

J. Barney,

Exhaust Mechanism for Locomotives.
N^o 24,785. Patented July 19, 1859.

Fig: 1.

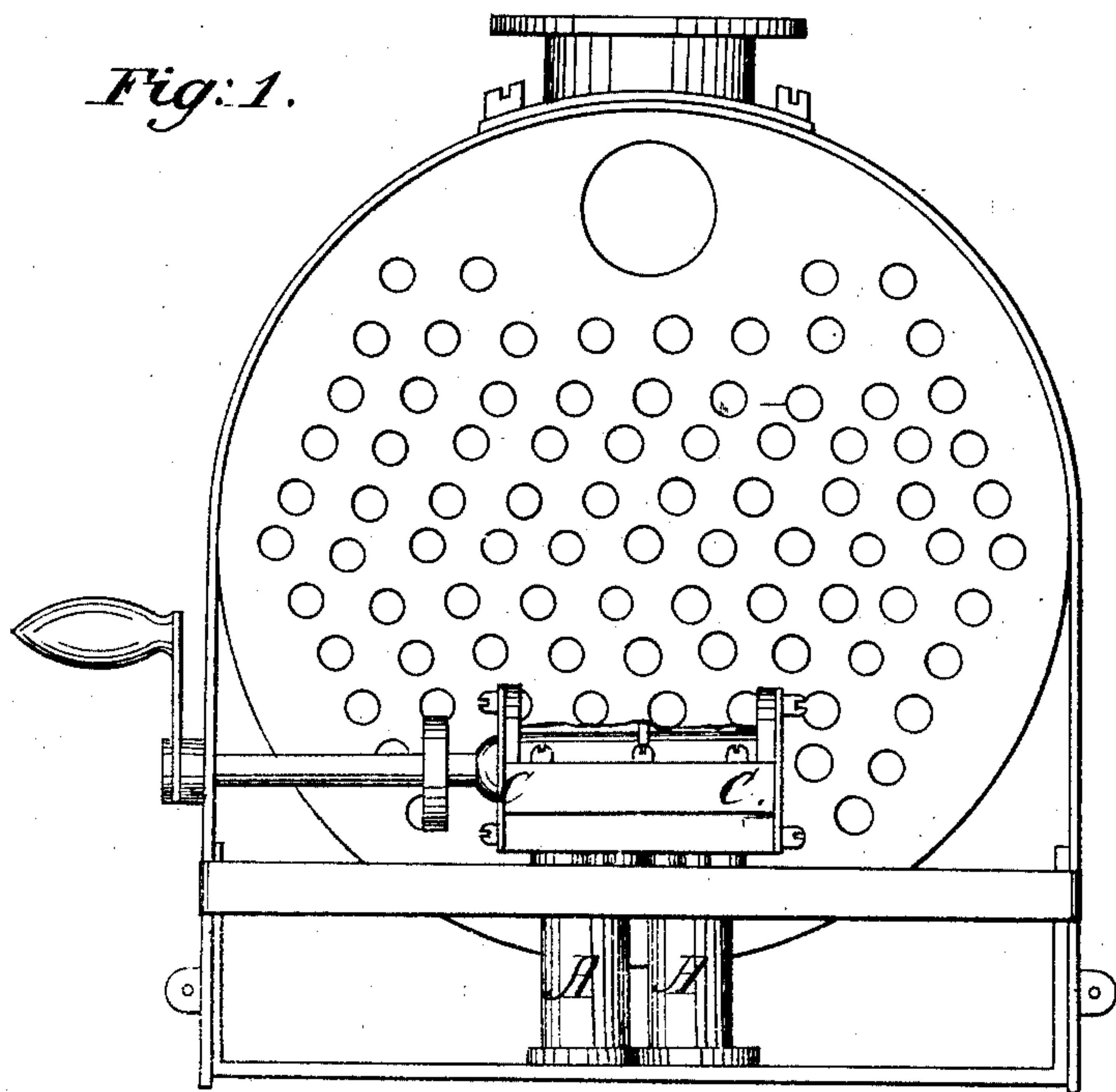


Fig: 5.

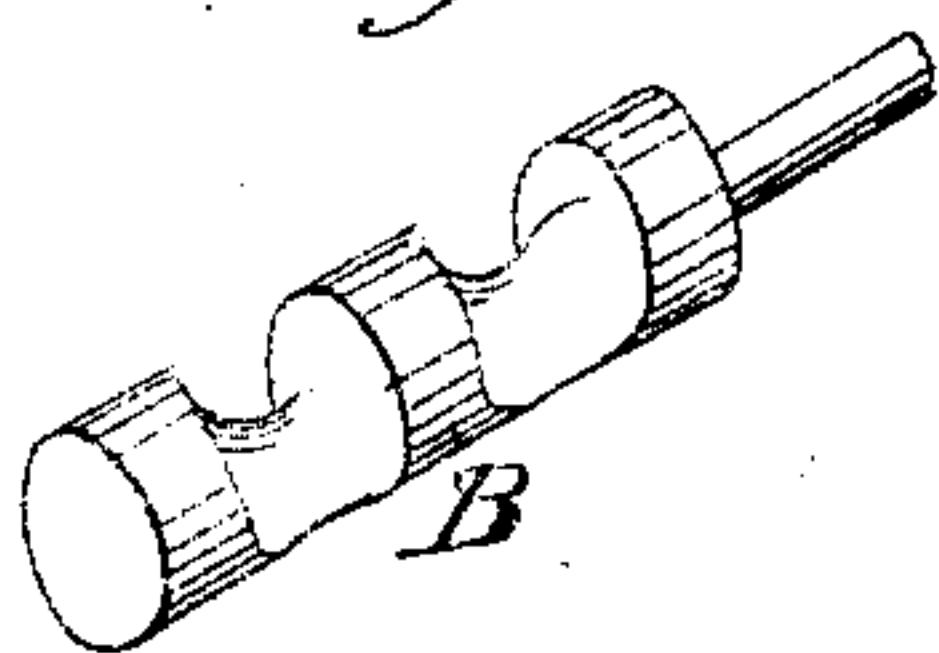


Fig: 4.

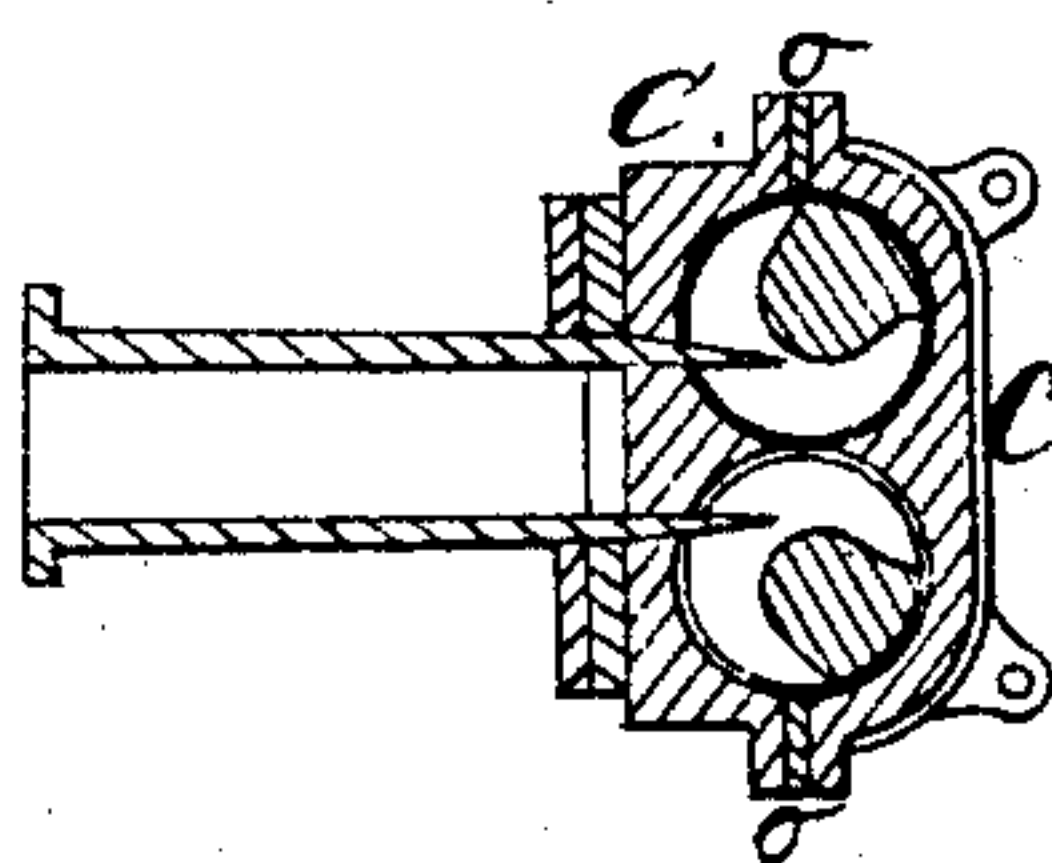


Fig: 2.

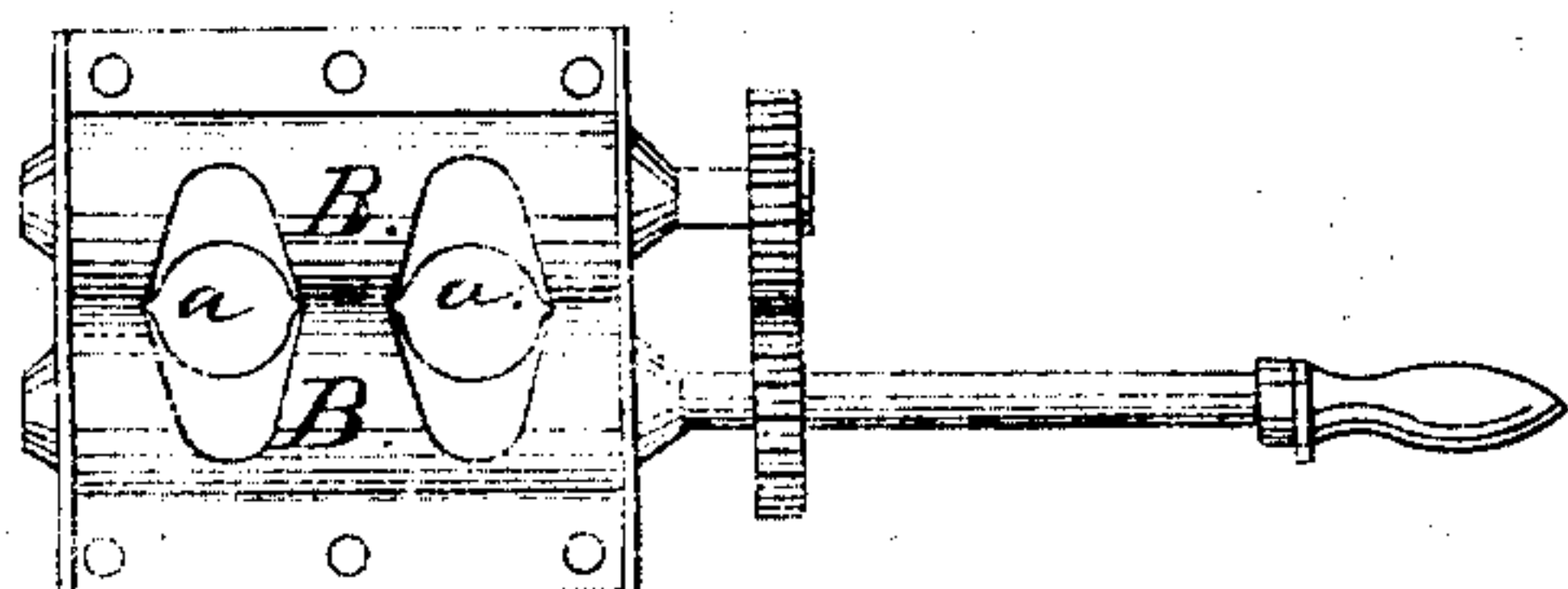
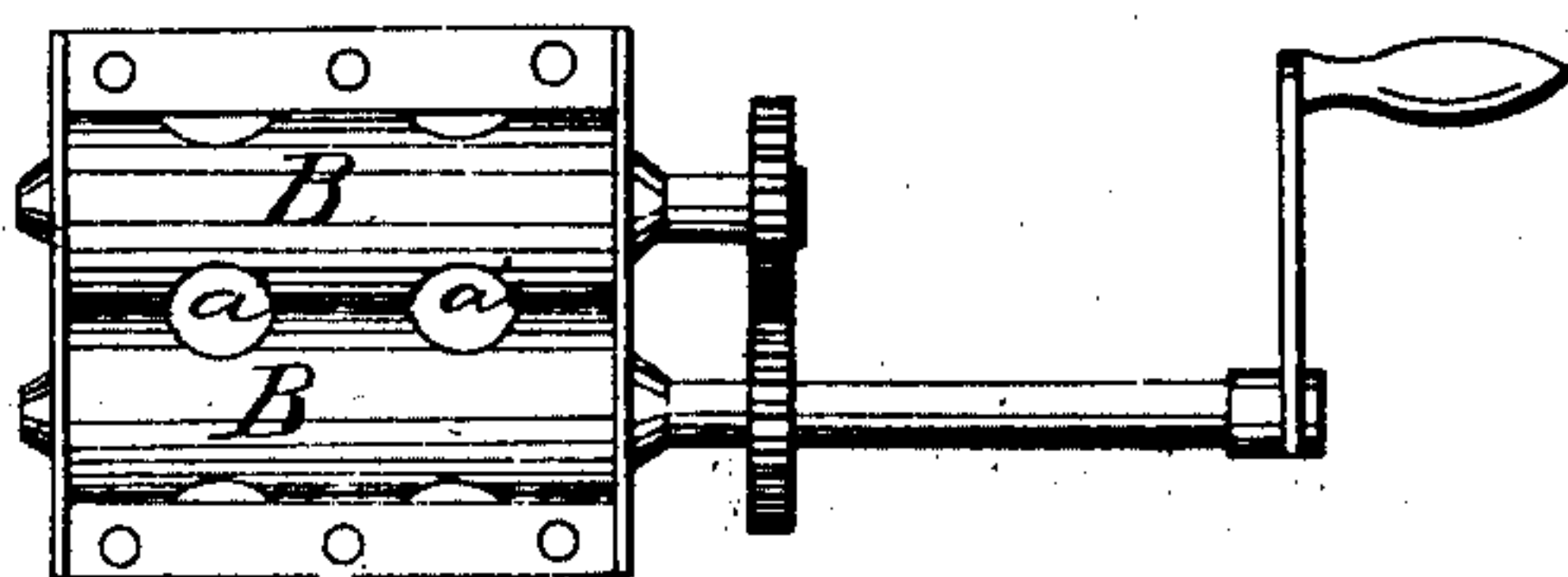


Fig: 3.



UNITED STATES PATENT OFFICE.

JACOB BARNEY, OF CHICAGO, ILLINOIS.

VARIABLE-EXHAUST DEVICE FOR STEAM-ENGINES.

Specification of Letters Patent No. 24,785, dated July 19, 1859.

To all whom it may concern:

Be it known that I, JACOB BARNEY, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Steam-Exhausts for Locomotive and other Engines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings and to the letters of reference marked thereon.

The nature of my invention consists in constructing an exhaust substantially in the manner hereinafter particularly described.

In the drawings A, A, represent two exhaust pipes, which connect at one end to a tight metallic case C, as is represented in Figures 1 and 4.

C, represents a metallic case so constructed as to contain two cylinders B, B, fitting the same closely as is shown, this case being divided in two parts. A piece of packing (o) of metal is placed between the parts, when they are secured together, said packing being made to fit up snugly against the cylinders for the purpose of making a tight joint.

B, B, represent the two cylinders contained in the case C. Each of these cylinders are provided with two tapering grooves, made transversely in them, and made in such a form that when the cylinders are placed together, one against the other with their grooves corresponding, and partially revolved backward and forward a round hole will be formed by the grooves—said hole gradually contracting and expanding as the cylinders are moved. a, a, represent the holes when expanded and a', a', represent said holes when contracted partially. The shafts of the two cylinders B, B, are

provided at one end with two gear wheels, which work together and revolve the cylinders together equally. A handle may be attached to one shaft, by means of which the engineer may operate the cylinders and open or close the holes for increasing or diminishing the draft. The pipes A, A, extend into and their ends fit in the grooves in the cylinders in such a manner as to make a perfectly tight joint. Should the packing o, o, wear away by the rubbing of the cylinders against it the case may be opened and the packing forced up, or it may be renewed.

It will readily be seen that the fire draft may be increased by the engineer or may be diminished at pleasure by enlarging or diminishing the size of the holes. The holes being round they will always remain so, even should they wear, as all sides must wear alike.

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

1. The employment of two cylinders B, B, so provided with gradually tapering grooves in each, that when revolved together, an expanding and contracting circular opening will be formed, for the purpose of regulating the passage of the exhaust steam from locomotives and other engines substantially as herein set forth.

2. I claim the cylinders B, B, as constructed, when used in combination with the tight metallic case C, C, and packing o, o, the same being arranged and operating in the manner and for the purpose herein fully set forth.

JACOB BARNEY.

Witnesses:

WILLIAM GIBB SMITH,
SAMUEL F. ALLEN.