tween the two hanks, which ſerves for a head-band to tie them.

You muſt obſerve that your water be juſt in a proper de­gree of heat. When it is too hot, the thread is dead, and has no body ; when it is too cold, the ends which form the thread do not join well, and form a harſh ill-qualifi­ed ſilk.

You muſt change the water in your baſon four times a-day for your dupions and choquette, and twice only for good cocoons when you wind fine ſilk ; but if you wind coarſe ſilk, it is neceſſary to change it three or four times. For if you were not to change the water, the ſilk would not be ſo bright and gloſſy, becauſe the worm contained in the cocoons foul it very conſiderably. You muſt endeavour as much as poſſible to wind with clear water, for if there are too many worms in it, your ſilk is covered with a kind of dust which attracts the moth, and deſtroys your ſilk.

You may wind your ſilk of what ſize you pleaſe, from one cocoon to 1000 ; but it is difficult to wind more than 30 in a thread. The nicety, and that in which conſiſts the greateſt difficulty, is to wind even ; becauſe as the cocoon winds off, the end is finer, and you muſt then join other cocoons to keep up the ſame ſize. This difficulty of keeping the ſilk always even is ſo great, that (excepting a thread of two cocoons, which we call such) we do not ſay a ſilk of three, of four, or of ſix cocoons ; but a ſilk of three to four, of four to five, of fix to ſeven cocoons. If you proceed to a coarſer, ſilk, you cannot calculate ſo nicely as to one cocoon more or leſs. We ſay, for example, from 12 to 15, from 15 to 20, and ſo on.

What number of worms are neceſſary to produce a certain quantity of ſilk has not been aſcertained. And as different perſons who wished to determine this point have had different reſults, the truth ſeems to be, that from various circumſtances the ſame number of worms may produce more ſilk at one time than at another. It is related in the ſecond volume of the Tranſactions of the Society for encouraging Arts, &c. that Mrs Wil­liams obtained nearly an ounce and a half of ſilk from 244 cocoons. Mr Swayne from 50 cocoons procured 100 grains. Miſs Rhodes obtained from 250 of the largeſt cocoons, three quarters of an ounce and a dram. From a paper in the ſecond volume of the Ameri­can Tranſactions, which we have before referred to in the courſe of this article, we are informed that 150 ounces oſ good cocoons yield about 11 ounces of ſilk from five to ſix cocoons : if you wind coarſer, ſomething more. But what appears aſtoniſhing, Mr Salvatore Bertezen, an Italian, to whom the Society for encou­raging Arts, &c. adjudged their gold medal, raiſed five pounds of excellent ſilk from 12,000 worms.

The cocoons produce a thread of very unequal length ; you may meet with ſome that yield 1200 elk, whilſt others will ſcarcely afford 200 ells. In general, you may calculate the production of a cocoon from 500 to 600 ells in length.

As there is every reaſon to hope that the ſilk manu­facture will ſoon be carried on with ardour in this country, and to a great extent, we are happy to learn that the ſilk-loom has been much improved lately by Mr Sholl of Bethnal-Green. It appears from the evidence of ſeveral gentlemen converſant in that branch of ſilk weaving to which this loom is particularly adapted,@@ that

the advantages oſ this conſtruction are, the gaining light, a power of ſhortening the porry occaſionally, ſo as to suit any kind of work, being more portable, and having the gibbet firmly fixed, together with the diminution of price ; which, compared with the old loom, is as five pounds, the price of a loom on the old conſtruction, to three pounds ten ſhillings, the price of one of thoſe contrived by Mr Sholl ; and that, as the proportion of light work is to ſtrong work as nine to one, this sort of loom promiſes to be of very conſiderable advantage, particularly in making modes, or other black work.

As a plate of this loom, with proper references, will render its advantages moſt intelligible, we ſhall ſubjoin theſe : Plate CCCCLXVI. A, A, The fills; B, B, The breaſt-roll poſts : C, The cut tree; D, F), The up­rights ; E, The burdown ; F, The batton ; G, The reeds; H, The harneſs ; I. The breaſt-roll ; K, The cheeſe; L, The gibbet: M, The treddles ; N, The tumblers ; 0, Short eounter-meſhes ; P, Long counter- meſhes ; Q, The porry ; R, R, Cane roll poſts ; S, The cane-roll ; T, The weight bar and weight ; U, U, Counter-weights ; W, The breaking rod ; X, X, Crois rods.

*SILK-Worm.* See Silk.

SILPHA, Carrion-beetle, in natural hiſtory ; a genus of animals belonging to the claſs of *inſectae,* and to the order of *coleopterae.* The antennæ are clavated ; the cla­va are perfoliated ; the elytra marginated ; the head is prominent; and the thorax marginated. There are 94 ſpe­cies, of which ſeven only are natives of Britain and Ire­land. I. The *veſpillo.* The margin of the thorax broad. The ſhells abbreviated, black, with two yel­low belts. The thighs of the hind legs large, with a ſpine near their origin. Length near one inch. It infeſts dead bodies. 2. The *biphuſtulata,* is black ; the antennæ are long and ſmall, and there are two red ſpots on the middle of each ſhell. The length is one-third of an inch. 3. The *pustulala,* is black and oblong : there are four brown ſpots on the ſhells : the length is one-fifth of an inch. It lives on trees. 4.@@ The *quadripunctata.* The head, antennæ, and legs black- Mar­gin oſ the thorax and ſhells are of a pale yellow, with four black ſpots. The length half an inch. It is found in Cain-wood, near Hampſtead. 5. The *ſabuloſa,* is black ; the antennæ are ſhort and globular ; there are five striae on each ſhell. The ſhells and wings are ſhort. There are five joints on the two firſt feet, four on the rest. It lives in sand. 6. The *aquatica,* is brown, with a green bronze tinge. There are four ribs on the tho­rax. On each ſhell there are 10 ſtriae. The length is one-fifth of an inch. 7. The *pulicaria,* is black and ob­long ; the ſhells are abbreviated ; the abdomen is round­ed at the extremity ; the thorax and ſhells are ſcarce marginated ; the length is one line. It is found fre­quently running on flowers.

SILPHIUM, in botany ; A genus of plants belong­ing to the claſs of ſyngeneſia, and to the order of polygamia neceſſaria ; and in the natural ſyſtem arranged un­der the 49th order, *compositae.* The receptacle is pa­leaceous ; the pappus has a two-horned margin, and the calyx is ſquarroſe. There are eight ſpecies ; the laciniatum, terebinthinum, perfoliatum, connatum, aſterisicum, trifoliatum, ſoldaginoides, and trilobatum. The firſt six of theſe are natives of North America.

@@[mu] Transactions of the Society for encouraging Arts, &c. vol. viii.

@@[mu] Berkenhout, vol. i.