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APPARATUS FOR WASHING AND RINSING CLOTHES AND THE LIKE BY MEANS OF BENZENE.
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969,118.

Patented Aug. 30, 1910.

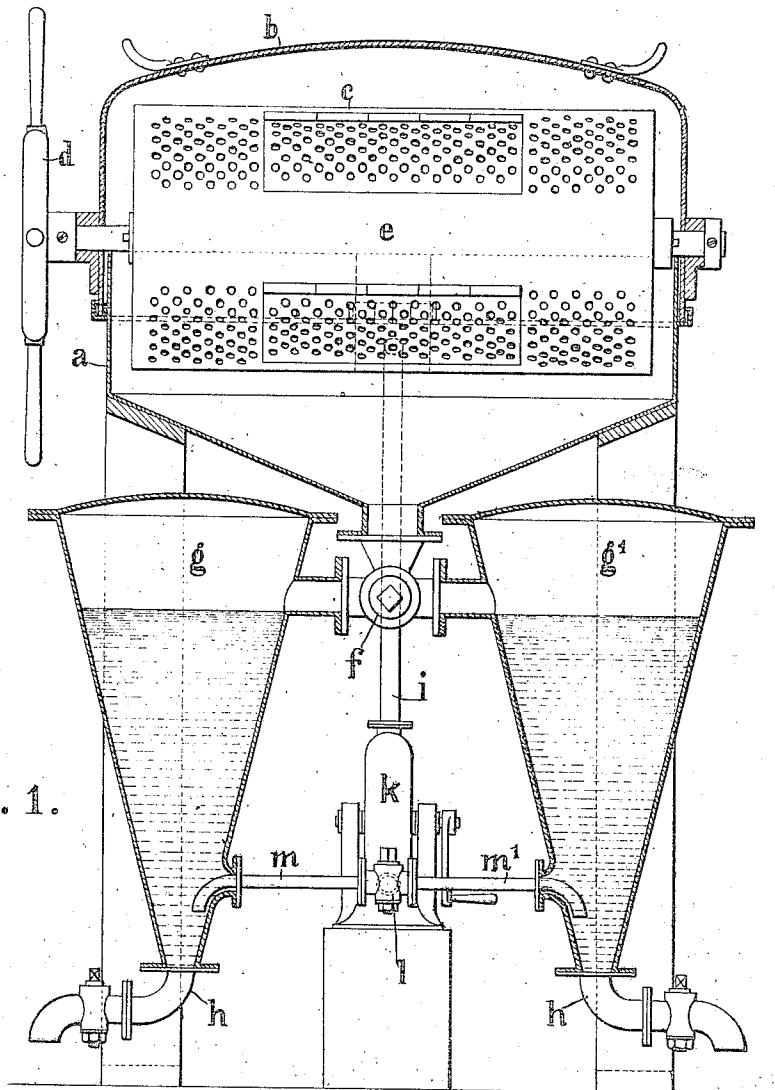


Fig. 1.

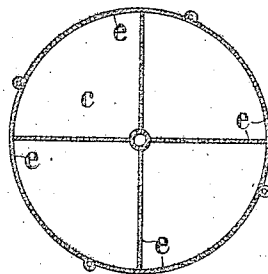


Fig. 2.

WITNESSES:

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APPARATUS FOR WASHING AND RINSING CLOTHES AND THE LIKE BY MEANS OF
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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HERMANN RESCH, a subject of the Grand Duke of Baden, and resident of Lörrach, Grand Duchy of Baden, Germany, have invented new and useful Improvements in Apparatus for Washing and Rinsing Clothes and the Like by Means of Benzene, of which the following is a full, clear, and exact specification.

This invention relates to apparatus for washing and rinsing clothes and the like by means of benzene, of the kind described in the specification of my United States Letters Patent Application No. 513273 filed August 17, 1909 and which has matured into Patent No. 959883, May 31st, 1910, and has for its object to construct apparatus so that the articles may be treated in various benzene baths one after the other, while retaining the fundamental idea of clarifying the used benzene in a clarifying funnel and draining the clothing or other articles in the receptacle or container itself. An apparatus constructed in accordance with my invention allows of the articles being washed and rinsed as well as drained, and the spent benzene clarified. These different operations of the apparatus are rendered possible by the fact that the closed container or receptacle is provided with two or more closed clarifying funnels instead of only with one as hitherto and that these funnels and the container or receptacle are connected by a plural-way cock or the like to permit of the passage of the benzene out of the container into one or the other clarifying funnel, and also by suitable forcing means for conveying the benzene out of one or the other funnel into the container or receptacle. If now the clothes have been washed in a benzene bath, it is only necessary to run the spent benzene into the funnel provided for the purpose by opening the said cock and thereby allow the benzene to clarify whereupon fresh or clarified benzene can be run into the receptacle out of another funnel by means of said conveying means in order to rinse the articles in a second benzene bath and so on, according to the number of funnels provided or the number of times it is desired to pass the articles through the benzene. After each washing or rinsing of the clothes in this manner they are drained in a centrifugal drum mounted in the receptacle.

To enable my invention to be fully understood I will describe the same by reference to the accompanying drawing, in which:

Figure 1 shows an apparatus constructed in accordance with my invention and provided with two funnels, and Fig. 2 is a section through the centrifugal drum.

a is the container or receptacle which is closed tight by means of a hinged cover *b* and a hydraulic closure. In the cover *b* is mounted the centrifugal or draining drum *c* the shaft of which is provided with a hand wheel *d* and may also be fitted with a brake. The centrifugal drum *c* may also serve as a washing drum, in which case it must be rocked by means of the hand wheel *d* in order to impart a kind of scouring movement to the clothes or other articles being treated. As shown in Fig. 2, the drum is preferably divided into four compartments the partitions and its peripheric wall being provided with perforations except at the parts *e*, which are adapted to serve as scoops by means of which, during the rocking movement of the drum, a certain quantity of the benzene present in the receptacle *a* is scooped in and passed over the articles situated in the drum compartments.

The receptacle or container *a* is at its bottom connected by means of a three-way cock *f* to two closed funnels *g*, *g*¹. These funnels are provided with outlets *h* having a cock and allow the dirt carried along by the benzene to settle in their lower ends so that it will flow out when the outlet *h* is opened. The container *a* is further connected with the lower part of the funnels *g*, *g*¹ by means of a pipe *i*, pump *k* and suction pipes *m*, *m*¹ having a cock *l*. The ends of the suction pipes *m*, *m*¹ extend into the funnels and are bent downward.

The apparatus operates in the following manner: The drum *c* is filled with clothing or other articles to be washed when there is no benzene in the receptacle *a* and, when the receptacle has been tightly closed by shutting down the cover *b*, the benzene out of one funnel (say the funnel *g*) is passed into the receptacle *a* by means of the pump *k* and pipes *m*, *i*, the capacity of the receptacle and funnels being so proportioned that the benzene when in the receptacle *a*, will reach the required level. The drum which is immersed in the benzene is then rocked by

means of the hand wheel *a* so that it will scoop up benzene by means of the scoops *e* and throw the same over the articles. When the clothes or other articles have been sufficiently washed in this manner, the cock *f* is opened to allow the dirty benzene to flow into the funnel *g* and the articles are drained by the centrifugal action of the drum *c*. The cock *f* is then again closed, and the clarified benzene from the funnel *g* pumped into the receptacle *a* by means of the pump *h* in order to rinse the clothes in the same manner as above indicated, while in the meantime the benzene in the funnel *g* is allowed to clarify. Thus, the clothes are treated in clear benzene several times, that is to say, they are washed and rinsed without it being necessary to open the receptacle *a*, and this treatment may be repeated as many times as there are funnels provided. The articles are of course, drained in the drum *c* after each working operation. When the articles have been sufficiently rinsed and the receptacle *a* has been emptied by allowing the benzene which has last been used to flow into the corresponding funnel, the clothes are completely drained by quickly revolving the centrifugal drum *c* without having to open the receptacle *a* whereby the benzene which is drained out of the articles can flow into one or the other of the funnels. When the cock *f* is in the closed position the rinsed articles are taken out of the drum compartments and articles which are to be cleaned placed there instead.

It will be evident that this apparatus may be used for washing and rinsing and for draining the articles as well as for almost completely recovering the benzene by clarification. Since the receptacle *a* is tightly closed during the entire working operation there can be no loss of benzene and all danger of fire is obviated. The same drum can be used for washing and rinsing and also for draining, and the working of the apparatus is practically continuous except as regards the refilling of the benzene baths. In addition to obviating all danger of fire, the operator is hygienically protected as the benzene is prevented from escaping.

The drum, instead of being actuated by hand may of course be actuated by a suitable motor.

What I claim is:

1. An apparatus for washing and rinsing clothes and the like by means of benzene, the combination with a closed treating receptacle of a rotary drum mounted therein and designed to receive the articles to be treated, means to actuate said drum, a plurality of closed clarifying funnels combined with said receptacle, connecting means to allow of the free communication between said receptacle and any one of said clarifying funnels for the passage of the benzene

out of the receptacle into one or the other of said funnels, and forcing means for conveying the benzene from one or the other funnel into the receptacle without opening the latter, to allow repeated treatment of the articles in the receptacle by means of a different benzene bath while allowing of the clarification of the used benzene in the clarifying funnels and draining of the clothes or other articles in the rotary drum.

2. In an apparatus for washing and rinsing clothes and the like by means of benzene, the combination with a closed treating receptacle of a rotary drum mounted therein and designed to receive the articles to be treated, means to actuate said drum, a plurality of closed clarifying funnels combined with said receptacle, a plural-way-cock to allow of the free communication between said receptacle and any one of said clarifying funnels for the passage of the benzene out of the receptacle into one or the other of said funnels, and forcing means for conveying the benzene from one or the other funnel into the receptacle without opening the latter to allow repeated treatment of the articles in the receptacle by means of a different benzene bath while allowing of the clarification of the used benzene in the clarifying funnels and draining of the clothes or other articles in the rotary drum.

3. In an apparatus for washing and rinsing clothes and the like by means of benzene, the combination with a closed treating receptacle of a rotary drum mounted therein, designed to receive the articles to be treated and provided with benzene taking scoops to bathe the articles in the drum, means to actuate said drum, adapted to allow of an oscillatory or quick rotary motion thereof, a plurality of closed clarifying funnels combined with said receptacle, connecting means to allow of the free communication between said receptacle and any one of said clarifying funnels for the passage of the benzene out of the receptacle into one or the other of said funnels, and forcing means for conveying the benzene from one or the other funnel into the receptacle without opening the latter to allow repeated treatment of the articles in the receptacle by means of a different benzene bath while allowing of the clarification of the used benzene in the clarifying funnels and draining of the clothes or other articles in the rotary drum when being quickly rotated.

4. In an apparatus for washing and rinsing clothes and the like by means of benzene, the combination with a closed treating receptacle of a rotary drum mounted therein and designed to receive the articles to be treated, means to actuate said drum, a plurality of closed clarifying funnels combined with said receptacle, connecting means to allow of the free communication between

said receptacle and any one of said clarifying funnels for the passage of the benzene out of the receptacle into one or the other of said funnels, and a pump with connecting pipes for conveying the benzene from one or the other funnel into the receptacle without opening the latter to allow repeated treatment of the articles in the receptacle by means of a different benzene bath while
10 allowing of the clarification of the used ben-

zene in the clarifying funnels and draining of the clothes or other articles in the rotary drum.

In witness whereof I have hereunto signed my name this 31st day of May 1910, in the presence of two subscribing witnesses.

HERMANN RESCH.

Witnesses:

GEO. GIFFORD,

AMAND BRAUN.