

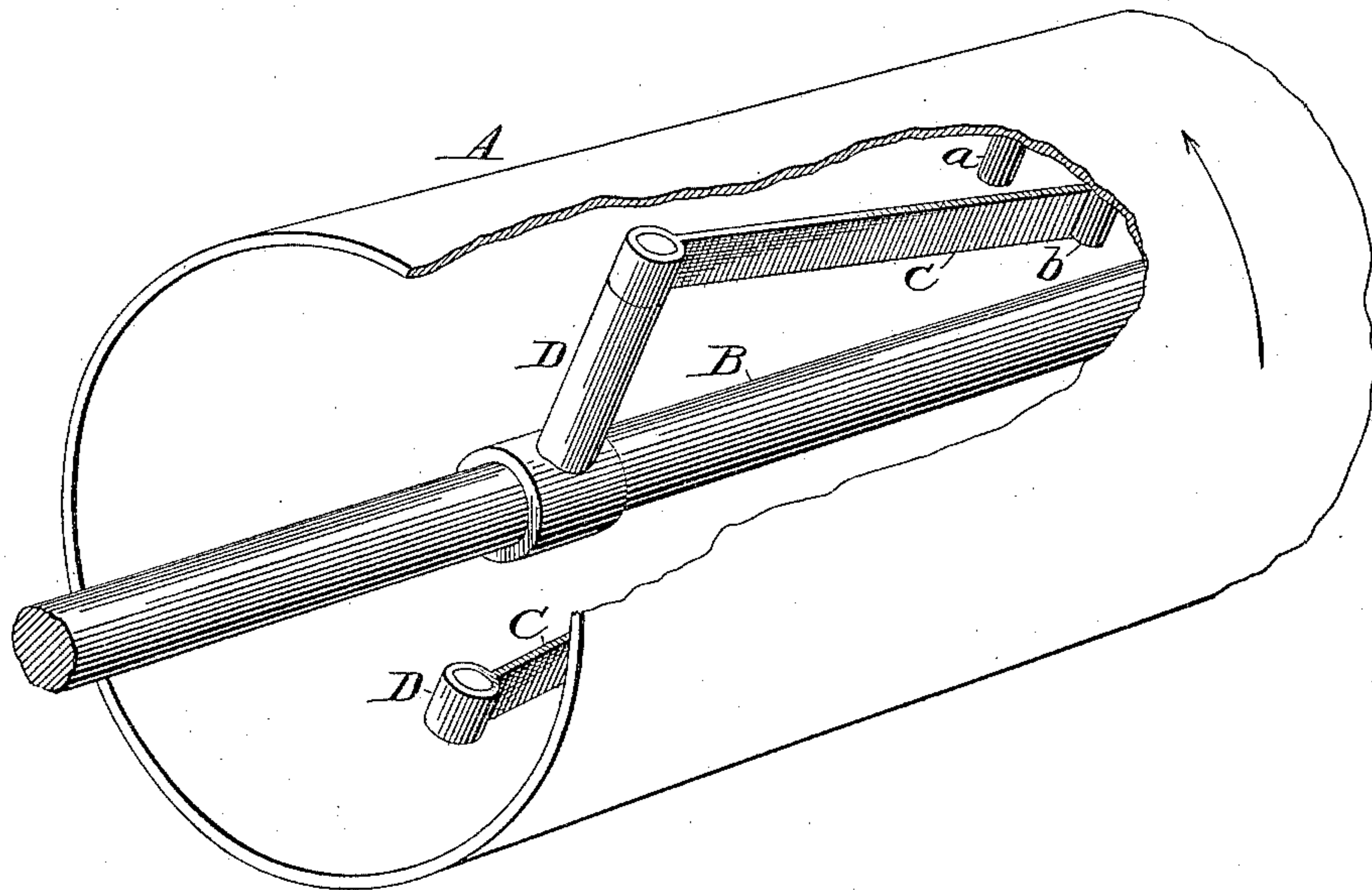
(No Model.)

V. D. ANDERSON.  
COMBINED AGITATOR AND CONVEYER.

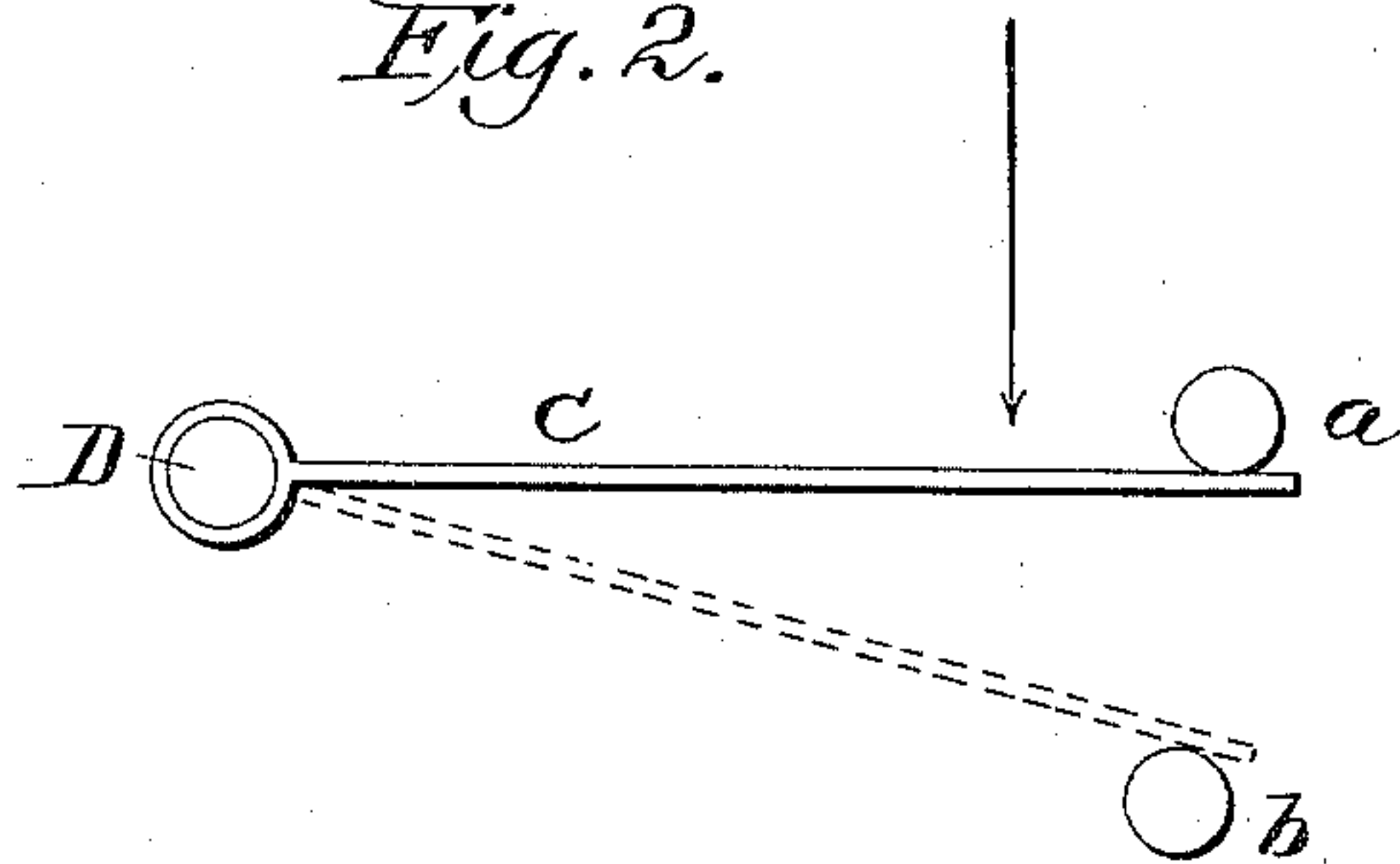
No. 409,816.

Patented Aug. 27, 1889.

*Fig. 1.*



*Fig. 2.*



*Witnesses:*

*James F. Duhamel*  
*Horace A. Dodge.*

*Inventor:*

*Valerius D. Anderson,*  
*by Dodge & Sons*  
*Attys*

# UNITED STATES PATENT OFFICE.

VALERIUS D. ANDERSON, OF CLEVELAND, OHIO.

## COMBINED AGITATOR AND CONVEYER.

SPECIFICATION forming part of Letters Patent No. 409,816, dated August 27, 1889.

Application filed January 16, 1889. Serial No. 296,481. (No model.)

*To all whom it may concern:*

Be it known that I, VALERIUS D. ANDERSON, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Conveyers for Driers, Rendering-Tanks, &c., of which the following is a specification.

My invention relates to rendering-tanks, driers, and like structures; and it consists in the combination therewith of a wing, blade, or flight (one or more) so applied to the rotating drum or cylinder, or to its shaft, that rotation in one direction shall cause it to assume a position parallel to the axis of the drum or cylinder, and that rotation in the reverse direction shall cause it to assume a position oblique to the axis of the cylinder, so that in one position it shall serve simply to lift the material and turn it over or to agitate it, while in the other position it shall serve to move the material toward a discharge opening or outlet.

In the annexed drawings, Figure 1 is a perspective view, and Fig. 2 a top edge view, of a conveyer blade or flight arranged in accordance with my invention.

A indicates the body or shell of the tank or chamber in which the conveyer is to be used; B, the shaft thereof, and C the conveyer-blades. These may be pivotally attached at one end either to radial arms D, extending from the shaft at suitable intervals, or to radial stems or posts D, secured to the interior of the shell A, as shown in both forms in Fig. 1. Assuming the shell A thus provided to be turned in the direction indicated by arrow in Fig. 1, it will be apparent that the material lying on the under side of the shell will offer a resistance to the advance of the flights or blades C, which will thus swing back until prevented from moving farther by coming into contact with the wall of the shell or with a fixed stop provided to limit such play, while if the direction of rotation be re-

versed the blade will swing in the opposite direction until similarly stopped.

To actually limit and determine the position of the blade or flight in each case, I provide two fixed stops *a* and *b*, the former in such position as to hold the blade or flight in alignment with the axis of shaft A and the other permitting it to assume such angle or inclination relatively to the axis of the shaft as will cause it to advance the material toward the discharge end of the cylinder or toward a discharge-outlet at any suitable point in the length of the cylinder. It is manifest that the precise form of the stop and the manner of hinging, pivoting, or mounting the blades or flights is wholly immaterial, provided only that when subjected to the resistance of the material they shall, under rotation in one direction, assume a position parallel to the axis of the shaft, and under rotation in the opposite direction assume a position oblique to or out of line with said axis.

Having thus described my invention, what I claim is—

1. In combination with a tank or cylinder, a loosely-pivoted flight and stops to limit the movement of said flight, said stops being located in such positions that when arrested by one the flight shall be held in alignment with, and when arrested by the other it shall be oblique to, the axis of the cylinder.

2. In combination with a cylinder and with a post or arm D, a blade or flight C, pivotally attached to said post or arm and free to swing about its pivot when in operative adjustment, and stops *a* and *b*, serving to limit the play of the free end of the blade or flight in opposite directions.

In witness whereof I hereunto set my hand in the presence of two witnesses.

VALERIUS D. ANDERSON.

Witnesses:

WALTER A. BIDDLE,  
ALBERT D. ANDERSON.