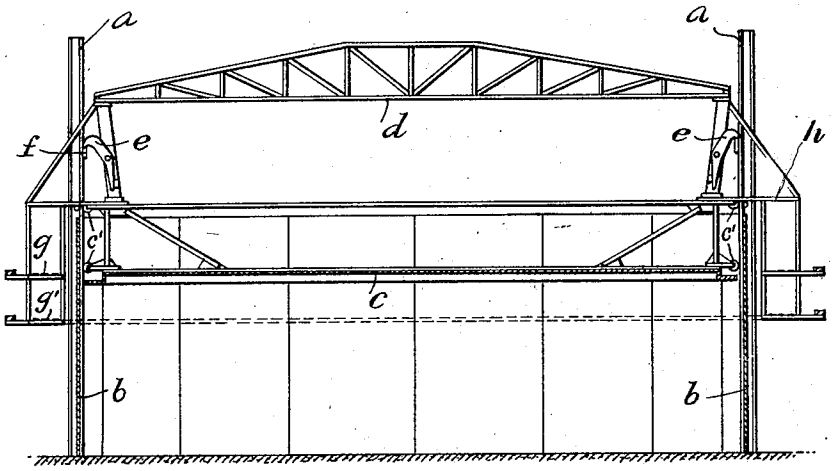
June 4, 1929. K. JAGSCHITZ ET AL 1,715,367

GAS RESERVOIR

Filed Jan. 27, 1927 3 Sheets-Sheet 1

Fig. 1.



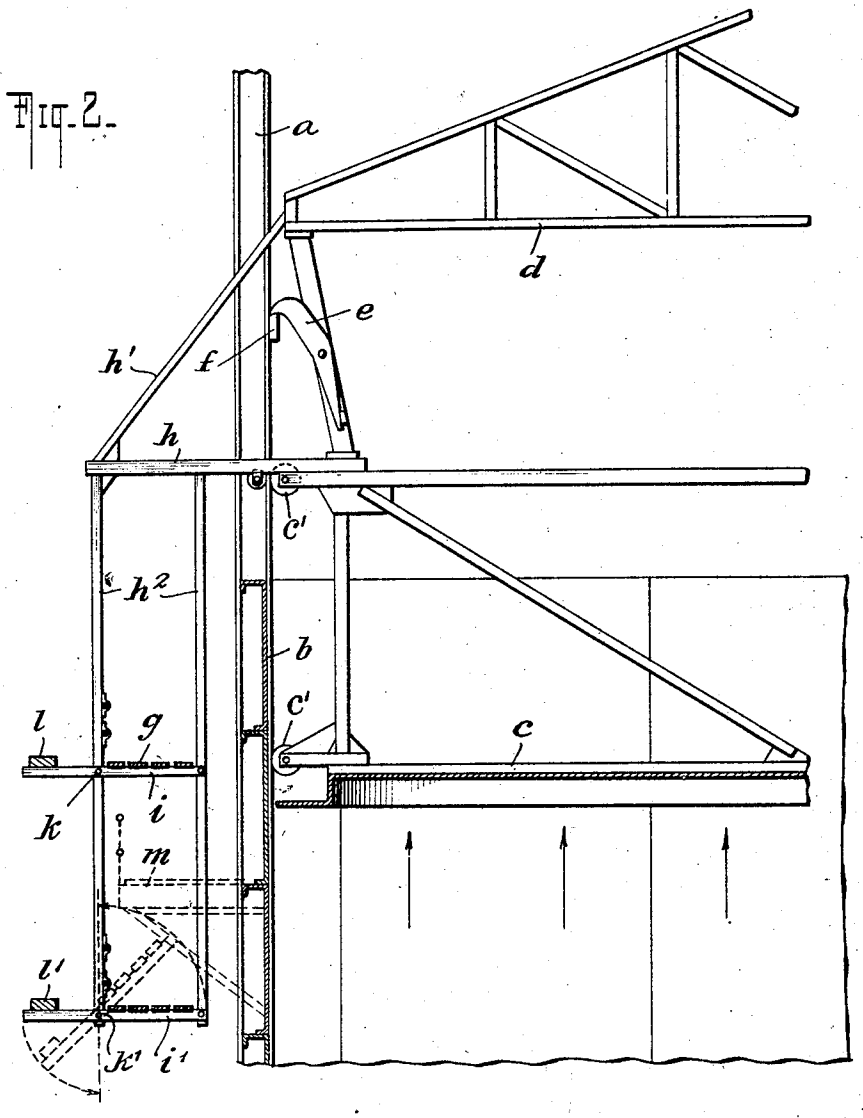
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Filed Jan. 27, 1927 3 Sheets-Sheet 2

FIG. 2.



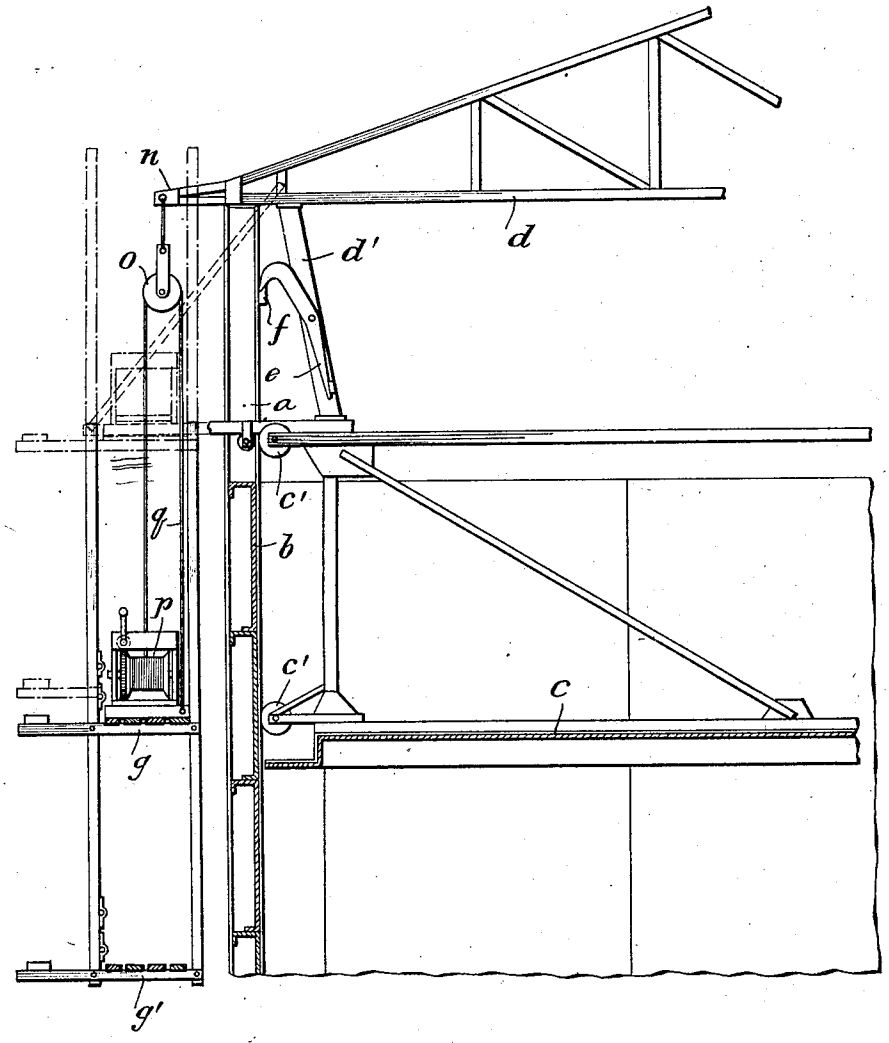
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Filed Jan. 27, 1927 3 Sheets-Sheet 3

Fig. 3.



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UNITED STATES PATENT OFFICE.

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GAS RESERVOIR.

Application filed January 27, 1927, Serial No. 163,916, and in Germany February 12, 1926.

Our invention relates to storage reservoirs for gas and the like, of the class commonly referred to as waterless gas reservoirs, in which, in practice, the sealing function is performed by a sealing disc vertically movable in the gas reservoir in accordance with variations in the gas contents thereof. Such reservoirs generally consist of an upright shell of cylindrical or polygonal form, built up of plates arranged in courses on vertically arranged stationary posts. In reservoirs of this type it is of advantage to utilize the vertically movable sealing disc as an adjustable interior working scaffold to facilitate the erection of the reservoir and to progressively raise the roof structure thereof to its final position. Under such conditions, the sealing disc is periodically raised to a predetermined extent to keep pace with the upward construction of the reservoir. In order that external work may be done upon the shell as its erection proceeds, it has heretofore been necessary to erect a special scaffolding and framework exteriorly of the shell. The object of the present invention is to avoid the necessity for such specially constructed scaffolding, which of necessity must be progressively increased in height as the erection proceeds, and to provide a scaffold framework and erecting platforms carried by the aforesaid disc and partaking of the progressive upward movements thereof and requiring no structural changes or additions during the period of erection. Other more specific objects will appear from the description hereinafter and the features of novelty will be pointed out in the claims.

Reference is to be had to the accompanying drawings which illustrate an example of the invention without defining its limits, and in which Fig. 1 is a fragmentary sectional elevation showing the invention applied to a gas reservoir in the process of construction; Fig. 2 is an enlarged fragmentary section; and Fig. 3 is a view similar to Fig. 2, illustrating the final stages in the erection of the reservoir.

In the drawings, *a* represents the customary upright posts which form part of the reservoir and upon which the metallic plates, constituting the shell *b*, are fastened in contiguous courses to complete the structure. The sealing disc *c* may be of any conventional construction whereby the interior of the reservoir is sealed, and in the well-known way is provided with rollers *c'* adapted to travel lengthwise of the upright posts *a* to facilitate the raising and lowering of the disc. As shown in the drawings, the roof structure *d* is temporarily supported upon the disc *c* by means of supports *d'* on which supporting hooks *e* are pivoted for engagement with projections *f* extending inwardly from the upright posts *a*; it will be understood that these projections *f* are shifted along the posts *a* and secured in new positions in any conventional way to keep pace with the erection of the shell *b*. Suspending members *h* project outwardly from a suitable portion of the disc *c* and are secured in place in any convenient manner, said suspending members extending outwardly beyond the peripheral boundary of the reservoir, as clearly shown in Figs. 1 and 2 of the drawings. In order to provide the desired rigidity in the construction, stays *h'* may extend from the suspending members *h* to the roof structure *d*, as illustrated, for instance, in Fig. 1. A scaffold framework h^2 depends from the suspending members *h* and is secured thereto in any convenient way, said scaffold framework being of such length as to depend downwardly beyond the advanced or uppermost line of erection into contiguity to previously erected portions of the structure, in external relation to the reservoir. In the illustrated arrangement, an upper platform *g* and a lower platform *g'* are carried by the scaffold framework h^2 and are supported thereon for instance by means of crossbars *i* and *i'* respectively. In the preferred arrangement, the platforms *g* and *g'* are mounted upon the scaffold framework so as to be capable of being moved to positions to avoid obstructions such as galleries *m* projecting outwardly from the reservoir and tending to otherwise interfere with the upward travel of said scaffold framework and its platforms. In the illustrated arrangement the crossbars *i* and *i'* are accordingly pivoted at *k* and *k'* respectively to the scaffold framework h^2, it being understood that suitable means is provided for locking said platforms against unintentional movement on the framework; for the purpose of facilitating the pivotal movements of said platforms the crossbars *i* and *i'* may be extended outwardly beyond the pivots *k* and *k'* for the

accommodation of counterweights l and l', which serve to assist in swinging said platforms to inoperative positions when this may be desired. In Fig. 2, the platforms g and g' are shown in dotted lines in an intermediate position during their movement from the position shown in full lines on said figure to the vertical position in which they will clear the obstruction m. The arrangement is such that the platforms g and g' extend circumferentially of the reservoir in external relation thereto and at such a vertical distance apart that as the upper platform is used by workmen for advancing upwardly the courses of plates b upon the posts a, the lower platform g' may be coincidentally used by workmen carrying on finishing operations, such as riveting of the plates in place.

In practice, the lower courses of plates b are placed in position in superimposed courses to provide an enclosed shell built up to a height conveniently accessible to the workmen without the assistance of any special apparatus. At the proper time the disc c is placed in position in the completed part of the shell, and the roof structure d is supported in place thereon as shown in the drawings. The disc c, with the roof structure d in place thereon, is then raised by means of air pressure from below, or in any other suitable manner, to the level indicated, for instance, in Fig. 1, at which level the disc and the roof structure are positively supported by means of the supporting hooks e and the projections f, which have previously been placed in position. Either at this time or at some previous time, the scaffold framework h^2 and the platforms g and g' are combined with the disc c and with the roof structure d, as illustrated. As the upward erection of the shell now proceeds, the disc c is periodically raised to progressively higher levels, at each of which it is positively supported through the medium of the supporting hooks e and the projections f, the latter being re-located along the posts a as necessary. The scaffold framework h^2 and the platforms g and g' partake of the upward movements of the disc c and the roof structure d, and thus provide working platforms, located in exterior relation to the reservoir, whereby the erection of the shell may be carried on with a minimum of effort and the riveting thereof in place may be efficiently carried on.

When the disc has been raised to such a height as to bring the roof structure d to its final position, the latter may be secured in place in the conventional way. In this uppermost position of the disc, the scaffolding framework and its platforms g and g' have also reached an uppermost position, determined by the location of the roof structure in its final position. Due to the fact that the roof structure is at a distance above the disc c and that the latter is no longer available for raising the platforms g and g' beyond the point determined by the final position of the roof structure, the platforms g and g' at this time are located at a distance below the uppermost point to which the shell is to be erected. In order that said platforms may be utilized for the complete erection of the shell, pulley blocks o are suspended from brackets n which project outwardly from the roof structure beyond the peripheral limits of the reservoir, as shown in Fig. 3. The pulley blocks o accommodate cables q, each having one end secured, for instance, to the upper platform g, and its other end fastened to winch p so as to be capable of being wound up on the same; the winches p are fastened in place in any suitable manner upon the upper platform g. The suspending members h and the braces h' are now removed, so that at this stage the scaffold framework and the platforms are suspended from the brackets n by means of the cables q. By suitable operation of the winches p, either manually or mechanically, the cables q may be wound up on said winches to thereby lift the platforms g and g' to whatever extent and in such progression as may be desired.

The arrangement provides a simple and convenient construction including workmen's platforms located exteriorly of the reservoir and automatically raised in progressive steps in accordance with the progress of the erection work, and thereby facilitating not only the placing in position of the plates b, but the riveting thereof and other external finishing work that may be required.

Various changes in the specific form shown and described may be made within the scope of the claims without departing from the spirit of our invention.

We claim:

1. In an arrangement for use in building a gas reservoir of the disk type having upright posts, a sealing disk guided by said posts and adapted for vertical movement lengthwise thereof, and a scaffolding located outside of said reservoir and connected with said disk for moving in unison therewith.

2. In an arrangement for use in building a gas reservoir of the disk type having upright posts, a sealing disk guided by said posts for vertical movement lengthwise thereof, a scaffolding located outside of said reservoir and connected with said disk for moving in unison therewith, supporting members projecting upwardly from said disk, detachable holding members on said post adapted to be engaged by said supporting members to support said disk and said scaffolding temporarily at each successively higher level.

3. In an arrangement for use in building a gas reservoir of the disk type having upright posts, a sealing disk guided by said posts for upward movement lengthwise thereof, to serve as an interior working scaffold at pro-

gressively higher levels as the erection of the reservoir shell progresses, and a scaffolding located outside of said reservoir and connected with said disk for moving in unison therewith externally to said reservoir and including a working platform, whereby workmen may be supported both interiorly and exteriorly of the gasometer during the erection thereof.

4. In an arrangement for use in building a gas reservoir of the disk type having upright posts, a sealing disk guided by said posts for upward movement lengthwise thereof to serve as an interior working scaffold at progressively higher levels as the erection of the reservoir shell progresses, a scaffolding connected with said disk for moving in unison therewith externally to said reservoir and including a working platform, whereby workmen may be supported both interiorly and exteriorly of the gasometer during the erection thereof, supporting members projecting upwardly from said disk, detachable holding members on said post adapted to be engaged by said supporting members to support said disk and said scaffolding temporarily at each successively higher level.

5. In an arrangement for use in building a gas reservoir of the disk type having upright posts, a sealing disk guided between said posts for vertical movement lengthwise thereof to serve as an interior working scaffold at progressively higher levels as the erection of the reservoir shell progresses, suspending members carried by said disk and projecting, at a level above said disk, outwardly beyond the periphery of the reservoir, scaffolding depending from said suspending members in external relation to the shell of said reservoir and movable with said disk to progressively higher levels, inwardly extending projections on said upright posts, and supporting hooks carried by said disk for engagement with said projections to positively support said disk and its scaffolding at each successively higher level.

6. In an arrangement for use in building a gas reservoir of the disk type having upright posts, a sealing disk guided by said posts for upward movement lengthwise thereof to serve as an interior working scaffold at progressively higher levels as the erection of the reservoir shell progresses, and a scaffolding framework located outside of said reservoir and connected with said disk for moving in unison therewith and supporting a working platform, whereby workmen may be supported both interiorly and exteriorly of the gasometer during the erection thereof, said platform being pivoted on said framework and selectively movable to a position to avoid obstructions projecting outwardly from said reservoir.

7. In an arrangement for use in building a gas reservoir of the disk type having upright posts, a sealing disk guided by said posts for vertical movement lengthwise thereof, and a roof, supporting members carried by, and projecting upwardly from, said disk, said roof being carried by said supporting members, a scaffolding suspended from said supporting members externally of said reservoir and movable in unison with said disk to an uppermost position determined by the location of the roof in its final position, brackets extending outwardly from said roof structure in said final position, pulley blocks suspended from said brackets, cables having their one end secured to said scaffolding and passing over said pulley blocks, and winches carried by said scaffolding for winding up said cables to raise said scaffolding beyond the aforesaid uppermost position.

In testimony whereof we have hereunto set our hands.

KONRAD JAGSCHITZ.
PAUL M. KUEHN.