Dec. 29, 1936. P. M. KUEHN 2,066,292

GASHOLDER

Filed Sept. 9, 1932

Fig. 2

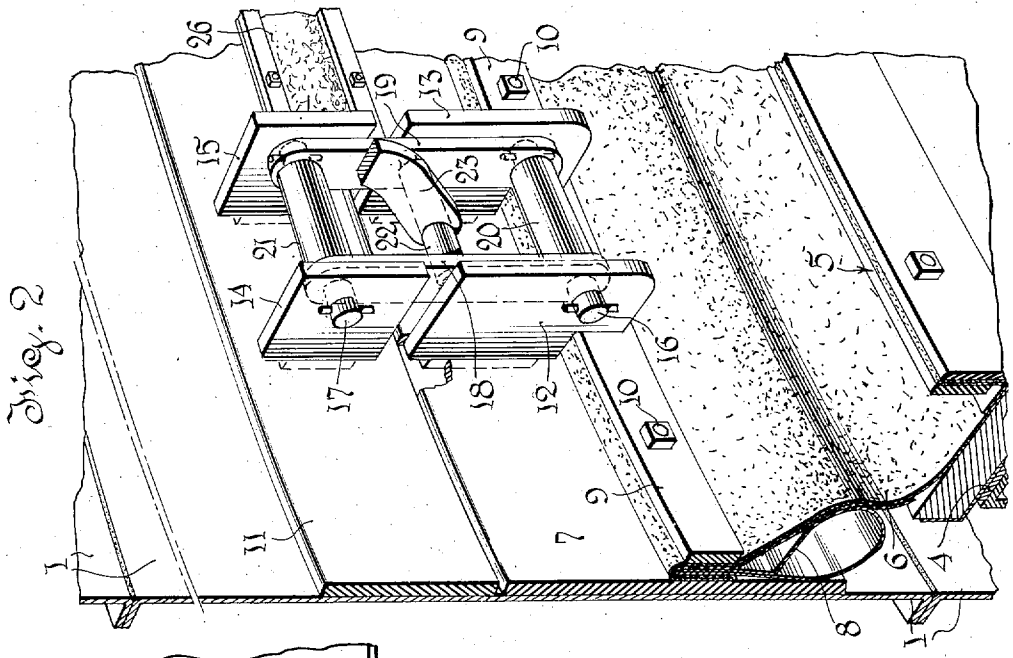
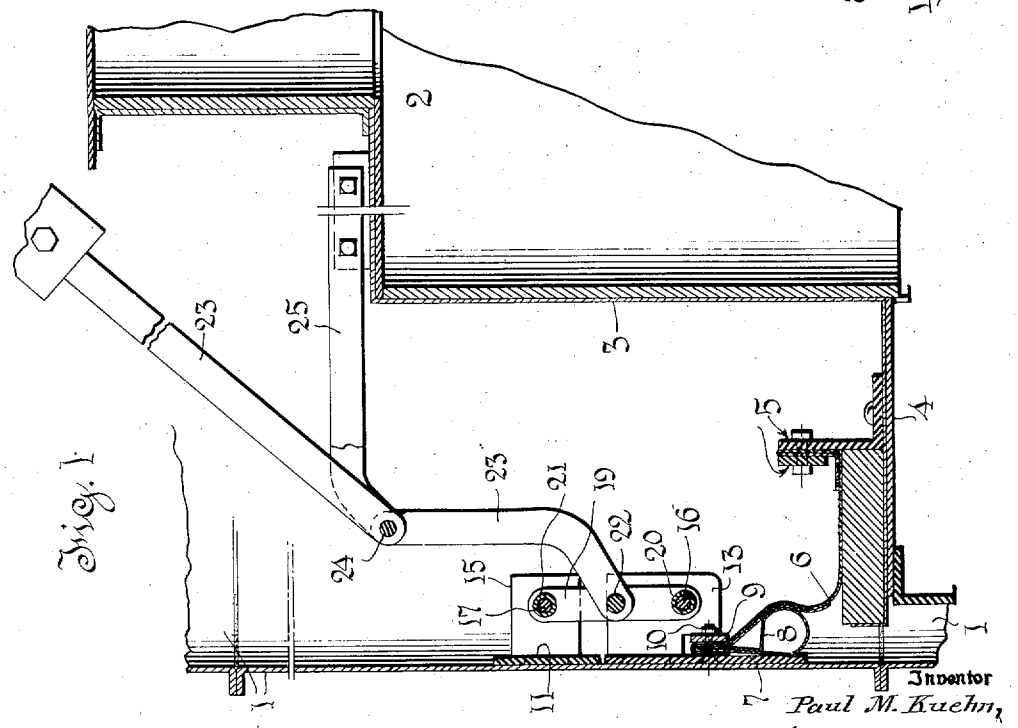


Fig. 1



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Patented Dec. 29, 1936 2,066,292

UNITED STATES PATENT OFFICE

2,066,292

GASHOLDER

Paul M. Kuehn, Baltimore, Md., assignor, by mesne assignments, to Kopper's Company, a corporation of Delaware

Application September 9, 1932, Serial No. 632,447

1 Claim. (Cl. 48—176)

This invention pertains to waterless gas holders and relates more particularly to the sealing means interposed between the usual piston-like closure and the inner face of the shell or body of the holder.

The invention has to do with a structure wherein a fluid sealing medium is employed in conjunction with mechanical elements interposed between the piston and the inner wall of the holder. Holders of this type are shown in Letters Patent to Jagschitz No. 1,275,696, dated August 13th, 1918 and the patent to Kuehn No. 1,711,392, dated April 30th, 1929. These two patents are typical of the commercial structures used in this country and abroad.

In my copending application filed September 9, 1932, Serial No. 632,446, there is set forth and claimed a structure embodying a series of rubbing bars or shoes arranged in vertical relation; a gutter for a sealing medium, which medium cooperates with the shoes to effect a seal between the piston closure and the shell; and means for urging the shoes into facewise contact with the inner face of the wall of the shell.

The present invention is directed to the same general end but has for its object the provision of a special equalizing mounting for sustaining the bars in place, which mounting also provides the means whereby pressure may be applied to the bars to move them outwardly into sealing relation with the shell of the holder.

The invention is illustrated in the annexed drawing, wherein:

Fig. 1 is a vertical sectional view of so much of the piston closure, shell and related parts as is necessary to an understanding of the invention; and

Fig. 2 a perspective view of the same as seen looking toward the inner face of the shell.

In the drawing, 1 denotes the shell and 2 the piston-like closure located therein which is surrounded by a gutter for the reception of the sealing medium.

The gutter is defined by the vertical wall 3 of the piston; bottom plate 4; clamping means, denoted generally by 5, for the lower portion of the flexible gutter element 6, generally produced from canvas; and the shoes, to the lowermost of which (denoted by 7) the uppermost portion of the flexible element 6 is secured. Spreader or spacer elements 8 are usually present to hold the canvas element 6 out of rubbing contact with the inner face of the shell as the piston moves up and down.

The upper portion of the canvas is folded over the upper flattened section of the spreader 8 and the parts are secured tightly against the inner face of rubbing bar 7 by an overlying plate 9 and bolts 10 which extend through the various elements including the bar or shoe 7.

The construction thus far described is old.

Located above the bar 7 is a second bar 11. These bars are in vertical alignment and slightly spaced apart.

Extending inward from the bar 7 are spaced brackets or plates 12 and 13, said elements being shown as provided with lugs extending through the bar and welded thereto. Other means for securement may of course be employed.

A pair of plates 14 and 15 are mounted in the same manner on bar 11 and stand, respectively, in vertical alignment with the plates or brackets 12 and 13.

Extending through plates 12 and 13 is a cross pin 16 and a similar pin 17 is carried by the upper plates. These pins form the bearings and supports for a pair of links 18 and 19 which are held in proper spaced relation by spacer sleeves 20 and 21.

A shaft 22 is located between the links, its reduced ends finding bearings therein. Extending upwardly from the shaft is a weighted lever 23 fulcrumed at 24 to a bracket 25 secured to the piston structure. The lever, acting through the links 18 and 19 and the pins 16 and 17, forms the supporting means for the shoes as well as the pressure applying means therefor.

The construction above described forms in effect an equalizing mechanism between the two shoes. If one is forced inwardly by an obstruction the other will be subject to greater pressure and hence the seal will be maintained between such shoe and the shell by reason of the fluid sealing medium which is present between such members or parts.

While the adjacent edges of the bars are spaced apart so that the sealing medium may pass outwardly at such point, as well as over the upper edge of the upper shoe, still a strip of canvas, as 26 (Fig. 2) may be secured to the inner face of each shoe covering or closing off the passage or space between the adjacent edges. The strip will be bowed or of such width as not to affect the independent movements of the shoes.

The normal level of the fluid in the gutter is above the upper edge of the upper shoe but when the strip 26 is not present the lower shoe will continue to function so long as the fluid level is above the upper edge thereof.

Reference has heretofore been made to a liquid sealing medium. For this purpose tar, oils, or any material which will form a tight seal between the rubbing bar and the inner face of the shell may be employed.

What is claimed is:

In a waterless gas holder, the combination of a shell; a piston-like closure therein; a pair of vertically disposed separated rubbing bars in contact with the inner face of the shell; a pair of fixed spaced brackets extending inwardly from the inner face of each bar; a horizontally disposed pin mounted in and extending between each pair of brackets; connecting links, one for each pair of brackets, mounted for swinging movement on said pins; a shaft connected to the links intermediate their ends; and means associated with said shaft acting at all times to move the shaft toward the shell and as a consequence to apply pressure through the links and brackets to the rubbing bars, whereby the bars may be forced independently toward the shell with a full and fair bearing thereon.

PAUL M. KUEHN.

CERTIFICATE OF CORRECTION.

Patent No. 2,066,292. December 29, 1936.

PAUL M. KUEHN.

It is hereby certified that the name of the assignee in the above numbered patent was erroneously written and printed as "Kopper's Company" whereas said name should have been written and printed as Koppers Company, a corporation of Delaware, as shown by the records of assignments in this office; and that the said Certificate should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 23rd day of February, A. D. 1937.

(Seal)

Henry Van Arsdale
Acting Commissioner of Patents.

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