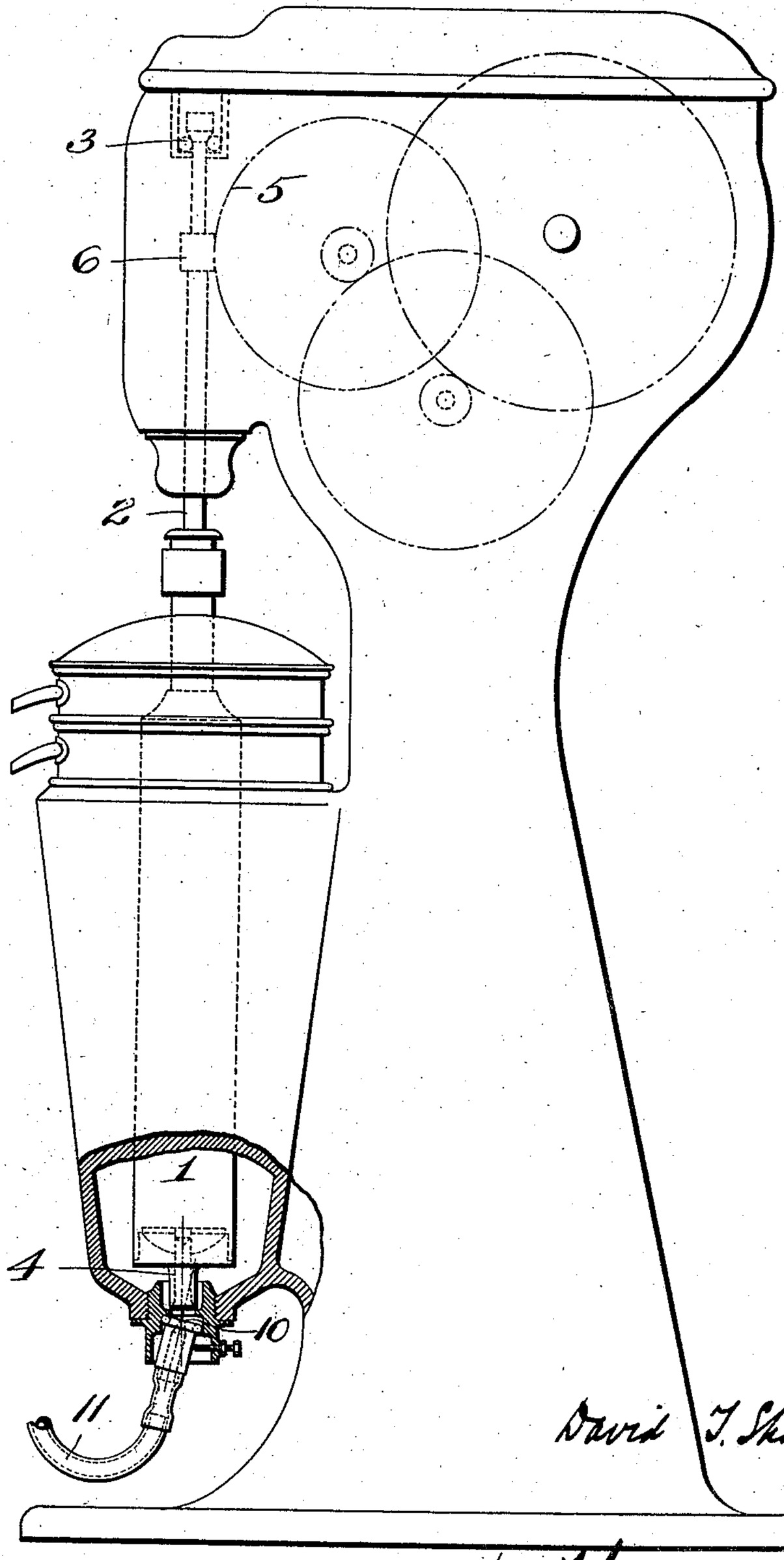
No. 842,258. PATENTED JAN. 29, 1907.

D. T. SHARPLES.

CENTRIFUGAL MACHINE.

APPLICATION FILED OCT. 18, 1905.



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CENTRIFUGAL MACHINE.

No. 842,258. Specification of Letters Patent. Patented Jan. 29, 1907.

Application filed October 18, 1905. Serial No. 283,208.

To all whom it may concern:

Be it known that I, DAVID TOWNSEND SHARPLES, a citizen of the United States, and a resident of West Chester, county of Chester, State of Pennsylvania, have invented certain new and useful Improvements in Centrifugal Machines, of which the following is a specification.

My invention relates to centrifugal liquid-separators; and it consists in an improved means of feeding the supply liquid thereto, whereby a lateral pressure is exerted upon the rotating vessel to facilitate the steady running of the same.

In centrifugal machines some provision is commonly required for controlling the swaying action of the centrifugal vessel incident to its operation, such swaying tendency being produced particularly by the action of the driving means employed for rotating the vessel, which means frequently produce lateral pressure upon the rotating vessel.

To provide for neutralizing such a deflecting action, my invention consists in so arranging the feed-nozzle relative to the vessel as to utilize the force of the inflowing jet in producing a suitable lateral pressure upon the latter to facilitate its maintenance in the natural axis of rotation.

The invention is fully described in connection with the accompanying drawing and is specifically pointed out in the claims.

The drawing illustrates my invention as applied to a well-known form of machine in which a tubular suspended vessel is employed, such parts only of the machine being indicated as are required to make clear the application and operation of my improvements.

The rotary separator vessel 1, as shown, is suspended by means of a shaft 2 from a top bearing 3 in the machine-frame and is provided with an axial feed-opening 4 at its free lower end and with suitable exits, as usual, for discharging the separated constituents of the compound liquid operated upon. The driving means indicated comprise a worm-wheel 5 and an engaging worm 6 on the separator-shaft, such commonly-employed means being merely selected for illustration as showing the application of the driving force to one side of the axis of rotation in such a manner as to produce more or less lateral push upon the separator-shaft during operation.

In supplying the liquid to the separator vessel through the feed-opening 4 I employ a suitable feed-nozzle 10, which is connected by a feed-pipe 11 to a feed-regulator cup and reservoir as usual, so as to furnish a uniform head of liquid. In order to utilize the force of the inflowing jet from the nozzle in steadying the rotation of the separator vessel in its natural axis of rotation, I arrange the nozzle at an incline to such axis, so as to discharge into the feed-opening 4 across the axis thereof and at an obtuse angle against the wall of the opening, the direction of the incline being such as to thereby exert a lateral pressure or push upon the vessel opposite to that exerted by the driving means as above described and the degree of incline being adapted to produce the amount of such lateral pressure desired. To provide for properly regulating the latter, the feed-nozzle is preferably adjustably secured to the machine-frame, as indicated, thereby permitting the setting of the nozzle to the proper incline. By thus providing for the utilization of the inflowing jet in neutralizing a swaying action incident to the operation of the vessel the steadying of its motion in the normal axis of rotation is greatly facilitated and the friction and wear upon the contacting machine parts correspondingly reduced.

What I claim is—

1. The combination with a vertically-mounted centrifugal liquid-separator vessel having one end thereof free to swing laterally and said end provided with an axial feed-inlet, of a relatively fixed feed-nozzle adjacent to said feed-inlet and arranged at an incline thereto whereby the inflowing jet is adapted to exert a lateral pressure in determined direction upon the free end of the vessel.

2. The combination with a vertically-mounted centrifugal liquid-separator vessel having one end thereof free to swing laterally and said end provided with an axial feed-inlet, of a feed-nozzle and means for adjustably securing the same in determined inclined position relative to said feed-inlet substantially as and for the purpose set forth.

In testimony whereof I affix my signature in the presence of two witnesses.

DAVID TOWNSEND SHARPLES.

Witnesses:

B. W. HAINES,

MAY R. STEDMAN.