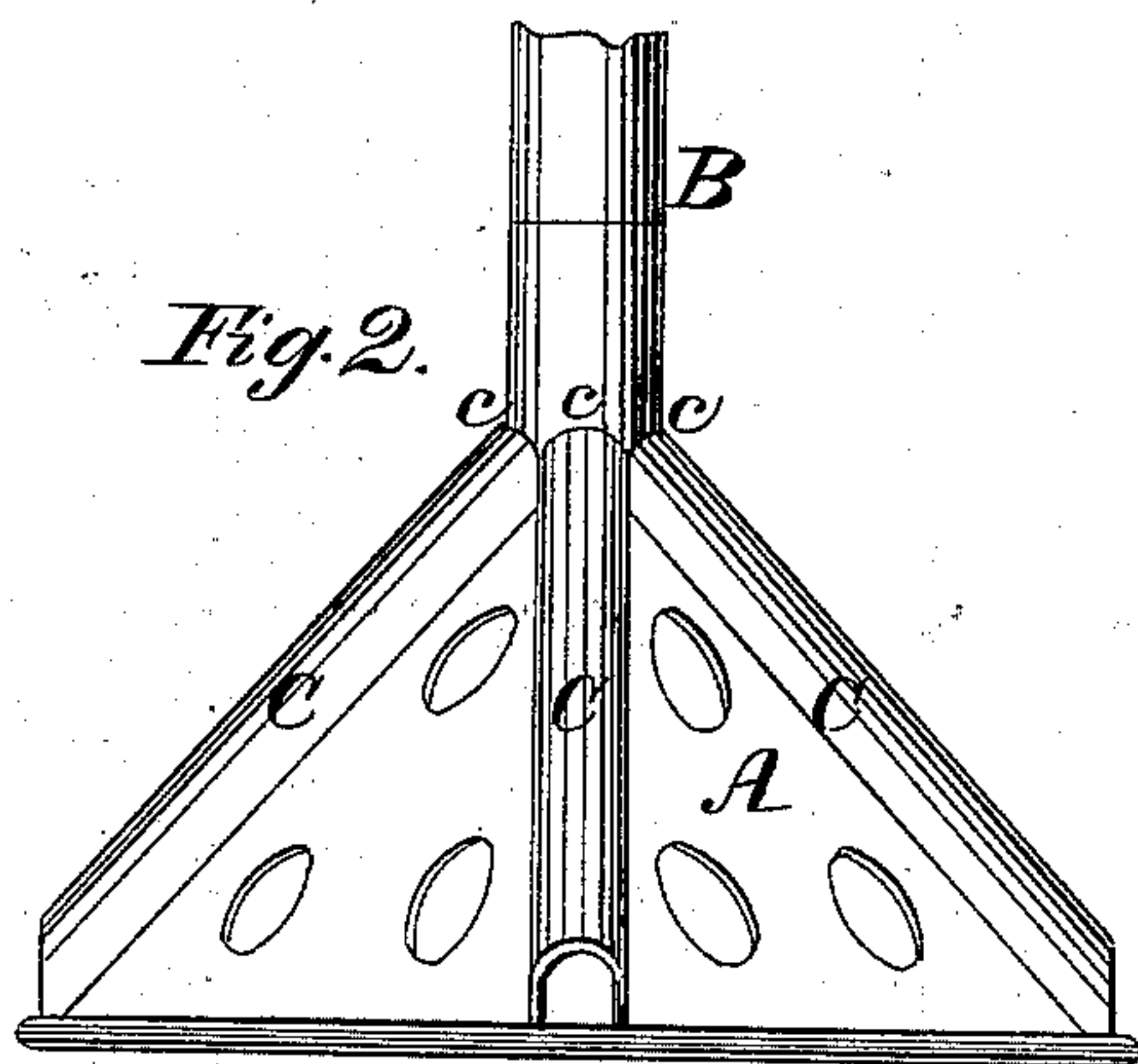
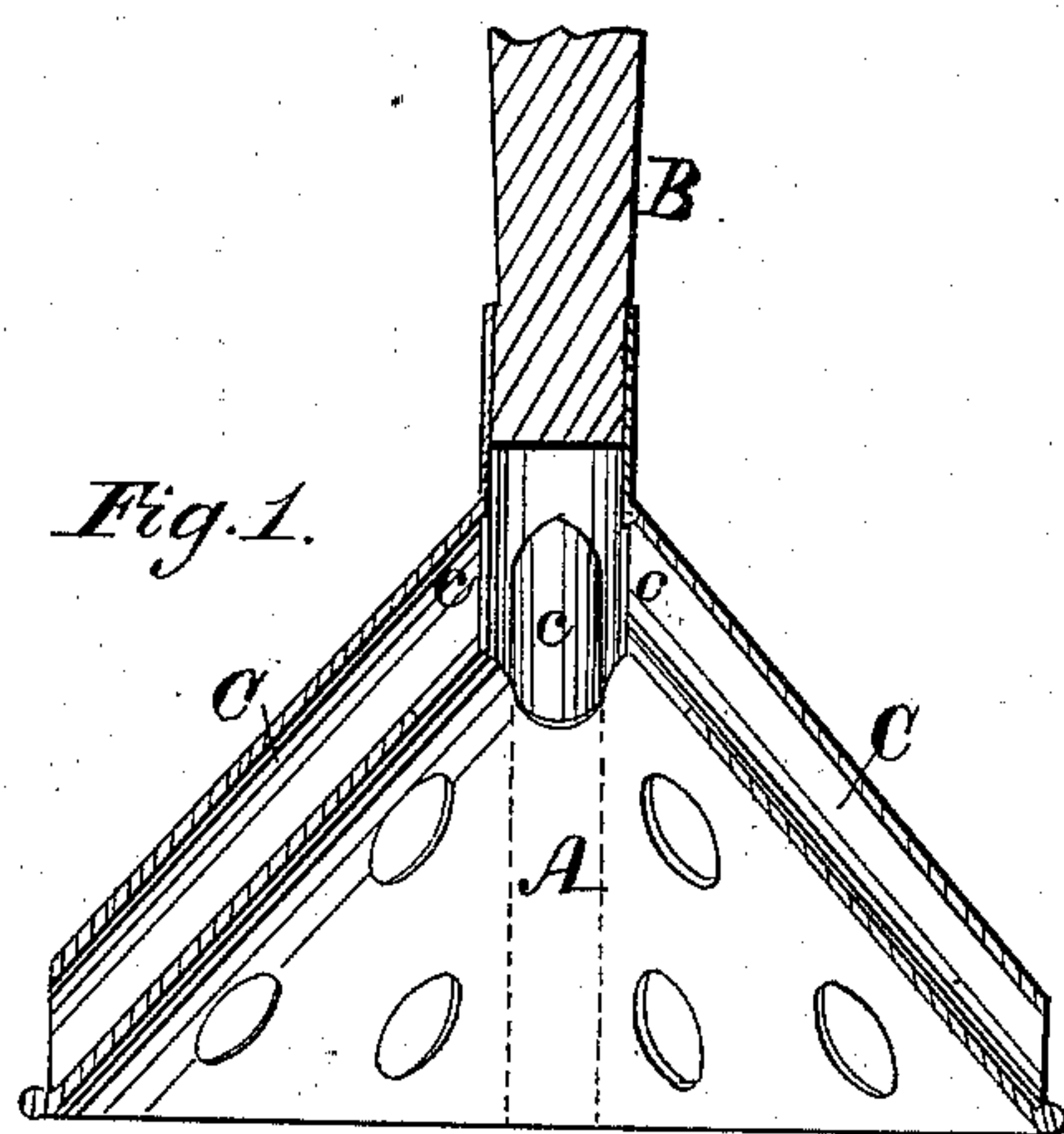


H. GRASS.

Churn.

No. 68,067.

Patented Aug. 27, 1867.



Witnesses
J. C. Kemow.
C. A. Pettis

Inventor
Henry Grass
By: Munn & Co.,
Attys

United States Patent Office.

HENRY GRASS, OF OLNEY, ILLINOIS.

Letters Patent No. 68,067, dated August 27, 1867.

IMPROVEMENT IN CHURN-DASHERS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, HENRY GRASS, of Olney, in the county of Richland, and State of Illinois, have invented a new and useful Improvement in Churn-Dashers; and I do hereby declare the following to be a full, clear, and exact description of the same, sufficient to enable others skilled in the art to which the invention appertains to make and use the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a vertical section through the centre of my invention.

Figure 2 is a side elevation of the same.

Similar letters of reference indicate corresponding parts in the two figures.

In this invention the dasher is made in the form of a cone, its sides being foraminated, and it being provided with several outside conducting tubes, which receive the air from within the cone at its apex and discharge it at the bottom.

In the drawings, A represents the walls of the dasher, which is in form a foraminous cone, of sheet metal, terminating at its apex in a socket, B, for the handle or staff. On the outside of this cone are several tubes C C, extending from the lower end of the socket B to the lower edge of the conical dasher, and communicating with the interior of the cone at the points *c c*, where the cone is attached to the socket. The socket B is an open thimble of tin or other material, similar to that of which the dasher is composed, and having both ends open, a small portion of its walls at the lower end being cut away opposite to the ends of the tubes C C, at the points *c c*, where they are attached to the socket, for the purpose of affording an unobstructed passage into the tubes, in order to admit the air to them more freely, and to facilitate the cleaning of them.

I am aware that outside tubes, somewhat similar in shape and position to the tubes C C of my improved dasher, have been used under the patent of J. A. Gridley, of May 1, 1849; but his tubes extend only half or two-thirds of the distance from the bottom to the top of the conical dasher, and are not used in combination with a foraminous dasher. The absence of these two features has rendered his churn-dasher practically worthless.

My improved dasher distributes the air through the milk more effectually than his, and with an expenditure of not more than one-half the power required to operate his dasher, forming the simplest, cheapest, most easily cleaned, and most effective operated churn-dasher now in use.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the foraminous conical dasher A with the tubes C C, substantially as and for the purpose specified.

2. The tubes C C, extending from the bottom of the dasher to the socket B, and connected with the latter through the passages *c c*, substantially as described.

To the above specification of my improved churn-dasher I have signed my hand this 31st day of July, 1867.

HENRY GRASS.

Witnesses:

SOLON C. KEMON,

N. K. ELLSWORTH.