mode of accomplishing the same object is to cover the plate originally with an aquatint ground. But then a fresh one would be required for every plate, whereas a single *veil* would serve for any number of plates in succession. Experience alone can decide between these different methods. When the etching is finished, the plate should be very soon coated with wax to protect it. A few hours' exposure to the atmospheric air rusts and destroys the etchings when newly made, although it does not do so afterwards. The oxidation only attacks the lines of the etching, the rest of the plate sustaining no injury, if the air is tolerably dry.

Having thus described the method of producing the photographic etchings, it would, I think, extend this letter to too great a length were I to add any remarks upon the theory of the process, which will better be deferred to another opportunity.

Lacock Abbey, April 25.

On the Composition of the Substances employed by the Chinese in the Decoration of Porcelain. By MM. EBELMEN and SALVETAT.*

(Continued from page 36.)

2. *Blacks.*

The authors have analyzed four different specimens of blacks, namely, the black called *Si-fen-liao*, in the collection of the Musée Céramique, and the shining, dull, and bright blacks of the collection brought from Canton by M. Itier. The results are as follows:—

	Fen-liao. I.	Ou-kin. II.	Liang-he. III.	Tse-he. IV.
Loss by heat,	14·20	25·60	3·20	16.60
Silica, . .	2·00	1·98	50·70	6·00
Oxide of lead,	69.14	59·58	25·00	traces
Oxide of copper,	4·60	8·40	5·80	5·40
Oxide of iron,	3·00			
Oxide of manganese,	7·00	1·70	10·02	70·00
Oxide of cobalt,				
Alumina, .	0·24	0·62	0·52	0·40
Lime and Magnesia,	0·60	1·43	1·67	1·20
Alkali, . .	0·00	0·69	3·09	0·40

I. *Si-fen-liao.*—This is a brown powder with a greenish tinge. It effervesces strongly when treated with dilute nitric acid, and the solution presents all the characters of nitrate of lead. Before the blowpipe and with reagents it behaves like a mixture of white lead and an oxide of manganese containing cobalt.

II. *Ou-kin*, metallic black or raven-black, (ticketed *noir mat*).—This is in elongated fragments of the form of small sticks, or in irregularly rounded masses.

With reagents it behaves like *si-fen-liao*. It differs from that color in being made up into masses with size; but when this is removed, both colors consist of 5 parts of white lead and 1 part of the mineral called *thsing-hoa-liao*. It follows also from the analyses that this mineral must be of very variable composition.

In both these blacks the silica is only introduced by the gangue of the

* From the London Chemical Gazette, No. 243.

manganesian mineral, and this circumstance occurs also in other colors. It explains certain effects which may be remarked in the decoration of some Chinese porcelain, which are adorned with dull black or red ornaments, forming an agreeable contrast with the other well-glazed ornaments.

Laid on porcelain and exposed to the heat of the muffle-furnace, the two preceding colors only adhered in the thin parts. Where they were thicker, the oxide of lead was absorbed by the oxides, which in the absence of silica were incapable of forming a vitreous varnish. The thin portions, on the contrary, shone, because in these parts the small quantity of silica was sufficient to transform the oxide into silicate of lead.

III. *Liang-he*, shining black (ticketed *noir luisant*).—This is a brown powder, which must have been formed from a previously fused mass. With nitric acid it effervesced slightly, and the solution contained lead. Before the blowpipe it gave the reaction of cobalt. Oxide of manganese exists in it in smaller quantity than in the preceding colors.

IV. *Tse-he*, porcelain-black (ticketed *noir clair*).—This consists of dark greenish fragments, which are crushed with difficulty, and when burnt emit a distinct odor of burnt glue. It appears to be a mixture of *thsing-hoa-liao* with a size formed from bullocks' hides (*yeou-p'hy-kao*), which, according to Father Ly, is the solvent employed by the Chinese to render their colors fit for use. The silica, which forms 6 per cent. of the mass, is much contaminated with alumina; it is the gangue of the cobaltiferous mineral. The authors have tried this black as a blue under glazing; it gave blue designs perfectly resembling those which occur on many specimens of Chinese porcelain. As, however, the temperature of the furnaces at Sèvres is greater than that of the Chinese furnaces, the portions on which the oxides were thickly laid became inflated during the baking.

3. *Blues.*

The collection sent by Father Ly contains four different specimens of blue,—two in the rough state, and two completely prepared for painting. From the analyses it appears, that, in conformity with the statement made by Father Ly, there is no difference between the rough and prepared colors.

Seng-kchouang-thsei, or rough blue of the first quality, requiring no addition of *yuen-feng;* it must be pounded (Ly).

This color is in well-fused, brilliant, transparent masses, of a fine sky-blue. It is frequently paler and opake in the interior of the masses; this appears to arise from imperfect fusion. When powdered, it is of a paler but pure blue color; and if treated immediately after this operation with dilute nitric acid, it does not effervesce.

Si-kchouang-thsei, or prepared blue of first quality (Ly).—This is a powder which effervesces slightly with nitric acid from the presence of a little carbonate of lead. With acid it behaves like the preceding, resisting their action very well. Muriatic and nitro-muriatic acids discolor it completely after long boiling.

Sing-ting-thsei, rough blue of second quality, without need of *yuen-feng* (Ly).—This consists of perfectly transparant blue fragments. When

triturated, it furnishes a powder of a paler and more violet color than that given by the *khouang-thsei*. With acids it behaves like that color.

Si-ting-thsei, or prepared blue of second quality (Ly).—This is the powder furnished by pounding the preceding. It effervesces slightly with dilute nitric acid.

The following are the results of our analyses of these four colors:—

	Khouang-thsei.		Ting-thsei.	
	Seng.	Si.	Seng.	Si.
Loss by heat,	0·00	3·80	0·65	2·40
Silica, . .	48·21	46·40	38·81	37·20
Oxide of lead,	32·84	30·89	44·14	42·18
Oxide of cobalt,	1·50	1·60	0·68	0·50
Oxide of iron,	1·63	1·50	1·03	1·06
Lime, .	0·97	0·85	0·83	0·64
Magnesia,	trace	trace	trace	trace
Potash and soda,	13·78	13·20	11·10	13·39
Oxide of copper,	1·00	0·96	0·50	0·15
Oxide of manganese,	0·50	0·62	1·00	1·00
Alumina, . .	0·06	0·15	0·50	0·50

In the second and fourth analyses, the loss includes the water and carbonic acid of the carbonate of lead formed by exposure to the atmosphere. The difference in the proportions of the oxides of cobalt and manganese explains the difference in the tint of these two blues; the second is paler and more violet than the other.

M. Itier brought the two following blues from Canton:

P'ao-lan, precious blue (ticketed *bleu foncé*).—This is a powder containing fragments. It resists the action of acids better than the preceding blues, but effervesces slightly with them. Under water it is seen to consist of two powders of different blues.

Tsing-fen, blue powder (ticketed *bleu de ciel foncé*).—This is a paler powder than the preceding. It effervesces slightly, and resists the action of acids rather less than the *p'ao-lan*.

The analyses of these two colors gave—

	P'ao-lan.	Tsing-fen.
Loss by heat, . .	3·00	1·40
Silica with traces of stannic acid,	60·80	47·20
Oxide of lead, . . .	18·76	38·90
Oxide of cobalt, . .	1·62	0·50
Oxide of iron, . . .	1·50	1·00
Lime, . . .	1·08	0·64
Magnesia, . . .	trace	trace
Potash and soda, . .	0·19	9·34
Oxide of copper, . . .	1·00	trace
Oxide of manganese, . .	1·50	0·84
Alumina, . . .	0·55	0·18

Thus all Chinese blues consist of a plumbo-alkaline glass colored with oxide of cobalt. The only difference between them lies in their various degrees of fusibility.

4. *Greens.*

All the greens employed in the decoration of porcelain in China are colored by oxide of copper, sometimes pure, sometimes rendered yellowish by the addition of prepared yellow, or bluish by the addition of white or of a harder flux.

The authors have only examined the rough colors, as, according to the

statements of Father Ly, the prepared colors would only differ from the rough ones in being triturated, or sometimes mixed with white lead.

Fei-thsei, rough green of first quality, to a pound of which 12 oz. of *yuen-feng* are added (Ly).

This is of a turquois-blue color; its powder is pale sea-green. Father Ly says, that when this color is of a coarse quality, it is mixed with *sy-chy-mo*. The authors think that it must be in a similar case that the large addition of *yuen-feng* mentioned above is necessary, as this addition does not appear to be required with the specimen in the Musée Céramique.

This color is produced by the fusion of white with the following green. In M. Itier's collection there are two greens of the same shade,—one which M. Itier calls light blue (*bleu clair*), and another which he names sea-green (*vert d'eau*).

Tcha-lan, light blue (ticketed *bleu clair*).—This is a fine powder of a pale turquois-blue. By immersion in water, two different powders are perceived in it,—one blue, the other white or grayish. The latter lowers the strength of the blue. The mixture effervesces slightly with nitric acid.

Chan-lou, mountain green (ticketed *vert d'eau*).—This is a homogeneous powder, very similar to the *fei-thsei* of Father Ly's collection. The color is derived from deutoxide of copper.

The analysis of these three greens gave the following results:—

	Fei-thsei.	Tcha-lan.	Chan-lou.
Loss by heat,	0·50	2·40	1·00
Silica with traces of stannic acid,	37·50	41·50	42·44
Oxide of lead,	44·13	43.40	43·40
Oxide of copper,	3·00	2·40	3·41
Alumina and oxide of iron,	trace	0·86	1·26
Lime,	0·25	2·11	2·00
Arsenic acid,	4·00	7·33	6·49
Potash and soda,	10·00		

The presence of an opake white is not necessary for the production of this tint with oxide of copper; the addition of a silico-alkaline flux, containing equal parts of sand and oxide of lead, is sufficient to produce this tint from the *chang-lou* green, which is now to be described. It is therefore possible that there is no white in M. Itier's "pale-blue," and that the grayish particles are simply a plumbo-alkaline flux.

Seng-chang-lou, green of the fourth quality, to (a pound of?) which 5 oz. of *yuen-feng* are added (Ly).

This occurs in masses of a sap-green color; its coloring principle is oxide of copper; it contains no trace of oxide of chromium. Two samples in the collection of the Ecole des Mines have the same appearance. Analysis:—

Moisture,	0·67
Silica,	41·20
Oxide of lead,	49·05
Oxide of copper,	5·05
Alumina,	0·17
Oxide of iron,	0·05
Lime,	0·12
Potash,	3·96
Soda,	0·60

Seng-chang-kou-lou, green of the fifth quality, to a pound of which 5 oz. of *yuen-feng* are to be added (Ly).

The rough color is a mixture of fused vitreous fragments of two shades. Of these some are green, and resemble the green *seng-chang-lou*; the others yellow, and similar to the *chang-hoang*, which will be presently mentioned. The samples in M. Itier's collection and in that of the Ecole des Mines confirm this view of the composition of this color. By separating the fragments and weighing them separately, the authors found that the proportions were, of—

Chang-lou (green)	60
Chang-hoang (yellow)	40

The green fragments, analyzed separately, gave the same composition as the *chang-lou*:—

Humidity,	0·51
Silica,	41.50
Oxide of lead,	48·40
Oxide of copper,	5·50
Alumina,	0·40
Oxide of iron,	0·07
Lime,	0·18
Potash and soda,	3·44

The analysis of the separated yellow fragments gave 40 per cent. of silica; they were colored with antimony.

Eul-lou, second green (ticketed *vert jaune clair*).—This is a very fine powder, of a pale greenish-yellow color; on immersion in water, it is seen to consist of a mixture of green and yellow particles. It effervesces slightly with dilute nitric acid, the acid taking up lead.

Fen-lou, green powder (ticketed *vert jaunâtre clair*).—It is an intimate mixture of three different substances (green, yellow and white), which can only be distinguished well by immersing the powder in water. The color of the mixture is a pale yellowish green; it effervesces with dilute nitric acid, and the acid afterwards contains lead.

The analysis of these two greens gave the following results:—

	Eul-lou.	Fen-lou.
Loss by heat,	2.60	2·50
Silica with traces of stannic acid,	33·30	36·80
Oxide of lead,	53·14	51·04
Oxide of copper,	0·60	0·51
Oxide of antimony,	3·00	2·01
Alumina and oxide of iron,	1·06	1·12
Lime,	2·11	1·74
Magnesia,	0·03	0·05
Arsenic acid,		0·50
Alkalies and loss,	4·16	4·23

The authors remarked that there is a great uniformity in the composition of the flux in all these green colors; the following differs from them in this respect, but the difference is diminished by the addition of a large quantity of oxide of lead.

Seng-ti-lou, rough green of the sixth quality.—For use it must be pounded and mixed with *yuen-feng*, 19 oz. of the latter to a pound of color (Ly).

According to the catalogue of the Ecole des Mines, this green is pro-

cured from the district *Fou-leang-hien*. It is a very complex substance, formed of fragments of a sap green color, like *chang-lou*, and of a granular brownish powder with a tinge of violet. These substances are in the proportion of 75 parts of the green fragments to 25 of the powder. The green fragments present the reactions of the *Seng-chang-lou*; like it, they contain 41 per cent. of silica.

The brownish powder my be separated into three substances by washing in water:—

1. A green powder, which is certainly the result of the friction of the fragments of *chang-lou*.
2. A grayish sand-like powder, with the properties of *sy-chi-mo*.
3. A violet powder containing copper.

Nitric acid dissolves the brown powder with evolution of nitrous vapors, leaving the gray and green powders untouched. The solution contains copper. Dilute muriatic acid acts in the same manner, but when concentrated it also dissolves a little oxide of lead. Analysis:—

Silica,	67·9
Oxide of lead,	2·0
Copper,	20·7
Oxide of iron,	1·0
Lime,	0·3
Alumina,	0·5
Oxygen, potash, and loss,	7·6

The copper is here regarded as metal, as it exists in the substance in two states of oxidation. This composition fully accounts for the large addition of white lead indicated by Father Ly.

When triturated, this color forms a dull violet brown powder, but after baking it gives a bright green, similar to that furnished directly by the *chang-lou*.

In M. Itier's collection there is a similar color, which he calls Scheele's green.

Ta-lou, grass green (ticketed *vert de Scheele*).—It is a nankeen-colored powder, united into irregular fragments, and giving a green tint by the action of fire. It effervesces with dilute nitric acid, and the solution contains lead. Nitric acid does not attack it when heated; the nankeen color remains, which renders it probable that the copper is in the state of protoxide. Muriatic and nitro-muriatic acids attack it completely; a mixture of oxide of lead and deutoxide of copper is dissolved. Analysis:—

Loss by heat,	4·30
Silica,	35·20
Oxide of lead,	51·05
Oxide of copper,	3·98
Alumina and oxide of copper,	1·40
Lime,	1·00
Magnesia,	traces
Stannic acid,	traces
Alkali and loss,	3·07

All these greens consist therefore of a glassy flux, in which a few parts of oxide of copper are dissolved. The authors remark also that their direct experiments show that oxide of lead increases the greenness of the tint obtained from the oxide of copper. Soda produces a glass of which the tint is less blue than that obtained with an equal quantity of potash under similar circumstances.

5. *Yellows.*

The Chinese produce yellow on porcelain by means of antimony. There are, in the collections examined by the authors, several yellows, both in the rough and prepared state. They are called *thsing-hoang*, *chang-hoang*, *yan-hoang* and *hoang-se*.

The authors have analyzed the rough *chang-hoang* in the collection of Sevres, and the *hoang-se* brought by M. Itier. The authors offered so close a resemblance to these, that it was thought not worth while to analyze them.

Seng-chang-hoang, or yellow, to a pound of which 5 oz. of *yuen-feng* are added (Ly).—This is in bright yellow, fused, puffy fragments, with a slight greenish tinge. When reduced to powder, it is attacked by muriatic acid. Analysis:—

Humidity,	1·13
Silica,	40·47
Oxide of lead,	51·53
Oxide of copper,	0·35
Alumina and oxide of iron,	traces
Lime,	0·17
Antimonic acid,	3·60
Potash,	3·39
Soda,	0·71

Hoang-se yellow (ticketed *jaune*).—This is a pale yellow powder, which appears to be homogeneous even under water; it effervesces very slightly with dilute nitric acid, and the solution contains lead. The analysis shows that it is the same yellow as the *chang-hoang* of Father Ly, with the addition of a small quantity of the *yuen-feng*, which, he states, should be added to that color to render it fit for use. Analysis:—

Loss by heat,	2·10
Silica with traces of oxide of tin,	33·00
Oxide of lead	54·14
Oxide of copper,	0·30
Antimonic acid,	3·47
Alumina and oxide of iron,	0·80
Lime,	0·70
Magnesia,	0·60
Alkalies and loss,	5·09

All the Chinese yellows have therefore the same flux. To reproduce them, the following mixture must be slightly melted together:—

Orange minium,	8
Sand,	4
Antimony,	4

This gives a fusible Naples-yellow.

The following mixture is then thoroughly melted into a transparent glass:—

Orange minium,	44
Sand,	36
Fused carbonate of soda,	7

The two substances are then triturated together, and yellow will be obtained having the same composition and properties as the *chang-hoang*.

To be Continued.

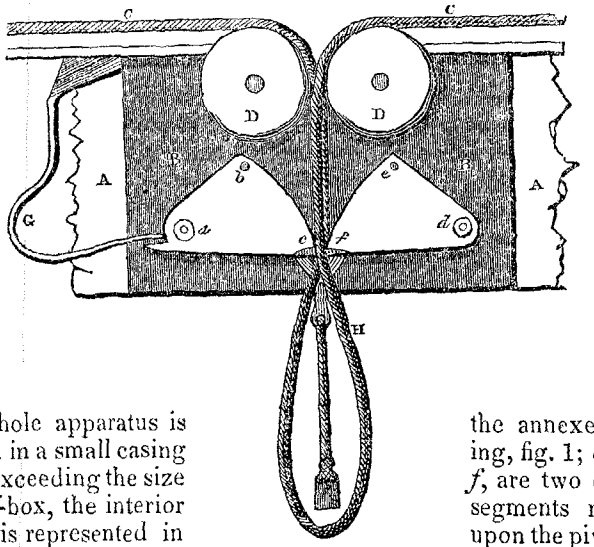
*Improved Support for Venetian Blinds.**

A model of a small apparatus recently patented by Mr. Brae, of Leeds, was exhibited. Its immediate destination is a self-retaining support for venetian blinds; in which the inconvenience daily endured by the present mode of fastening down the lifting cords by twisting them round a couple of hooks in the window frame, must be too present to every one's domestic experience to need description.

Contrivances for the purpose of self-supporting venetian blinds are, it is true, already in partial use; but they are subject to many objections, one only of which need be alluded to—so weighty, that of itself it recommends any improvement that may obviate it; this is the necessity for the blind being originally designed and manufactured for the express apparatus intended to be applied to it, thereby excluding from help the many thousands of existing blinds constructed upon the old principle.

A distinguishing advantage, therefore, possessed by the apparatus exhibited, is the facility it presents for being attached to any blind, old or new; but there is another peculiarity, which may or may not be considered an advantage, which is the option of placing the raising cords so as to hang down in the centre of the window, instead of at the side, and thereby removing the operation to a more convenient and accessible situation.

Fig. 1.



The whole apparatus is contained in a small casing scarcely exceeding the size of a snuff-box, the interior of which is represented in the annexed drawing, fig. 1; *a b c*, *d e f*, are two eccentric segments revolving upon the pivots, *a d*. The radii, *a b*, *d e*, are shorter than the radii, *a c*, *d f*; consequently, when the segments are in the position represented in the drawing, their circumferential edges are nearly in contact; but when they are drawn down so as to cause the shorter radii to approach, a considerable space or opening will then exist between them. Each segment is provided with a similar segment of cogged teeth, only that these are not eccentric, but are portions of true circles, so that when together, the teeth of one

* From the Journal of the Society of Arts, London, No. 15.

working between those of the other, the two segments are always constrained to move simultaneously; for the sake of clearness, these cogged portions are omitted in the figure.

Two straps are seen beneath the segments uniting in one shorter strap, from which the middle tasseled cord depends. These straps pass up behind the segments, and pulling from the points *b* and *e* cause the segments to descend and increase the opening between them. Finally, the segments are impressed with a constant tendency to close upon any intervening substance by the action of the spring G.

D D are leading pulleys, over which the ends of double cord H are led in the usual way, down through the blades of the blind, so as to gather it up.

It will be apparent from this description, that when the double cord H is pulled downwards the segments will at once give way and admit of the blind being pulled up, but it cannot recede, because the tendency is then reversed, and the greater the pull the greater the resistance to it; therefore the blind remains at any altitude; and when it becomes desirable to lower it, the tasseled cord pulled, by which the segments are again reversed, the resistance to the descent removed, and the extent of the descent regulated by the principal cords in the usual way. The small box containing the apparatus may be so constructed as either to be screwed on to the exterior of the top rail of the blind, or it may, as in the model, be bodily let into its substance.

Mr. Brae believes that the principle shown in this little invention may be usefully applied in many other cases, and especially in certain of the numerous operations on board ship, in which the power of tightening and firmly holding a rope or cord is required.

Fig. 2.

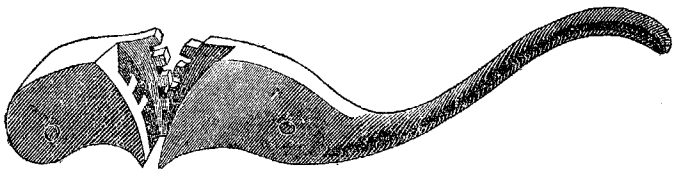


Fig. 2 represents the construction of the segments of the detainer in its application to lowering boats from the davits, freeing life-buoys, and other purposes on board ship,—when, instead of a string for the back, and a spring to incline the longer radii to be opposed, a lever and counterpoise are used.—*Proc. Soc. Arts, London.*

Specification of a Patent granted to LAZARE FRANCOIS VAUDELIN, *for Improvements in obtaining Wool, Silk, and Cotton from old fabrics, in a condition to be again used.*—(Sealed 30th June, 1852.)*

The object of this invention is to obtain wool, silk, and cotton from old fabrics, in such a condition as to admit of the same being again spun and used in the manufacture of other fabrics; and it is proposed to

*From the London Journal of Arts and Sciences, March, 1853.

effect this by passing the old fabrics, whilst immersed in water, between a rotating cylinder and a flat plate, or other surface, armed with teeth or points, by which the fabric is torn to pieces, and the fibres brought into a suitable state to be again manufactured into fabrics. It has hitherto been the practice to tear old fabrics to pieces, for the above purpose, in a dry state; but the fibres are not so readily separated, and are more injured and broken than when working according to this invention, with the fabrics constantly immersed in water,—whereby, also, the fibres are thoroughly cleansed.

Fig. 1.

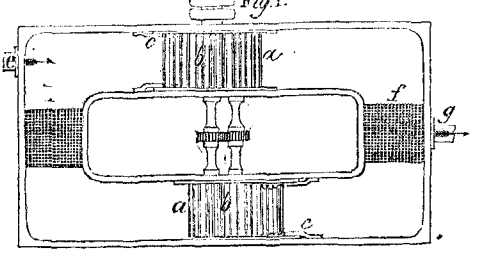
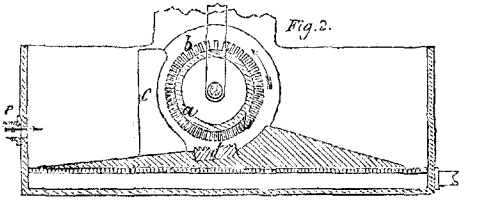


Fig. 2.



The old fabrics having been washed, if they require it, are cut into pieces, say from two to eight inches square, and then introduced into a machine similar to those employed in the preparation of rags for making paper, except that the patentee prefers to construct it with two beating-wheels. This machine is shown in figs. 1 and 2—fig. 1, being a plan view, and fig. 2, a vertical section thereof. *a*,*a*, are the beaters or beating-wheels, in the periphery of which numerous straight metal blades *b*, with plain edges, are fixed, at equal distances apart, and parallel to the axis of the beater. In some cases, however, as when tearing silk, cotton, and mixed rags, the patentee uses blades with notched edges; and then he places behind each beating-wheel a comb or bar, with points to hook off the silk or cotton, so as to prevent any clogging of the machine. The beating-wheels are furnished with covers (not shown), to prevent the splashing over of the water; and guards *c*, are provided, to prevent the fibrous materials passing between the flanches of the beating-wheels and the sides of the machine. Beneath each wheel there is fixed a metal plate *d*, covered with points or teeth, which serve, with the blades *b*, of the rotating-beaters, to tear and separate the fibres of the rags that are drawn between them by the rotation of the beaters. Water constantly flows into the cistern of the machine through the pipe *e*, and continually passes off through the perforated surfaces *f*, and pipe *g*. When silk goods are being operated upon, the work goes on better if the water is used at a tempera-

ture of about 90° Fahr., and a small quantity of soft soap may be introduced into the water with advantage. The axes of the beating-wheels can be raised and lowered by means of screws (not shown), as may be required during the operation of separating the fibres.

The patentee states, that he does not confine himself to the above details, as the same may be varied, so long as the peculiar character of his invention—that of treating old fabrics in water, so as to separate the fibres into a state to be again used with other fibres in the manufacture of fabrics, by spinning and weaving—be retained.

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*Process for Electro-Plating China Ware.**

A specimen of china, coated with silver, was exhibited. Hitherto the art of electro-plating has been chiefly confined to metallic bodies, owing to their affinity for such deposits. The patent recently taken out by Mr. Ridgway, of the Staffordshire Potteries, extends it to Parian figures, ornamental china and glass, and to every description of Ceramic ware.

The advantages are manifold, when it is considered that this art may be applied to the most beautiful models, so as to retain all their sharpness and effect, without the cost of dies and other heavy charges to which the metallic department is subject, thereby cheapening the article; while, by means of chasing and embossing, richness is given.

The mode of effecting the electro-deposit is as follows:—In the first place, the articles are steeped in strong alcohol, or certain gelatinous solutions, and when nearly dry immersed in nitrate of silver or otherwise, so as to prepare them for receiving the deposit of copper. This done, they are plunged into cold water, and carefully dried in a suitable kiln, after which they are placed in sawdust for twenty-four hours to prevent oxidation.

The next operation is to remove any roughness on the surface which the articles may have contracted. This is done by means of sand paper or silver sand, and brushing with a scratch-brush till they are made perfectly smooth, care being taken to remove any greasy matter from the surface.

The copper and silver have now to form one alloy, so as to unite them firmly together. For this, a film of quicksilver is employed, dissolved in nitric acid. This is set aside to crystallize, and the crystals are dissolved to form the desired solution; the articles are then dipped therein, passed through water, and introduced into the vat containing the silver solution.

The silver solution consists of metallic silver dissolved in nitric acid diluted with water, with the addition of certain cyanides, till a given result is obtained. This is followed by a repetition of the copper process only with the solution, and the articles in due time appear in their silver garb, ready to receive the chasing.

Gold is prepared by being dissolved in nitro-muriatic acid. This chloride is digested with calcined magnesia, and the whole precipitated into an oxide. The oxide, boiled in strong nitric acid, dissolves the magnesia, and when washed forms a cyanide of gold and potassium.

* From the Journal of the Society of Arts, London, No. 15.