

COMMITTEE OF INVENTIONS.

Report on a Method for raising and lowering Canal Boats, with little loss of water; proposed by DAVID TOWNSEND.

The Committee of Inventions, to whose examination has been submitted a method for raising, or lowering, Canal Boats, without loss of water, invented by *David Townsend* of Big Beaver Falls, Pennsylvania,—

Report, That the shortness of the time allowed for an examination of the Model, in consequence of the departure of the inventor from the city, did not admit of drawings being procured; and without these it would not be possible to give a clear description of the apparatus employed; the committee, however, were highly gratified by the ingenuity which it manifested; and they will, therefore, give a general idea of the principle, upon which its action depends.

It is known to those who are conversant with the progress of canal navigation, that what has been denominated *plungers*, have been proposed for the purpose of forcing up the water in the chamber of a canal. The use of this has been adopted by Mr. Townsend in his Model, and he has contrived a very ingenious method of balancing, raising, and lowering it.

The *Plunger* is a heavy caisson, or a solid block, made of the length and width, nearly, of a canal chamber, and when adopted in practice, the chamber must be of double the ordinary width; the plunger occupying one half, and the boat to be raised, the other. When a boat from the lower canal, has entered the chamber, and the gates are closed, the plunger is made to sink perpendicularly into the water over which it is suspended, on one side of the chamber: this will, of course, cause the water to rise, and should the horizontal section of the plunger be equal to half that of the chamber, the water will rise as many feet as the plunger is immersed. A boat may be thus raised to the height of the ordinary lift of a lock, and that with no further loss of water than the unavoidable leakage of the gates.

The committee do not recollect any instance in which this plan has been adopted in practice; they, however, are of opinion that it merits more attention than it has received. They have already adverted to former proposals for the employment of the plunger; and in this particular, therefore, the invention of Mr. Townsend has no claim to novelty. Under the article *Canal* in Rees's Cyclopædia, it is mentioned that Mr. *Lawson Huddleston* had proposed a similar plan; and had contrived a counter weight, which, by its action on a snail, or spiral curve, balanced the plunger, in all its different degrees of immersion. Mr. *Robert Salmon*, also proposed to accomplish the same end, by sinking a hollow plunger, in another way; and received from the *Society of Arts*, a premium for his invention; and others have, subsequently, made similar propositions. The committee do not suppose that Mr. Townsend was acquainted with these facts, but they are not in the possession of the particulars of his claim. His mode of balancing the plunger, they believe to be new, as it differs materially from either of the plans to which they have adverted. It

has already been stated, that the particulars of this plan, cannot be described in words alone; we will therefore only state, that a strong, moveable platform, is elevated above the plunger; upon this platform weights are placed, which can be made to act upon the plunger, and cause it to be submersed its whole depth; these weights then act upon levers, which are in such a position as to exert a maximum force. When the plunger begins to rise from the water, these levers change their positions in such a way as to lessen their action, and that, in exact proportion to the decreased force of the water; and when the plunger is raised, so as to receive no support from the water, the weights retain it in this position. The committee have not thought it necessary to institute a comparison between the various plans to which they have alluded; nor would they be able so to, did they deem it desirable, as the cursory examination of the model in question, has not placed the means within their power.

By order,

THOMAS P. JONES, *Secretary.*

Philadelphia, January 15th, 1827.

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MECHANICAL JURISPRUDENCE.—No. XIII.

BY PETER A. BROWNE, Esq.

On the law of Patents for new and useful Inventions.

That acceptance of the word "manufactures" by which is intended the *method* or *manner* of making a thing, was considered in the last essay, (p. 14) and I shall now call the attention of the reader to its second meaning, which is, the *things* worked, or made. Under this head are included, 1st, new compositions of things. 2nd, All mechanical inventions.

New compositions of things, are *manufactures*, in the most common, and ordinary sense of the word; thus we say the manufacture of cloth, glass, &c. Every *mechanical invention*, or machine, is a manufacture, and is patentable, whether it be an *old* machine, or engine, which will produce a *new* and useful effect; or a *new* machine, or engine, which will produce an *old* and useful effect.

I shall not pretend to define the word machine, or engine; as an attempt to define words which are so plain, familiar, and intelligible, leads to unnecessary difficulty. We have a powerful instance of this in the cases referred to, in the last essay; where the words principle, method, engine, &c. words which are perfectly well understood, have two or three meanings assigned them, and are thus rendered obscure, if not unintelligible.

The word *manufacture*, is found in the Act of Congress, with three other words; namely, art, machine, and composition of matter. These words, without any torturing, will be found to include every invention patentable by the English law.