
R E P E R T O R Y

OF

ARTS AND MANUFACTURES.

N U M B E R XLIV.

XIII. *Specification of the Patent granted to Mr. WILLIAM SABATIER, of the Parish of St. Mary-le-bone, in the County of Middlesex, Gentleman; for his Invention of a certain improved Method of retaining Cotton, Tobacco, Hemp, Flax, Hops, Hay, and other Articles, in nearly the same Compass in which they can be compressed by any Machinery now in use, or which may be hereafter invented for great Compression, without being liable, as they are at present, to any material Expansion after they are removed from the said Machinery; by which, they will not only be kept in their original,*

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nal, native, or improved Excellence, but they will occupy a much smaller Space than can be effected by any other Method now in Use, and may consequently be imported, exported, stored, or removed, at a decreased Price of Freight, Carriage, or Warehouse-Rent.

WITH A PLATE.

Dated July 4, 1796.

TO all to whom these presents shall come, &c. NOW KNOW' YE, that in compliance with the said proviso, I the said William Sabatier do hereby declare, that my said invention is described in the plan and description thereof hereunto annexed. In witness whereof, &c.

Specification of a Principle and Method invented by WILLIAM SABATIER, for retaining certain Articles in a much less Space than has hitherto been practised.

The most perfect bale, or other package, for stowage, is cubical, or oblong; and, if the article

ticle can be prevented from expanding in an essential degree, the invention is complete. These are the objects I have in view.

THE PRINCIPLE.

All bodies that are pliable or elastic, are more so when a force is exerted against them sideways, than when that same force is exerted to draw them lengthways; for example, a bar of iron, or other the like body, supported at each end, easily gives way to a force exerted against it sideways; but if the force is applied to each end, and it is drawn in contrary directions, it will not so readily give way. If, however, we make use of a rope, or even a piece of thin iron, round a bale, or cask, though it is drawn lengthways, that does not happen, until the side-operation has brought it nearly, or entirely, into the shape of a circle; but then a circle contains much less than a square of the same diameter, and yet, in stowage, will occupy nearly the same

space. I have also found, from experiment, that after compreffure, the efforts which cotton, tobacco, hemp, flax, hops, hay, and other articles, make to expand, are almost solely in the contrary direction in which they are compreffed. If they are compreffed in a fquare box or cafe they will affume the fhape of a fquare; though the box or cafe be afterwards removed, they will ftill continue, whilft the prefs is on them, nearly in the fame fhape as before. To retain them thus, after the prefs is removed, I apply iron, or any other body which has little or no elafticity when drawn lengthways, in fuch a manner as to place the force of the expansion upon it in that direction; the method of doing which is as follows.

THE METHOD. (See Plate IV.)

A, represents the opening of the box; here the article is put in: its ftrength must be in proportion to the power which is exerted. This box, where one is neceffary, and the nature of the article will admit of it, fhould be perforated with
abundance

abundance of holes, to let the air out; and must open readily, at that place where the bale or package is to be taken out.

a, a, a, a, are strips of wood, or iron, which go from the top to the bottom of the box, and are fastened to two of the sides, and serve to make four grooves in the bale or package, to lay the links (*f*) in.

B and C are two boards, which are made exactly alike; but B represents one side, and C the other.

b, b, are two triangular battens, which serve the double purpose to strengthen the boards, and to connect them when there are more pieces than one.

c, c, are small grooves, near the edges of the upper sides of the boards, which serve to lay the bolts (*g*) in, to prevent their slipping off.

d, shews one edge of the boards, and the ends of the battens.

e, shews the other edge.

f, shews the form of the iron links; but, no doubt, cane, or any other such article, may be used,

used, but not with such safety, or effect. They are put in grooves formed by *a, a, a, a.*

g, shews the iron bolts, which go through the eyes of the links, (*f,*) and lie in the grooves, (*c, c.*)

D, represents a bale complete; with the bolts, (*g,*) links, (*f,*) and the boards *B* and *C,* in their places.

Note, there are four links, four bolts, and two boards, to each package or bale.

When a bale is to be made, place a board, as *B,* at the bottom of the box; then throw in the article; then put the board, laid as *C,* on it; then press low enough to put on the irons, and two or three inches more; then open the box and put the irons on: let go the press gently, and the bale is finished.

