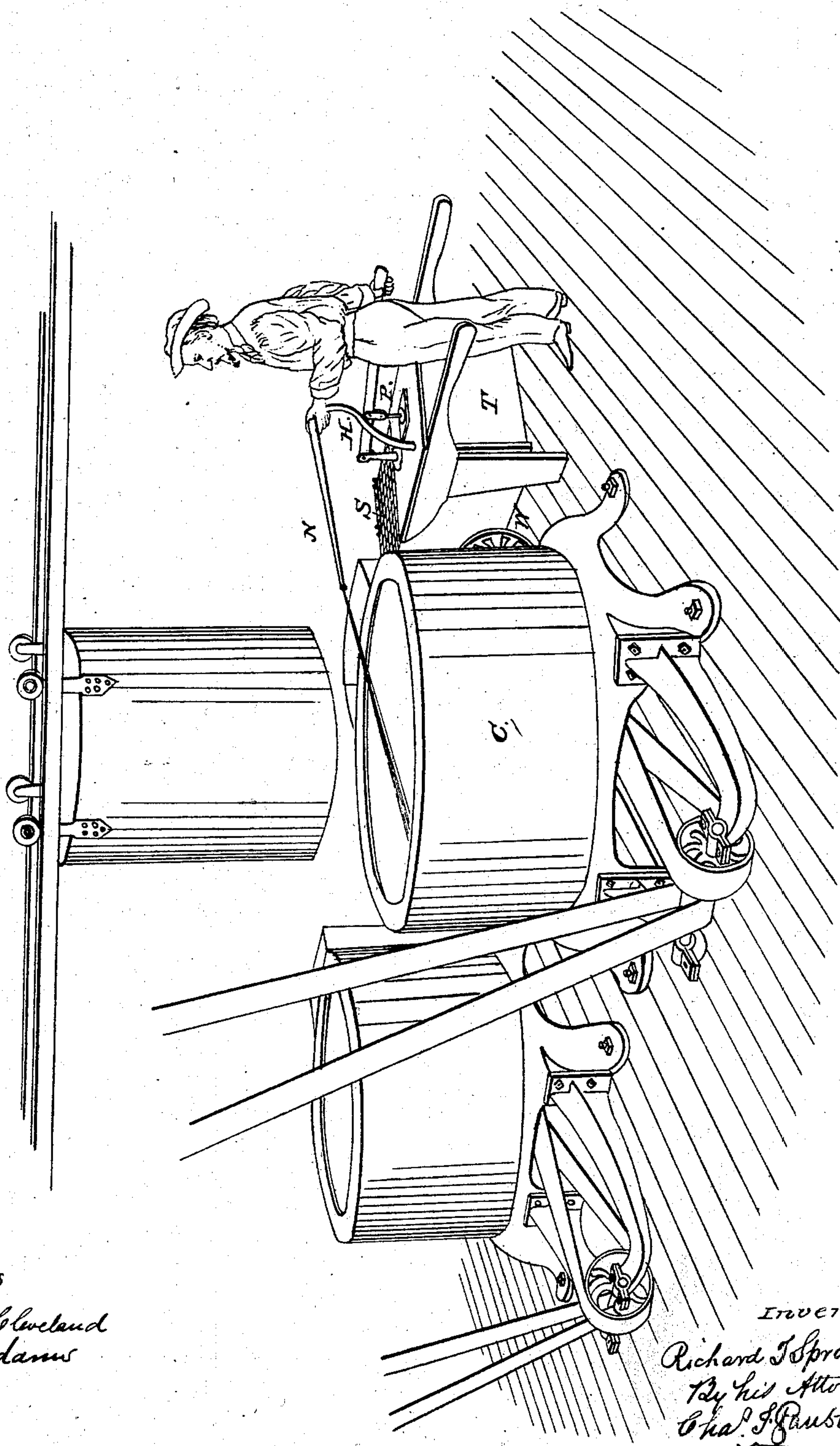


R. T. SPRAGUE.  
Centrifugal Sugar-Machine.

No. 67,924.

Patented Aug. 20, 1867.



Witnesses

William C. Cleveland  
Geo W. Adams

Inventor

Richard T. Sprague  
By his Attorney  
Chas. J. Fausbury

# United States Patent Office.

RICHARD T. SPRAGUE, OF BOSTON, MASSACHUSETTS.

*Letters Patent No. 67,924, dated August 20, 1867.*

## IMPROVEMENT IN THE MODE OF LIQUORING SUGAR IN CENTRIFUGAL MACHINES.

*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, RICHARD T. SPRAGUE, of the city of Boston, in the State of Massachusetts, have invented an Improvement in the Mode of Liquoring Sugar in "Centrifugals;" and I do hereby declare the following to be a full and correct description of the same, reference being had to the accompanying drawing, which represents my improvement in operation.

The invention relates to the process of liquoring sugar in centrifugal sugar-bleaching machines, and consists in the substitution for the ordinary apparatus for applying the liquor, of a portable tank, having a pump inserted in it, each full stroke of which will deliver a fixed amount of liquor to the centrifugal. It is a desideratum in the manufacture of refined sugar by the liquoring process in centrifugals to obtain a means of delivering to each charge of sugar, of uniform quality and quantity, a uniform quantity of liquor. The quantity required for each centrifugal in the case of any given quality of sugar is a matter for the judgment of an expert in the process. It is determined in each case by experiment, but once fixed for a particular sugar it remains uniform, while the charge of each centrifugal is constant.

In the ordinary process of liquoring sugar, the liquor is supplied to the whole series of centrifugals from a common fixed tank, each centrifugal being supplied by a separate hose and attendant. The quantity of liquor discharged cannot be ascertained with any accuracy, and is never uniform, and the skill of the several workmen being unequal, the results are correspondingly uncertain and variable.

To obviate, as far as practicable, those difficulties, I have substituted for the old forms of apparatus the portable tank T, represented in the accompanying drawing, into which the liquor is introduced through the sieve or strainer S. The tank is provided with a hand-pump, P, so constructed as to deliver at each stroke a uniform quantity of liquor. The tank may be of any suitable form or size, and mounted on wheels so as to be readily pushed or drawn along from one centrifugal to another by a single attendant. A hose, H, conveys the liquor from the pump P to the nozzle N, through which it is directed upon the sugar in the centrifugal C. The quantity of liquor required for each charge of a particular character of sugar having been determined by a skilled operative, is expressed in the number of strokes of the pump to be given to each centrifugal. The necessary direction is given, in these terms, to any ordinary operative, who has merely to give the required number of strokes to insure the prescribed dose of liquor to each centrifugal of the series, without the exercise of any skill on his part. Thus, all the sugar being treated in the same way, the result attained will be uniform, its perfection depending only on the skill of the expert operative.

The advantages of this method of liquoring sugar are the economy, portability, and simplicity of the apparatus, and the certainty and uniformity of its action.

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

The use, with a centrifugal sugar-bleaching machine, of a portable liquoring tank, constructed and operating as described.

The above specification of my said invention signed and witnessed at Boston this 16th day of January, A. D. 1867.

RICHARD T. SPRAGUE.

Witnesses:

CHAS. F. STANSBURY,

WILLIAM C. CLEVELAND.