

J. W. REID.
Sugar-Evaporating Pan.

No. 69,249.

Patented Sept. 24, 1867.

FIG. 1.

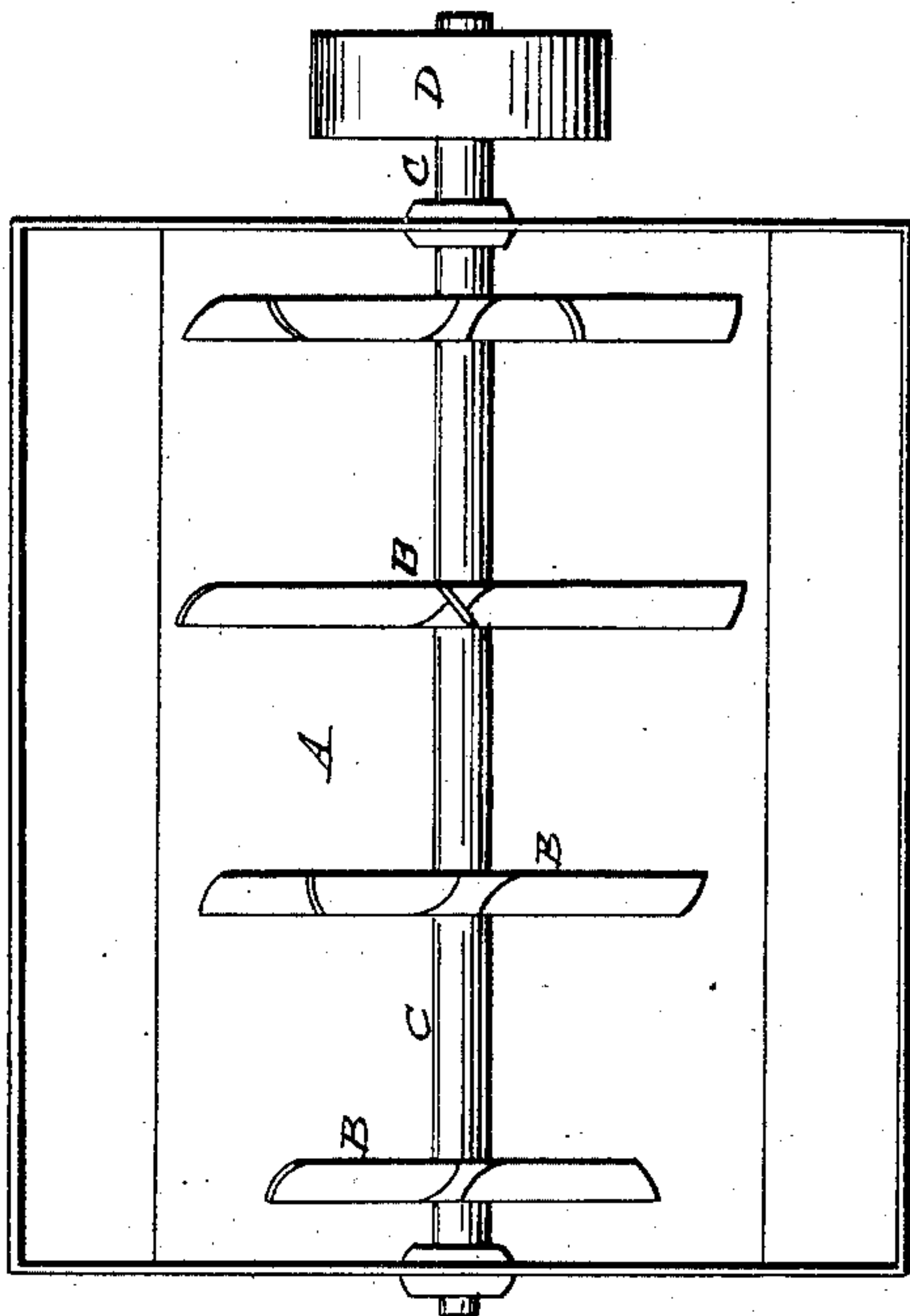


FIG. 2.

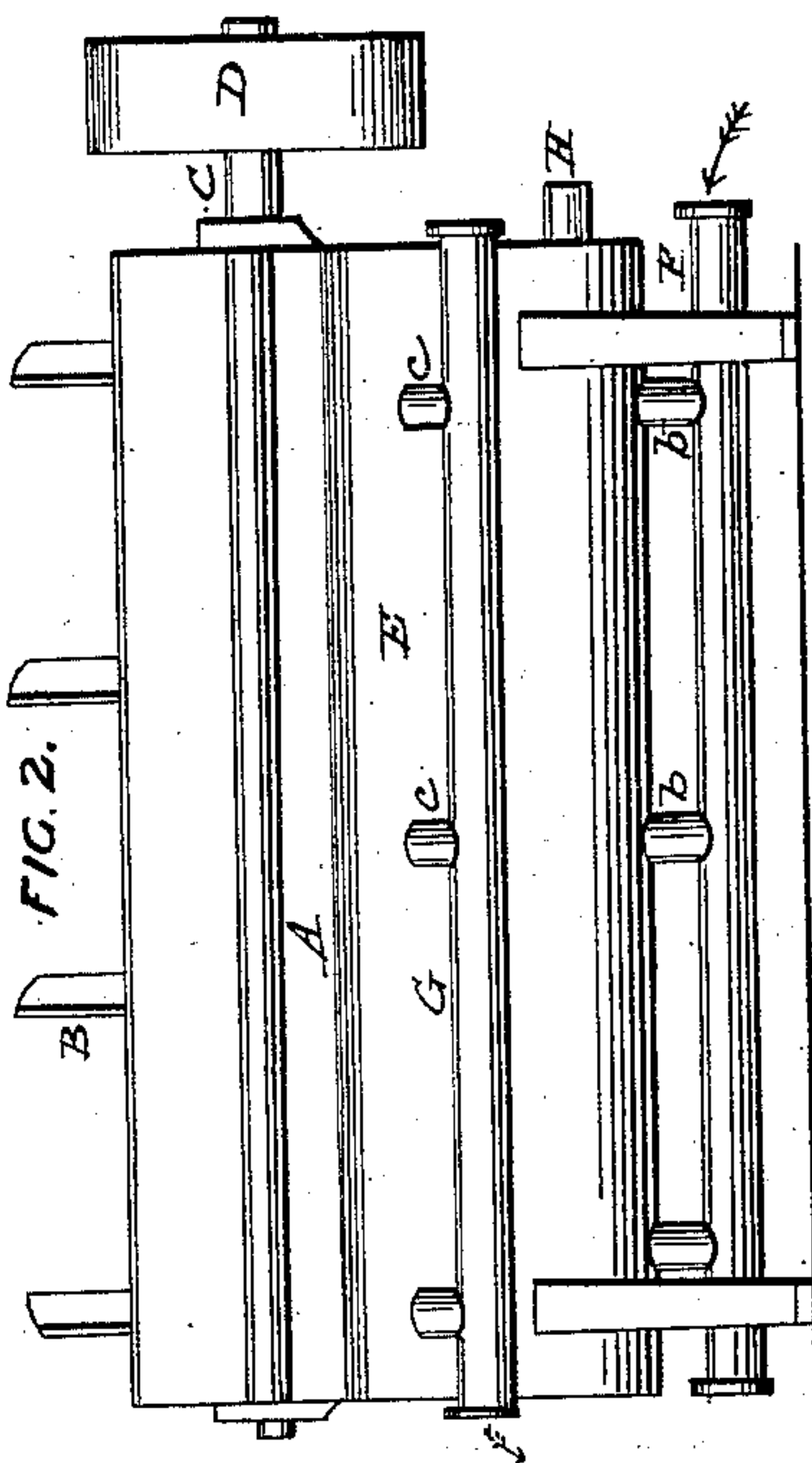
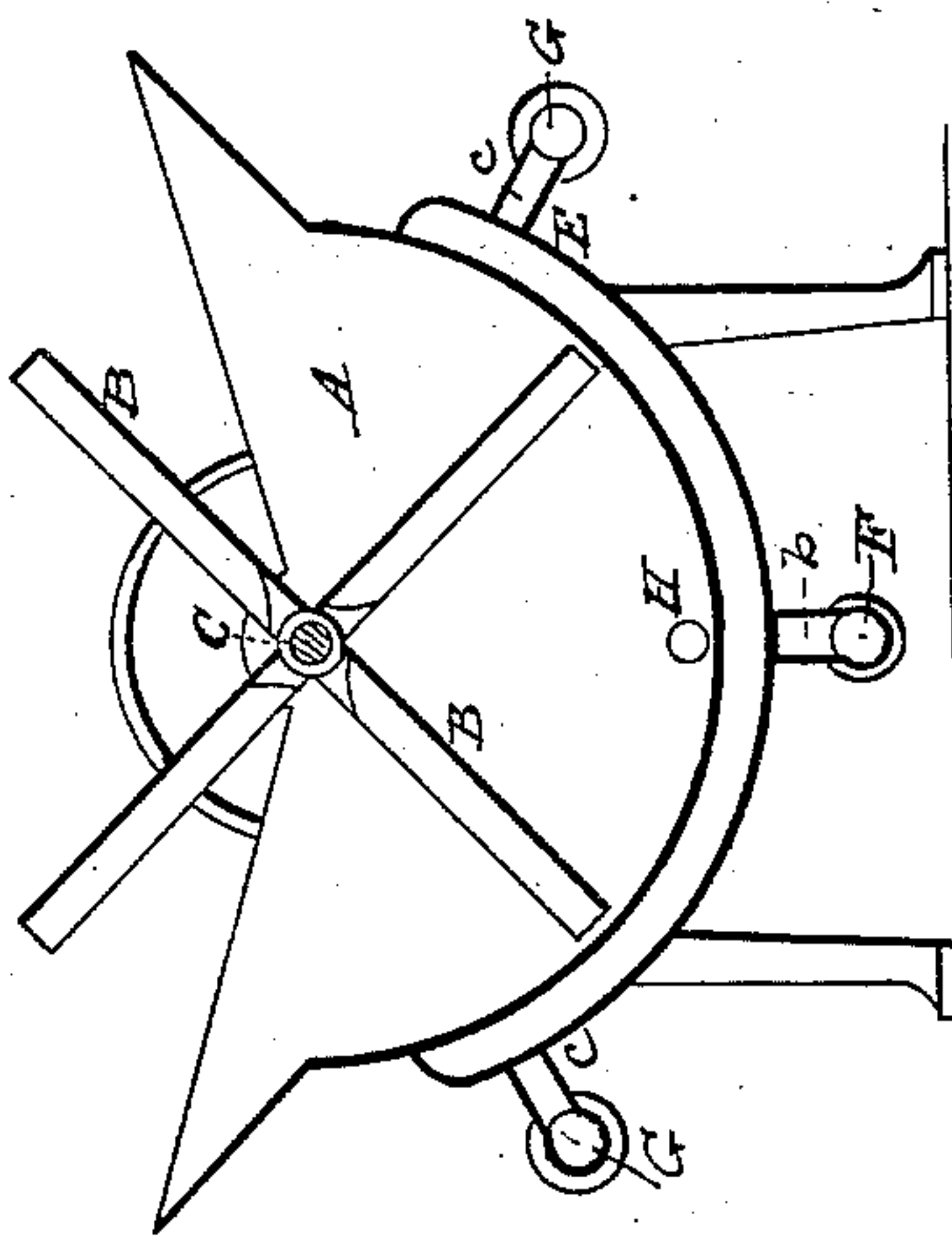


FIG. 3.



WITNESSES:

J. M. Cornaby
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INVENTOR.

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United States Patent Office.

I. WYATT REID, OF NEW YORK, N. Y.

Letters Patent No. 69,249, dated September 24, 1867.

IMPROVEMENT IN THE MANUFACTURE OF SUGAR.

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, I. WYATT REID, of the city, county, and State of New York, have invented a new and useful improvement in the Manufacture of Sugar, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, forming part of this specification, and in which—

Figure 1 represents a plan of a sugar-mixing or stirring apparatus in illustration of my improvement,

Figure 2 a side elevation of the same, and

Figure 3 a transverse vertical section thereof.

Similar letters of reference indicate corresponding parts.

In mould-houses the filtered liquor, after being boiled to grain in the vacuum-pan, is run into a receiver provided with a double bottom or jacket to receive steam for the purpose of gradually heating the mass and raising its temperature whilst being stirred by cars or blades before filling into moulds. This necessitates several days' after-exposure in a hot room to effect crystallization before the green sirup can be drawn off, and the subsequent operation of purging requires an additional number of days, which makes the whole process a very slow and expensive one; while in using the centrifugal machine, though the course of manufacture is more rapid, the sugar as it is taken from the vacuum-pan being cooled by mechanically stirring the same in a receiver not heated, as in the former process, still there is considerable delay, as sugar naturally cools slowly, and much of the crystal that would form under a low temperature is frequently lost.

My invention obviates the difficulties or objections here named, producing good, hard sugar rapidly, free serious from loss of crystal, and without necessarily increasing the number of mixers, by introducing a stream of cold water or air forced by a pump, blower, or head or pressure, into a jacket, or its equivalent, applied to the receiver in which the mixing or agitating devices work.

Thus referred to in connection or contrast with previous processes, the following brief description, with reference to the drawing, will suffice to further explain the present invention:

A is the sugar-receiver, similar, say, to that of an ordinary mixer, or of any other suitable shape, and B the mixing or agitating-blades, set on a shaft, C, which may be rotated through a pulley, D, or otherwise by or from any convenient power. E is a jacket to said receiver, in or through which, or the space boxed in by it, cold water or air is made to circulate or pass, as or for the purpose or purposes hereinbefore referred to, and which may be introduced in one or many streams, at any suitable point or points in the jacket, to act upon the receiver. An arrangement, substantially as represented, however, in the drawing, is preferred. Thus the cold water or air may be forced into a pipe, F, below, and from thence pass by branches *b* to within the jacket, and the warm air or water, that is, the air or water heated by the receiver or sugar contained in it, allowed to escape from opposite sides, near the top, by branches *c* into discharge pipes G. In this way a rapid and equal cooling is accomplished, and the results sought to be obtained, as described, effectually secured. H represents the delivery pipe for the sugar from the mixer.

What is here claimed, and desired to be secured by Letters Patent, is—

1. The process, substantially as herein described, of effecting the crystallization of sugar by subjecting it to the action of beaters or stirrers within a receiver, having a stream or streams of cold water or air made to play on or around it, and between it and an outer jacket, or its equivalent, substantially as and for the purpose or purposes specified.

2. The combination, with a sugar-mixing apparatus consisting of a receiver A, stirrers B, and jacket E, of the cold-air or water pipe F, arranged below, and upper opposite discharge pipes G, both connecting with the interior of the jacket, essentially as herein set forth.

I. WYATT REID.

Witnesses:

J. W. COOMBS,

G. W. REED.