

XVI. Description of a Machine for twitching Wool; a Work hitherto done by Hand, and, from the Films and Dust, highly prejudicial to the Persons employed in it; by Mr. HUGH HUGHES, Millwright, of Coggeshall, Essex.

WITH A PLATE.

From the TRANSACTIONS of the SOCIETY for the ENCOURAGEMENT of ARTS, MANUFACTURES, and COMMERCE.

A BOUNTY OF TWELVE GUINEAS WAS GIVEN TO MR. HUGHES FOR THIS INVENTION.

THE description of this machine is accompanied by two letters from Mr. Hughes; the second is in answer to one from the society, desiring him to explain what was meant by the word twitching,

ing, as it appeared to be a local term ; and what word was made use of, for the same operation, in other parts of the country. Extracts from these letters are given below.

It is also accompanied by several certificates, stating, that the machine performs its operation in a very expeditious and complete manner ; and that it is the most useful one ever invented for baize-makers, clothiers, and other manufacturers of wool.

EXTRACT FROM MR. HUGHES'S FIRST LETTER.

“ My own machine, which is now at work, is at Mr. Richard White's, baize-maker, in Great Coggeshall, Essex, whose horse-wheel is ten feet diameter ; the next wheel, on the crank, is four feet diameter ; and the wheel which drives the machine is four feet also, and drives four machines in work at once, three times backwards and forwards. It works to much greater advantage, and with more ease, than any machine hitherto discovered for this purpose ; has little friction ; may be worked by hand, by water, by wind, or

by horfe; and will be found very ufeful for driving calenders for glazing of cloth.”

EXTRACT FROM MR. HUGHES'S SECOND LETTER.

“ The ufe of my machine is for opening and preparing the wool for the carders and fpinners, which was formerly done by men beating it with fticks, called rods. But of late the method has been to ufe mills, called here *gigging-mills*, which in Yorkfhire are called *towing-mills*. Thefe are worked by men turning them backward and forward, till the wool is fufficiently opened for ufe.”

DESCRIPTION OF MR. HUGHES'S MACHINE FOR TWITCHING WOOL. See PLATE VII.

A, The winch by which the pinion B is turned; this pinion taking into the teeth of the face-wheel C, on whose axis is the crank D, an alternate motion is communicated to the bar E, moving on an axis F; and thus the horfe-head G drives the wheel H to the right or left, as the teeth of the horfe-head take into the pinion I; and the teeth of the wheel H, taking into the pinion K, fixed on the axis of the twitching machine

L,

L, the fangs on the fliers are alternately driven, with considerable velocity, first one way, and then the other.

A cover is placed over the part into which the wool is put, to prevent the inconveniences arising from the small particles of wool, that are driven about during the operation, to the great detriment of the workmen employed in the hand machines used before this contrivance.

It will be easily seen, by any mechanic, how this machine may be fixed to a horse-mill, water-wheel, &c.

