The Project Gutenberg EBook of TOOLS AND MATERIALS ILLUSTRATING THE JAPANESE METHOD OF COLOUR-PRINTING by Edward Strange

This eBook is for the use of anyone anywhere at no cost and with almost no restrictions whatsoever. You may copy it, give it away or re-use it under the terms of the Project Gutenberg License included with this eBook or online at http://www.gutenberg.org/license

Title: TOOLS AND MATERIALS ILLUSTRATING THE JAPANESE METHOD OF COLOUR-PRINTING

Author: Edward Strange

Release Date: December 17, 2013 [Ebook 44458]

Language: English

***START OF THE PROJECT GUTENBERG EBOOK TOOLS AND MATERIALS ILLUSTRATING THE JAPANESE METHOD OF COLOUR-PRINTING

VICTORIA & ALBERT MUSEUM CATALOGUES

TOOLS AND MATERIALS ILLUSTRATING THE JAPANESE METHOD OF COLOUR-PRINTING

A DESCRIPTIVE CATALOGUE OF A COLLECTION EXHIBITED IN THE MUSEUM

By Edward Strange

London
PUBLISHED BY HIS MAJESTY'S STATIONERY OFFICE

1913



UTAMARO.—Yedo Meibutsu Nishikiye Kosaku. "The making of colour-prints, the famous product of Yedo: after the engraver's rough engraving the design is carefully carved." An illustration of the carving of wood-blocks fancifully represented as being done by women. From a print in the Victoria and Albert Museum. J. 5040.

Contents

PREFATORY NOTE									ix
HISTORICAL NOTE									1
THE DRAWING									3
CUTTING THE BLOCK .									5
PRINTING									9
PAPER									21
BOOKS OF REFERENCE									23

PREFATORY NOTE

This pamphlet has been prepared by Mr. Edward F. Strange, of the Department of Engraving, Illustration and Design, for use primarily in connection with a collection of Tools, Materials and Examples, specially brought together and now exhibited in the Museum, to illustrate the technique of Japanese Colour-printing from wood-blocks. The descriptive matter has been somewhat amplified, in order to render it of value to those who cannot immediately refer to the Museum collections.

The works of reference consulted, are named herein; and acknowledgment must also be made to Mr. Hogitaro Inada, for translations from the Japanese, kindly supplied by him.

CECIL SMITH.

Victoria and Albert Museum, 1913.

LIST OF ILLUSTRATIONS

		[4]
UTAMARO.—Yedo Meibutsu Nishikiye Kosaku. "The making of colour-prints, the famous product of Yedo: after the engraver's rough engraving the design is carefully carved." An illustration of the carving of wood-blocks fancifully represented as being done by women. From a print in the Victoria and Albert Museum. J. 5040.	v	
DIAGRAM:—Method of framing a block to prevent warping	7	
DIAGRAM:—The Baren.—Its internal construction	12	
DIAGRAM:—The <i>Baren</i> .—Position of pad in sheath	17	
DIAGRAM:—The <i>Baren</i> .—Method of use	18	
DIAGRAM:—Printer's Desk	19	
HOKUSAI.—Original drawing for the key-block of an unpublished colour-print in the series called "The Hundred Poets explained by the Nurse." A junk, with straw sail, conveying three travellers; at the bow a breaking wave. At the top right-hand corner is a poem by Hoshoji no Nyudo Saki no Kwampaku Daijo Daijin. O'er the wide sea plain, / As I row and look around, It appears to me / That the white waves, far away, / Are the ever-shining sky. From a drawing in the Victoria		
and Albert Museum, J. D. 1447.	24	

xiiTOOLS AND MATERIALS ILLUSTRATING THE JAPANESE METH

IOYOKUNI. I.—Working proof from the key-block of	
a colour-print. A theatrical scene; with the actors	
Nakayama Tomisaburo and Ichikawa Komazo in the	
parts of the Geisha Sankatsu and Hanshichi. The artist	
has added a wash of red colour to the print, with the	
following MS. note to the printer, "Please gradate the	
colour like this." From a print in the Victoria and Albert	
Musaum I 9404	25

HISTORICAL NOTE

The process of colour-printing from wood-blocks, used in Japan from the early part of the 18th century, has much in common with that of the so-called *chiaroscuro* wood-cuts first produced in Italy and Germany during the 16th century, of which the work of Andrea Andreani (1540-1623) supplies good examples. It is possible that the Japanese method was derived from this source, either directly or by way of China. Japanese tradition ascribes the invention to Takekawa Minosuke (Manji Period, A.D. 1658-1660); and a volume of Costume Designs in the Museum, dated 1667 (O4. C. 20), is printed in colours, only one, however, being used on each plate. The Chinese are known, with certainty, to have employed this process before the end of the 17th century; but no Japanese colour-print has yet been recorded, which can be placed, authentically, earlier than the second quarter of the 18th century. Credit for the first production of them is generally given to Torii Kiyonobu (1664-1729); but the greatest development was due to Suzuki Harunobu (died A.D. 1770, aged 67 years). Japanese authorities say that the improvements popularized by this artist were invented by an engraver named Kinroku, in conjunction with a printer; and that Harunobu, employing them to reproduce his pictures, about the year 1765, thus laid the foundation of a school of artists who found their chief occupation in designing for this class of work. Katsugawa Shunsho (died A.D. 1792, aged 67 years) developed the process still further; and it reached its highest technical level before the close of the 18th century. Soon after the year 1800, a gradual decline is seen; which manifested itself both in the increase of the number of blocks used, and in the loss of quality in the colours. However, many prints of remarkably high technical excellence were still

[U]

2TOOLS AND MATERIALS ILLUSTRATING THE JAPANESE METHO

produced up to about the year 1864; soon after which time, all refinement both of engraving and printing seems to have been lost. The last 20 years or so, have, however, witnessed a sort of revival, by no means without merit in its way; and the adaptation of the process to the requirements of book-illustration and the reproduction of works of art, has reached a remarkably high standard in such publications as the *Kokka* and those of the *Shimbi Shoi*.

It is not unimportant to add that this process, sometimes modified in detail, has been revived in Europe; and is now practised by a considerable number of artists. The Department of Engraving, Illustration, and Design contains a representative collection of their productions, including a consecutive set of working proofs (E. 20-26, 1904) of a print by Mr. J. D. Batten and Mr. Morley Fletcher, who were the first to use the method in England. The collection also includes a similar set of working proofs of the modern development of the process, as used for the reproduction of paintings by Old Masters by the *Shimbi Shol* (E. 1862-2043, 1910).

THE DRAWING

Designs for Japanese colour-prints were made by artists, who, as a rule, were adherents of the Popular (*Ukiyoye*) School and, socially, of the rank of artisans. The drawing was done with a brush on very thin *Mino* or *Gampi* paper, the colours used being washes of water-colour worked with rice-paste medium. To correct the design, the portions to be altered were covered with pieces of paper, on which the revised drawing was made. The completed design (generally, to begin with, in black lines only, or with only a little tint as a guide to the engraver) was then fastened face downwards on the block with rice starch weakened with water. As much as possible of its upper surface was rubbed away, some oil being used to make the remainder more translucent, and thus to enable the engraver more easily to follow the lines of the drawing.

It is evident that this process resulted in the destruction of the designs. The Museum, however, has acquired a number of unused drawings, which fully illustrate this stage; and the series of blocks exhibited (E. 4136-4322, 1909) have, in several instances, remains of the paper still adhering to the uncut portions of their surfaces.

- ILLUSTRATION of a colour-print artist making a design; showing his position when drawing and method of holding the brush. A colour-print in the Japanese manner, by Emil Orlik, of Prague. E. 796-1903¹
- 2. ORIGINAL DRAWING (not engraved) for a colour-print, showing the Artist's corrections. By Utagawa Kuniyoshi

¹ NOTE.—The objects exhibited in the Museum are labelled to correspond with this consecutive series of numbers.

- (A.D. 1797-1861). J.D. 1008. *Subject*—The celebrated swordsmith Sanjo Kokagi Munechika forging a blade in the grounds of the Inari Temple, assisted by a Fox-Spirit in the form of a woman.
- 3. ORIGINAL DRAWING (not engraved) for a 3-sheet colour-print, showing the Artist's corrections. By Hiroshige I. (A.D. 1796-1858). J.D. 2440 *Subject*—Street scene in Akabane, Tokyo.
- 4. BRUSHES used by (Japanese) painters of the Chinese School. E. 4203-4206-1911. Founded by Josetsu (2nd half of the 14th century). The style is still practised.
- 5. BRUSHES used by painters of the Tosa School. E. 4200-4202-1911. The School (the National School of Japanese Painting) was first composed of a number of groups, more or less related, which coalesced under the name of Tosa in the time of Kasuga Tsunetaka (early 13th century), who seems to have been the first to use this appellation. The style is still practised.
- 6. BRUSHES used by painters of the Sesshiu School. E. 4190, 4191-1911. Founded by Sesshiu (1420-1506), and based on the methods of the Chinese painters of the Sung Dynasty (960-1280). The style is still practised.
- 7. BRUSHES used by painters of the Kano School. E. 27-29-1913. Founded by Kano Masanobu (1453-1550). The style is still practised.
- 8. BRUSHES used by painters of the Maruyama and Shijo Schools (Naturalistic). E. 4192-4199-1911. Founded by Okyo Maruyama (1733-1795); and Matsumura Goshun (1752-1811). The style is still practised.
- 9. BRUSHES common to painters of various Schools. E. 4207-4212-1911.
- 10. BRUSHES used by painters in lacquer. E. 4213-4232-1911.
- 11. BRUSHES used for writing. E. 170-187-1911.

[10]

CUTTING THE BLOCK

The engraving was invariably done by a second person and not by the designer.

The wood used was that of the wild cherry (*Yamazakura*), the timber of which was not allowed to be exposed to sunshine, but was carefully seasoned in the shade. Fig. 1 illustrates the most economical way of cutting up logs into blocks; the harder portions of the wood—those nearer the centre—being used for the keyblocks (see p. 10), and the softer for the colour-blocks. When possible, wood from the same tree was used for all the blocks in each series. The outlines of the drawing were incised with a knife-edged graver, and the superfluous wood then hollowed out with chisels or gouges of various form, for all practical purposes, identical with those used by European wood-carvers. The result is an intaglio block, the printing-surfaces alone remaining in relief.

The block first made from the drawing is called the key-block (*Daiban*) and gives, in relief, the lines only, of the design. From it a number of proofs are taken, one for each colour-printing to be made. On each of these proofs the separate portion of the design covered by one colour is painted; and is then pasted on a block and cut in the manner described above. Every part of the surface of the block, however, which is not required for the one colour in use, is cut away.

To produce a colour print, therefore, a key-block is required and also a separate block for each colour in the design. For the sake of economy, colour-blocks are sometimes cut on both sides; and, for small details, two portions of the design may be cut on one side, but only one colour is printed at each operation.

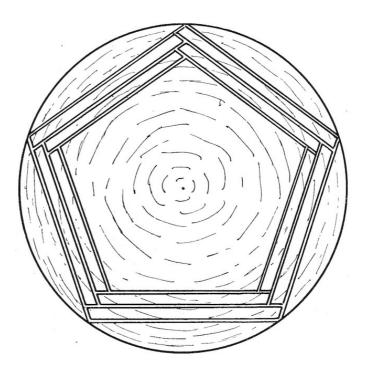


DIAGRAM:—Method of cutting a log into blocks.

In the actual cutting of the block, the old Japanese engraver adhered to an important principle—that of following the direction of the brush strokes of the original drawing, in such a manner as to reproduce the actual quality of the brush-mark. This is less apparent in the ordinary colour-prints; but in reproductions, by the same process, of paintings and drawings, the results obtained are extraordinarily faithful to the originals.

Blocks were often framed, to prevent warping, in the manner illustrated in fig. 2. This device was more generally employed in the case of those especially made for book-illustration. A block that had warped could often be straightened out again, by being well soaked in water and then placed under a weight.

[11]

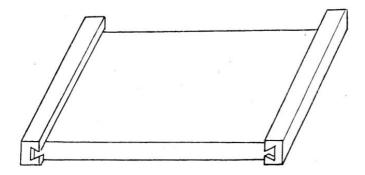


DIAGRAM:——Method of framing a block to prevent warping.

- 12. ILLUSTRATION of an engraver cutting a wood-block, showing his position and method of holding the knife or graver (*Kogatana*) with which the outlines are first incised. A colour-print, in the Japanese manner, by Emil Orlik, of Prague. E. 797-1912
- 13. ILLUSTRATION of the process of making colour-prints, showing various stages of cutting the blocks, sharpening the tools, damping the paper; and the tools and materials of the printer. A 3-sheet colour-print, by Utagawa Kunisada, *signed* "Toyokuni" (A.D. 1785-1864). The process is fancifully represented as being carried out by women. J. 3203. This print is imitated from one by Utamaro, a portion of which is illustrated herein (*Frontispiece*).
- 14. CHISELS (*Nomi*) used in cutting the block. The outlines are first cut with a graver (*Kogatana*) somewhat similar to that used by European wood-engravers. E. 4333-4343-1909.
- 15. STONE (Koshito) for sharpening tools. E. 4345-1909.
- 16. STONE (*Awasedo*) for polishing the surface of the Koshito. E. 4346-1909.
- 17. MALLET (*Saizuchi*) used with tools for cutting away the superfluous wood. E. 4344-1909.
- 18. DIAGRAM, showing the most economical way of cutting a

8TOOLS AND MATERIALS ILLUSTRATING THE JAPANESE METHO

log into blocks for printing (fig. 1).

19. DIAGRAM, showing method of framing a block to prevent warping (fig. 2).

The Printing of the old colour-prints was done by a third person, neither the engraver nor the designer.

The finished block must first be thoroughly washed and dried. The colour is then applied with a brush, to the upper surface of the block, which rests on a low stand (Suridai) to which are affixed four small cushions of wet cotton (Yawara) to prevent slipping (fig. 6). This stand should have a downward slope of about 2 inches in 1 foot. The paper is wetted, about 6 hours before being used for printing, and hung up to drain. For the actual printing, it is laid on the upper surface of the block, register (Kento) being secured by means of an angular cut at one corner (Plate III.) called the "key" (kaji); and a line cut at another, called the "draw-close line" (hikitsuki). No other means of adjustment is used, but the skill of the old printers was so great that faults of register can very seldom be observed. The impression is then rubbed off with the Baren, used with a circular or zig-zag movement (fig. 5); and this operation is repeated in succession with each block, beginning with the key-block, until the prints are complete.

It is the modern, and was probably the old practice, to take the required number of proofs from each block in succession; and not to complete each print separately. The writer has observed that a modern Japanese printer takes an impression in from 15 to 25 seconds, without special effort.

The colours used were as follows:—

CARMINE (*Beni*). Made from the Safflower, Carthamus tinctorius, from which rouge is also prepared. The kind

[13]

called *Saiku-Beni* is generally mixed with an acid derived from the Plum-fruit (*Mukiume*).

BLUE (Ao). Both Airol (indigo) and Hero (European blue) are now used. The old indigo was sometimes extracted from dyed rags.

YELLOW (Ki). Generally Zumi, a yellow dye, and Kiwo, orpiment, are used, and Shiwol gamboge, for the best prints.

PURPLE (*Murasaki*). Formerly this colour was made by mixing *Aigami* (blue) and *Beni* (red), but now an imported purple is used.

GREEN (*Midori*). A mixture of either *Hero* and *Kiwo*, or *Zumi* and *Airoì*

ORANGE YELLOW (*Toì* —-oì —). Produced by mixing *Zumi* and *Bengara* (iron red) or *Zumi* and *Yenji* (rouge).

BLACK (Sumi). Yeizen Zumi(lamp-black) is used with the key-block. It should be steeped in water for five or six months, then thoroughly well mixed in a wooden dish with a wooden mixer. Tsuya-Zumi is the brilliant black used for such details as human hair, black lacquer objects, &c. It is obtained by the use of a Dosa medium (mixture of glue and alum); and printed from a separate block.

SILVER COLOR (*Gin-ro*). Lead powder mixed with glue. GOLD COLOR (*Kin-iro*). Brass powder mixed with glue.

COPPER COLOR (Akegane-iro). Pure copper powder mixed with glue.

WHITE (Shiro). Powered white clay (Joi mixed with glue. Clamshell powder (Namaguriko) is sometimes employed.

Bengara (IRON RED), Tan (RED LEAD) and MICA are also used.

NOTE.—The above colours are those given in the *Bungei Riusan* (see p. 22).

Great importance was attached to the grinding and mixing of the colours. The glue-water medium used for mixing with black was made in the proportion of about one-third of an ounce of glue to three-fourths of a pint of water; but these proportions varied with various qualities of the pigment or paper. In the case of other colours, glue was not always used, but rice-paste (made with rice-flour and boiling water); the actual being sometimes done in the process of applying the colour to the block. A little alum was dissolved in the cold water with which the rice-paste was mixed. A specially brilliant effect was produced by laying a light wash of rice-paste over the block before spreading the colours.

[14]

RELIEF PRINTING.—For this purpose, a special block is made for that part in the print where the relief is required. The print is laid *back downwards* on the block, in the opposite manner to that used when printing colour, and the impression is rubbed in with a tool of ivory—the canine teeth of the wild boar being the material most favoured.

20. WORKING PROOF from the key-block, with colour added by the artist; and the following note in his writing, "Please gradate the colour like this." The register marks are seen at the sides. By Utagawa Toyokuni I. A.D. 1769-1825. Subject—Theatrical scene. The actors Nakayama Tomisaburo and Ichikawa Komazo in the parts of the Geisha Sankatsu and Hanshichi. Plate III. J. 8494.

[15]

- 21. PRINTING COLOURS. Specimens of colours as mixed by printers for use, in glazed earthenware bowls, with small brushes. E. 3892-3895-1910.
- 22. BRUSHES made of horse-hair. The smaller brushes are used for applying the colour to the blocks. E. 4324-4332-1909.
- 23. RUBBERS (*Baren*) with which the print is taken. E. 4347-4348-1909. These are made with bamboo sheath fibre, twisted into cord and coiled edgeways round a card centre;

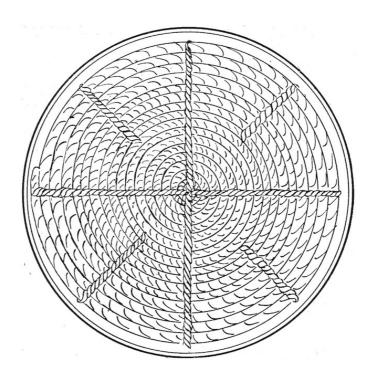


DIAGRAM:—The *Baren*.—Its internal construction

then fixed into position with paper string of two or three strands and paste. This is then enclosed within a large soft bamboo sheath, the ends of which are twisted and turned upwards to make the handle. The sheath must be very fine and be softened with a little oil before use.

- 24. DIAGRAM, showing internal construction of the pad of the *Baren* (fig. 3).
- 25. DIAGRAM, showing position of the pad within the sheath of the *Baren*, before the ends of the latter are turned over, and twisted to make the handle (fig. 4).
- 26. DIAGRAM, showing how the *Baren* is held in the hand, and the line it follows when used (fig. 5).
- 27. DIAGRAM, showing printer's desk, with block in position,

[16]

[17]

resting on pads of damp cotton (fig. 6).

28. WOOD BLOCKS (7) used in the production of a colour-print by Utamaro II. (worked c. 1800-1840 A.D.), with a set of progressive proofs made by a modern Japanese printer. E. 4316-4322-1909.

The KEY-BLOCK, for printing the black outlines only. First printing from KEY-BLOCK.

Second printing, with GREY added to proof from keyblock. The block is also cut for the twelfth printing, GREEN.

Fifth printing, PALE BLUE. The block is also cut for the fourth printing, BROWN.

Sixth printing, BLUE PATTERN. The block is also cut for a printing not used.

Seventh printing, BLUE. Eighth printing, YELLOW Ninth printing, GREY. Tenth printing, BROWN (second time used).

Eleventh printing, BROWN PATTERN. The block is also cut for the third printing, PALE PINK.

Thirteenth printing, CRIMSON. Fourteenth printing, CRIMSON PATTERN. Fifteenth printing, PURPLE. Sixteenth printing, BURNISHED BLACK, giving the completed print.

[18]

NOTE.—The above are exhibited, in a separate case, in the Museum. In the Students' Room is a set of proofs showing separate printings from each block. The key-block of the above series is original; the colour-blocks were made in the and half of the 19th century.

The Museum also possesses the following original Woodblocks.

BAIREI, Kono (d. 1895). Wood-blocks (4) used for a leaf of "The Hundred Birds." 1881. Cut both sides. (91/4×141/4). 583-1886. Exhibited with an original drawing and a proof

from one of the blocks. The Museum contains the whole of the original drawings, which were specially preserved, and a copy of the publication.

BUNKEN (19th century). Key-block for a colour-print. Eagle flying over the sea. $(9\frac{1}{2}\times10\ 3/8)$ E. 4934-1903 The back is engraved to print one of the colours, c. 1880.

GAKUTEI, Harunobu (worked C. 1800-1830).

Key-block for a *Surimono*. A carp swimming upwards. $(8\frac{1}{2} \times 83/8) 262-1903$.

Key-block for a *Surimono*. Geisha and peacock. $(8^{1}/4 \times 10)$. 4946-1903.

HARUNOBU(1724-1770). Key-blocks for a set of five book-illustrations by Harunobu, c. 1770. Av. size (8½×10¾). E, 2168-2172-1909. Presented by J. S. Happer, Esq.

HIROSHIGE (1796-1858). Key-block for an early set of lateral prints by Hiroshige, entitled "Toto Meisho Saka Tsukushi-no Uchi-Yedo." Series of steep roads in Yedo. Sub-title on face of print: "Aoizaka-no Dzu." The reverse was used many years later for a set of views by Hiroshige and Toyokuni (Kunisada). (10³/₄×15 ½). E. 2166-1909. Presented by J. S. Happer, Esq.

Key-block for a half-plate set of "Toto Meisho" (views of Yedo) by Hiroshige. On the reverse is one of the colour-blocks for each half. (15×101/4). E. 2167-1909. Presented by J. S. Happer, Esq.

HOKKEI, Todoya Shunyol (c. 1780-1850). Key-block for a *Surimono*. A woman with writing materials. (8 $3/8 \times 8\frac{1}{2}$). 261-1903.

KAGESHIGE(19th century). Key-block for a *Surimono*. Fan and incense-burner, each on a stand. $(9\times10\frac{1}{4})$. E. 4945-1903. The back is engraved to print two of the colours.

[19]

KIKUSAI(19th century). Block for book-illustration. The three long-lived men—Tollia (9,000 years), Urashima Taroll (8,000 years), and Miura-no-Osuke (106 years). (7×10½). E. 4941-1903. On the back are several incomplete engravings.

ODAKE (19th century). Wood-blocks (8) for illustrations to "Mitford's Tales of Old Japan" (1871) with a set of proofs. Various sizes. E. 1401-1888.

SADANOBU (*worked* c. 1820-1840). Key-block for a colour-print. Daikoku and Okame wrestling before the rest of the Seven Gods of Good Fortune. (6½×9 3/8). E. 4942-1903. The back is engraved to print gold.

SEIKA (19th century). Key-block for a colour-print. Landscape with Mount Fuji and Storks. (6 $3/8 \times 8\frac{1}{2}$). E. 4936-1903.

SUNKICHIROÌ Shunka (19th century). Key-blocks (8) for book-illustration. "Zoì Mono-gatari." History of Soldiers. By Hakoì Shoì Published by Fusi Kiken at Kyoto, Osaka and Yedo, A.D. 1846, 3rd month. Cut both sides. (8×13). 381, 382, 387, 388, 393-396-1895.

SUGISAKI, S. (*Living Artist.*) Engraved wood-block, showing a decorative design of bamboo plants: designed, engraved and printed by S. Sugisaki. (51×18 5/8). E. 3790-1910. A print from the above. E. 3790a-1910. Presented by the Artist.

SUIKO (19th century).

Key-block (part missing) for a colour-print of a fandesign. "Shiki Bijin Sugatazoroye." Beauties representative of the Four Seasons. Spring. A woman of the Yoshiwara with her attendant (Kamuro). One of a set of four. (9×8¼). E. 4940-1903. The back is engraved to print gold and a colour.

Key-block (part missing) for a colour-print of a fandesign. Shiki Bijin Sugatazoroye. Summer. A geisha

[20]

16TOOLS AND MATERIALS ILLUSTRATING THE JAPANESE METH

enjoying the evening breeze. $(83/4\times8)$. E. 4938-1903 The back is engraved to print one of the colours.

UTAMARO II. (worked c. 1800-1840). Wood-blocks (7) used in the production of a colour-print. ($15\times10\frac{1}{2}$). E. 4316-4322-1909.

UNSIGNED (19th century).

Key-block for a colour-print. Farmer turning an irrigation water-wheel, in rice fields. (8¾×9¾). E. 4935-1903 The back is engraved to print one of the colours.

Key-block (on each side) for two colour-prints. Chrysanthemums and butterfly; on the back, peonies in a flower-vase (9³/₄×10³/₄). E. 4933-1903.

NOTE.—Proofs were taken (in 1910), by a Japanese printer, from each of the above, except in cases where such were already in the Collection. They can be seen on application in the Students' Room of the Department.

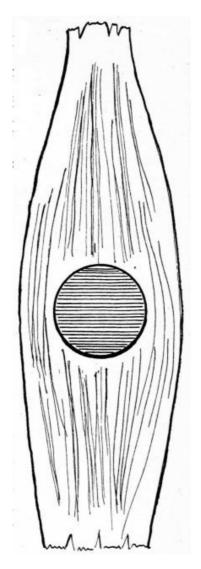


DIAGRAM:—The *Baren*.—Position of pad in sheath.

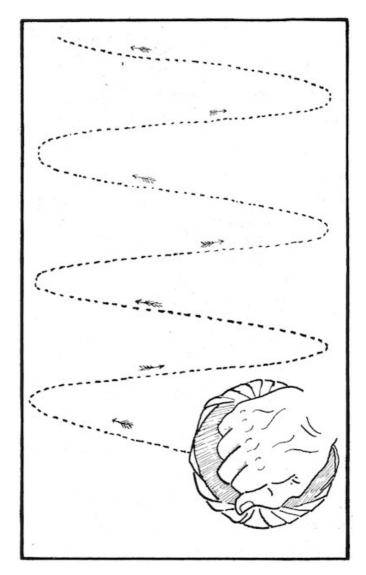


DIAGRAM:—The Baren.—Method of use.

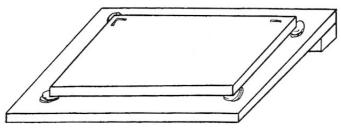


DIAGRAM:—Printer's Desk.

PAPER

Japanese paper, of the kinds used for artistic purposes, is made from the inner bark of various plants, chiefly the Broussonetia Papyrifera, Edgeworthia Papyrifera and Wickstræmia Canescens. The young shoots of the plant are cut in the withy stage; the fibre freed from the wood, and the skin and green parts of the bark, and edges of knot-holes and other defective parts are cut out. The selected residuum is then laid in running water for several days, and boiled in an iron kettle with lye, till it is quite soft and pulpy. The pulp is next washed with fresh water until the water runs off without discolouration. The process of dealing with this pulp does not greatly differ in principle from the European method; except that the scoop-net is not of wire, but of fine parallel bamboo splints or silk net toughened with Shibu (a preparation containing a large proportion of tannic acid). There is no watermark in Japanese paper; but patterns are sometimes produced by arrangements of bamboo splints woven, in net fashion, with silk or hemp thread (Mon-shi—patterned paper). The Department of Engraving, Illustration and Design possesses a collection of specimens of various Japanese papers.

The fine quality of the colours in old Japanese colour-prints is due, to a considerable extent, to the nature of the paper and especially to its tough but highly absorbent character.

BOOKS OF REFERENCE

The following works contain descriptions of the various technical processes mentioned above.

REIN, J. J. The Industries of Japan. (Paper, p. 389.) (10×7.) London, 1889.

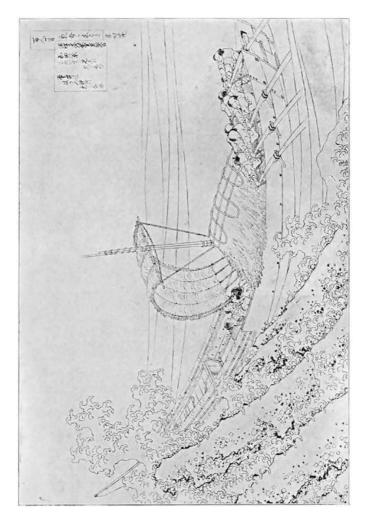
WASHINGTON: *U.S.A. National Museum.* Report of the Smithsonian Institution for the year ending 30 June, 1892. Japanese Wood-cutting and Wood cut Printing, by T. Tokuno. Edited and annotated by S. R. Koehler (p. 222). *Illustrated.* (9×9.) Washington, 1893.

WOOD-CUT Printing in Water-colours, after the Japanese manner. *Illustrated*. (In *The Studio*, vol. 3, pp. no, 144. 1894.)

LONDON: *Victoria and Albert Museum Handbooks*. Japanese Colour-prints, by Edward F. Strange. (Technique, chapter xi.) 3rd edition. (8×6.) London, 1910.

SAKAKIBARA, Yoshino. Bungei Riusan. Essays on Japanese literature, with additional chapters describing the manufacture of paper and the processes of printing and engraving. (The Museum copy has MS. translations of the portion relating to engraving.) *Cuts.* 8 vols. (10×7.) *Toliai* 1878.

NOTE.—The Department of Engraving, Illustration and Design includes a large collection of Japanese Colour-prints and Drawings, which can be seen on application in the Students' Room (Room 71) at any time (except on Sundays) when the Museum is open to the public.



HOKUSAI.—Original drawing for the key-block of an unpublished colour-print in the series called "The Hundred Poets explained by the Nurse." A junk, with straw sail, conveying three travellers; at the bow a breaking wave. At the top right-hand corner is a poem by Hoshoji no Nyudo Saki no Kwampaku Daijo Daijin. O'er the wide sea plain, / As I row and look around, It appears to me / That the white waves, far away, / Are the ever-shining sky. From a drawing in the Victoria and Albert Museum. J. D. 1447.



TOYOKUNI. I.—Working proof from the key-block of a colour-print. A theatrical scene; with the actors Nakayama Tomisaburo and Ichikawa Komazo in the parts of the Geisha Sankatsu and Hanshichi. The artist has added a wash of red colour to the print, with the following MS. note to the printer, "Please gradate the colour like this." From a print in the Victoria and Albert Museum. J. 8494.

***END OF THE PROJECT GUTENBERG EBOOK TOOLS AND MATERIALS ILLUSTRATING THE JAPANESE METHOD OF COLOUR-PRINTING ***

Credits

December 17, 2013

Project Gutenberg edition 10 Martin Schub

A Word from Project Gutenberg

This file should be named 44458-pdf.pdf or 44458-pdf.zip.

This and all associated files of various formats will be found in:

http://www.gutenberg.org/dirs/4/4/4/5/44458/

Updated editions will replace the previous one — the old editions will be renamed.

Creating the works from public domain print editions means that no one owns a United States copyright in these works, so the Foundation (and you!) can copy and distribute it in the United States without permission and without paying copyright royalties. Special rules, set forth in the General Terms of Use part of this license, apply to copying and distributing Project GutenbergTM electronic works to protect the Project GutenbergTM concept and trademark. Project Gutenberg is a registered trademark, and may not be used if you charge for the eBooks, unless you receive specific permission. If you do not charge anything for copies of this eBook, complying with the rules is very easy. You may use this eBook for nearly any purpose such as creation of derivative works, reports, performances and research. They may be modified and printed and given away — you may do practically anything with public domain eBooks. Redistribution is subject to the trademark license, especially commercial redistribution.

The Full Project Gutenberg License

Please read this before you distribute or use this work.

To protect the Project GutenbergTM mission of promoting the free distribution of electronic works, by using or distributing this work (or any other work associated in any way with the phrase "Project Gutenberg"), you agree to comply with all the terms of the Full Project GutenbergTM License (available with this file or online at http://www.gutenberg.org/license).

Section 1.

General Terms of Use & Redistributing Project GutenbergTM electronic works

1.A.

By reading or using any part of this Project GutenbergTM electronic work, you indicate that you have read, understand, agree to and accept all the terms of this license and intellectual property (trademark/copyright) agreement. If you do not agree to abide by all the terms of this agreement, you must cease using and return or destroy all copies of Project GutenbergTM electronic works in your possession. If you paid a fee for obtaining a copy of or access to a Project GutenbergTM electronic work and you do not agree to be bound by the terms of this agreement, you may obtain a refund from the person or entity to whom you paid the fee as set forth in paragraph 1.E.8.

1.B.

"Project Gutenberg" is a registered trademark. It may only be used on or associated in any way with an electronic work by people who agree to be bound by the terms of this agreement. There are a few things that you can do with most Project GutenbergTM electronic works even without complying with the full terms of this agreement. See paragraph 1.C below. There are a lot of things you can do with Project GutenbergTM electronic works if you follow the terms of this agreement and help preserve free future access to Project GutenbergTM electronic works. See paragraph 1.E below.

1.C.

The Project Gutenberg Literary Archive Foundation ("the Foundation" or PGLAF), owns a compilation copyright in the collection of Project GutenbergTM electronic works. Nearly all the individual works in the collection are in the public domain in the United States. If an individual work is in the public domain in the United States and you are located in the United States, we do not claim a right to prevent you from copying, distributing, performing, displaying or creating derivative works based on the work as long as all references to Project Gutenberg are removed. Of course, we hope that you will support the Project GutenbergTM mission of promoting free access to electronic works by freely sharing Project GutenbergTM works in compliance with the terms of this agreement for keeping the Project GutenbergTM name associated with the work. You can easily comply with the terms of this agreement by keeping this work in the same format with its attached full Project GutenbergTM License when you share it without charge with others.

1.D.

The copyright laws of the place where you are located also govern what you can do with this work. Copyright laws in most countries are in a constant state of change. If you are outside the United States, check the laws of your country in addition to the terms of this agreement before downloading, copying, displaying, performing, distributing or creating derivative works based on this work or any other Project GutenbergTM work. The Foundation makes no representations concerning the copyright status of any work in any country outside the United States.

1.E.

Unless you have removed all references to Project Gutenberg:

1.E.1.

The following sentence, with active links to, or other immediate access to, the full Project GutenbergTM License must appear prominently whenever any copy of a Project GutenbergTM work (any work on which the phrase "Project Gutenberg" appears, or with which the phrase "Project Gutenberg" is associated) is accessed, displayed, performed, viewed, copied or distributed:

This eBook is for the use of anyone anywhere at no cost and with almost no restrictions whatsoever. You may copy it, give it away or re-use it under the terms of the Project Gutenberg License included with this eBook or online at http://www.gutenberg.org

If an individual Project GutenbergTM electronic work is derived from the public domain (does not contain a notice indicating that it is posted with permission of the copyright holder), the work can be copied and distributed to anyone in the United States without paying any fees or charges. If you are redistributing or providing access to a work with the phrase "Project Gutenberg" associated with or appearing on the work, you must comply either with the requirements of paragraphs 1.E.1 through 1.E.7 or obtain permission for the use of the work and the Project GutenbergTM trademark as set forth in paragraphs 1.E.8 or 1.E.9.

1.E.3.

If an individual Project GutenbergTM electronic work is posted with the permission of the copyright holder, your use and distribution must comply with both paragraphs 1.E.1 through 1.E.7 and any additional terms imposed by the copyright holder. Additional terms will be linked to the Project GutenbergTM License for all works posted with the permission of the copyright holder found at the beginning of this work.

1.E.4.

Do not unlink or detach or remove the full Project GutenbergTM License terms from this work, or any files containing a part of this work or any other work associated with Project GutenbergTM.

1.E.5.

Do not copy, display, perform, distribute or redistribute this electronic work, or any part of this electronic work, without prominently displaying the sentence set forth in paragraph 1.E.1

36TOOLS AND MATERIALS ILLUSTRATING THE JAPANESE METH

with active links or immediate access to the full terms of the Project Gutenberg $^{\text{TM}}$ License.

1.E.6.

You may convert to and distribute this work in any binary, compressed, marked up, nonproprietary or proprietary form, including any word processing or hypertext form. However, if you provide access to or distribute copies of a Project GutenbergTM work in a format other than "Plain Vanilla ASCII" or other format used in the official version posted on the official Project GutenbergTM web site (http://www.gutenberg.org), you must, at no additional cost, fee or expense to the user, provide a copy, a means of exporting a copy, or a means of obtaining a copy upon request, of the work in its original "Plain Vanilla ASCII" or other form. Any alternate format must include the full Project GutenbergTM License as specified in paragraph 1.E.1.

1.E.7.

Do not charge a fee for access to, viewing, displaying, performing, copying or distributing any Project GutenbergTM works unless you comply with paragraph 1.E.8 or 1.E.9.

1.E.8.

You may charge a reasonable fee for copies of or providing access to or distributing Project GutenbergTM electronic works provided that

 You pay a royalty fee of 20% of the gross profits you derive from the use of Project Gutenberg[™] works calculated using the method you already use to calculate your applicable taxes. The fee is owed to the owner of the Project Gutenberg™ trademark, but he has agreed to donate royalties under this paragraph to the Project Gutenberg Literary Archive Foundation. Royalty payments must be paid within 60 days following each date on which you prepare (or are legally required to prepare) your periodic tax returns. Royalty payments should be clearly marked as such and sent to the Project Gutenberg Literary Archive Foundation at the address specified in Section 4, "Information about donations to the Project Gutenberg Literary Archive Foundation."

- You provide a full refund of any money paid by a user who notifies you in writing (or by e-mail) within 30 days of receipt that s/he does not agree to the terms of the full Project GutenbergTM License. You must require such a user to return or destroy all copies of the works possessed in a physical medium and discontinue all use of and all access to other copies of Project GutenbergTM works.
- You provide, in accordance with paragraph 1.F.3, a full refund of any money paid for a work or a replacement copy, if a defect in the electronic work is discovered and reported to you within 90 days of receipt of the work.
- You comply with all other terms of this agreement for free distribution of Project GutenbergTM works.

1.E.9.

If you wish to charge a fee or distribute a Project GutenbergTM electronic work or group of works on different terms than are set forth in this agreement, you must obtain permission in writing from both the Project Gutenberg Literary Archive Foundation and Michael Hart, the owner of the Project GutenbergTM trademark. Contact the Foundation as set forth in Section 3 below.

1.F.

1.F.1.

Project Gutenberg volunteers and employees expend considerable effort to identify, do copyright research on, transcribe and proofread public domain works in creating the Project GutenbergTM collection. Despite these efforts, Project GutenbergTM electronic works, and the medium on which they may be stored, may contain "Defects," such as, but not limited to, incomplete, inaccurate or corrupt data, transcription errors, a copyright or other intellectual property infringement, a defective or damaged disk or other medium, a computer virus, or computer codes that damage or cannot be read by your equipment.

1.F.2.

LIMITED WARRANTY, DISCLAIMER OF DAMAGES — Except for the "Right of Replacement or Refund" described in paragraph 1.F.3, the Project Gutenberg Literary Archive Foundation, the owner of the Project Gutenberg™ trademark, and any other party distributing a Project Gutenberg™ telectronic work under this agreement, disclaim all liability to you for damages, costs and expenses, including legal fees. YOU AGREE THAT YOU HAVE NO REMEDIES FOR NEGLIGENCE, STRICT LIABILITY, BREACH OF WARRANTY OR BREACH OF CONTRACT EXCEPT THOSE PROVIDED IN PARAGRAPH F3. YOU AGREE THAT THE FOUNDATION, THE TRADEMARK OWNER, AND ANY DISTRIBUTOR UNDER THIS AGREEMENT WILL NOT BE LIABLE TO YOU FOR ACTUAL, DIRECT, INDIRECT, CONSEQUENTIAL, PUNITIVE OR

INCIDENTAL DAMAGES EVEN IF YOU GIVE NOTICE OF THE POSSIBILITY OF SUCH DAMAGE.

1.F.3.

LIMITED RIGHT OF REPLACEMENT OR REFUND — If you discover a defect in this electronic work within 90 days of receiving it, you can receive a refund of the money (if any) you paid for it by sending a written explanation to the person you received the work from. If you received the work on a physical medium, you must return the medium with your written explanation. The person or entity that provided you with the defective work may elect to provide a replacement copy in lieu of a refund. If you received the work electronically, the person or entity providing it to you may choose to give you a second opportunity to receive the work electronically in lieu of a refund. If the second copy is also defective, you may demand a refund in writing without further opportunities to fix the problem.

1.F.4.

Except for the limited right of replacement or refund set forth in paragraph 1.F.3, this work is provided to you 'AS-IS,' WITH NO OTHER WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTIBILITY OR FITNESS FOR ANY PURPOSE.

1.F.5.

Some states do not allow disclaimers of certain implied warranties or the exclusion or limitation of certain types of damages. If any disclaimer or limitation set forth in this agreement violates the law of the state applicable to this agreement, the agreement shall be interpreted to make the maximum disclaimer or limitation permitted by the applicable state law. The invalidity or unenforceability of any provision of this agreement shall not void the remaining provisions.

1.F.6.

INDEMNITY — You agree to indemnify and hold the Foundation, the trademark owner, any agent or employee of the Foundation, anyone providing copies of Project GutenbergTM electronic works in accordance with this agreement, and any volunteers associated with the production, promotion and distribution of Project GutenbergTM electronic works, harmless from all liability, costs and expenses, including legal fees, that arise directly or indirectly from any of the following which you do or cause to occur: (a) distribution of this or any Project GutenbergTM work, (b) alteration, modification, or additions or deletions to any Project GutenbergTM work, and (c) any Defect you cause.

Section 2.

Information about the Mission of Project GutenbergTM

Project GutenbergTM is synonymous with the free distribution of electronic works in formats readable by the widest variety of computers including obsolete, old, middle-aged and new computers. It exists because of the efforts of hundreds of volunteers and donations from people in all walks of life.

Volunteers and financial support to provide volunteers with the assistance they need, is critical to reaching Project GutenbergTM's goals and ensuring that the Project GutenbergTM collection will remain freely available for generations to come. In 2001, the Project Gutenberg Literary Archive Foundation was created to provide a secure and permanent future for Project GutenbergTM and future generations. To learn more about the Project Gutenberg Literary Archive Foundation and how your efforts and donations can help, see Sections 3 and 4 and the Foundation web page at http://www.pglaf.org.

Section 3.

Information about the Project Gutenberg Literary Archive Foundation

The Project Gutenberg Literary Archive Foundation is a non profit 501(c)(3) educational corporation organized under the laws of the state of Mississippi and granted tax exempt status by the Internal Revenue Service. The Foundation's EIN or federal tax identification number is 64-6221541. Its 501(c)(3) letter is posted at http://www.gutenberg.org/fundraising/pglaf. Contributions to the Project Gutenberg Literary Archive Foundation are tax deductible to the full extent permitted by U.S. federal laws and your state's laws.

The Foundation's principal office is located at 4557 Melan Dr. S. Fairbanks, AK, 99712., but its volunteers and employees are scattered throughout numerous locations. Its business office is located at 809 North 1500 West, Salt Lake City, UT 84116, (801) 596-1887, email business@pglaf.org. Email contact links and up

42TOOLS AND MATERIALS ILLUSTRATING THE JAPANESE METH

to date contact information can be found at the Foundation's web site and official page at http://www.pglaf.org

For additional contact information:

Dr. Gregory B. Newby Chief Executive and Director gbnewby@pglaf.org

Section 4.

Information about Donations to the Project Gutenberg Literary Archive Foundation

Project GutenbergTM depends upon and cannot survive without wide spread public support and donations to carry out its mission of increasing the number of public domain and licensed works that can be freely distributed in machine readable form accessible by the widest array of equipment including outdated equipment. Many small donations (\$1 to \$5,000) are particularly important to maintaining tax exempt status with the IRS.

The Foundation is committed to complying with the laws regulating charities and charitable donations in all 50 states of the United States. Compliance requirements are not uniform and it takes a considerable effort, much paperwork and many fees to meet and keep up with these requirements. We do not solicit donations in locations where we have not received written confirmation of compliance. To SEND DONATIONS or determine the status of compliance for any particular state visit http://www.gutenberg.org/fundraising/donate

While we cannot and do not solicit contributions from states where we have not met the solicitation requirements, we know of no prohibition against accepting unsolicited donations from donors in such states who approach us with offers to donate.

International donations are gratefully accepted, but we cannot make any statements concerning tax treatment of donations received from outside the United States. U.S. laws alone swamp our small staff.

Please check the Project Gutenberg Web pages for current donation methods and addresses. Donations are accepted in a number of other ways including checks, online payments and credit card donations. To donate, please visit: http://www.gutenberg.org/fundraising/donate

Section 5.

General Information About Project GutenbergTM electronic works.

Professor Michael S. Hart is the originator of the Project GutenbergTM concept of a library of electronic works that could be freely shared with anyone. For thirty years, he produced and distributed Project GutenbergTM eBooks with only a loose network of volunteer support.

Project GutenbergTM eBooks are often created from several printed editions, all of which are confirmed as Public Domain in the U.S. unless a copyright notice is included. Thus, we do not necessarily keep eBooks in compliance with any particular paper edition.

Each eBook is in a subdirectory of the same number as the eBook's eBook number, often in several formats including plain vanilla ASCII, compressed (zipped), HTML and others.

44TOOLS AND MATERIALS ILLUSTRATING THE JAPANESE METH

Corrected *editions* of our eBooks replace the old file and take over the old filename and etext number. The replaced older file is renamed. *Versions* based on separate sources are treated as new eBooks receiving new filenames and etext numbers.

Most people start at our Web site which has the main PG search facility:

http://www.gutenberg.org

This Web site includes information about Project GutenbergTM, including how to make donations to the Project Gutenberg Literary Archive Foundation, how to help produce our new eBooks, and how to subscribe to our email newsletter to hear about new eBooks.