

July 21, 1925.

1,546,706

F. K. BEZZENBERGER
GUIDE FOR CORRUGATED WALLS

Filed Aug. 21. 1924

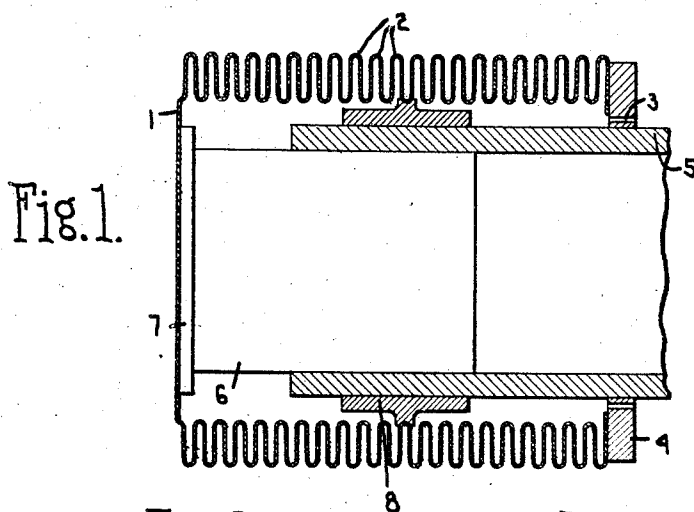


Fig. 2.

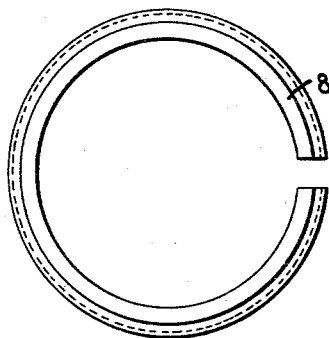


Fig. 3.

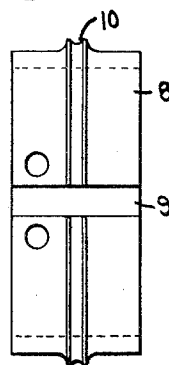
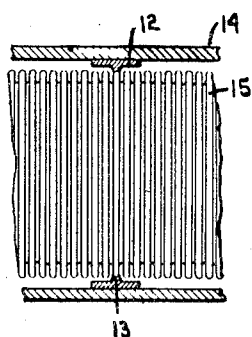


Fig. 4.



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UNITED STATES PATENT OFFICE.

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GUIDE FOR CORRUGATED WALLS.

Application filed August 21, 1924. Serial No. 733,323.

To all whom it may concern:

Be it known that I, FRED K. BEZZENBERGER, a citizen of the United States, and a resident of Cleveland Heights, county of Cuyahoga, and State of Ohio, have invented a new and useful Improvement in Guides for Corrugated Walls, of which the following is a specification, the principle of the invention being herein explained, and the best mode in which I have contemplated applying that principle so as to distinguish it from other inventions.

The present invention, relating, as indicated, to a guide for corrugated walls, is more particularly directed to an improved device for use in a corrugated metal wall commonly called a bellows for the purpose of guiding the expansion and contraction of the bellows, and preventing any lateral distortion of the corrugations during this action. A further object of the invention is the provision of a simple and inexpensive device which may be readily and conveniently engaged with the bellows and removed when necessary. To the accomplishment of the foregoing and related ends, said invention, then, consists of the means hereinafter fully described and particularly pointed out in the claims.

The annexed drawing and the following description set forth in detail certain mechanism embodying the invention, such disclosed means constituting, however, but one of various mechanical forms in which the principle of the invention may be used.

In said annexed drawing:—

Fig. 1 is a transverse longitudinal section through a bellows with which there is assembled my improved guide; Fig. 2 is an end elevation of the guide; Fig. 3 is a side elevation of the same; and Fig. 4 is a side elevation of the bellows, showing in section a modification of my guide for use therewith.

In Fig. 1 there is shown a bellows 1 provided with a plurality of substantially parallel corrugations 2. This bellows is adapted to be expanded by means of fluid pressure, which may either be introduced into the bellows through ports 3 in one end, or the fluid pressure may be produced by the volatilization of liquid which is sealed within the bellows at the time of manufacture. Extending through one end or head 4 of the bellows is a tubular member 5 which is re-

ciprocally mounted on the support member 6, which is secured to the other end 7 of the bellows. The end 4 may either be formed integral with, or may be sealed against the tube 5, while the tube 5 engages over the support 6 with a fit which prevents the leakage of any of the fluid pressure inside of the bellows around the support 6.

My improved guide consists of a strip of resilient metal 8 which is formed into a cylinder having an open seam 9, and is provided with an encircling groove 10 which is adapted to snugly engage over the inner crest of one of the corrugations 2 in the manner shown in Fig. 1. This strip is of a size adapting it to fit snugly over the tubular member 5 and to allow for a sliding movement between these two members. Obviously, if desired, more than a single guide may be employed, depending upon the length of the bellows and its stiffness against distortion, but in the usual bellows having from ten to fifteen corrugations I have found that a single guide secured to one of the corrugations adjacent the center of the bellows is sufficient to prevent lateral distortion of the bellows during expansion and contraction.

In Fig. 4 I have shown the same type of guide in the form of a ring 12, but this ring is provided with an encircling groove 13 on its inner surface and is snapped over instead of within the bellows. The outer portion of the ring 12 is perfectly cylindrical and fits slidably within a tubular member 14 which is disposed concentrically around the bellows 15.

Other modes of applying the principles of my invention may be employed instead of the one explained, change being made as regards the mechanism herein disclosed, provided the means stated by any of the following claims or the equivalent of such stated means be employed.

I therefore particularly point out and distinctly claim as my invention:—

1. Guide means for metallic bellows, comprising a resilient ring having means engaging against one of the corrugations of said bellows.

2. Guide means for tubular metallic corrugated bellows, comprising an expansible ring provided with an encircling groove on one surface thereof, said ring being adapted to be expanded and mounted over said bel-

lows and said groove being thereupon adapted to engage one of the corrugations of said bellows.

3. The combination of a cylinder, a cylindrical hollow member having spaced encircling corrugations therein disposed concentrically with respect to said cylinder, and guide means comprising a ring slidably mounted against the wall of said cylinder adjacent said hollow member and provided with means on its other surface engaging one of said corrugations.

4. The combination of a cylinder, a cylindrical hollow member having spaced encircling corrugations therein disposed concentrically with respect to said cylinder, and guide means comprising a split expansible and contractible ring slidably mounted against the wall of said cylinder adjacent said hollow member and provided with an encircling groove on its other surface engaging one of said corrugations.

drical hollow member having spaced encircling corrugations therein disposed concentrically with respect to said cylinder, and guide means comprising a split expansible and contractible ring slidably mounted against the wall of said cylinder adjacent said hollow member and provided with an encircling groove on its other surface engaging one of said corrugations.

Signed by me this 18th day of August, 1924.

FRED K. BEZZENBERGER.