reed or comb is alſo of wood, eight or nine inches long, and an inch thick on the back, whence it grows leſs and leſs to the extremity of the teeth, which are more or leſs apart, according to the greater or leſs decree of fineneſs of the intended work. Laſtly, the needle is made in form of the common needle, only bigger and longer. Its uſe is to preſs cloſe the wool and ſilks when there is any line or co­lour that does not fit well.

All things being prepared for the work, and the work­man ready to begin, he places himſelf on the wrong side of the piece, with his back towards the deſign : ſo that he works as it were blindfold, ſeeing nothing of what he does, and being obliged to quit his poſt, and go to the other side of the loom whenever he would view and examine the piece, to correct it with his preſſing-needle. To put ſilk, &c. in the warp, he firſt turns and looks at the deſign ; then, ta­king a broach full of the proper colour, he places it among the threads of the warp, which he brings croſs each other with his fingers, by means of the coats or threads fattened to the ſtaff ; this he repeats every time he is to change his colour. Having placed the ſilk or wool, he beats it with his reed or comb; and when he has thus wrought in ſeveral rows over each other, he goes to ſee the effects they have, in order to reform the contours with his needle, if there be occaſion. As the work advances, it is rolled upon the lower beam, and they unrol as much warp from the upper beam as suffices them to continue the piece : the like they do of the deſign behind them. When the pieces are wide, ſe­veral workmen may be employed at once.

We have but two things to add : the firſt is, that the high warp tapeſtry goes on much more ſlowly than the low warp, and takes up almoſt twice the time and trouble. The second is, that all the difference that the eye can perceive between the two kinds, conſiſts in this, that in the low warp there is a red fillet, about one twelfth of an inch broad, running on each side from top to bottom, which is wanting in the high warp.

*Manufacture of Tapestry of the Low Warp. —* The loom or frame, whereon the low warp is wrought, is much like that of the weavers ; the principal parts thereof are two ſtrong pieces of wood forming the sides of the loom, and bearing a beam or roller at each end : they are ſuſtained at bottom with other ſtrong pieces of wood in manner of treſtes ; and, to keep them the firmer, they are likewiſe fastened to the floor with a kind of buttreſſes, which prevent any ſhaking, though there are ſometimes four or five work­men leaning on the fore-beam at once.

The rollers have each their trunnions, by which they are ſuſtained: they are turned by large iron pins three feet long. Along each beam runs a groove, wherein is placed the wich, a piece of wood of about two inches diameter, and almoſt of the length of the roller : this piece fills the groove en­tirely, and is fattened therein, from ſpace to ſpace, by wood­en pins. To the two wiches are fattened the two extremi­ties of the warp, which is wound on the farther roller, and the work, as it advances, on the nearer.

Acroſs the two sides, almoſt in the middle of the loom, passes a wooden bar, which ſuſtains little pieces of wood, not unlike the beam of a balance : to theſe pieces are fattened ſtrings, which bear certain ſpring-ſtaves, wherewith the workman, by means of two treddles under the loom where­on he ſets his feet, gives a motion to the coats, and makes the threads of the warp riſe and fall alternately. Each loom has more or fewer of theſe ſpring ſtaves, and each ſtaff more or fewer coats, as the tapeſtry conſiſts of more or fewer threads.

The deſign or painting the tapeſtry man is to follow is placed underneath the warp ; where it is ſuſtained from ſpace to ſpace with ſtrings, by means of which the deſign is brought nearer the warp.

The loom being mounted, there are two inſtruments uſed in working it, viz. the reed and the flute. The flute does the office of the weaver’s ſhuttle ; it is made of an hard poliſhed wood, three or four lines thick at the ends, and ſomewhat more in the middle, and three or four inches long. On it are wound the ſilks or other matters to be uſed as the woof of the tapeſtry. The comb or reed is of wood or ivo­ry ; it has uſually teeth on both sides ; it is about an inch thick in the middle, but diminiſhes each way to the extre­mity of the teeth : it ſerves to beat the threads of the woof cloſe to each other, as fall as the workman has paſſed and placed them with his flute among the threads of the warp.

The workman is ſeated on a bench before the loom, with his breaſt againſt the beam, only a cuſhion or pillow between them; and, in this poſture, ſeparating, with his fingers, the threads of the warp, that he may ſee the deſign under­neath, and taking a flute, mounted with a proper colour, he passes it among the threads, after having raised or lowered them, by means of the treddles moving the ſpring-ſtaves and coats.

Laſtly, To preſs and cloſe the threads of the ſilk or yarn, &c. thus placed, he strikes each courſe (i. *e.* what the flute leaves in its paſſing and coming back again) with the reed.

TAPIOCA, a ſpecies of ſtarch, which the Brazileans make from the roots of the caſſada plant, which is already deſcribed under its botanic name Jatropha.

TAPIR, in zoology, a quadruped of the order of *belluae,*reſembling the hippopotamus, has the fore-hoofs divided into four, and the hind-hoofs into three parts. The noſe of the male extends far beyond the lower jaw, is ſlender, and forms a sort of proboſcis ; it is capable of being contracted or ex­tended at pleaſure, and its sides are ſulcated. The extre­mities of both jaws end in a point, and there are ten cutting teeth in each. Between them and the grinders there is a va­cant ſpace ; and there are ten grinders in each jaw The ears are erect, the eyes ſmall, and the body is ſhaped like that of a hog. The back is arched ; the legs are short ; and the hoofs ſmall, black, and hollow. The tail is very ſmall. The animal grows to the ſize of a heifer half a year old. The hair is ſhort : when young, it is ſpotted with white ; when old, of a duſky colour. It inhabits the woods and rivers of the eaſtern side of South America, from the Iſthmus of Da­rien to the river oſ Amazons. It ſleeps during day in the darkeſt and thickeſt foreſt adjacent to the banks, and goes out in the night-time in ſearch of rood. It lives on graſs, sugar-canes, and on fruits. If diſturbed, it takes to the water ; ſweems very well ; or sinks below, arid, like the hippopota­mus, walks on the bottom as on dry ground. It makes a sort of hiſſing noiſe.—This is the largeſt of the American animals.

TAPPING, in general, the act of piercing a hole in a vessel, and applying a tube or canula in the aperture, for the commodious drawing off the liquor contained therein.

Tapping, in ſurgery. See Surgery.

TAPROBANE, the ancient name of the iſland of Cey­lon. See Ceylon.

TAR, a thick, black, unctuous ſubſtance obtained chiefly from old pines and fir-trees by burning them with a cloſe ſmothering heat. It is prepared in great quantities in Nor­way, Sweden, Germany, Ruſſia, and North America, and in other countries where the pine and fir abound. For the method of obtaining it, ſee the article Pinus, page 765.

Becher, the celebrated chemiſt, firſt propoſed to make tar from pit-coal. Manufactures for this purpoſe have been eſtabliſhed many years ago in the biſhopric of Liege, and