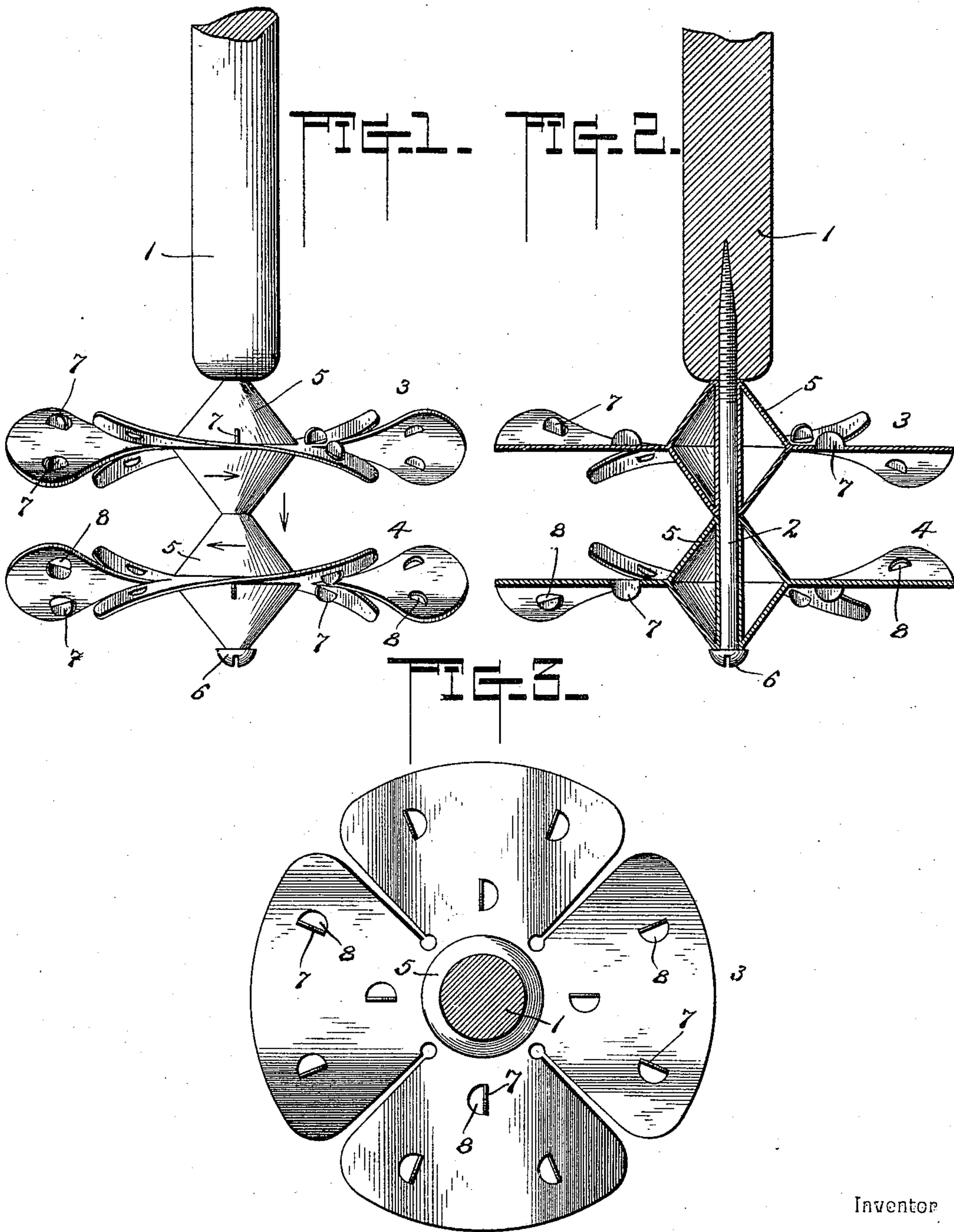


(No Model.)

C. WILSON.
CHURN DASHER.

No. 579,668.

Patented Mar. 30, 1897.



Inventor

Charles Wilson,

Witnesses

By *his* Attorneys.

C. Snow & Co.

UNITED STATES PATENT OFFICE.

CHARLES WILSON, OF CAMPBELL, MISSOURI.

CHURN-DASHER.

SPECIFICATION forming part of Letters Patent No. 579,668, dated March 30, 1897.

Application filed September 30, 1896. Serial No. 607,455. (No model.)

To all whom it may concern:

Be it known that I, CHARLES WILSON, a citizen of the United States, residing at Campbell, in the county of Dunklin and State of Missouri, have invented a new and useful Churn-Dasher, of which the following is a specification.

My invention relates to churn-dashers of the reciprocatory type, and has for its object to provide a simple and efficient construction and arrangement of parts whereby the contents of a receptacle may be thoroughly agitated to aerate the same and break the globules of oil.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a side view of a dasher constructed in accordance with my invention. Fig. 2 is a vertical section of the same. Fig. 3 is a plan view.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates a dasher-staff provided at its lower extremity with a reduced extension or spindle 2, forming a journal for upper and lower dasher-blades 3 and 4, said blades being of the winged or "propeller" type and having their wings inclined, respectively, in opposite directions, whereby rotary movement in opposite directions is communicated thereto by contact with the contents of the receptacle. Each dasher-blade is provided with a double conical hub 5, mounted upon the journal and held from displacement by an enlargement or head 6 on the lower end thereof, and the separated wings of each blade are enlarged toward their outer extremities and are provided with a plurality of upstruck ears 7 and contiguous openings 8, the ears of the upper and lower blades extending, respectively, upwardly and downwardly from the planes of the wings. The openings 8 are approximately half-round or segmental in shape with the ears rising from the straight sides thereof.

In Fig. 1 the direction of movement of the two blades during the descent of the dasher

is indicated by arrows upon the hubs of the blades, and in operation the effect of the ears 7, due to the rotary and vertical movement of the blades, is to produce a partial vacuum contiguous to each opening 8, and thereby cause the liquid contents of the receptacle to pass through said openings, thereby thoroughly agitating the same and breaking the globules of oil. Obviously during the upward movement of the dasher the direction of rotation of the blades is reversed by reason of the lateral edges of the wings being deflected in opposite directions from the planes of the blade.

The double conical construction of the hubs of the dasher-blades provides for the vertical reciprocation of the dasher with the minimum resistance at this point, and at the same time the conical surfaces of the hubs serve to deflect the liquid toward the walls of the receptacle in which the dasher is used, and hence into the paths of the blades.

The ears 7, which are upstruck upwardly from the upper blade and downwardly from the lower blade, are arranged in front of the openings, respectively, when the blades are turning in the direction in which they are propelled by the downward stroke of the dasher, thus causing partial vacuums or suction in rear of the ears, and hence contiguous to the openings, to cause liquid to rush therethrough. Obviously this adds to the efficiency of the device. During the opposite or upward stroke of the dasher it is desirable to allow the liquid to flow through these openings with the greatest possible facility in order to prevent splashing or dashing the same out of the receptacle, and this facility of passage is allowed by reason of the opposite rotation of the blades, which causes the openings to precede the ears. Said ears extend, respectively, in opposite directions from the planes of the blades in order to enable the blades to be interchangeable. In other words, both blades are struck from the same dies, and hence when reversed to arrange their wings to deflect, respectively, in opposite directions the ears are disposed in the way described.

Various changes in the form, proportion, and the minor details of construction may be

resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having described my invention, what I claim is—

1. A churn-dasher having interchangeable contiguous coaxial rotary blades provided with radial wings deflected respectively in opposite directions to cause rotation in opposite directions, each wing being provided with openings and with contiguous ears arranged approximately perpendicular to the plane of the wing, the ears of the upper blade extending upwardly and of the lower blade downwardly, substantially as specified.

2. A churn-dasher having a staff provided with a reduced extension or spindle forming a journal, rotary blades mounted coaxially upon said journal and having contiguous hubs and radial wings, the wings of the blades being deflected respectively in opposite directions, to rotate the blades in opposite directions, and each having a plurality of upstruck approximately perpendicular ears arranged respec-

tively contiguous to the openings from which they are upstruck and in front of said openings upon the downstroke, to form a partial vacuum contiguous to each opening, substantially as specified.

3. A churn-dasher having a staff provided with a reduced terminal spindle, rotary blades mounted coaxially upon said spindle and each provided with double conical hubs extending upon opposite sides of the planes of the wings, the hub of each blade being tapered from the plane of its wings toward its outer extremities, and the contiguous reduced extremities of the coaxial blades being in contact, whereby liquid is deflected outwardly into the paths of the blades, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed by signature in the presence of two witnesses.

CHARLES WILSON.

Witnesses:

H. A. WILSON,
W. H. GEHERG.