

Fancy Weaving.

By the term *fancy weaving* we mean the weaving of those small patterns which are produced in looms mounted with leaves of headles; and of which we have already given sufficient explanation in the preceding articles.

A complete description of the method of weaving figured patterns of *unlimited extent, by power*, we may give in some future number. At present we shall confine our remarks to those looms for weaving fancy texture which we consider to be of most practical utility, with such other information as has a direct bearing on the subject: and, in the outset, it may, perhaps, not be amiss to offer a few observations on fancy textures in general.

The smaller mountings, with leaves of headles, produce but a very limited variety of patterns, commonly a small diamond or lozenge figure, with a dot or speck in the centre, which gives it the resemblance of an eye, hence these figures are generally denominated bird-eye patterns. When these mountings, however, extend to eight leaves and upwards they admit of considerable diversity in flushing, tweeling, and plain texture, deviating from the formal figures of the bird-eye, and which now assume the appearance of what is called lined work.

The draught of lined work patterns may be considerably diversified by dividing the leaves into two equal portions, and drawing a few sets of the diamond draught on each portion alternately. This arrangement throws the group of small figures produced by each set of leaves, into alternate squares, somewhat resembling the dam board pattern. It is customary, however, to introduce an odd leaf into these mountings, immediately between the divisions, which serves as a point leaf to both sets.

Any number of concentric figures may be formed, by repeating the draught several times over the leaves in one direction, and returning in the contrary direction as often; so that should the draught diverge from the centre of the cloth toward each selvage, and the treading continue to the same extent, the pattern would be one great figure, composed of concentric squares, whose dimensions and variety would depend on the number of leaves and the arrangement of the raising cords.

Tweeled and plain textures.—For patterns of this kind, the mountings will consist of one set of plain, and one set of tweeling leaves, and the raising and sinking cords of the plain mounting are tied alternately on the tweeling treadles. It must be observed however, that in all mountings which have an odd number of tweeling leaves, double the number of treadles are requisite, in order to make the plain sheds alternate without interruption.

All tweeled stripes, which have an even number of tweeling leaves, are woven with one set of tweeling treadles, as the sheds of the plain parts can then be made alternate without any interruption.

Where the pattern will permit, the greater portion of the tweeling leaves should be sunk and therefore, the welt will appear to most advantage on the upper side of the cloth while in the loom. Besides this advantage, the strain on the machinery will not be near so great, in raising the smaller portion of leaves.

Sometimes the draught of a tweeled stripe is made in the diamond form, and the pattern produced is commonly called a dart stripe, or herring bone.

When a web is to be tweeled across, in order to form checks or the borders of handkerchiefs, the same number of leaves must be employed for the grounds that are requisite for the tweeled stripe. Thus, to convert a four leafed tweel stripe into a check, the common mounting of four leaves will produce a similar tweel across the web. But should the tweel be woven in a six or eight leafed tweel mounting, the plain parts must also be drawn on six or eight leaves, and each leaf is corded so as to rise and sink alternately in the plain parts, but to produce the tweel in the check. Hence it will appear, that a stripe with an odd number of tweeling leaves will not admit of a similar tweel for the cross-

ing or check, as the ground leaves must always be divided into equal portions in weaving the plain parts.

Any tweel of an even number of leaves may be converted into stripes and checks; and if the stripe be formed into a dart or herring bone, the plain may be woven by a single over and over draught, and converted into a check the same as the stripe, by working over, the treadles in one direction for half of the cross stripe, and reversing the order of treading for the other.—GILROY.

(To be continued.)

The Diamond

The diamond is the chief of stones, the hardest and most luminous, even phosphoric in the dark. Among the ancients the perfect crystals were alone valued. They were not aware of that property which enables modern diamond workers to produce such brilliancy, viz. the use of its powder as the cutting agent. Many stones, which with our skill, are of enormous value, would have been rejected by them. The diamond, though said by Pliny to be so hard as to indent the hammer that strikes rather than break, in the direction of its axis of crystallization it fractures readily. This quality is used in the first stage of manufacture. It was in the year 1476 that Louis de Bergham, of Bruges, first discovered the property of powdered diamonds and the mode of application. Roses and table diamonds were the only kinds that he produced. The most perfect shape for reflection or refraction of light is that which is called brilliant, being two truncated pyramids united at their bases, the upper bearing to the lower in height above the girdle or line of junction the proportion of five to ten, leaving the plane of truncation, or the culet of the lower pyramid, one fifth the superficies of the upper, or as for distinction it is called the table. The sides of the upper pyramid are covered with triangular facets; those which have their base on the base of the pyramid are called skill facets; those radiating from the table are called star facets. These in a well cut stone meet half way down the sides. The lower pyramid is similarly treated, the skill facets being to the culet facets as three to two in length. This is the best form for bringing out the brilliancy of the diamond; if the two sides are perpendicular, the light is radiated from the eye of the spectator, if too horizontal, a flatness of lustre arises, for the light passes more easily through the crystal in the direction of its poles than transversely through its laminae; it is therefore in a thin brilliant less reflected. Experience has found that the discovery of larger diamonds bear a fixed proportion to that of smaller, so that the price is regulated accordingly,—the rule of calculation being that as the square of the weights so must be the value.

So jealous are the Indians of the size of their diamonds, that when they work them they make the facets follow the form in which the stone is found, be it a perfect or imperfect crystal; but rather than have this small loss, they are frequently content with them unwrought. Stones of extraordinary size are claimed as the property of the Prince, and transmitted as heir-looms, through generations, a small dot being made in one part of the stone by each possessor. The finest collection of gems in the world is in possession of the Shah of Persia, obtained by the plunder of Delhi about two centuries ago. Cardinal Mazarin, in the reign of Louis XIV., was the first who wore a brilliant. This truly scientific arrangement is therefore but of modern invention. Extraordinary interest attaches to some diamonds. The largest diamond in the world is in possession of the Great Mogul, in form and size equal to a hen's egg, weighing about 700 carats. The next in size is the Brazillian diamond in the possession of the Queen of Portugal, weighing 215 carats. The third is an oriental diamond, bought by Catherine, Empress of Russia. The fourth is the Pitt or Regent diamond, bought by the Duke of Orleans, once in the crown of France. To those who regard gems as symbols of ideas money seems but a poor parallel. The supplies of Europe are chiefly drawn from Brazil. The famed mines of Golconda are no longer worked, and but a limited quantity is still sent from Hindoostan. The great influx of

diamonds which followed their discovery in South America alarmed the holders about the year 1735, lest diamonds should become as plentiful as pebble stones. They fell greatly in value, but have since regained their worth, and have for years maintained a value rather increasing than diminishing with the growing wealth of the world.

Tea Drinking in Siberia.

I found the domestic manners of the old families in Yakutsk quite as entertaining and agreeable as their conversation about their travels. Tea-drinking at the evening parties is here carried as far as it can go. Five or six cups are usually taken as a matter of course, and then another at the earnest entreaty of the lady of the house. The lady, in pressing her guests, ascends through all the ordinary phrases till she comes at last to the singular expressions *ponatujtes*, and *ponevolites*; that is make the endeavor and get the better of your reluctance. At the same time, great quantities of the cedar-nuts are eaten, to which they give the whimsical appellation of *rosgovorki*, chats or conversations. For here it is expected that young ladies, in the company of elderly people, will hold their tongues. They sit, in their fine dresses, along the sides of the room, only as ornaments and for show, and to give their mouths employment, they are allowed nuts instead of conversation. And in truth these nuts give the mouth sufficient occupation, for it requires no little skill to pick out the seeds, so that to the unpracticed, they seem better fitted for squirrels than for men. After tea, we were treated, as is customary in China and all the towns of Siberia, with *verenie*; that is, preserved fruits from Little Russia, and with dried apricots from Bokhara. Here was added a most savory and true Yakutskin product, which I was surprised to find was raw flesh. Large slices of beef are hung up in autumn on wooden trestles made for the purpose, and then are left for the whole winter in some airy place, exposed to the action of the sun and frost. They are fit for use at the beginning of spring. It is impossible to guess from the appearance of this article, what it is, for the whole is then perfectly dry; the fat has a waxy look, and is as white as snow, while the lean is a hard, cellular mass, with a whitish hue, where cut. When ever it is wanted for use, these slices are cut into very thin strips, which have so agreeable a flavor, that we cannot help admitting that the frost and open air are sufficient substitutes for the culinary art. I found the Siberian product far better adapted for eating than the *carne secca* in California and Brazil which is dried merely by the heat of the sun. The meat dried in this way in Yakutsk, keeps in summer quite unchanged. It is an inestimable resource for travellers, who are not always in a position to make a fire for cooking, and by long use, one grows so partial to this invigorating food, that even at home as at these tea parties, it is used as a dainty.—*Erman's Travels in Siberia.*

Dyak Iron Furnaces.

Intermixed with the soil and boulders of antimony are lumps of iron ore of the scorio-laceous character. The Dyaks, manufacture their best parangs, or swords, from this description of ore, by the following primitive but simple process. A small clay pit is dug, twelve inches in depth, three inches square at the bottom, and increasing to about nine inches at the top, this serves for the smelting furnace: then, with two large bamboo canes, about three feet long, and three to four inches in diameter, for cylinders,—a smaller cane inserted at the bottom, to act as a tweel, and a bundle of feathers as a piston,—the apparatus is completed. The tweels are so placed as to admit the jet of blast, about two and a half inches above the bottom of the pit,—the pistons are set in motion by the hand, and when all is prepared, the pit is about half filled with wood charcoal, on which is placed a certain quantity of iron ore; and in about the space of an hour and a half, the whole is fused. The slag is then allowed to run off, and the metal being partially cooled, it is taken out and placed in another similarly constructed furnace, where the process of heating is repeated, for the purpose of refining it.

While in a liquified state, the metal is puddled, and then forged on a large stone (an iron anvil is preferred, if available.) By this process from two to three pounds of iron is made, sufficient for the manufacture of one parang, and when finished, the fibre is found to be fine and closely arranged; and the steel thus produced is equal to any made in Europe.

Chinese Dentist.

The dentist pitches his tent on arriving and unfolds to the admiring crowd a huge scroll, on which at the left side, are set forth his home, place of birth &c.; the rest of the scroll speaks of his fame and skill in cleansing, curing, and knowledge of the mouth in general; if this fails to obtain a customer, he opens box after box, producing hundreds of human teeth on which he lectures, declaring each large and decayed tooth to have belonged to a prince, duke, or high mandarin, who had honored him with his patronage and thus saved himself from the terrific tortures. Should a bystander at last be attracted and offer his mouth for inspection the instruments are produced, and if extraction be required, it is done with much expertness; he shows the instrument to the crowd, describes its use and power, and as an illustration of it, draws the tooth, while the sufferer imagines he is merely going to show how he would do it; if cleansing is required, he exhibits his instruments one by one, and using each, keeps up a chant, and lecture alternately; after the operation is performed he recommends his powders; I tried several, and detected a strong mixture of camphor in all. Thus he continues, until having remained a short space without a customer, he packs up and moves to another convenient spot.—*Forbes's China.*

Russia.

The territory of Russia in Europe contains one million of square miles, with a population of about 58 millions. In 1772 in all the Russian dominions, it was but 14 millions—an astonishing increase.

The revenue is made up from the tariff, a port tax, a tax on mercantile capital, stamp duties, and licenses for public houses. It is reckoned at about 80 millions of dollars per annum only. It is supposed that Russia has at this day an army of one million of men; the number is certainly not less than 700,000. Such a force would make a fearful onslaught on Poland, Prussia, Austria, and France, if it was directed thither. It is three times larger than it was during the reign of Alexander. Besides this force there are military colonies established throughout the empire, where the peasants act at once as agriculturists and soldiers. Their numbers are estimated at seven hundred thousand.

The Russian navy contains 50 sail of the line, 25 frigates, ten or twelve war steamers, 128 brigs, and 500 gun boats. The vessels are fine and showy, but there is on board a want of discipline and cleanliness.

The gold mines of Russia are now producing enormously; so much so as to endanger the comparative value of gold as a standard. Immense sums are deposited in the imperial vaults, and in this respect the sinews of war are already strung. The national debt is about three hundred millions of dollars, but there is a large sinking fund to work upon its reduction.

The peace of Europe evidently depends upon the volition of one man, the Emperor Nicholas.

Thomas Campbell the poet, says that America is the only nation in the world, where the whole population at all times have enough to eat. This is a remarkable fact, and during the present disturbances in Europe will serve to draw immense numbers of all classes from ex-kings to half-starved peasants to this vast and glorious country. Our agriculture will improve rapidly, not less by the increase of numbers to consume its varied products, than by the general diffusion of knowledge among the tillers of the earth.

About a thousand barrels of delicious castor oil are carried down the Mississippi every season.