(12) **United States Patent**
Straub

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(54) **WATER WHEEL**

(76) Inventor: **Abraham Straub**

Abraham Straub, Milton, Northumberland Co. Pen.

Letters Patent

The Schedule referred to in these Letters Patent and making part of the same containing a description in the words of the said Abraham Straub himself of his improvement "for the construction of the Reaction Water wheel"

To all to whom these presents shall come—

Be it known that I, Abraham Straub of the Borough of Milton and County of Northumberland and State of Pennsylvania, have invented a new and useful improvement in the construction of the "Reaction Water" wheel which has not been heretofore used or known the nature of which is such as to present an inodible shaped bucket or float, to the action of the head of water, under such an improved mode of constructing this inodible, as that its distance from its centre shall increase, regularly and continually thereby affording an uninterrupted discharge of the water with out any resistance being afforded from the imperfections of those found in those methods heretofore used & always provided that there shall be two or more ports of discharge for the water or outlets, placed at regular distances for the purpose of affording the requisite balance in the motion of the wheel. The space the said inodible is to occupy must be placed around the circumference of the circular case of the wheel as practicable and the manner and the principle of constructing this inodible is set forth in the following description. Having determined the required circumference of the circular case or wheel proceed to set off from towards the centre a space as may be desired for the gradual unfolding of the inodible from its commencement to its termination or outlet. Mark off the centre or which it is to be formed, be of such circumference as to equal that portion of the radius cut off by this said space and part around it as broad long enough when completing this said circumference, to extend to the spot near the centre, from whence the inodible is to commence and with the

described the inside curve (whereby the float is to be carried all the way round) and the distance it departs from the point of start to this end will be the outlet for the water, including the thickness of the involute. Now in order to get that one for the outside to reduce the size of the centre so much as that the same when applied around it shall pass the point described on to a distance equal to the thickness desired for the involute at commencement from which point the progress of the curve of the thread when unlapped will be found to describe another curve gradually approaching the first described one so as to form the thickness of the involute float where a regular taper, to outlet or point of discharge. The same process is used for forming shorter involutes where two curves are both bended, always bearing in mind the necessary increase of circumference to be given to the centre according to the number of said involutes required - as two involutes will require the centre to be twice the diameter, that would for only half the distance, it to be gone over as the circumference of the case & yet the depth or width of outlet must be the same for three involutes - it will require a centre of three times the circumference &c. It will also be evident that the diameter of the wheel, the number of the floats, and the quantity of water to be discharged is always to be in proportion to the height of the head of water, and the power required. The first described curve will commence at the centre and be continued a little beyond the line of the semidiameter of the wheel whereon I have described both the curves terminate so that they shall have an edge to be formed by another curve, brought from the commencement of the second described one, and diminishing the thickness of the involute to said edge, so as to afford every facility for the water to pass

What I claim as my invention and for which I pray Letters Patent is, the manner of forming the above described involute floats, according to the principles of construction above set forth & explained. And I declare that what I

A full description of my improvement & Shares herewith set
my hand
Witnesses
Henry Shaw
B. H. Marshall



Abraham Bloom

(100 acres)

(Patented 13th day of March 1836)

(Rec'd & Recorded anew January 30th 1839)