July 3, 1934. H. ADELMANN 1,965,402

HAM BOILER

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Fig. 1

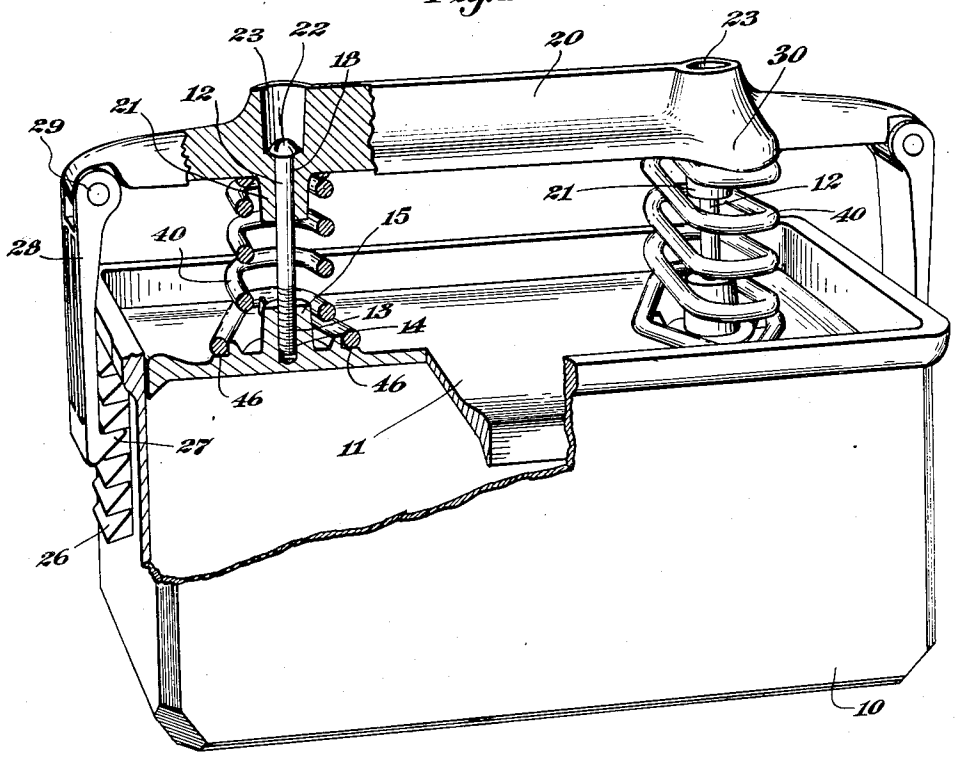
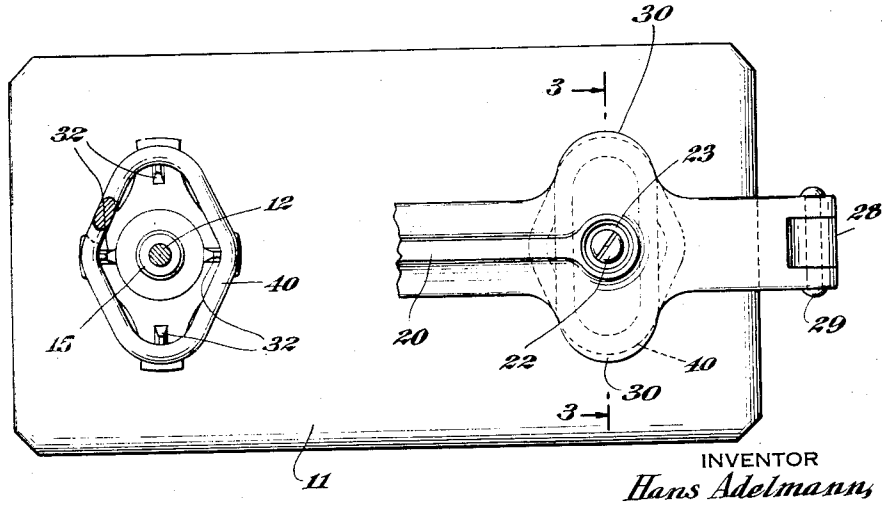


Fig. 2



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Fig. 3

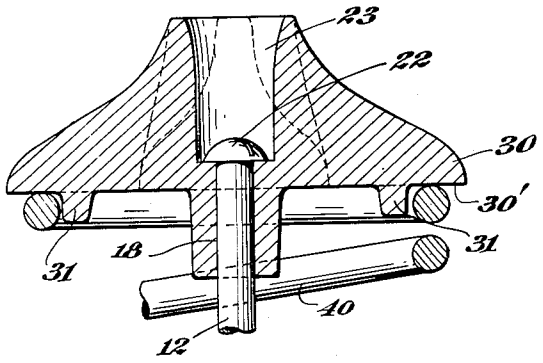


Fig. 4

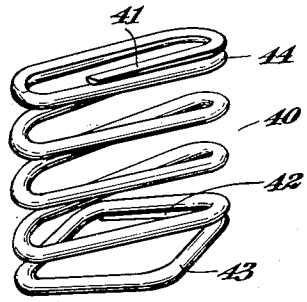


Fig. 5

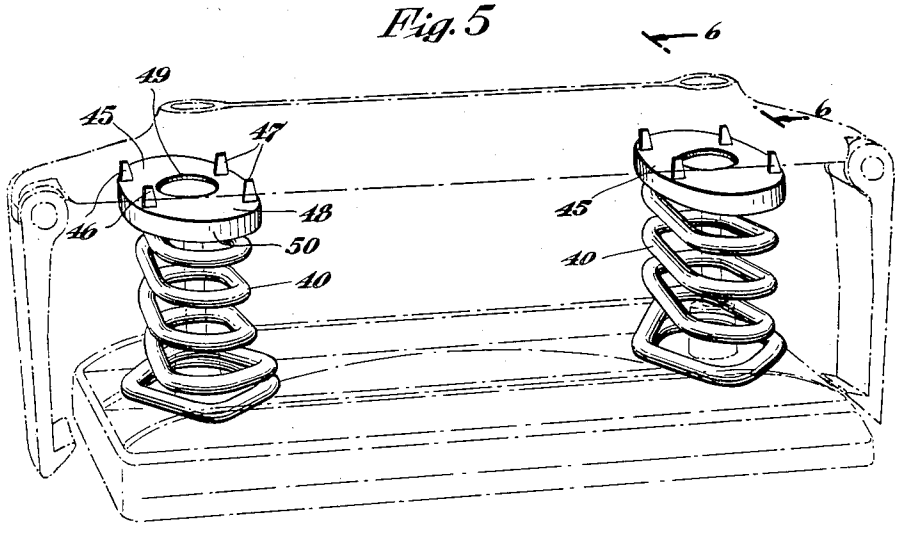


Fig. 6

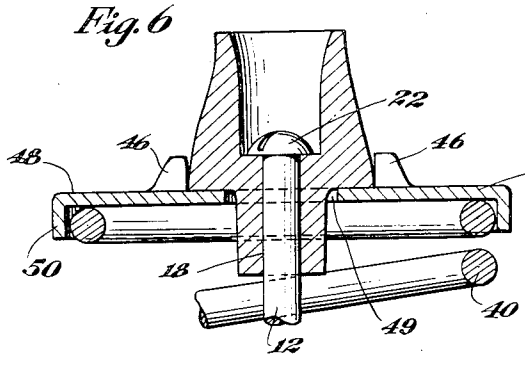
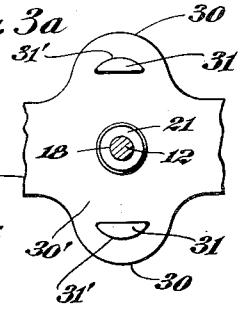


Fig. 3a



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Patented July 3, 1934

1,965,402

UNITED STATES PATENT OFFICE

1,965,402

HAM BOILER

Hans Adelmann, New Rochelle, N. Y., assignor to Ham Boiler Corporation, Port Chester, N. Y., a corporation of Delaware

Application February 11, 1932, Serial No. 592,281

2 Claims. (Cl. 100—57)

My present invention relates to ham boilers, and more particularly to ham boilers of the type shown in my Patent No. 1,272,883, granted to me on July 16, 1918.

The general object of my invention is the provision of an improved arrangement whereby the structure is simplified, and its operation made more efficient, and a coordinate object is the provision of an arrangement whereby ham boilers, made in accordance with the aforementioned patent, can have embodied therein the improvements herein disclosed, merely by the substitution of parts.

For the attainment of these objects and such other objects as may hereinafter appear, or be pointed out, I have illustrated one embodiment of my invention in the drawings, wherein:

Figure 1 is a perspective view of my invention partly broken away;

Figure 2 is a top plan view of the cover assembly also partly broken away;

Figure 3 is a vertical section of a detail taken on line 3—3 of Figure 2;

Figure 3a shows a detail;

Figure 4 is a perspective view of my new spring;

Figure 5 is a perspective view of a modified form of the invention of Figure 1, which is particularly adapted for assembly with ham boilers now in commercial use, the substituted parts being shown in full line; and

Figure 6 is a section taken on line 6—6 of Figure 5, all the parts being shown in full lines.

The ham boiler of Figure 1 comprises the container member 10 elongated in one direction, and the cover member 11, correspondingly elongated, and which is arranged for free adjustment within the ham boiler.

The cover member 11 has extending upwardly therefrom the members 12, shown as bolts having their lower ends 13 threaded into the threaded openings 14 of the posts 15, shown for purposes of illustration as integral with the cover and formed thereon in any preferred or desired manner.

The upper ends of the members 12 are received through the openings 18 formed in the bridge member 20, and positioned, as shown in the drawings, longitudinally of this bridge member, and also longitudinally of the receptacle 10. The openings 18 are formed partly through the posts or flanges 21 projecting downwardly from the bridge members 20, all as shown in the drawings, and the headed ends 22 of the members 12 are arranged to be received freely in the openings 23 formed in the bridge member.

As fully explained in connection with my aforementioned patent, the cover member, when assembled with the bridge member 20, in the manner above described, is held suspended from the bridge member for relative movement between the two, and for this purpose the member 12 is made freely slidable through the opening 18, the two members, however, being held against disassembly because of the headed character of the member 12. The cover member 10 and the bridge member 20 are normally maintained in their maximum spaced relation by means of springs 40, the character and relationship of which will be more fully described hereinafter.

The container 10 is provided on its opposite side walls with teeth 26, arranged for proper coaction with the hooked ends 27 of the engaging dog 28, so pivoted to the opposite free ends of the bridge, as at 29, as to permit these dogs always to assume the pendant position, as shown in Figure 1.

In operating ham boilers of the type herein disclosed, it is generally the practice to place the ham within the container and then to bring the cover bridge assembly 11 and 20 of Figure 1 into somewhat the association shown in that figure, and then to apply pressure to the bridge member, which is transmitted to the springs 40 and to the cover member, until the ham is put under the desired pressure, and during this operation the hooked ends 27, and the dog 28, will automatically engage themselves successively in back of the various teeth to prevent any upward movement of the bridge member when the pressure thereon is released. In this respect, the construction thus far disclosed and described is generally of the character and for the purpose set forth in my Patent #1,272,883.

The present improvement is directed more or less to a novel spring, bridge and cover assembly for use in a ham boiler of the type herein described.

Upon viewing Figure 1 of the drawings, it will be observed that the bridge member 20 is provided adjacent each end thereof and at the points where the spring of the aforementioned patent is associated therewith, with the lateral enlargements 30, and these enlargements are shown in Figure 2 as generally elliptical, although it will be understood that they are not necessarily restricted to such contour. The lower surface 30' of these enlargements are shown as flat, and depending downwardly therefrom are lugs 31 shown in the drawings as positioned at the

opposite ends of the larger diameter of each enlargement 30.

Upon viewing Figure 3a of the drawings, it will be observed that these lugs are shown as having their outer surfaces 31' curved so as to have them conform to the shape of the spring to be associated therewith as will more fully be set forth hereinafter. Two opposed lugs 31 for each enlargement form a discontinuous engaging and positioning flange for the aforementioned spring, although, as will be understood, this positioning function does not call for the specific construction herein disclosed.

The cover member 11 is similarly provided with a plurality of members 32 which extend upwardly therefrom. Four such members have been shown in Figure 2 of the drawings for purposes of example, and these members 32 also serve to form a discontinuous flange, all generally positioned below the discontinuous flange 31 when the parts are assembled as in Figure 1. Attention, however, is invited to the fact that the general contour defined by the discontinuous flanges 32 are not the same as that defined by the discontinuous flanges 31. The two sets of discontinuous flanges 31 and 32 are intended for proper cooperation with my new spring, which is shown in the various figures of the drawings, and shown by itself in Figure 4 of the drawings.

Upon viewing Figure 4 of the drawings, it will be observed that this spring 40 is generally noncircular in shape, and in its specific embodiment of the drawings, is elliptical in horizontal section. The spring is made up of spiraling coils of rather stiff metal and has one of its end surfaces 41 finished off flat, as shown in Figure 4, and has its other end surface also finished off flat, as shown at 42. These flat end surfaces are so finished as to permit one of the end coils to be in flat abutment relation to the flat surfaces 30' of an enlargement 30 on the bridge member 20, and to have the other flat surface 42 in flat abutment relation to the part of the cover with which it is to be associated.

One of the end coils, and in the illustrated embodiment it is the lower end coil 43, is enlarged also longitudinally, that is, enlarged in a direction which is longitudinal of the bridge when the spring is associated, as in Figure 1 of the drawings. In the specific embodiment illustrated in the drawings, this enlargement gives to the lower coil of the spring a generally diamond shape. It will be understood, however, that such additional enlargement can be attained without restricting the shape to the form as shown.

The assembly of the parts thus far described is shown in Figure 1 of the drawings, wherein the lowermost coil 43 is seated about the members 32 upstanding from the cover 11, substantially as shown at the left in Figure 2 so as to position the longer dimension of the spring transversely of the cover and the bridge, and when so positioned the uppermost coil 44 will be received about the lugs 31. The position of the spring and of the other parts is thus related (first) by means of the engagement of the flat top surface 41 with the flat surface 30' of the enlargement 30 at the top, and by the engagement of the flat lower surface 42 with the corresponding flattened portions 46' on the cover, which flattened lower surfaces are formed so as to serve as flat seats for the flattened surface of the lower coil 43 of the spring and (secondly), by the engagement of the upper coil of the spring about the lugs 31, and of the lower coil of the spring, about the positioning lugs 32.

By this arrangement, I have found that I attain a construction which operates more efficiently than those generally hitherto employed. Due to the character of the spring, and the manner of its association with the bridge and the cover, the spring action, as herein presented, will tend to minimize the tilting action of the cover as pressure is applied thereto through the springs, and will cause the cover to operate in both directions in a plane parallel to itself, and thus minimize the tendency to bind.

More specifically, I have attained (a) a spring action which is distributed over a wider area of both the cover member and the bridge without requiring the complications called for by the use of a plurality of springs at each end of the bridge, and yet is permitted by the dimensional limitations of the parts, and (b) a proper association of the spring with the cover and bridge parts and means for the maintenance of that association.

The new spring and the new spring positioning and supporting arrangement of this application are particularly applicable to ham boilers of the type herein disclosed, in which there may be a tilting action along the longitudinal or larger axis of the cover, because, whereas, the employment of springs at the ends of the longitudinal axis will minimize the tendency of the cover to tilt about its smaller axis, the employment of but a single spring at each of these places, will not prevent the tilting action about the longitudinal or larger axis. The construction of the spring and its manner of association herein disclosed and described, are peculiarly adapted to meet this situation.

In Figures 5 and 6, I show an arrangement by which my improvement can be incorporated in ham boilers already in use, and such as shown in the aforementioned patent, in a very simple and inexpensive manner. For this purpose, I provide adapter members 45, two being shown to correspond in number with the enlargements 30 of Figure 1. These adapter members correspond generally in dimensions and shape to these enlarged portions 30 of the bridge member in Figure 1, and are each provided with spaced pairs of projections 46 and 47 which extend upwardly from its upper surface 48, and each is further provided with an opening 49 sufficiently large to be freely received about the lugs 21 depending downwardly from the bridge member. The pairs of lugs 46 and 47 are spaced apart a sufficient distance to receive the bridge member between them at spaced points. Each adapter 45 is further provided with a downturned flange 50 so dimensioned and contoured as to receive therewithin, preferably in abutting relation, both the upper and the outer surfaces of the uppermost coil of the spring 40.

The spring employed in connection with the adapter 45 for use in the embodiment of Figures 5 and 6 may, if desired, be substantially the same spring 40 which is used in connection with Figure 1, and in fact this invention contemplates that the two be interchangeable so that the same spring can be used in either. The description, therefore, given of the spring 40, shown in Figure 4, may be considered for purposes of embodiment of Figures 5 and 6, as the description of the spring therein used.

For the purposes of converting a ham boiler of the type shown in my aforementioned patent to a ham boiler of the type shown in Figure 5 of the drawings, all that is necessary to do, is to remove from the patented ham boiler the two springs

therein used and to substitute therefor the adapters 45 and the springs 40, as a result of which the structure shown in Figure 5 will be obtained, and this structure will operate generally as does the structure of Figure 1 and will have all the functions and advantages of that construction.

While in describing my invention I have illustrated in one embodiment a spring and means for associating it properly with the bridge and cover member in all its details, and in another embodiment the spring and the adapter and the parts for relating them to the bridge and the cover member, also in all its details it will be understood that this is merely for the purposes of making a complete specific disclosure, and is not to be construed in any sense as limitative, it being understood that the invention is to be broadly construed to cover modifications and is to be limited only by specific limitations in the claims.

It will be observed in connection with the figures of the drawings that by my arrangement I am able to provide the ham boiler with springs of the character set forth without adding materially to the weight of the parts and without increasing the dimensions of the spanning member 20, except by the enlargements 30.

In the assemblies of Figures 1 and 5, I have shown the spring positioned so as to bring the enlarged spiral 43 at the bottom. It will be understood, however, that the position of the spring could be reversed without affecting the general objects of my invention. It will be further understood that in order to give the spring its general elongation transversely of the longitudinal axis of the bridge and of the follower, I have made all the coils conform generally to the elliptical shape. This also can be changed.

Having thus described my invention and illustrated its use, what I claim as new and desire to secure by Letters Patent is:

1. In a ham boiler or the like, having an elongated container for the food to be treated, an elongated follower for placing the food under compression, an elongated spanning member extending lengthwise of the container, and a plurality of resilient means between said spanning member and follower, and spaced from each other lengthwise of the follower, whereby the follower is caused to exert pressure on the food in the container; said resilient means each being in the form of a coil spring, all the coils of which have their dimension transverse to the length of the follower of greater extent than their dimension along the length of the follower, and the transverse dimension of all the coils of the spring being the same and of the order of not less than one-half the width of the follower, whereby the pressure on the follower will be distributed transversely, and will tend to prevent tilting of the same about its longitudinal axis to substantially the same extent as a circular coil spring having the same number of coils of a diameter equal to the transverse dimension of the said coils, and having the same resistance to compression, and whereby a saving is effected in space and material over such a circular coil spring having the same number of coils having the same resistance to transverse tilting.

2. In a ham boiler or the like, having an elongated container for the food to be treated, an elongated follower for placing the food under compression, an elongated spanning member extending lengthwise of the container, and a plurality of resilient means between said spanning member and follower, and spaced from each other along the length of the follower, whereby the follower is caused to exert pressure on the food in the container; said resilient means each being in the form of a coil spring, all the coils of which are elliptical in contour and have their dimension transverse to the length of the follower of greater extent than their dimension along the length of the follower and of the order of not less than one-half the width of the follower, and all of said coils except the terminal coil adjacent the follower being substantially identical in shape and dimensions and cooperating means between the follower and said terminal coil for preventing displacement of the coils from their transverse position in relation to the follower, whereby the pressure on the follower will be distributed transversely and will prevent tilting of the same about its longitudinal axis to substantially the same extent as a circular coil spring having the same number of coils of a diameter equal to the transverse dimension of the said coils and the same resistance to compression, and whereby a saving is effected in space and material over a circular coil spring having the same number of coils and the same resistance to transverse tilting.

HANS ADELMANN.