

O. P. JENSEN AND A. P. ANDERSEN.
HOMOGENIZER FOR CREAM AND OTHER LIQUIDS.
APPLICATION FILED SEPT. 28, 1920.

1,374,742.

Patented Apr. 12, 1921.

2 SHEETS—SHEET 1.

Fig. 1.

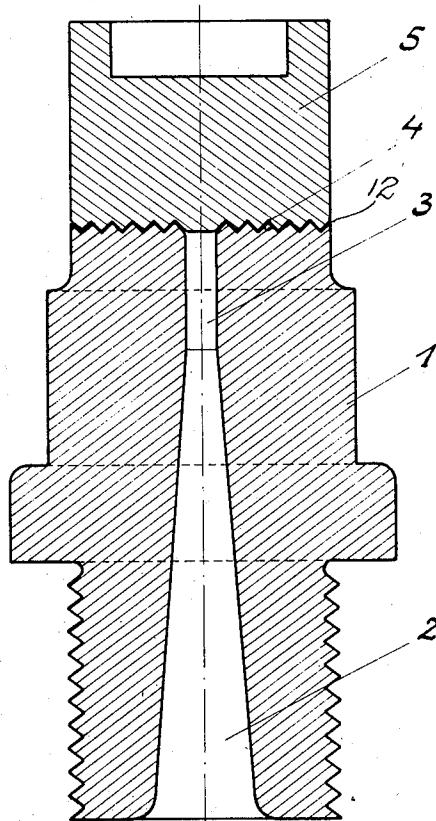
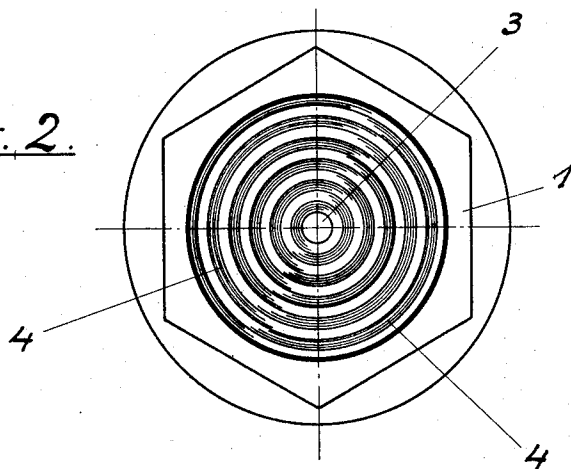


Fig. 2.



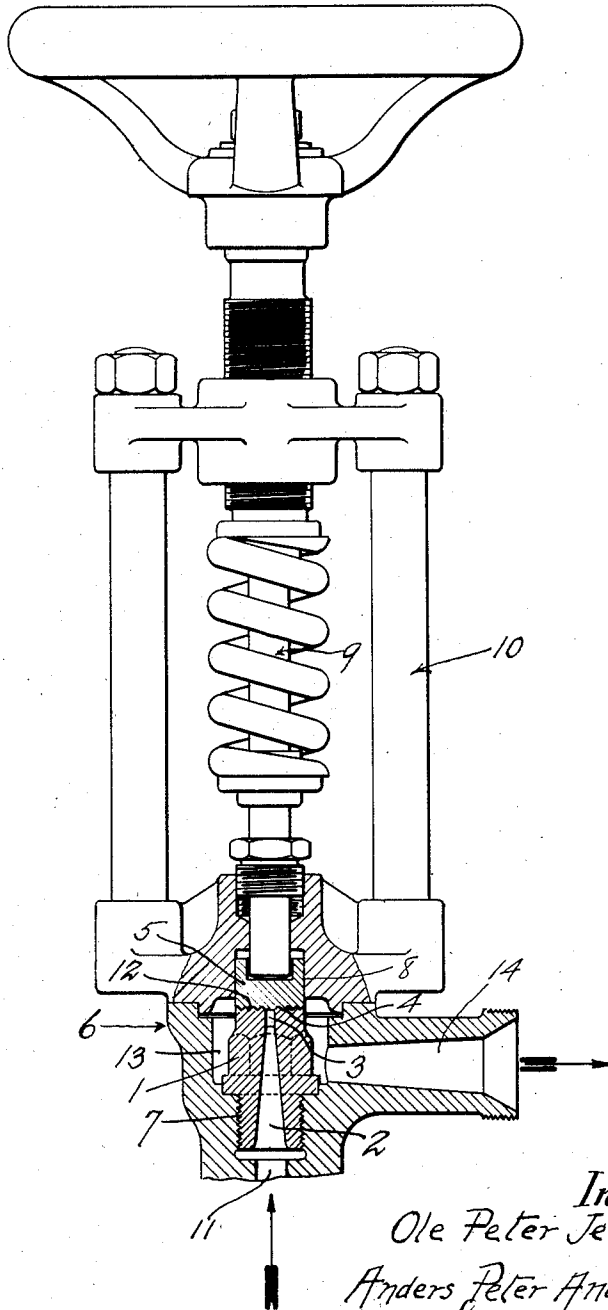
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Fig. 3.



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UNITED STATES PATENT OFFICE.

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HOMOGENIZER FOR CREAM AND OTHER LIQUIDS.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, OLE PETER JENSEN and ANDERS PETER ANDERSEN, residing at Copenhagen, Denmark, No. 38 Raadmandsgade, have invented certain new and useful Improvements in Homogenizers for Cream and other Liquids, of which the following is a specification.

The devices used at present for mixing and breaking up cream and other liquids usually comprise a pump which forces the liquid under a very high pressure through a valve in order to crush the fatty particles.

The present invention relates to valves of the character indicated, and it resides in the provision of a valve which, as compared with similar valves now known, offers certain substantial advantages.

The invention is illustrated in the accompanying drawing, in which:

Figure 1 is a longitudinal sectional view of the valve.

Fig. 2 is a plan view of the fixed valve member.

Fig. 3 is a part-sectional side elevation, on a reduced scale, showing the mounting of the valve.

Referring more particularly to the drawing, the valve therein represented comprises coacting lower and upper members 1 and 5 which, in the present instance, are mounted within a casing 6 in fixed and yielding relation, respectively; the lower or fixed member 1 being threaded into a socket 7 formed in the lower member of the casing, while the upper member 5 is loosely fitted in a socket 8 formed in the upper casing member and is subjected to the action of a spring-pressed rod 9 or equivalent device which is itself suitably mounted in a frame 10 to which the upper casing member is connected. The spring-pressed device 9, as will be understood, serves to press the upper valve member firmly against the lower member, but enables a slight yielding movement of the former member in an upward direction.

The lower casing member is formed with an inlet passage or opening 11 for the cream which is adapted to communicate with the usual force pump (not shown) and which registers directly with the central aperture 2 of the fixed valve member 1. This aper-

ture 2 is contracted in an upward direction and terminates in an orifice 3 which opens centrally through the upper end face of the valve member 1; said face being formed with numerous concentric or eccentric annular ribs or corrugations 4 which are adapted to interfit with similar ribs or corrugations 12 formed on the lower end face of the upper or yielding valve member 5.

It will be observed that the corrugated faces of both valve members are, relatively speaking, horizontal, as distinguished from a stepped arrangement; or, otherwise stated, that the corrugations of the two faces occupy horizontal planes which virtually merge into a single common plane when the corrugations are interfitted. Furthermore, it is to be noted that the corrugations are V-shaped in cross-section, and that their side walls form angles of substantially 45° to the horizontal, from which it necessarily follows that any alteration in the distance between the corrugated faces of the valve members will not cause any unevenness in the spaces between opposite corrugations, but that on the contrary the working surfaces of the valve members will always be the same.

In operation, the cream or other liquid is forced by the pump under high pressure through the passage 11 into the aperture 2 in the lower valve member and thence through the orifice 3 into the space between the two valve members. It is then forced out through said space, during which time it is subjected to a thorough homogenizing action consequent upon its passage across the interfitting corrugations of the valve members, and is discharged into an internal chamber 13 formed within the casing, from which chamber it is finally withdrawn through an outlet passage 14.

We claim as our invention:

1. A homogenizing valve comprising a pair of coacting members having their confronting end faces formed with a plurality of spaced annular ribs of V-section, the ribs on each member fitting conformably in the spaces between the ribs on the other member.

2. A homogenizing valve comprising coacting upper and lower members having

their confronting end faces formed with a plurality of spaced, annular ribs of V-section, the side walls of said ribs forming angles of substantially 45° to the horizontal, the ribs of each member occupying a horizontal plane and fitting conformably in the spaces between the ribs on the other member.

In testimony whereof we affix our signatures in presence of two witnesses.

OLE PETER JENSEN.
ANDERS PETER ANDERSEN.

Witnesses:

CHAS. HUDE,
E. STECKHAHN.