is preſerved for planting. The canes are cut into pieces about a yard long, tied up in bundles, and carried in carts to the mill, where they are bruiſed, and the juice is extract­ed from them. The mill conſiſts principally of three up­right iron-plated rollers or cylinders, from 30 to 40 inches in length, and from 20 to 25 inches in diameter ; and the middle one, to which the moving power is applied, turns the other two by means of cogs. Between theſe rollers, the canes (being previouſly cut ſhort, and tied into bundles) are twice compreiſed ; for having paſſed through the firſt and second rollers, they are turned round the middle one by a circular piece oſ frame-work or ſcreen, called in Jamaica the *Dumb- returner,* and forced back through the ſecond and third ; an operation which ſqueezes them completely dry, and ſometimes even reduces them to powder. The cane juice is received in a leaden bed, and thence conveyed into a veſſel called the *receiver.* The refuſe, or macerated rind of the cane (which is called *cane-trash,* in contradiſtinction to *field-trash),* ſerves for fuel to boil the liquor.

The juice as it flows from the mill, taken at a medium, contains eight parts of pure water, one part of sugar, and one part conſiſting of coarſe oil and mucilagious gum, with a portion of eſſential oil,

As this juice has a ſtrong diſpoſition to fermentation, it muſt be boiled as ſoon as poſſible. There are ſome water­mills that will grind with great eaſe canes ſufficient for 30 hogſheads of ſugar in a week. It is neceſſary to have boil­ing veſſels, or clarifiers, that will correſpond in dimenſions to the quantity of juice flowing from the receiver. Theſe clarifiers are commonly three in number, and are ſometimes capable of containing 1000 gallons each ; but it is more uſual to ſee them of 300 or 400 gallons each. Besides the clarifiers which are uſed for the firſt boiling, there are ge­nerally four coppers or boilers. The clarifiers are placed in the middle or at one end of the boiling-houſe. If at one end, the boiler called the *teache* is placed at the other, and ſeveral boilers (generally three) are ranged between them. The teache is ordinarily from 70 to 100 gallons, and the Boilers between the clarifiers and teache diminish in size from the firſt to the laſt. Where the clarifiers are in the middle, there is uſually a ſet of three boilers of each side, which constitute in effect a double boiling-houſe. On very large eſtates this arrangement is found uſeful and neceſſary. The objection to ſo great a number is the expence of fuel ; to obviate which, in ſome degree, the three boilers on each side of the clarifiers are commonly hung to one fire.

The juice runs from the receiver along a wooden gutter lined with lead into the boiling-houſe, where it is received into one of the clarifiers. When the clarifier is filled, a fire is lighted, and a quantity of Briſtol quicklime in powder, which is called *temper,* is poured into the veſſel. The uſe of the lime is to unite with the ſuperabundant acid, which, for the ſucceſs of the proceſs, it is necessary to get rid of. The quantity ſufficient to ſeparate the acid muſt vary ac­cording to the ſtrength of the quicklime and the quality of the liquor. Some planters allow a pint of lime to every 100 gallons of liquor ; but Mr Edwards thinks that little more than half the quantity is a better medium proportion, and even then, that it ought to be diſſolved in boiling wa­ter, that as little of it as poſſible may be precipitated. The heat is ſuffered gradually to increaſe till it approaches within a few degrees of the heat of boiling water, that the impurities may be thoroughly separated. But if the liquor were suffered to boil with violence, the impurities would again incorpo­rate with it. It is known to be ſufficiently heated when the ſcum begins to riſe in bliſters, which break into white froth, and appear generally in about 40 minutes. The fire is then ſuddenly extinguiſhed by means of a damper, which excludes the external air, and the liquor is allowed to re­main about an hour undisturbed, during which period the impurities are collected in ſcum on the ſurface. The juice is then drained off either by a ſyphon or a cock ; the ſcum being of a tenacious gummy nature, does not flow out with the liquor, but remains behind in the clarifier. The liquid juice is conveyed from the clarifier by a gutter into the eva­porating boiler, commonly termed the *grand copper ;* and if it has been obtained from good canes it generally appears tranſparent.

In the evaporating boiler, which ſhould be large enough to receive the contents of the clarifier, the liquor is allowed to boil ; and as the ſcum riſes it is taken off. The ſcumming and evaporation are continued till the liquor becomes finer and thicker, and ſo far diminiſhed in bulk that it may be eaſily contained in the ſecond copper. When put into the ſecond copper, it is nearly of the colour of Madeira wine ; the boiling and ſcumming are continued, and if the impurities be conſiderable, a quantity of lime-water is added. This proceſs is carried on till the liquor be ſufficiently diminiſhed in quantity to be contained in the third copper.. After being purified a third time, it is put into the fourth copper, which is called the *teache,* where it is boiled and eva­porated till it is judged ſufficiently pure to be removed from the fire. In judging of the purity of the liquor, many of the negroes (ſays Mr Edwards) gueſs ſolely by the eye (which by long habit they do with great accuracy), judging by the appearance of the grain on the back of the ladle : but the practice moſt in uſe is to judge by what is called the *touch ; i.* e. taking up with the thumb a ſmall portion of the hot liquor from the ladle ; and, as the heat diminiſhes, drawing with the fore-finger the liquid into a thread. This thread will ſuddenly break, and ſhrink from the thumb to the ſuſpended finger, in different lengths, according as the liquor is more or leſs boiled. The proper boiling height for ſtrong muſcovado ſugar is generally determined by a thread of a quarter of an inch long. It is evident, that cer­tainty in this experiment can be attained only by long habit, and that no verbal precepts will furniſh any degree of ſkill in a matter depending wholly on constant practice.

The juice being thus purified by paſſing through the cla­rifier and four coppers, it is poured into coolers, which are uſually six in number. The removal from the teache to the cooler is called st*riking.* The cooler is a ſhallow wooden veſſel 7 feet long, from 5 to 6 wide, about 11 inches deep, and capable of containing a hogſhead of ſugar. As the li­quor cools, the ſugar grains, that is, collects into an irregular maſs of imperfect cryſtals, ſeparating itſelf from the melaſſes. It is then removed from the cooler, and conveyed to the cu­ring houſe, where the melaſſes drain from it. For receiving them there is a large ciſtern, the doping sides of which are lined with boards. Directly above the ciſtern a frame of joiſt-work without boarding is placed, on which empty hogſheads without heads are ranged. The bottoms of theſe hogſheads are pierced with 8 or 10 holes, in each of which the ſtalk of a plantain leaf is fixed ſo as to pro­ject 6 or 8 inches below the joiſts, and riſe a little above the top of the hogſhead. The hogſheads being filled with the contents of the cooler, conſiſting of ſugar and melasses, the melaſſes being liquid, drain through the ſpungy ſtalk, and drop into the ciſtern. After the melaſſes are drained off, the ſugar becomes pretty dry and fair, and is then called *muſcovado* or *raw ſugar.*

We have deſcribed the proceſs for extracting ſugar, which is generally adopted in the Britiſh West India iſlands, accord­ing to the lateſt improvements ; and have been anxious to preſent it to our readers in the ſimpleſt and moſt perſpicuous form, that it might be intelligible to every person ; and