevent leakage radially or transversely from the tubing.

A still further object of the invention is to simplify and strengthen the structure, reduce the number of parts, improve the design to facilitate manufacture and to make a more effective device.

A construction designed to carry out the invention will be hereinafter described, together with other features of the invention.

The invention will be more readily understood from a reading of the following specification and by reference to the accompanying drawings, in which an example of the invention is shown and wherein:

Fig. 1 is a view partly in elevation and partly in section, showing an oil saver constructed in accordance with my invention,

Fig. 2 is a plan view of the same,

Fig. 3 is a plan view of one of the stripping members,

Fig. 4 is an elevation of the inner side of the same, and

Fig. 5 is an under side view of said member.

In the drawings the numeral 10 designates

one of the complementary members or sections of a split housing, the other section being 11. These sections are approximately semi-circular in plan and also are substantially duplicates.

The section 10 has a lug 10' formed thereon and provided with an ear 12 projecting beyond the face of the section; while the section 11 has lugs 11' spaced apart and formed with ears 13 projecting beyond the face of the section. The ear 12 enters between the ears 13 and a pintle 14 passing through said ears, hinges the sections together. The sections are equipped with opposite handle loops 15.

Each section has a reduced semi-circular pedestal portion 16 having an outwardly directed base flange 17 at its bottom on which it rests. The pedestal formed by the sections is adapted to stand in the casinghead (not shown) and to be secured in the usual manner. The upper portion 18 of each section extends outwardly and overhangs the portion 16, said portion 18 terminating at its top in an upstanding marginal retaining flange 19. Equally spaced set screws 20 are threaded transversely through said flange.

Each section has a top plate 21 extending inwardly from its flange 19. The inner edge or face 22 of the plate is given a semi-circular shape to co-act with the face of the other section in forming a central aperture or opening of such diameter as to permit the free vertical passage of the tubing and its couplings. The set screws 20 overhang the plate and are employed to fasten a sand cap, slip spider or other mounting.

Under the plate and above the pedestal portion 16, each section has a semi-circular cavity or socket 23 for snugly receiving the body of a semi-circular elastic stripping member 24. This member may be made of soft rubber or any other elastic composition, suitable for the purpose. Each member has a concaved vertical groove or channel 24' having its upper edge bevelled back, at 25, whereby the tubing

and couplings may pass down between said members, without catching upon the upper edges thereof.

Each member 24 has a depending flexible apron 26, reduced in thickness toward its lower end, but terminating in a reinforcing bead 27. The inner radius of the pedestal is some greater than that of the face or edge 21 and thus the apron is surrounded by a space below the body of the member 24 and within the pedestal. This space is open to the fluid and the pressure of the latter is utilized to compress the apron about the tubing.

The channel 24' of the member 24 extends downwardly from the bevel 25 to an outwardly curved lip 28 which is merged into the bead 27. This channel is broken by a pair of spaced circumferential grooves 29, whereby stripping ribs 30 are formed at the upper part of the member 24 opposite its body. The grooves will collect oil and grease and thus seal the bore of the saver.

In order that the ribs may be more readily expanded and displaced, particularly in horizontal planes, a pair of concentrically and superposed ducts 31 are formed in the body, one in the horizontal plane of each rib. A third duct 32 is provided in the body outwardly of the others and relatively therebetween. These ducts are circular in cross-section, but any suitable shape may be employed. It is obvious that these ducts provide a ready expansion of the ribs, thus permitting a free passage of the couplings without disintegrating and damaging said ribs. If the stripping member was solid and made of rubber, very little expanding of the ribs would be had, as the rubber could not be compressed sufficiently to permit the coupling to pass.

This structure is of much importance as it permits the use of a stripping member with an exceptionally long contact channel, which, however, owing to its flexible apron engages the tubing close enough to prevent leakage. The lower duct 31 has connection at each end with a port 33 extending to the bottom of the body and open to the fluid space surrounding the apron 26. Other ports 34 connect the ends of the upper duct 31 with the ends of the lower duct. Whatever fluid enters the pedestal will also flow through the ports 33 and 34, thus filling the ducts 31. There also will be some seepage between the ends of the contact members 24. If this fluid is under pressure, it will tend to resist the expansion of the ribs 30 until expelled, thus assuring a close contact between said ribs and the tubing. An expansion of the ribs will force the fluid out through the ports.

The adjoining faces of the sections 10 and 11 are finished flat and the ends of the members 24 are substantially flush therewith, so that these parts will contact when the sections are closed about a tubing. The member 10 has a lug 35 on its swinging end to which

the ends of a fastening yoke 36 are pivoted. This yoke has a gate screw 37 threaded longitudinally in its swinging end. The yoke is swung over a latch lug 39 on the section 11. The end of the screw is reduced to a point 38 and the lug 39 has a correspondingly shaped sump 40 for receiving the screw point.

If desired, the ends of the stripping members 24 may project a little from the faces of the sections and after the yoke 36 has been closed the screw 37 may be turned to draw the sections closer together, thus compressing the contacting ends of the stripping members. In order to reduce leakage between the contacting ends of the stripping members, each member has a vertical angular recess or seat 41 in its end, extending from the inner face toward the ducts 31; while on its opposite end and correspondingly located, is a vertical angular rib 42 (Figs. 3, 4 and 5). When the sections are closed, the rib of each enters the recess of the other, thus breaking the joints. The pedestal portion 16 of one or both of the sections may be vertically grooved for receiving protruding packing strips 43, which extend from the base flange 17 to the stripping member 24. These strips prevent leakage between the portions 16 when the sections are closed.

The use of tubing oil savers being well understood in the art and the advantages and uses of the various parts of this device having been pointed out, a description of the operation is not deemed necessary. However, it is pointed out that it is not necessary to fasten the elastic stripping members in place as they fit tight enough in the sockets 23 to remain there. They are thus free from bolts and the like. The use of the ducts 31 and 32 enables a more compact and efficient stripping member. The function of the ducts 31 and 32 is to lend porosity to the stripping or contact members 24. This structure gives the members a cellular nature, whereby their resiliency is increased and also whereby they are more readily compressed.

Various changes in the size and shape of the different parts, as well as modifications and alterations, may be made within the scope of the appended claims.

What I claim, is:

1. A stripping member for an oil saver comprising a body formed with a concaved contact channel having an annular rib and provided with an annular duct within the body of the member aligned with and surrounding the rib for compensating the expansion of the rib, said body also having a tubular flexible extension forming an apron depending from the central portion of the under face thereof and having an outer face of the length of the body and communicating with said duct.

2. A stripping member for an oil saver having a semicircular body provided with a

vertical contact channel and an arcuate duct formed within the body to surround said channel and having a reduced passage extending to the lower face of the body, said member also having a flexible axial extension forming an apron depending from the central portion of its lower face with the outer surface of the apron communicating with said passage and its inner concaved channel alined with the channel of the body, the body having a flared portion at the upper end of its contact channel and the apron having the lower end of its contact channel flared outwardly.

3. A stripping member for an oil saver having a semicircular body provided with a vertical central contact channel and an arcuate duct formed within the body to surround said channel and having a reduced passage extending to the under side of the body, said member also having a flexible apron of substantially the length of the body depending from its central portion at said under side at one side of said passage and provided with a concaved channel alined with the channel of the body.

4. In a tubing stripper, a pair of stripping members each comprising a radially extending head and a reduced flexible apron of substantially the length of the head and depending from the central portion thereof, each member being provided with a central concave face forming a cylindrical channel, the head of each member being provided with an internal duct disposed circumferentially of the channel in alinement with a yielding contact face thereof, said ducts forming an annular passage surrounding the channels of the members and communicating with a space at the outer face of said apron.

5. A stripping member for an oil saver comprising a body provided with an elongated axial contact channel having parallel annular bearing faces and also communicating internal ducts disposed circumferentially of the channel and alined with said faces, said member also having a reduced flexible apron depending from the central portion at the lower face of the body for substantially the length thereof and provided with a contact channel.

6. A stripping member for an oil saver comprising a body having a concaved contact channel provided with an annular rib and a circumferential duct within the body in the plane of the rib for compensating the expansion of the rib when the latter is displaced toward the opening, the body having an axial extension forming an apron through which the contact channel is continued.

In testimony whereof I affix my signature.
IVAN C. BELL.