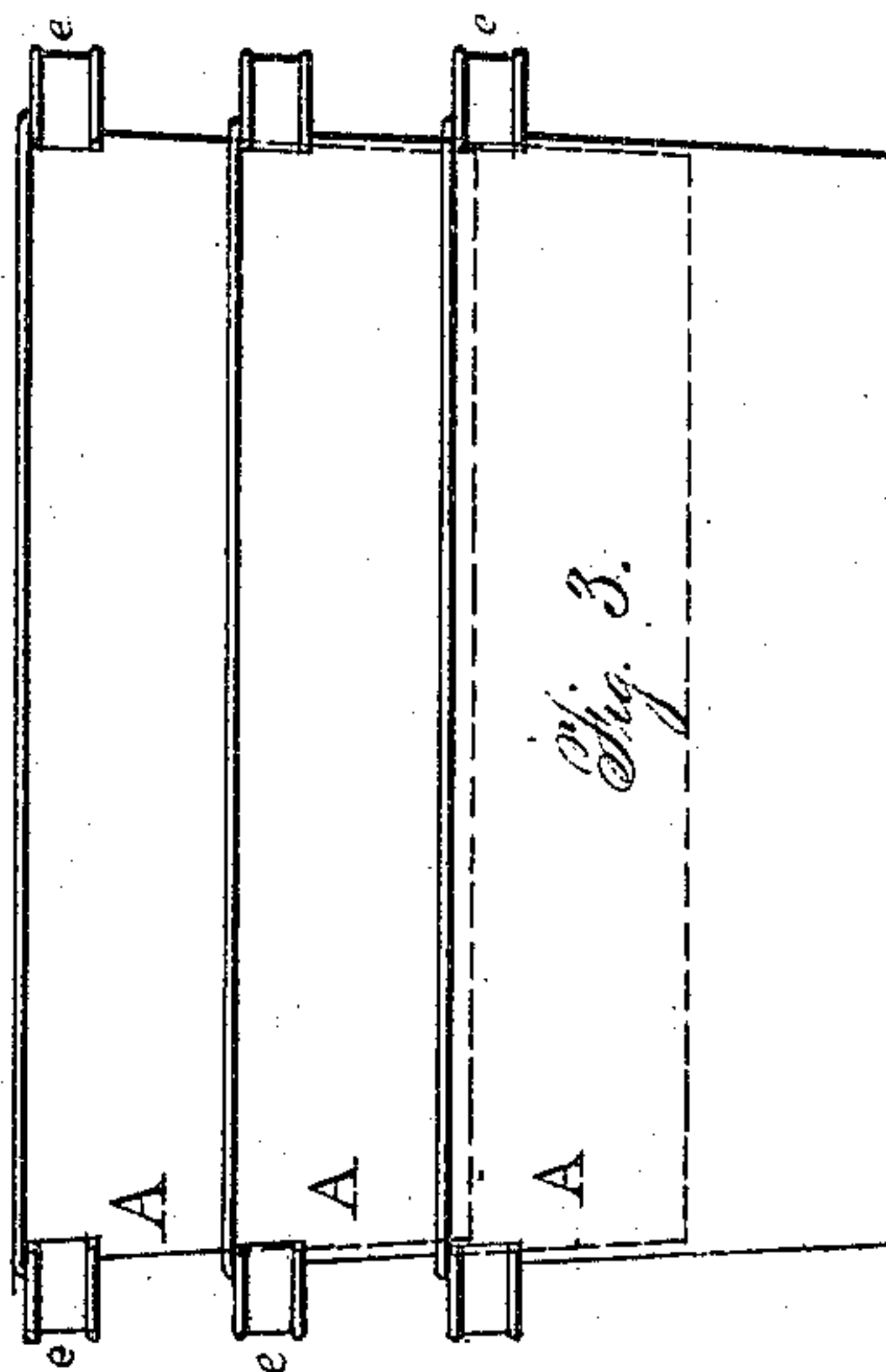
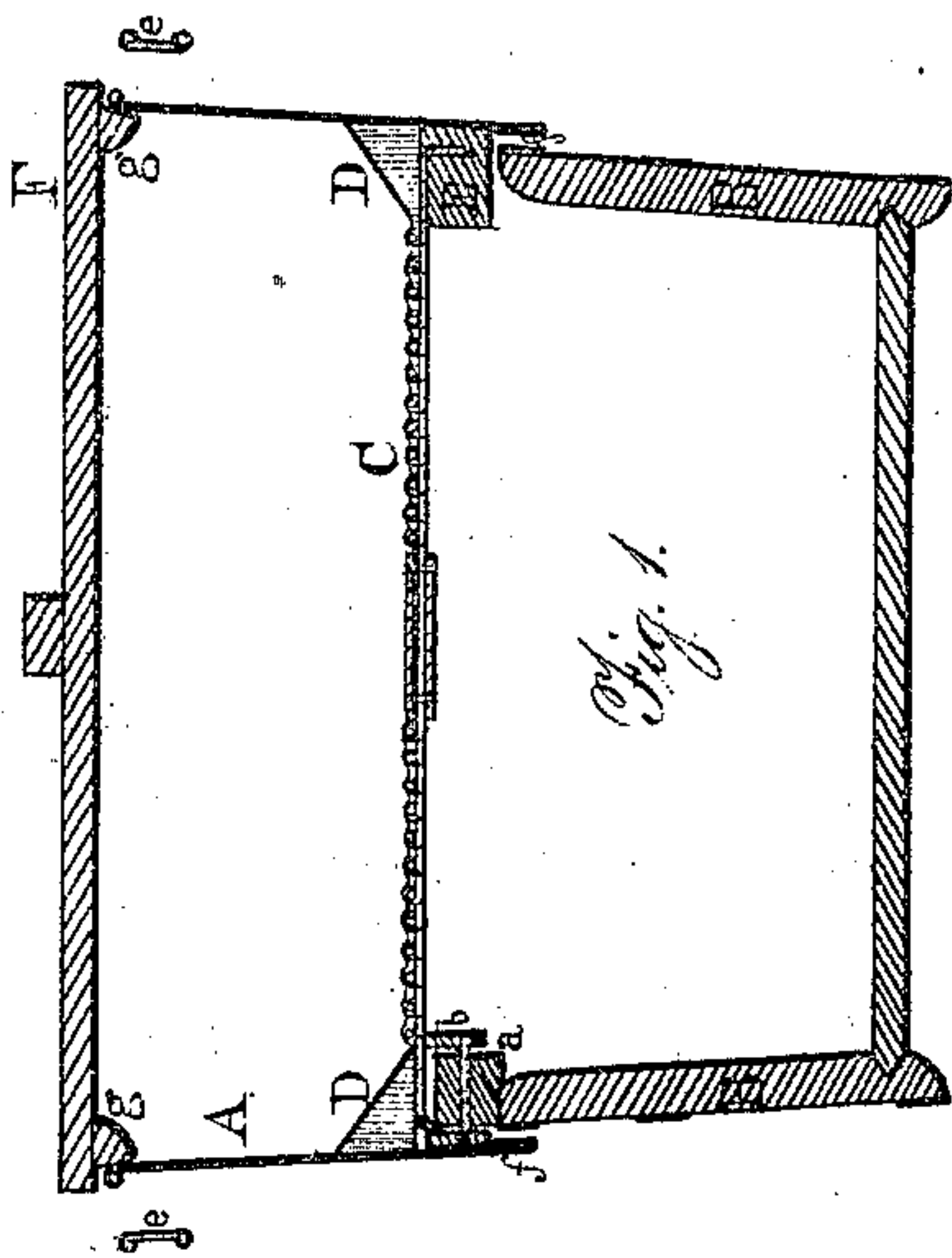
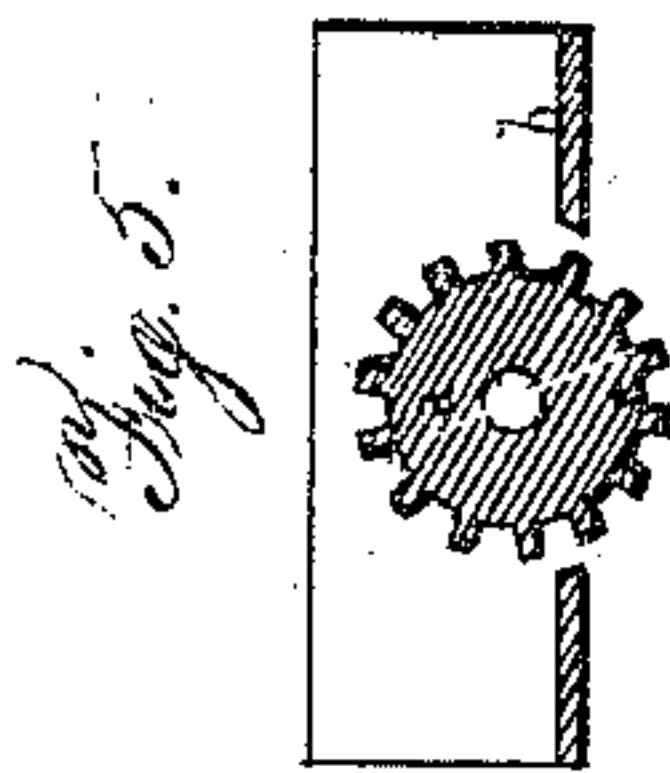
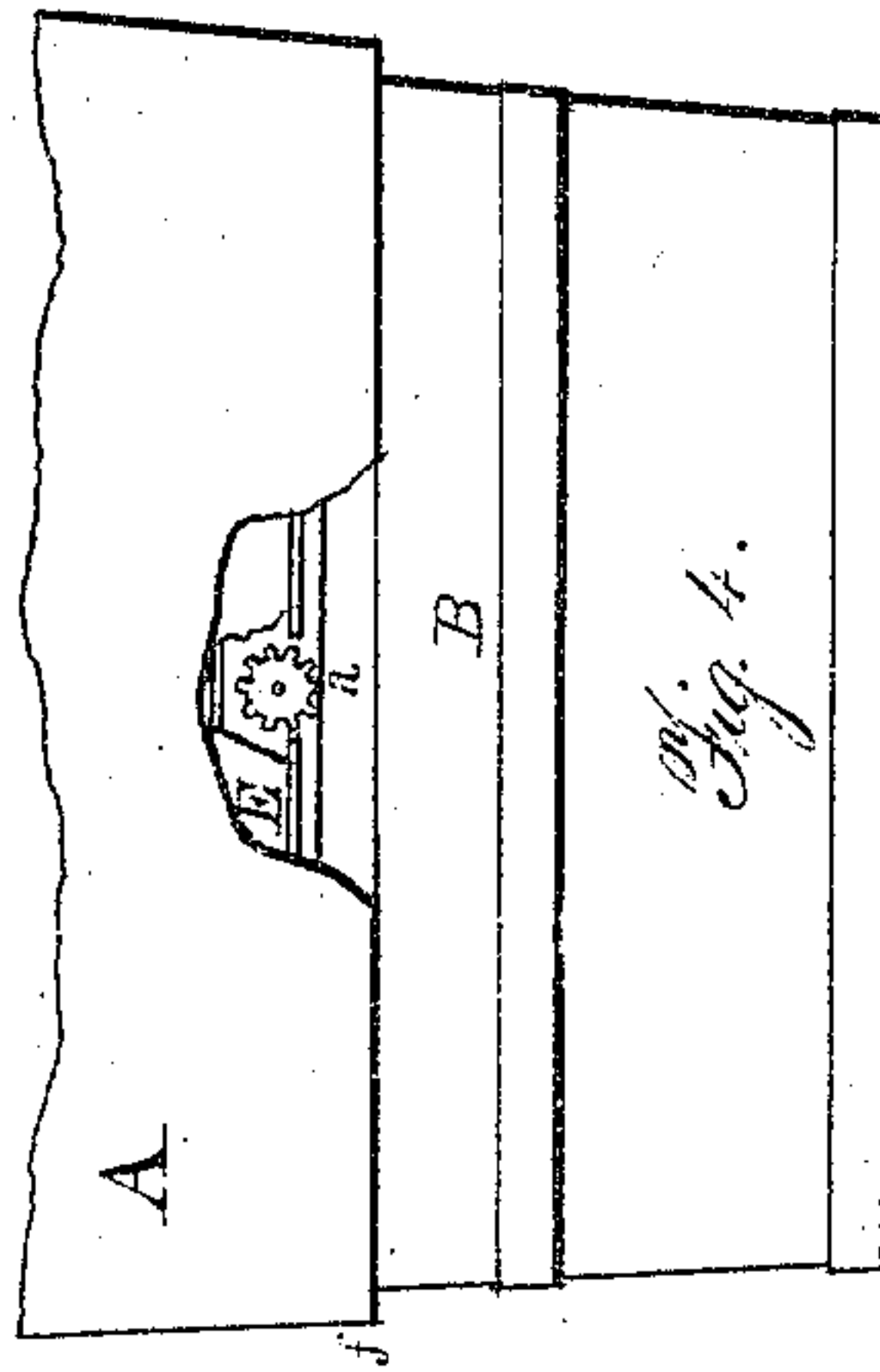
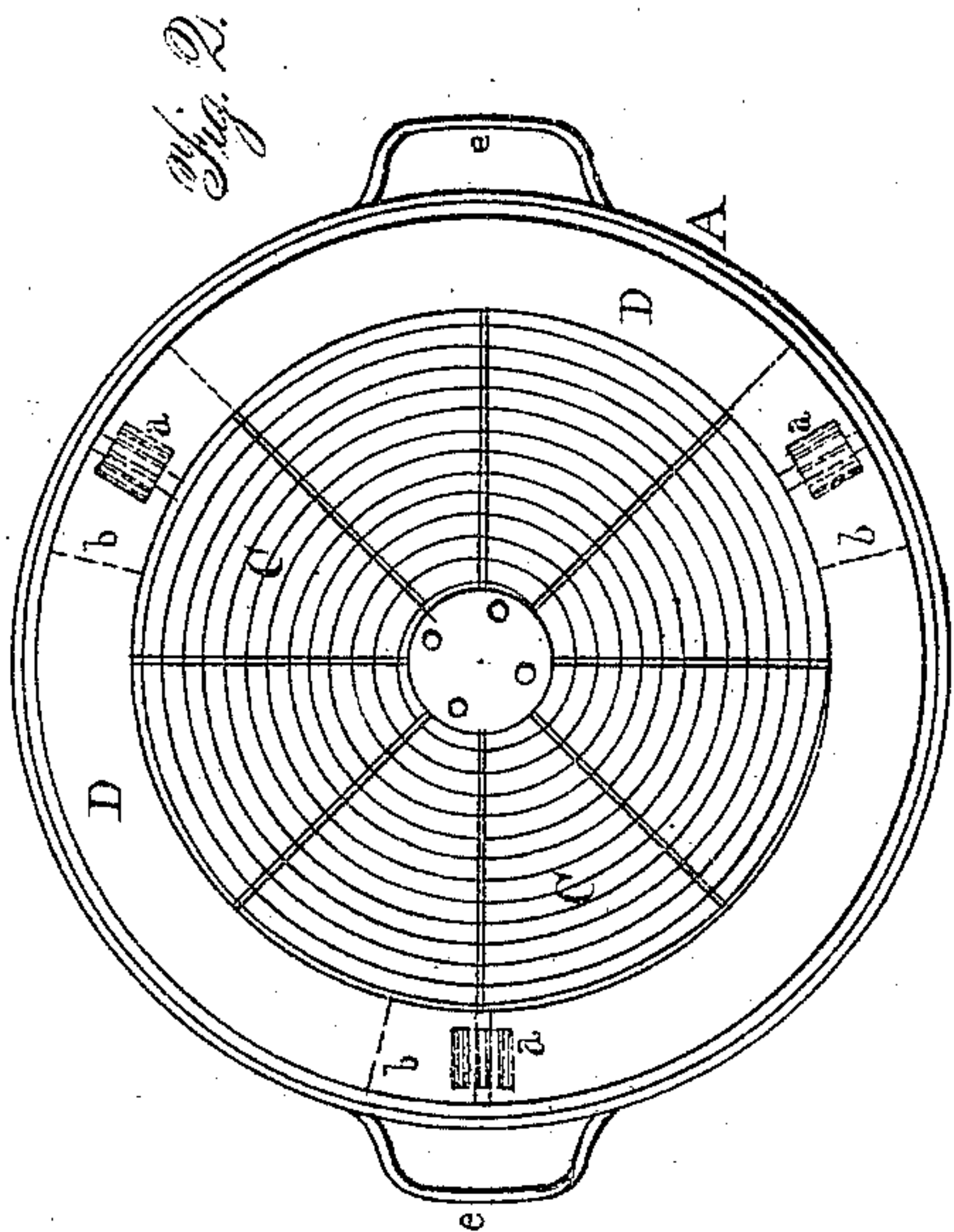


S. Adams,
Coal Sifter.
No. 106,532. Patented Aug 23. 1870.



Witnesses,
Henry C. Nute,
Thomas A. Prime

Inventor *Sanford Adams*

United States Patent Office.

SANFORD ADAMS, OF BOSTON, MASSACHUSETTS.

Letters Patent No. 106,532, dated August 23, 1870.

IMPROVEMENT IN COAL-SIFTERS.

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, SANFORD ADAMS, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Coal-Sifters; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon, in which—

Figure 1 is a vertical section through the center.

Figure 2 is a top view, with cover removed.

Figure 3 shows three sieves placed together, showing how they can be packed for storage.

Figure 4 is a side view, with a part of the side broken away to show the cogged rollers.

Figure 5 is a section of the cogged roller and casting which holds it, enlarged from the scale of the other drawing.

The nature of my invention consists in constructing a coal-sifter with a very large space for holding the material to be sifted, and so arranged that it can be used on a common barrel without scattering any of the ashes.

Also, in so constructing it that it can be manufactured very cheaply, and readily be packed for transportation or storage.

Also, in so constructing it that, when using the sieve, a powerful vibratory motion will be obtained to separate the ashes from the coal.

Also, in constructing and arranging a beveled ring with the rim of the oscillating sieve, arranging it above the sifting wire of the sieve, so placed that, when in operation, the ashes will not adhere to or clog it or escape, but will be guided by it through the sieve directly into the receiving receptacle below.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A is the rim of the sieve.

B represents a barrel or any other suitable receptacle for the ashes.

C is the sieve, and is attached to the sides or rim A by means of the circular wood pieces or rings D and E, which are sawed out of the proper size, the sieve fastened to one or both of them, and both driven into the place within the side piece or rim A, which is formed largest at the top, so that these rings will wedge in tightly when they are driven down into their proper position. An iron lining-hoop, *f*, may be riveted on the bottom edge of the rim A to stiffen the lower edge, preventing it from being broken, and aiding as a support to the rings and sieve above. The amount of bevel given to these sides A is just such as to allow the bottom of one sieve to fit into the top of another, so that the sieves can be piled up into a very compact form for transportation or storage.

Fig. 3 represents three sieves placed in one pile, showing how one sieve will fit into another when it is necessary to store or transport any number of them.

The ring E is placed into the rim A in such a manner as to come below the sieve C, which is supported by and fastened to the ring. The ring D, above the same, is beveled, as seen in fig. 1, so that all the ashes will be sifted into the barrel.

In the lower ring E cogged rollers *a a a* are placed, as shown in figs. 1, 2, 4, and 5, which roll on the upper edge or chimb of the barrel, or whatever is used to sift the ashes into.

The cover F is formed with a beveled edge or ring, *g*, which fits closely into the top of the rim of the sieve, and keeps the ashes from flying out when being sifted.

The lower edge of the rim A projects downward over the chimb of the barrel, as shown in fig. 1.

Operation.

The sieve is placed on top of a barrel or other suitable receptable, B, and is filled with ashes to be sifted.

By means of the handle *e e* the sieve is turned rapidly, first in one direction and then in the other.

The ring D is so beveled that all the coal and ashes are brought in toward the center of the sieve C, and the ashes are thus prevented from falling into or outside of the edge of the barrel. Thus, as the ring D keeps the ashes in toward the center, the frame A of the sieve can be made large enough to surround the outside of the top edge of the barrel B, guiding the sieve and keeping it in place. By this arrangement the sieve-frame A is made larger, and will hold more ashes than if the edge or lower part of the outside hoop A were made small enough to go inside of the top of the barrel, which would have to be done to prevent the spilling of the ashes if it were not for the ring D.

The sieve C is supported all around the outside edge, and, if the sieve gives down any, it will tend to throw the ashes toward the center, keeping them away from the outer edge, whereas in the coal-sifter originally patented by me the sieve was supported from the center, and, if it gave down any, the ashes worked to the outer edge, which tended still more to bend the wires.

The cogged wheels *a a a*, placed in the lower circular ring E, roll on the upper edge or chimb of the barrel, and give a vertical or up-and-down motion to the sieve in addition to its rotary motion. This vertical motion is caused by the cogs of the wheels *a* rolling on the top of the barrel. By this vertical motion small pieces of coal, which would otherwise catch in and clog the sieve, are tossed up away from the sieve, and it is kept clear, so that the ashes sift through very rapidly.

There is in this sifter quite a number of very important advantages over the kind originally patented by me, in which the sieve was suspended from a central post, and the hoop surrounding the sieve was made small enough to go inside of the top of a barrel. There are also important advantages over all other coal-sifters. Some of these advantages are as follows: It can be made three inches larger than the original Adams sifter, so that a large-sized hod of ashes can be gone through with at one sifting. It does away with the spindle and the unnecessary weight, and gives place to more open sieve. Lighter wire can be used in making the sieve with equal strength and more durability, as the circular ring E, upon the inner circumference of the rim A, gives support, where the former had none. The use of smaller wire diminishes the expense and makes a more open sieve. The rim A, projecting down outside of the barrel some half inch or more, keeps it on the barrel, while the cast-iron chairs, in which are either cog or

smooth rollers, being imbedded in the circular wood pieces E, all rest upon the hoop f, riveted to the rim A. This gives support to the rim, and will endure a great amount of friction in the movement. Supported as it is, the rim A may be of the lightest material, and still be strong and very durable. The whole cover F is taken off, and full scope is given for putting in ashes and for picking out the cinders. This kind of a sifter can be used with equal advantage for sifting flour, meal, beans, peas, or any like material.

What I claim as my invention, and desire to secure by Letters Patent, is--

The arrangement and construction of the rim A, the rings D and E, the rolls *a a a*, the sieve C, and hoop f, as described, for the purpose set forth.

SANFORD ADAMS.

Witnesses :

W. P. FESSENDEN,
H. R. BLAKE.