Aniline Colors = on cotton Yarn.

LUDWIGSHAFEN WORKS.

BADISCHE COMPANY

128, Duane Street,

NEW YORK.

SOLE IMPORTERS OF THE PRODUCTS MANUFACTURED BY

BADISCHE ANILIN- & SODA-FABRIK

LUDWIGSHAFEN o/RHINE, GERMANY.

Aniline Colors

on cotton yarn.

Dyeing Process I.

Applicable generally to basic colors, Soluble Blue, etc.

(Patterns No. 1—111 and 121—312.)

For 100 lbs. Cotton Yarn.

The yarn is mordanted in the usual way with 1—5 lbs. tannic acid (according to the depth of the shade) and 1/2—2 lbs. antimony salt, rinsed thoroughly, then entered into the slightly lukewarm dye-bath and worked 1/2 — 3/4 hour at a temperature of about 100 ° F. It is afterwards well rinsed.

NOTES:–

1. *In working with* Indoine Blue *it is advantageous to use instead of tannic acid a decoction of 8—18 lbs. sumach leaves and 3/4 — 1 3/4 lbs. antimony salt.*
   An addition is also made of the quantity of sulphate of alumina stated in the case of each pattern, and the goods are finally worked 1/2 hour at the boil.

2. *With* Methylene Blue, Marine Blue, Nile Blue *and* Diamond Green *it is of advantage to raise the temperature during dyeing until at the end it stands at 160 ° F.; with the* Victoria Blues *and* Victoria Pure Blue B *the dyeing is finished at the boil.*

3. *With the* Soluble Blue, Fast Blue *and* Nigrosine brands *an addition of alum to the dye-bath (as mentioned in the card) is indispensable.*

4. *If hard (calcareous) water is used for dyeing with* Diamond Green, Victoria Green, Brilliant Green, Victoria Blue *and* Night Blue *it should be previously corrected by adding about 1—2 pints acetic acid 9 ° Tw. (30 %) to 100 gallons water.*

5. *The following may be taken as general rules for counteracting any difficulties that might arise as regards unevenness:– a) Enter the goods cold, b) add the dyestuff solution in several portions at intervals, c) add a little alum (1—2 lbs.) to the bath.*

Special Process Ia.

For Rhodamine S and for very pale shades with Rhodamine 6 G.

(Patterns No. 112—117).

The unmordanted, bleached yarn is worked in a lukewarm bath with an addition of 3 pints acetic acid 9 ° Tw. (30 %).

Special Process Ib.

For Rhodamine B on oil-mordanted yarn.

(Patterns No. 118—120).

(See our Process No. 697 for full details).

Without guarantee.

Employment of the Colors.

Auramine.

Auramine II and **O** are the mostly used basic Yellows. They have the advantage of a very pure shade coupled with comparatively good fastness to light and washing, and in working their cost comes out very low. A very greenish but more expensive brand is **Auramine G.**

Rheonine.

The **Rheonines** give full-bodied yellow shades of good fastness and on account of their good level-dyeing properties, they are particularly adapted for fancy shades.

Cannelle, Phosphine, Euchrysine.

Cannelle and **Phosphine** are not of great importance in cotton dyeing, but are used occasionally for compound shades, sometimes in combination with wood colors.

In most cases they can be substituted by the cheaper **Rheonines** and **Euchrysines.**

Flavinduline

is but little used for dyeing; on the other hand for calico printing and "ombré" printing on yarn it is liked on account of its good fastness to washing.

Chrysoidine, Vesuvine.

These brands are largely used for self shades giving bright orange yellow to dark brown tones and they are also favored for saddening cheap fancy shades. **Vesuvine BL,** amongst other uses, finds employment for decorative threads — fast to boiling acid — in woollen piece-goods.

Saffranine, Saffranine Scarlet.

The chief brand **Saffranine T extra** gives a full red of good fastness to washing and light; the very bluish **Saffranine MN** possesses even better fastness to washing but is not equal in fastness to light.

The two **Saffranine Scarlets** yield full yellowish reds.

Induline Scarlet

gives dyeings of good general fastness, but by reason of its rather high price it only comes into consideration for special classes of work; it is more extensively used for calico printing and "ombré" printing on yarn.

Magenta.

Magenta and the closely connected **Magenta powder, Rubine, Cerise, Magenta Scarlet** are — because of their shade and great strength — amongst the mostly used basic colors in spite of their moderate fastness.

The purest bluish brands are: — **Diamond Magenta I small needles, Diamond Magenta double refined** and **Diamond Magenta powder A** (the latter is the more easily soluble). The brand **II small crystals** is more yellowish.

Magenta Scarlet G and **B** dye extra yellowish shades. **Rubine N** and the different **Cerise brands** possess heavier, more brownish red tones. They are used to a large extent for self shades and also as cheap reds for compound shades.

Rhodamine.

The **Rhodamines** on account of their brilliant shade are also largely used for cotton dyeing; their fastness to light is not so good as on wool, but at the same time is very much better than that of the dyestuffs of the Eosine group which on cotton come nearest for comparison.

The mostly used brands on a tannic acid-antimony salt mordant are:—**Rhodamine 6 G** and **3 G** which give bright pinks of good fastness to washing and in combination with **Auramine II** scarlets of a very fiery hue.

Rhodamine B is used a good deal on a Turkey red oil mordant and in this way splendid pinks are produced, such as are not obtainable in the same purity with any other dyestuffs.

Rhodamine S and also **6 G** are taken up in small percentages by the cotton fibre even without a mordant and are useful for brightening dyeings of substantive colors, or by themselves for brilliant, delicate pinks.

Methyl Violets

are used on cotton mainly for violet dyeings. In addition they are employed for directly topping dyeings of substantive colors, being frequently applied in the finish.

The brand mostly in request for medium shades is **Methyl Violet B B,** but the purest, most bluish brand is **Ethyl Purple.** The latter, however, comes in more expensive than the but slightly redder brands, **Crystal Violet** and **Methyl Violet 6 B.** The **Methyl Violets** are looked upon as of good fastness to washing but are only moderately fast to light.

Marine Blues, Methylene Blue AN

are redder in shade than the **Methylene Blues** as shown by our dyeings 214—240 but, generally speaking, have the same properties and methods of application. They are not, however, quite up to the level of these **Methylene Blues** in fastness to light although they rather excel the latter in fastness to washing. The **Marine Blues** find employment amongst other uses for brightening direct dyeings in the finish in the same way as the **Methyl Violets.**

Soluble Blues, Pure Blues, Methyl Soluble Blue 3S conc.

These products belong to the acid group of dyestuffs but have great affinity for tannin-mordanted cotton and give bright blues of comparatively good fastness to light. The purest brands are: — **Soluble Blue IB** and **Methyl Soluble Blue 3S conc.,** but on account of their high price these two are only used where very pure, greenish shades are required. In most cases the cheaper **Soluble Blue IN** provides a good substitute.

For pale blues, and especially for whites, the Soluble Blues are also largely applied in the size without any mordant.

Victoria Blues, Victoria Pure Blue B, Night Blue.

The **Victoria Blue brands** and **Victoria Pure Blue B** dye bright blues on cotton of good fastness to washing. In the latter respect the best are **Victoria Blue R** and **Victoria Pure Blue B.** The **Victoria Blues** are also extensively used for yarns which are required fast to boiling acid. For this purpose the **B** is the principal brand. A further use is for grounds under **Indigo** and **Indoine Blue** in order to get better penetrated pieces. In this case no mordant is used.

Night Blue has not a large scope in cotton dyeing as for this fibre it is mostly too expensive.

Methylene Blues.

The **Methylene Blue brands** as shown by our dyeings 214—240 are greatly valued and used on the largest scale by cotton dyers on account of their bright, greenish shade and comparatively good fastness — in particular their good fastness to light, washing and chlorine —.

The brand **NN** comes mainly into consideration for printing.

Nile Blues.

These give very pure blue shades, and in their properties (fastness) come near to the **Methylene Blues.** They are chiefly used for self shades.

Diamond Greens, Victoria Greens, Brilliant Greens.

The brightness and particular shade of these basic Greens are indispensable, and for this reason they are used a great deal in spite of their only moderate fastness to light and alkali; their fastness in other respects is good. The bluer brands **Diamond Green B** and **Victoria Green** are rather faster to washing than the yellowish brands.

Their use for yarns required fast to boiling acid is worthy of special mention.

Dark Blue B and R

give cheap navy blues of medium fastness.

Indoine Blues.

The **Indoine Blue brands** dye blues similar to indigoes. They possess good fastness to light and washing (even alongside white), and in this respect must be numbered amongst the best basic colors.

It may be noted that **Indoine Blue** is also often dyed without a mordant, particularly on a substantive dyed bottom; dyeings of this kind are inferior in fastness to the mordanted dyeings but are found satisfactory for a good many purposes.

Cotton Blues, Methylene Blue DA, DD

give navy blues superior in fastness to light to the blues obtained with **Dark Blue** but below the general fastness of **Indoine Blue** dyeings.

Fast Blues, Nigrosines.

These products belong to the acid dyeing group but also work well on tannin-mordanted cotton. The grey shades obtained with **Nigrosine** are in particular highly thought of on account of their good fastness to light and acid. The **Nigrosines** for greys are mostly dyed without a mordant, often in the size.

Jute Black, Jet Black.

These dyestuffs are not of such great importance for cotton as for **jute, coir,** etc., but at the same time are frequently used for special purposes.

Fastness Properties.

1. Fastness to washing.

The following are amongst the fastest of their kind to washing both as regards the shade remaining unaltered, and adjacent white being untinged in the wash:—

Rhodamine 6 G, 3 B**
Saffranine brands
Induline Scarlet
*Methyl Violet brands**
*Crystal Violet**
*Ethyl Purple**
*Indoine Blue brands**
Diamond Green B
*Victoria Blue R**
Victoria Pure Blue B.

The best possible fastness is ensured by an after-treatment of the dyeings with tannic acid. The brands marked * even without this after-treatment satisfy moderate demands.

For most purposes the fastness to washing is adequate of:—

Auramine brands
Rheonine brands
Euchrysine brands
Phosphine N
Rhodamine S
Victoria Blue B, 4 R
Methylene Blue brands
Marine Blue brands
Nile Blue brands
Dark Blue B, R.

2. Fastness to chlorine.

The highest demands in this respect cannot be made on dyeings with basic colors. The fastest of their kind are:—

Methylene Blues (especially the greenish brands)
Flavinduline II
Induline Scarlet
Phosphine N
Saffranine T extra, TKM
Rhodamine 3 B, 3 G, 6 G
Diamond Green G N, B.

3. Fastness to boiling acid.

Of the basic dyestuffs used for fancy effects (check threads, etc.) the following best answer ordinary requirements as regards fastness to boiling acid:—

Yellow: *Auramine brands*
Flavinduline II
Rheonine brands.

Brown: *Vesuvine BL.*

Red: *Rhodamine brands*
Induline Scarlet
Saffranine MN, T extra.

Blue: *Victoria Blue brands*
Victoria Pure Blue B
Night Blue
Nile Blue brands
Indoine Blue brands
and the greenish
Methylene Blue brands.

Green: *Diamond Green brands (best if after-treated with tannic acid).*

4. Fastness to light.

Of the basic dyestuffs the following are considered of good fastness to light:—

Auramine II, O
Rheonine brands
Flavinduline II
Phosphine N
Induline Scarlet
Saffranine T extra
Indoine Blue brands
Cotton Blue brands
Methylene Blue brands
Nile Blue brands.

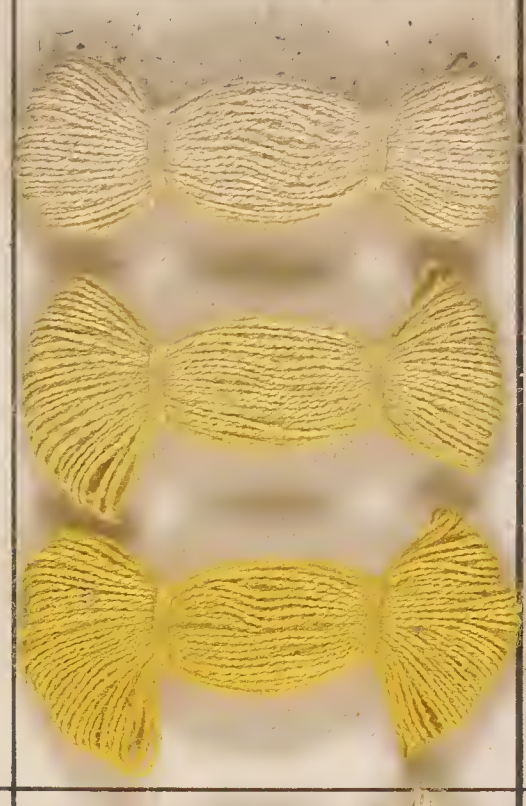
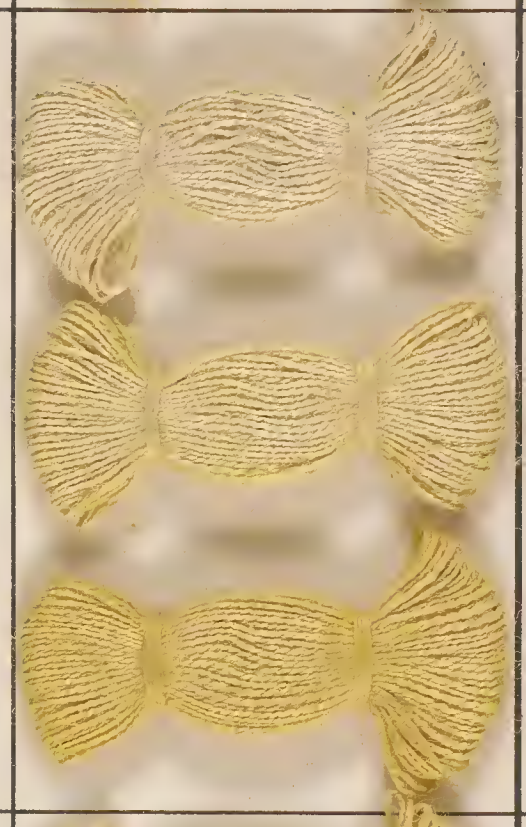
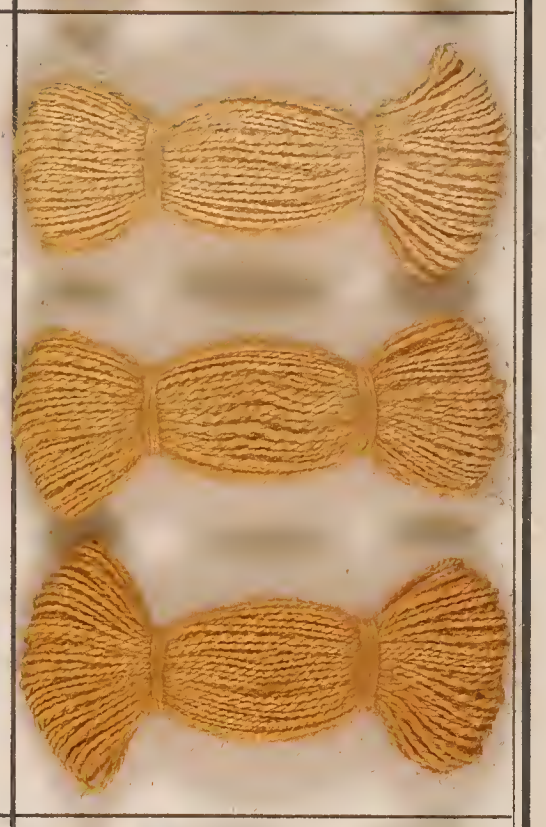
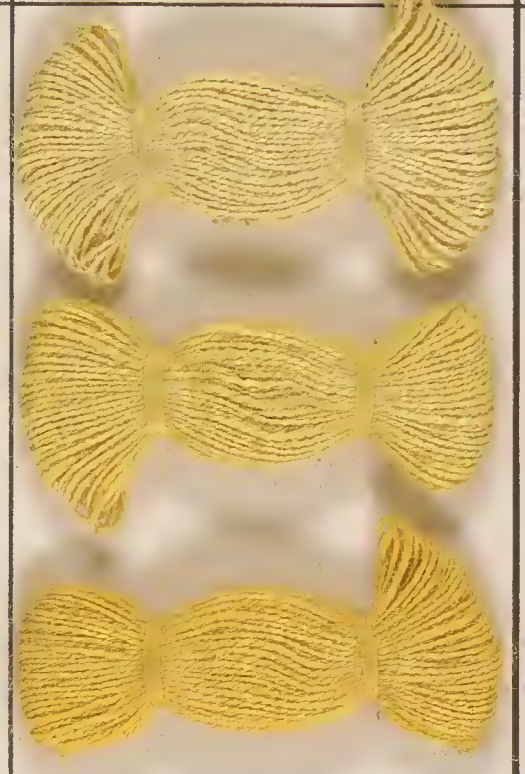
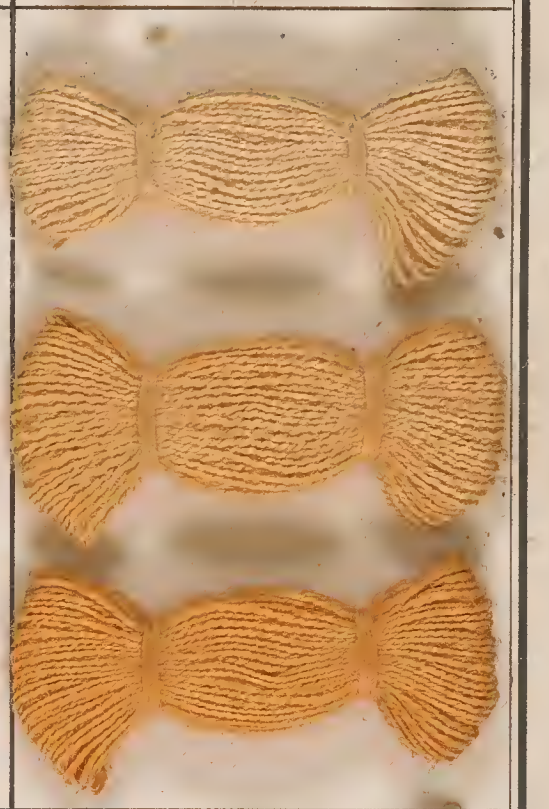
Good fastness to light is also possessed by the products below enumerated, which belong to the group of acid dyes but work on mordanted cotton yarn:—

Soluble Blue
Pure Blue
Fast Blue
Nigrosine.

NOTE:–

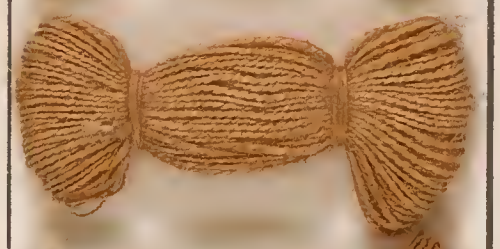
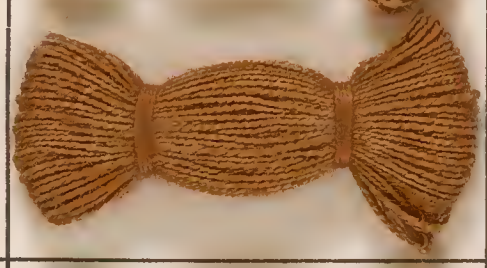
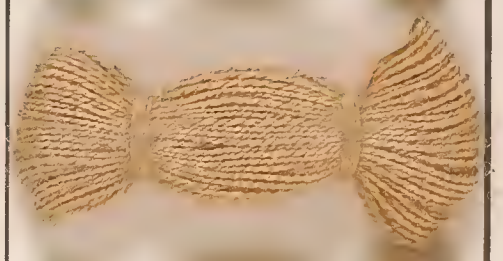
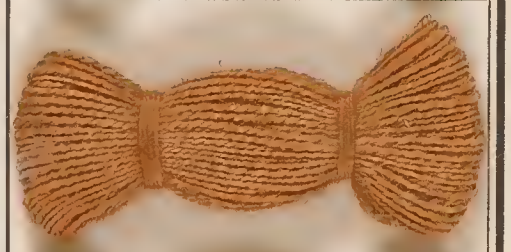
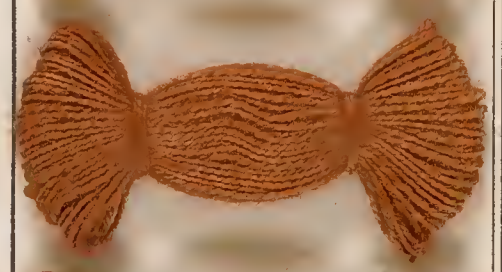
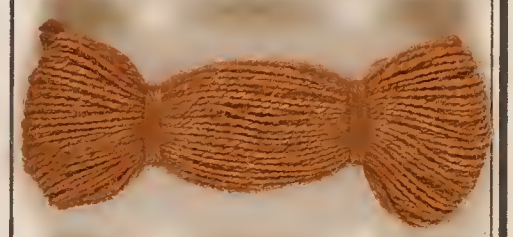
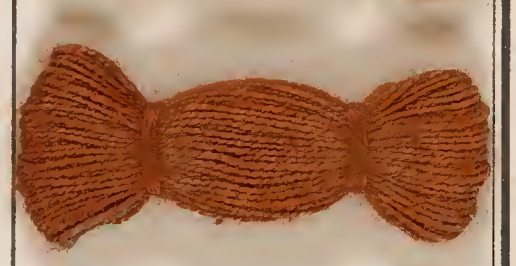
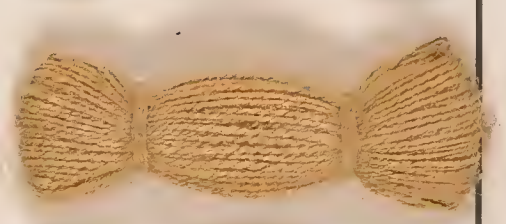
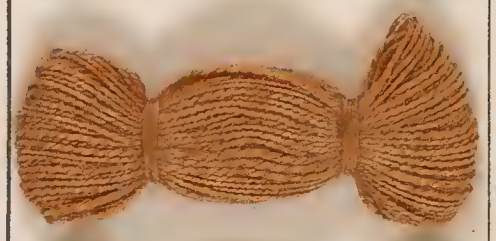
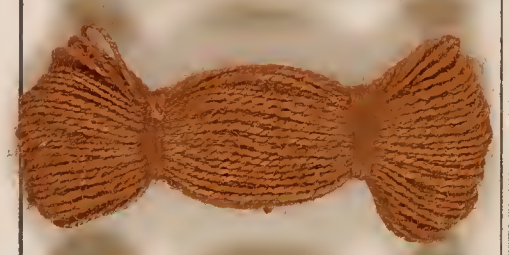
By an after-treatment with tannin, (1 1/2 oz. tannic acid per 10 gallons at 100° F.), not only is the fastness to washing increased but the other fastness properties of all the basic dyestuffs are more or less improved.

Badische Anilin- & Soda-Fabrik, Ludwigshafen o/Rhine, Germany.

1. 0·25 % Auramine G.		13. 0·5 % Flavinduline II.	
2. 0·5 % Auramine G.		14. 1 % Flavinduline II.	
3. 1 % Auramine G.		15. 2 % Flavinduline II.	
4. 0·25 % Auramine II.		16. 0·25 % Euchrysine RT.	
5. 0·5 % Auramine II.		17. 0·5 % Euchrysine RT.	
6. 1 % Auramine II.		18. 1 % Euchrysine RT.	
7. 0·25 % Auramine O.		19. 0·25 % Phosphine N.	
8. 0·5 % Auramine O.		20. 0·5 % Phosphine N.	
9. 1 % Auramine O.		21. 1 % Phosphine N.	
10. 0·5 % Rheonine G D.		22. 0·5 % Rheonine A L.	
11. 1 % Rheonine G D.		23. 1 % Rheonine A L.	
12. 2 % Rheonine G D.		24. 2 % Rheonine A L.	

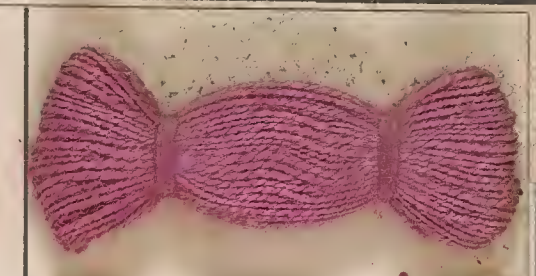
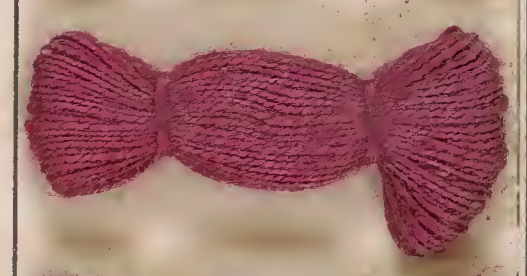
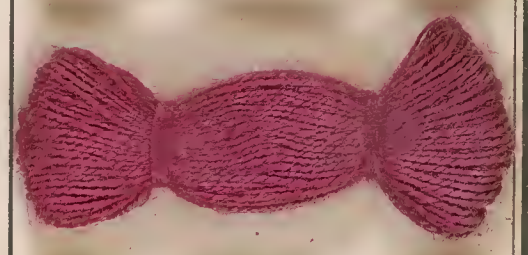
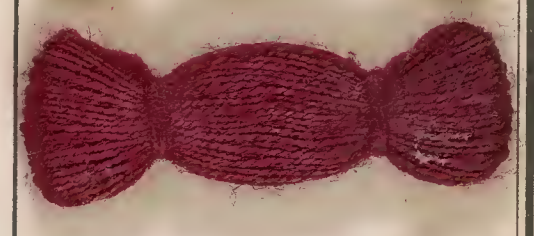
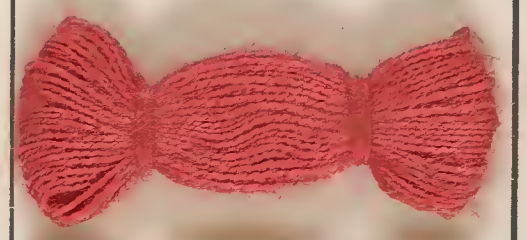
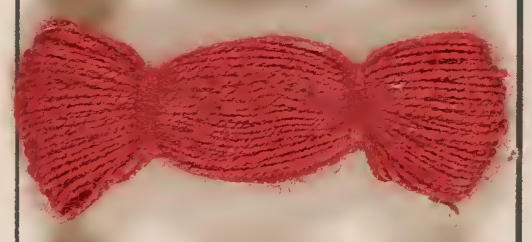
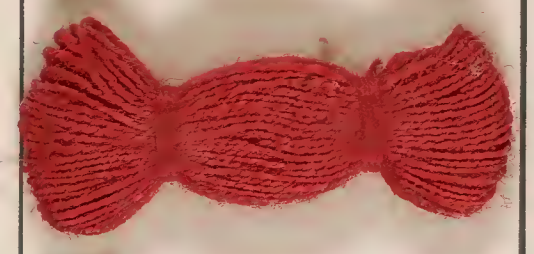
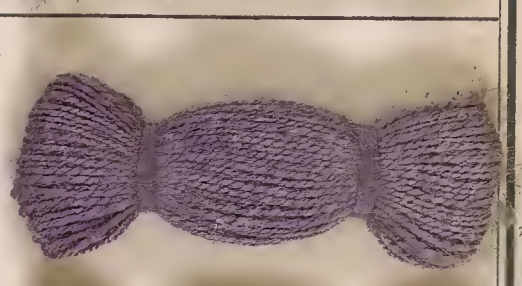
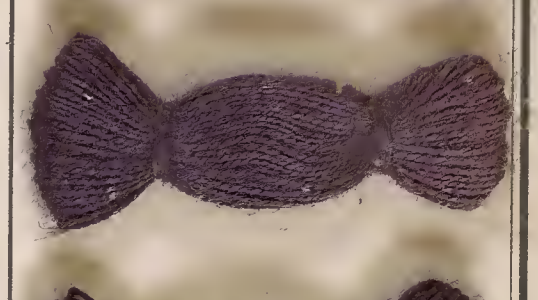
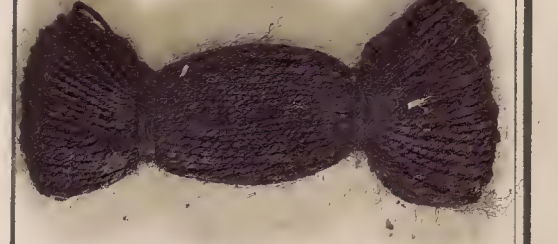
The percentages stated refer to the weight of the yarn.

Badische Anilin- & Soda-Fabrik, Ludwigshafen o/Rhine, Germany.

25. 0·5 % Cannelle O F.		**37.** 0·5 % Vesuvine S.	
26. 1 % Cannelle O F.		**38.** 1 % Vesuvine S.	
27. 2 % Cannelle O F.		**39.** 2 % Vesuvine S.	
28. 0·25 % Chrysoidine A.		**40.** 0·5 % Vesuvine O.	
29. 0·5 % Chrysoidine A.		**41.** 1 % Vesuvine O.	
30. 1 % Chrysoidine A.		**42.** 2 % Vesuvine O.	
31. 0·25 % Chrysoidine E.		**43.** 0·5 % Vesuvine extra.	
32. 0·5 % Chrysoidine E.		**44.** 1 % Vesuvine extra.	
33. 1 % Chrysoidine E.		**45.** 2 % Vesuvine extra.	
34. 0·25 % Chrysoidine R L.		**46.** 0·5 % Vesuvine O O O extra.	
35. 0·5 % Chrysoidine R L.		**47.** 1 % Vesuvine O O O extra.	
36. 1 % Chrysoidine R L.		**48.** 2 % Vesuvine O O O extra.	

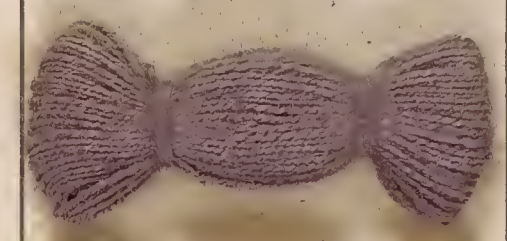
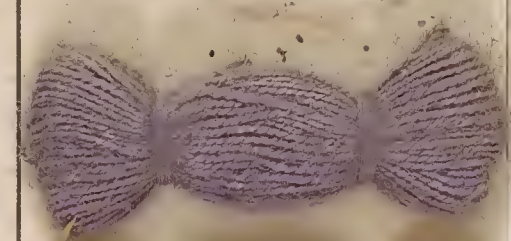
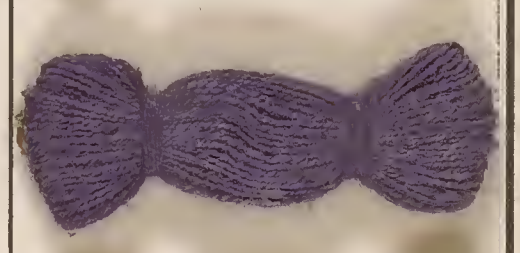
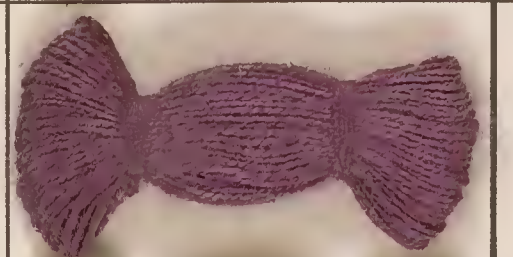
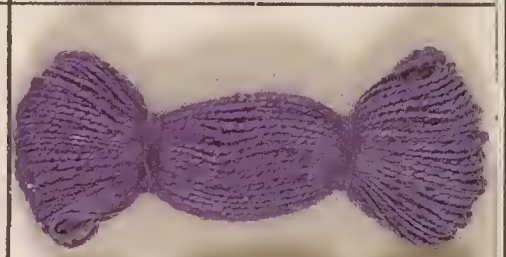
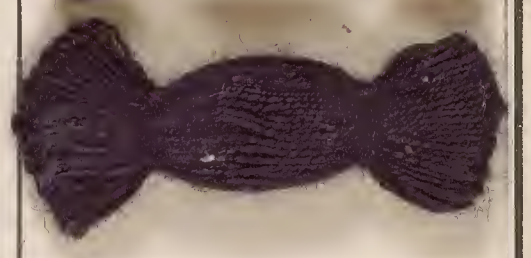
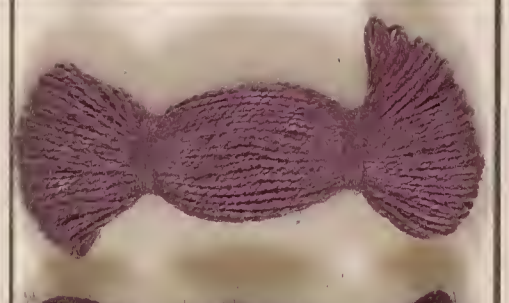
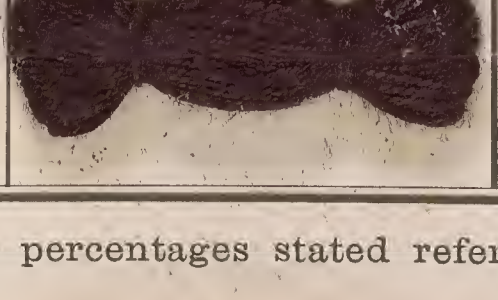
The percentages stated refer to the weight of the yarn.

Badische Anilin- & Soda-Fabrik, Ludwigshafen o/Rhine, Germany.

49. 0·5 % Vesuvine BL.		**61.** 0·25 % Saffranine TKM.	
50. 1 % Vesuvine BL.		**62.** 0·5 % Saffranine TKM.	
51. 2 % Vesuvine BL.		**63.** 1 % Saffranine TKM.	
52. 0·6 % Saffranine Scarlet G.		**64.** 0·25 % Saffranine T extra.	
53. 1·25 % Saffranine Scarlet G.		**65.** 0·5 % Saffranine T extra.	
54. 2·5 % Saffranine Scarlet G.		**66.** 1 % Saffranine T extra.	
55. 0·5 % Induline Scarlet.		**67.** 0·6 % Magenta Scarlet G.	
56. 1 % Induline Scarlet.		**68.** 1·25 % Magenta Scarlet G.	
57. 2 % Induline Scarlet.		**69.** 2·5 % Magenta Scarlet G.	
58. 0·6 % Saffranine Scarlet B.		**70.** 0·6 % Magenta Scarlet B.	
59. 1·25 % Saffranine Scarlet B.		**71.** 1·25 % Magenta Scarlet B.	
60. 2·5 % Saffranine Scarlet B.		**72.** 2·5 % Magenta Scarlet B.	

The percentages stated refer to the weight of the yarn.

Badische Anilin- & Soda-Fabrik, Ludwigshafen o/Rhine, Germany.

73. 0·5 % Rubine N.		**85.** 0·25 % Magenta II small crystals.	
74. 1 % Rubine N.		**86.** 0·5 % Magenta II small crystals.	
75. 2 % Rubine N.		**87.** 1 % Magenta II small crystals.	
76. 0·5 % Cerise D II.		**88.** 0·25 % Diamond Magenta double refined.	
77. 1 % Cerise D II.		**89.** 0·5 % Diamond Magenta double refined.	
78. 2 % Cerise D II.		**90.** 1 % Diamond Magenta double refined.	
79. 0·5 % Cerise D N.		**91.** 0·25 % Diamond Magenta I small needles.	
80. 1 % Cerise D N.		**92.** 0·5 % Diamond Magenta I small needles.	
81. 2 % Cerise D N.		**93.** 1 % Diamond Magenta I small needles.	
82. 0·5 % Cerise D IV.		**94.** 0·25 % Magenta Powder A.	
83. 1 % Cerise D IV.		**95.** 0·5 % Magenta Powder A.	
84. 2 % Cerise D IV.		**96.** 1 % Magenta Powder A.	

The percentages stated refer to the weight of the yarn.

Badische Anilin- & Soda-Fabrik, Ludwigshafen o/Rhine, Germany.

97.
0·25 %
Saffranine MN.

98.
0·5 %
Saffranine MN.

99.
1 %
Saffranine MN.

109.
0·15 %
Rhodamine 6 G.

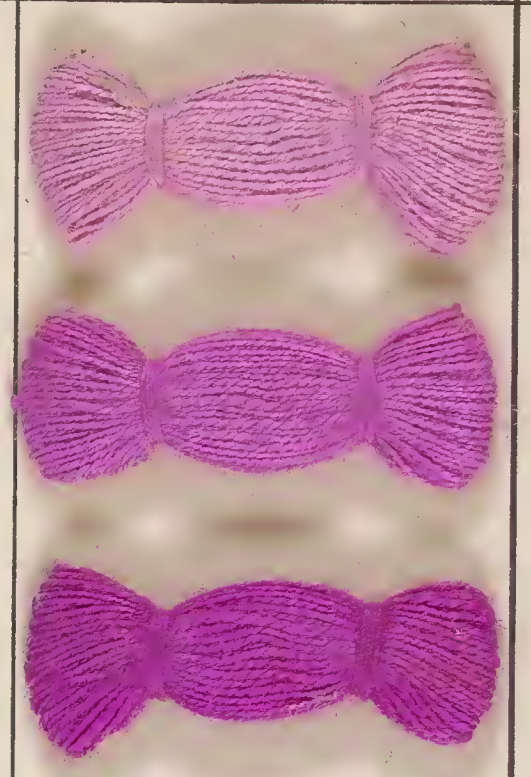
110.
0·6 %
Rhodamine 6 G.

111.
1·5 %
Rhodamine 6 G.

100.
0·2 %
Rhodamine 3 B.

101.
0·6 %
Rhodamine 3 B.

102.
1·5 %
Rhodamine 3 B.



112.
0·03 %
Rhodamine 6 G.

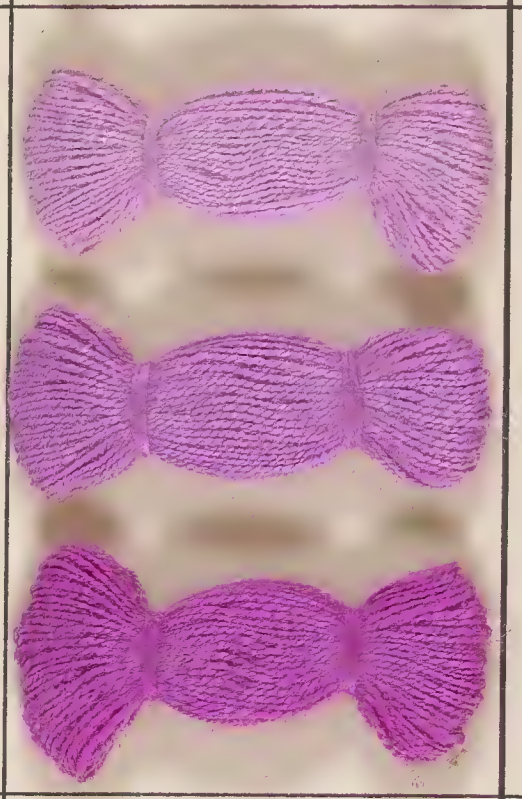
113.
0·15 %
Rhodamine 6 G.

114.
0·5 %
Rhodamine 6 G.
No. 112—114:
Special process I a.

103.
0·2 %
Rhodamine B.

104.
0·5 %
Rhodamine B.

105.
1·5 %
Rhodamine B.



115.
0·1 %
Rhodamine S.

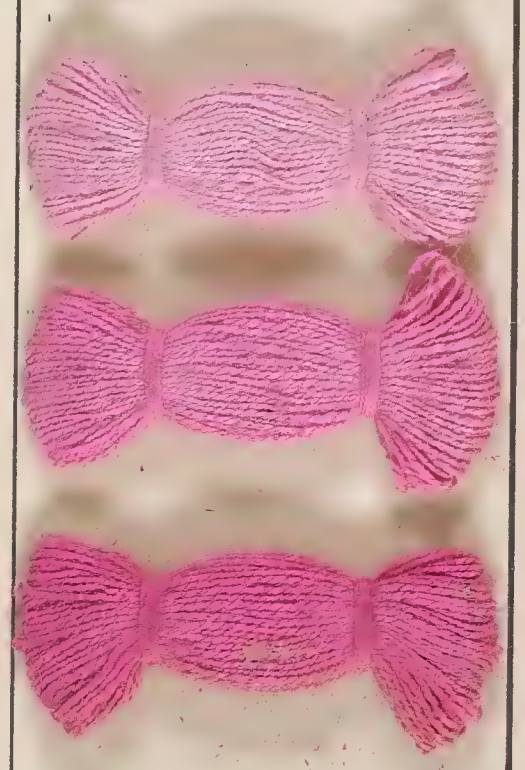
116.
0·35 %
Rhodamine S.

117.
1 %
Rhodamine S.
No. 115—117:
Special process I a.

106.
0·2 %
Rhodamine 3 G.

107.
0·6 %
Rhodamine 3 G.

108.
1·5 %
Rhodamine 3 G.



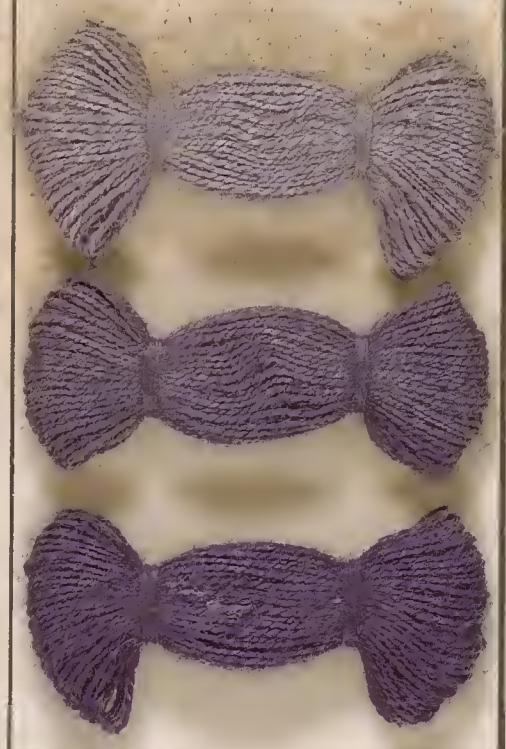
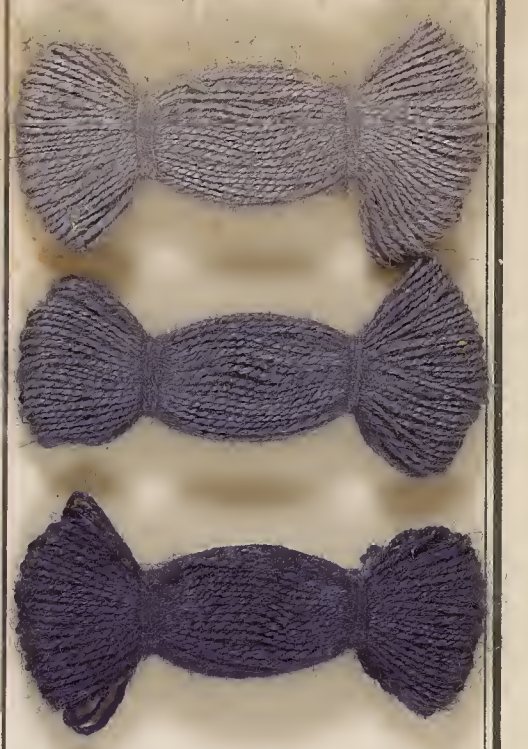
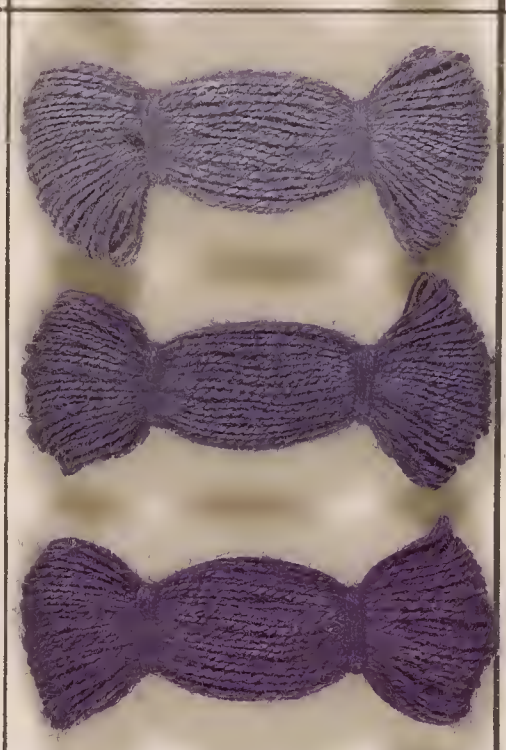
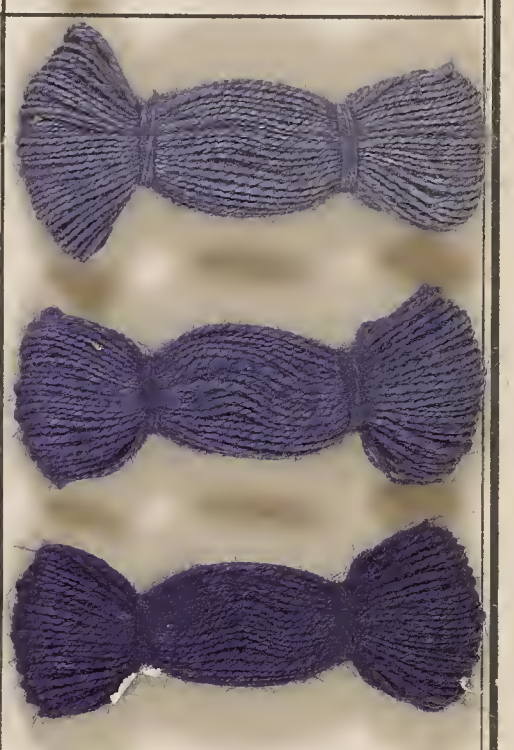
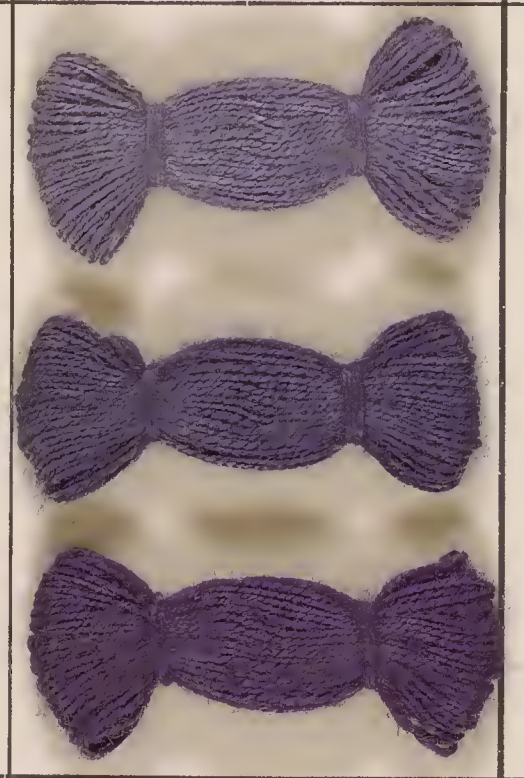
118.
0·2 %
Rhodamine B.

119.
0·6 %
Rhodamine B.

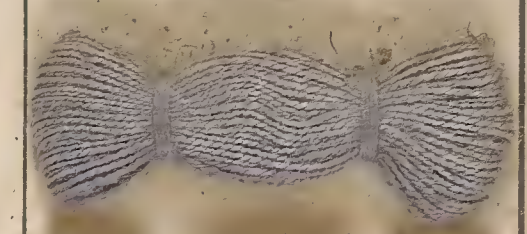
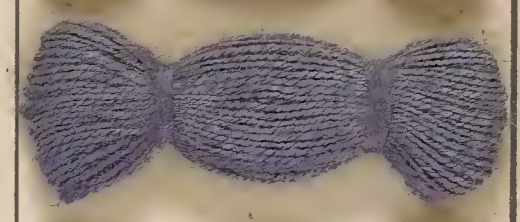
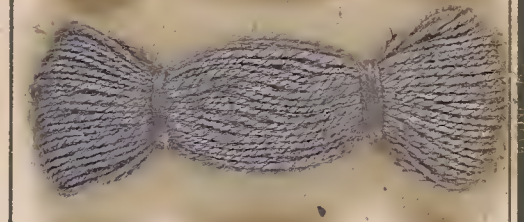
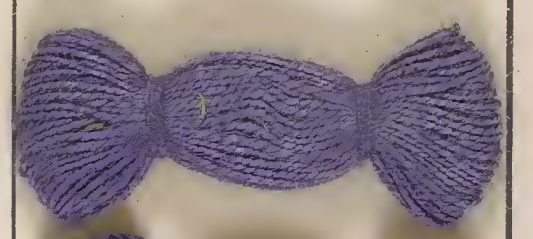
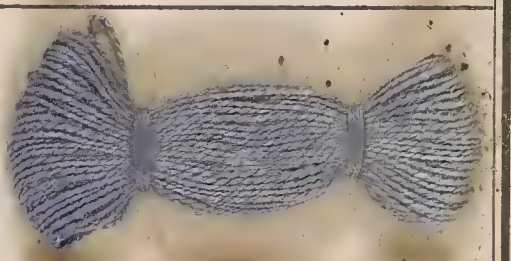
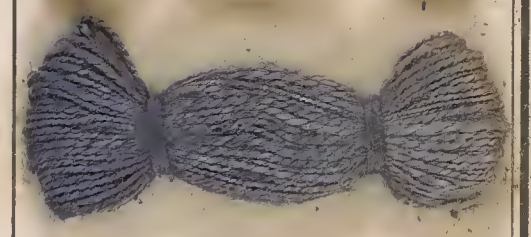
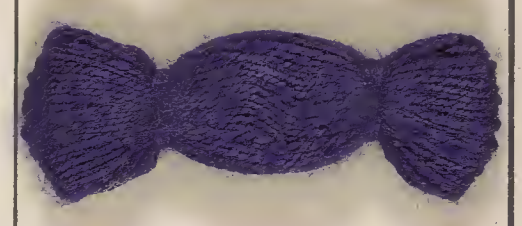
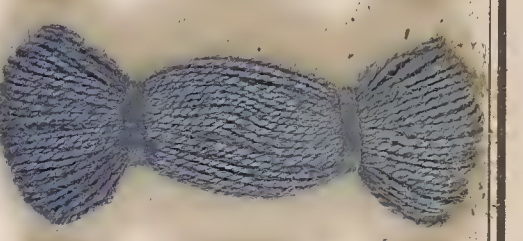
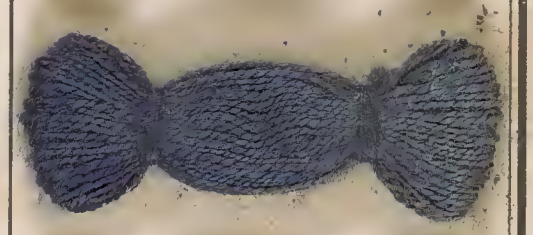
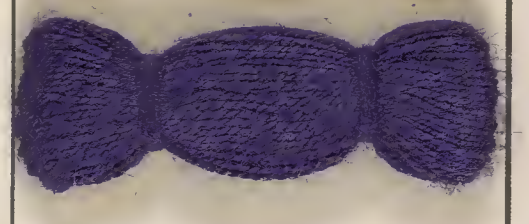
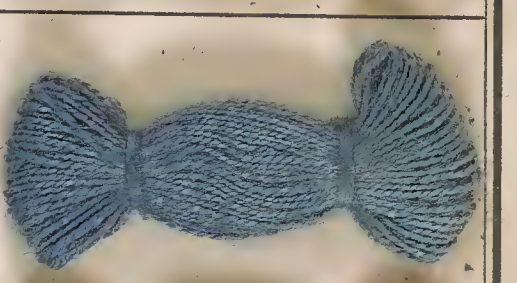
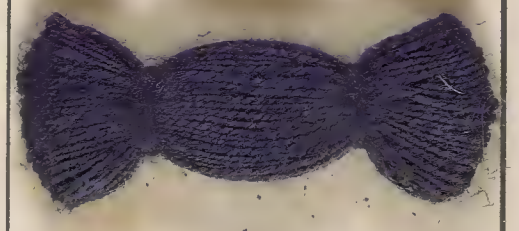
120.
1·5 %
Rhodamine B.
No. 118—120:
Special process I b.

The percentages stated refer to the weight of the yarn.

Badische Anilin- & Soda-Fabrik, Ludwigshafen o/Rhine, Germany.

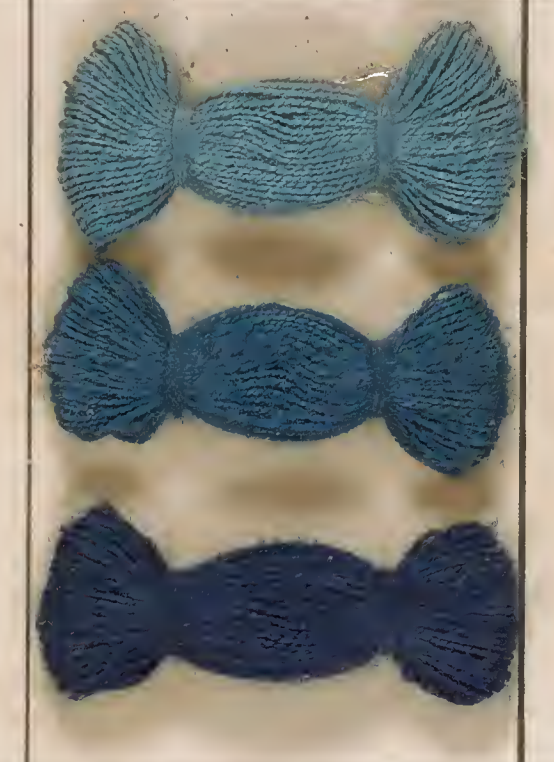
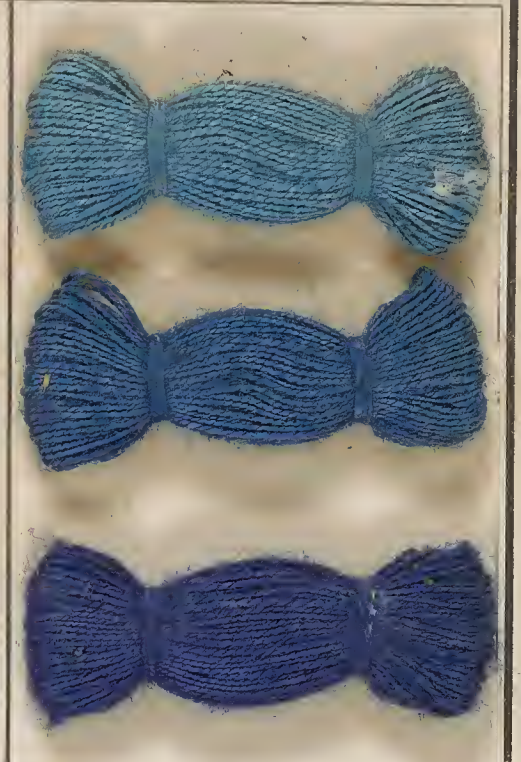
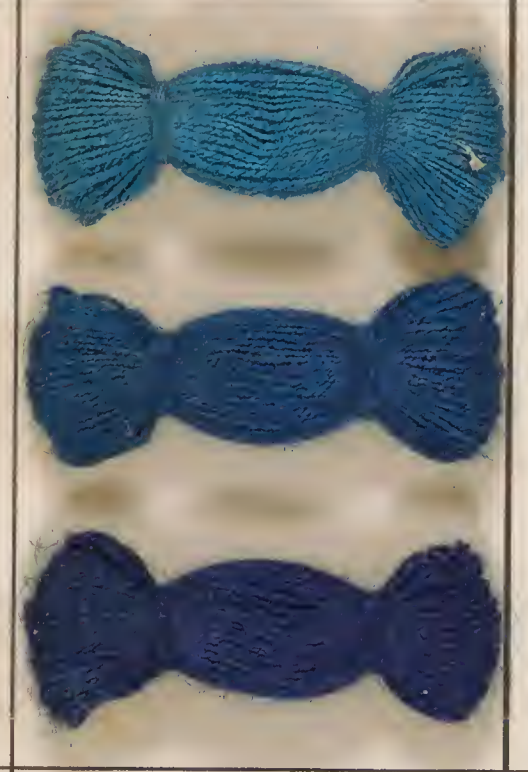
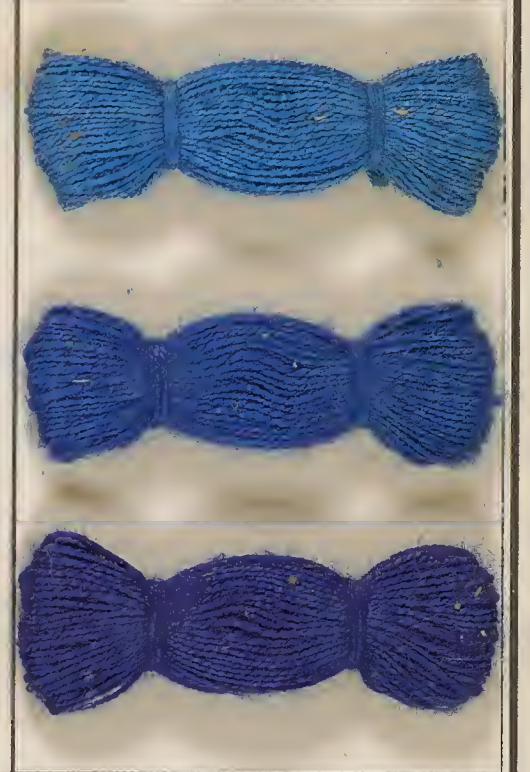
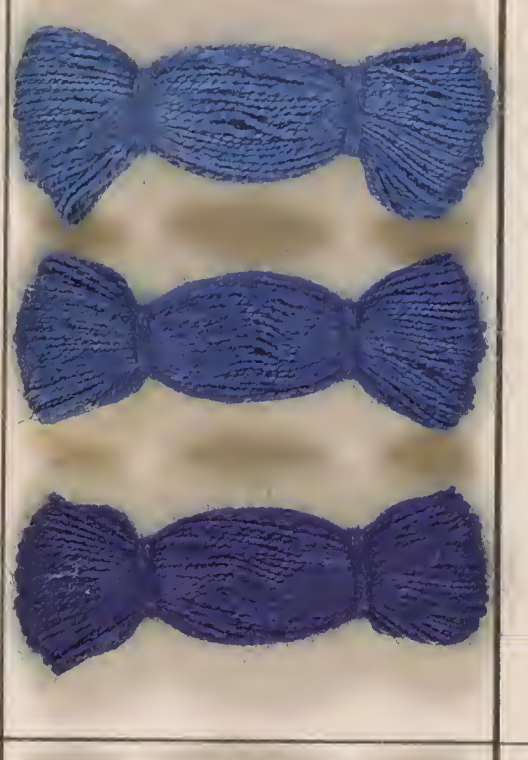
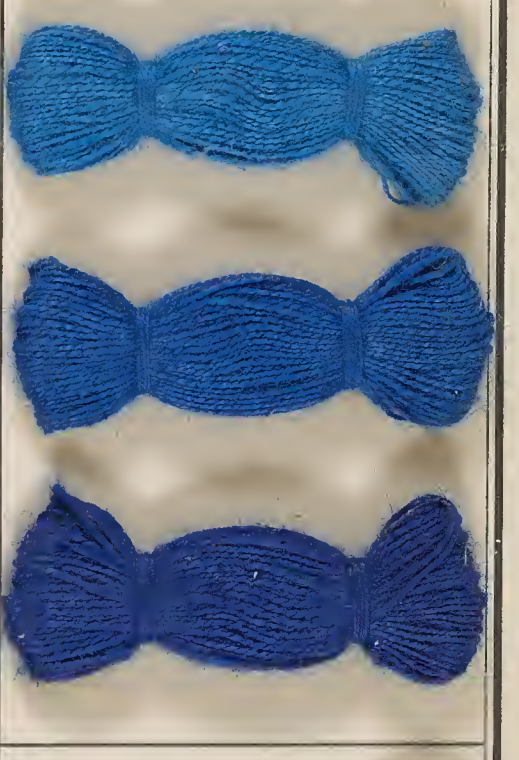
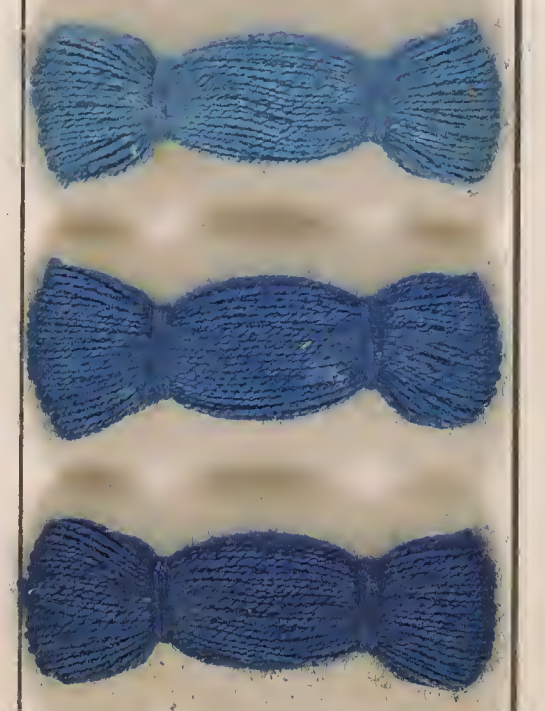
121. 0·2 % Methyl Violet 4R extra.		**133.** 0·25 % Methyl Violet MB.	
122. 0·4 % Methyl Violet 4R extra.		**134.** 0·5 % Methyl Violet MB.	
123. 0·8 % Methyl Violet 4R extra.		**135.** 1 % Methyl Violet MB.	
124. 0·2 % Methyl Violet 3R extra.		**136.** 0·25 % Methyl Violet B.	
125. 0·4 % Methyl Violet 3R extra.		**137.** 0·5 % Methyl Violet B.	
126. 0·8 % Methyl Violet 3R extra.		**138.** 1 % Methyl Violet B.	
127. 0·2 % Methyl Violet RR extra.		**139.** 0·25 % Methyl Violet BB.	
128. 0·4 % Methyl Violet RR extra.		**140.** 0·5 % Methyl Violet BB.	
129. 0·8 % Methyl Violet RR extra.		**141.** 1 % Methyl Violet BB.	
130. 0·2 % Methyl Violet R extra.		**142.** 0·25 % Methyl Violet N.	
131. 0·4 % Methyl Violet R extra.		**143.** 0·5 % Methyl Violet N.	
132. 0·8 % Methyl Violet R extra.		**144.** 1 % Methyl Violet N.	

The percentages stated refer to the weight of the yarn.

145. 0·25 % Methyl Violet 3 B.		**157.** 0·25 % Methyl Violet 6 B.	
146. 0·5 % Methyl Violet 3 B.		**158.** 0·5 % Methyl Violet 6 B.	
147. 1 % Methyl Violet 3 B.		**159.** 1 % Methyl Violet 6 B.	
148. 0·25 % Methyl Violet 4 B.		**160.** 0·25 % Ethyl Purple.	
149. 0·5 % Methyl Violet 4 B.		**161.** 0·5 % Ethyl Purple.	
150. 1 % Methyl Violet 4 B.		**162.** 1 % Ethyl Purple.	
151. 0·25 % Methyl Violet 5 B.		**163.** 0·35 % Marine Blue 2 RN.	
152. 0·5 % Methyl Violet 5 B.		**164.** 0·75 % Marine Blue 2 RN.	
153. 1 % Methyl Violet 5 B.		**165.** 1·5 % Marine Blue 2 RN.	
154. 0·25 % Crystal Violet.		**166.** 0·35 % Marine Blue RN.	
155. 0·5 % Crystal Violet.		**167.** 0·75 % Marine Blue RN.	
156. 1 % Crystal Violet.		**168.** 1·5 % Marine Blue RN.	

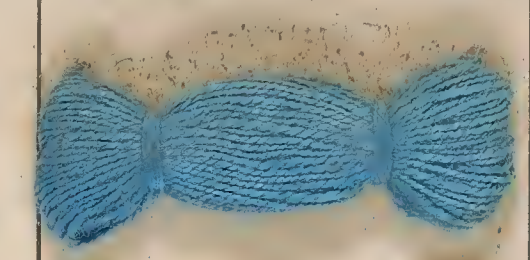
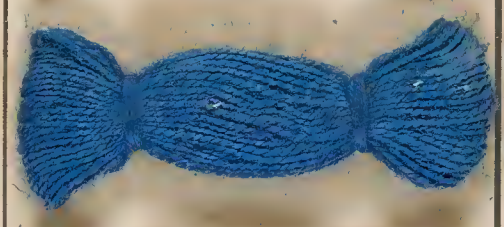
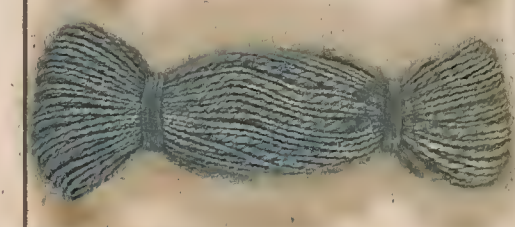
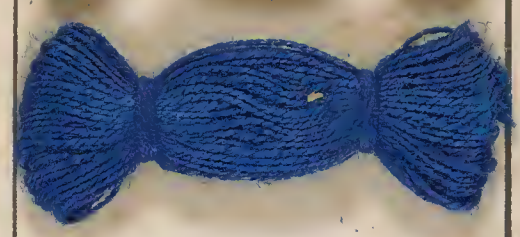
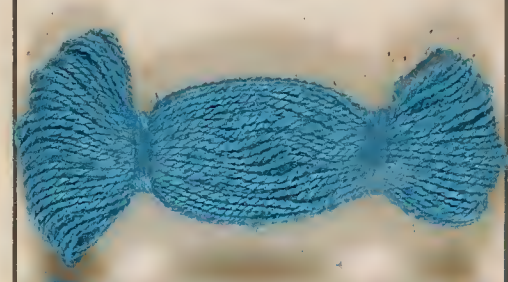
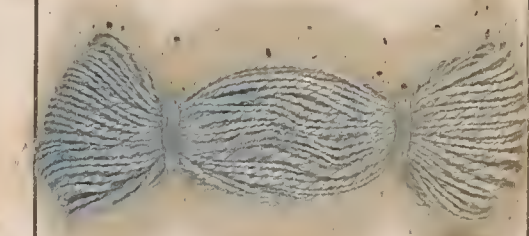
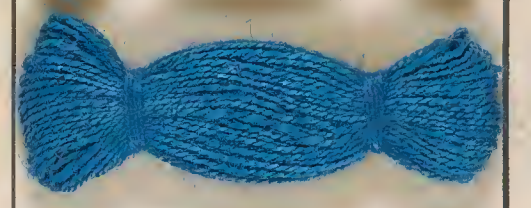
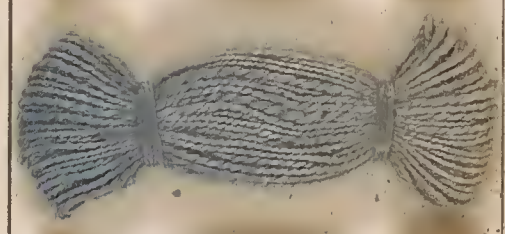
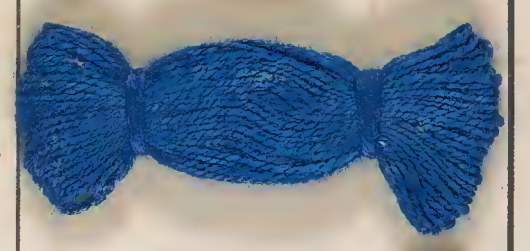
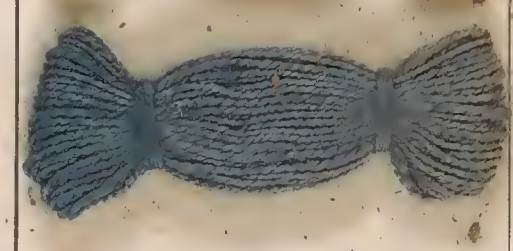
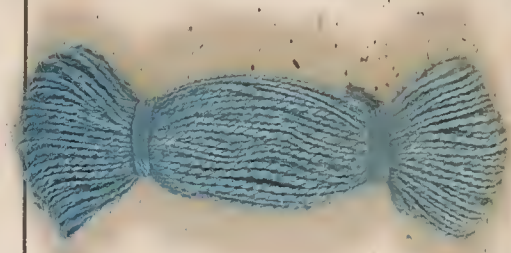
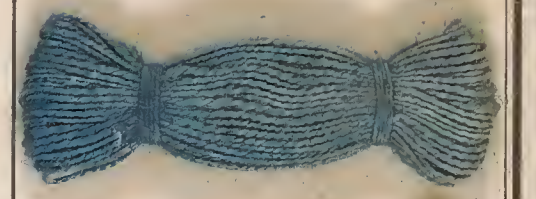
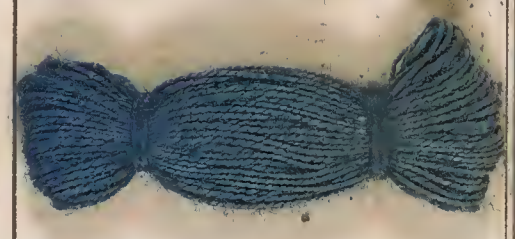
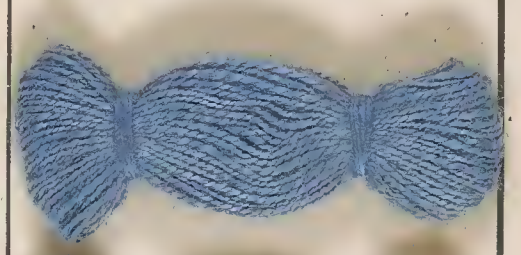
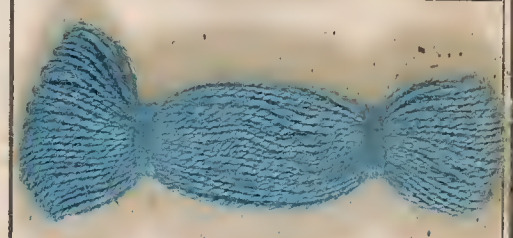
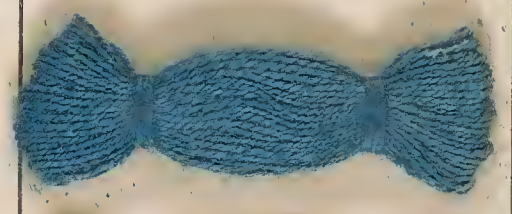
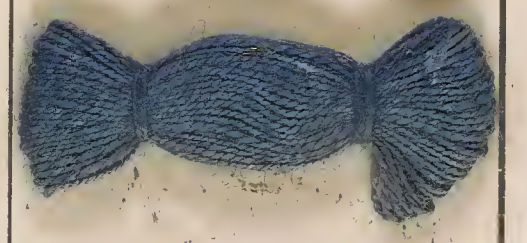
The percentages stated refer to the weight of the yarn.

Badische Anilin- & Soda-Fabrik, Ludwigshafen o/Rhine, Germany.

169. 0·35 % Marine Blue BN.		**181.** 0·5 % Soluble Blue PP.	
170. 0·75 % Marine Blue BN.		**182.** 1 % Soluble Blue PP.	
171. 1·5 % Marine Blue BN.		**183.** 2 % Soluble Blue PP. *No. 181—183: addition of about 5—10 % alum.*	
172. 0·35 % Methylene Blue AN.		**184.** 0·5 % Pure Blue I.	
173. 0·75 % Methylene Blue AN.		**185.** 1 % Pure Blue I.	
174. 1·5 % Methylene Blue AN.		**186.** 2 % Pure Blue I. *No. 184—186: addition of about 5—10 % alum.*	
175. 0·5 % Soluble Blue 4 R.		**187.** 0·5 % Pure Blue II.	
176. 1 % Soluble Blue 4 R.		**188.** 1 % Pure Blue II.	
177. 2 % Soluble Blue 4 R. *No. 175—177: addition of about 5—10 % alum.*		**189.** 2 % Pure Blue II. *No. 187—189: addition of about 5—10 % alum.*	
178. 0·5 % Soluble Blue IV red shade.		**190.** 0·5 % Soluble Blue IN.	
179. 1 % Soluble Blue IV red shade.		**191.** 1 % Soluble Blue IN.	
180. 2 % Soluble Blue IV red shade. *No. 178—180: addition of about 5—10 % alum.*		**192.** 2 % Soluble Blue IN. *No. 190—192: addition of about 5—10 % alum.*	

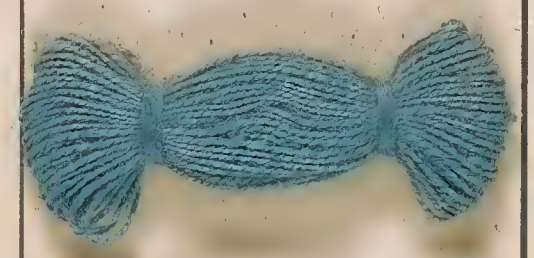
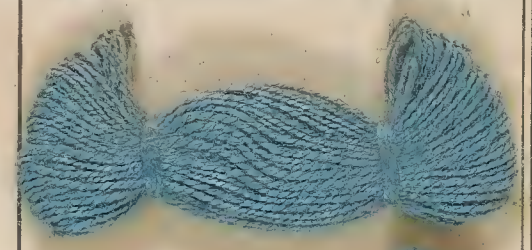
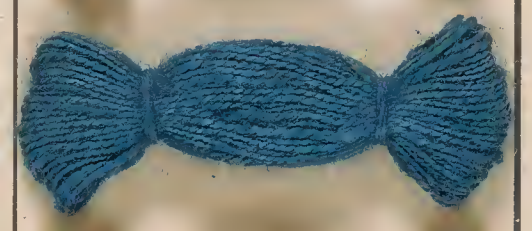
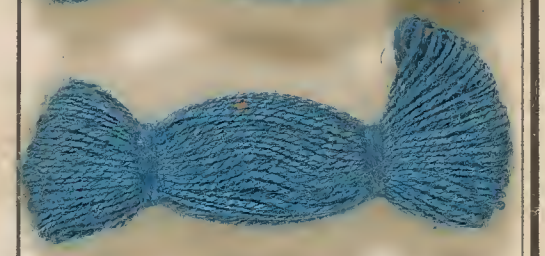
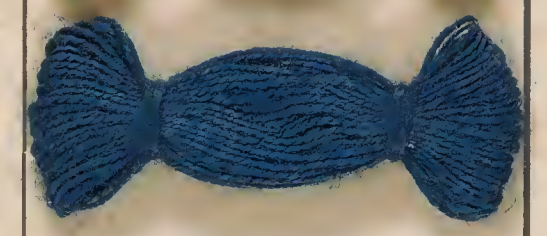
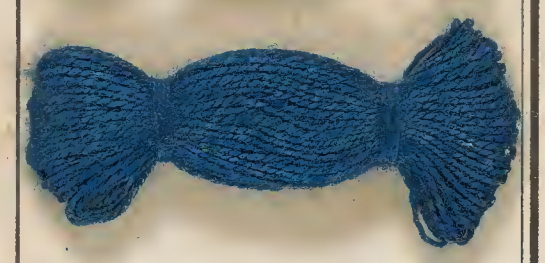
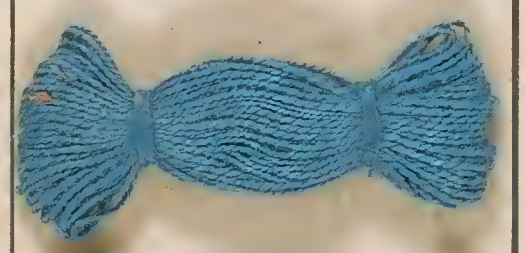
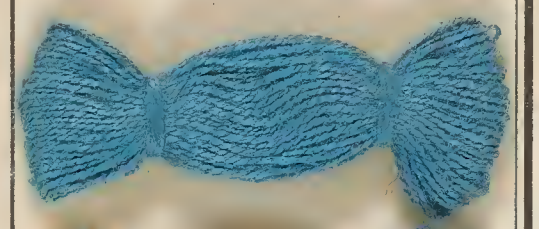
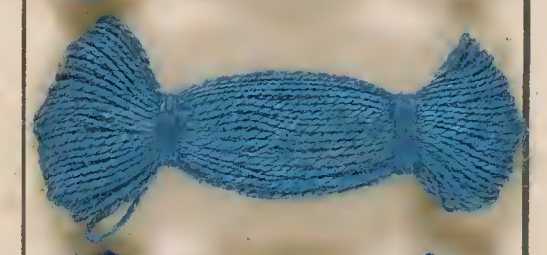
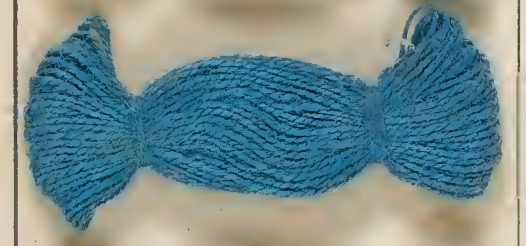
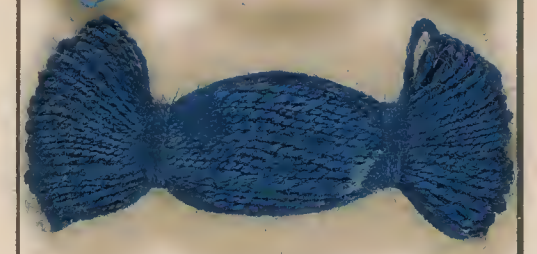
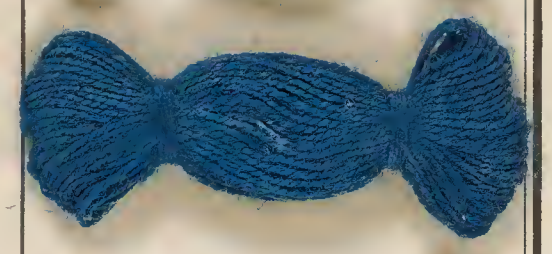
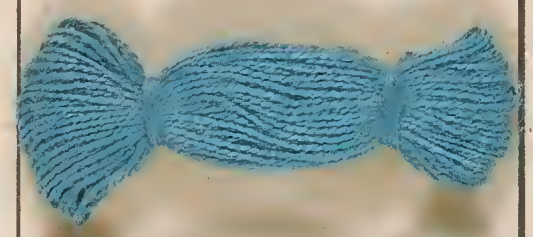
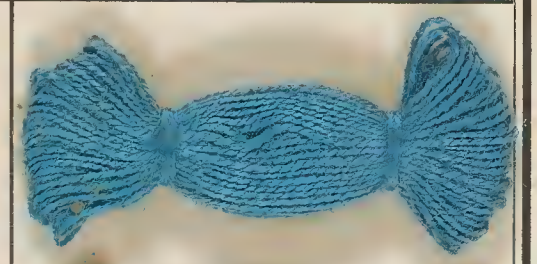
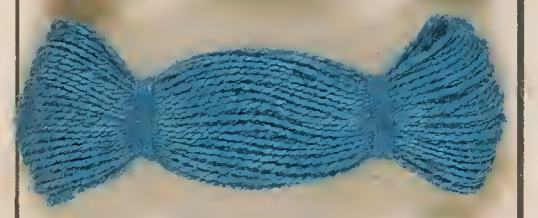
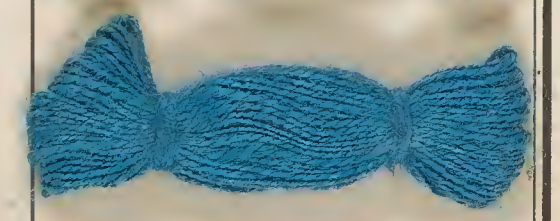
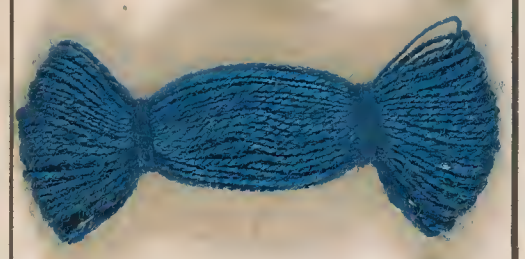
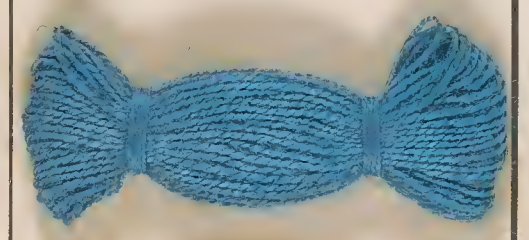
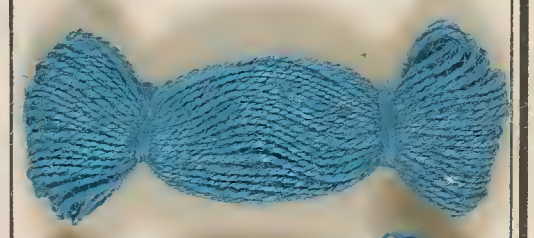
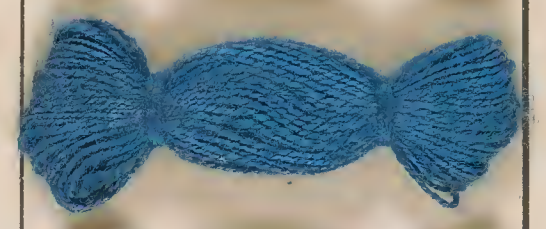
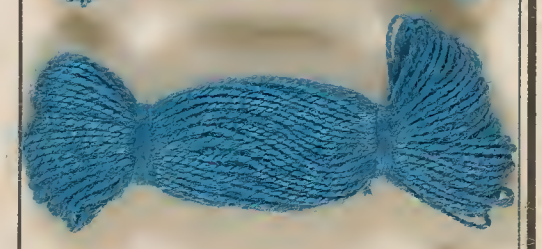
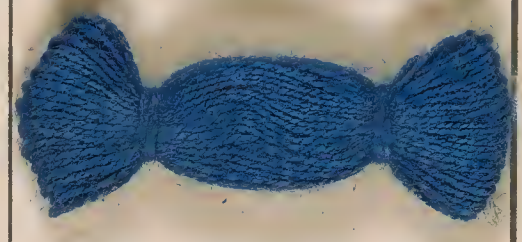
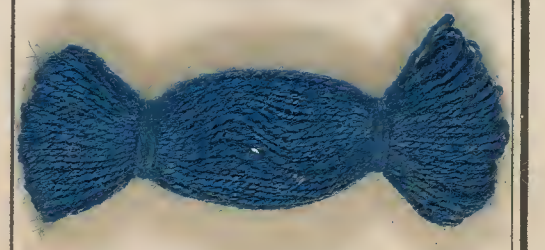
The percentages stated refer to the weight of the yarn.

Badische Anilin- & Soda-Fabrik, Ludwigshafen o/Rhine, Germany.

193. 0·5 % Soluble Blue I B.		**205.** 0·25 % Victoria Blue B.	
194. 1 % Soluble Blue I B.		**206.** 0·5 % Victoria Blue B.	
195. 2 % Soluble Blue I B. *No. 193—195: addition of about 5—10 % alum.*		**207.** 1 % Victoria Blue B.	
196. 0·25 % Methyl Soluble Blue 3S conc.		**208.** 0·25 % Victoria Pure Blue B.	
197. 0·5 % Methyl Soluble Blue 3S conc.		**209.** 0·5 % Victoria Pure Blue B.	
198. 1 % Methyl Soluble Blue 3S conc. *No. 196—198: addition of about 5—10 % alum.*		**210.** 1 % Victoria Pure Blue B.	
199. 0·25 % Victoria Blue 4 R.		**211.** 0·25 % Night Blue.	
200. 0·5 % Victoria Blue 4 R.		**212.** 0·5 % Night Blue.	
201. 1 % Victoria Blue 4 R.		**213.** 1 % Night Blue.	
202. 0·25 % Victoria Blue R.		**214.** 0·25 % Methylene Blue RX.	
203. 0·5 % Victoria Blue R.		**215.** 0·5 % Methylene Blue RX.	
204. 1 % Victoria Blue R.		**216.** 1 % Methylene Blue RX.	

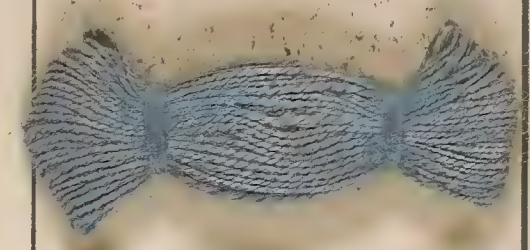
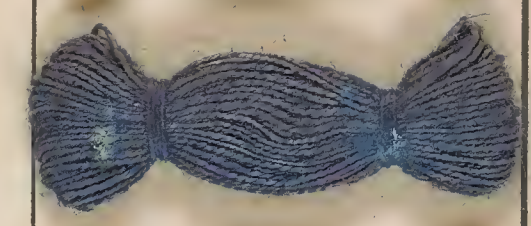
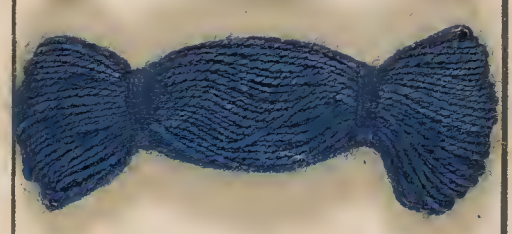
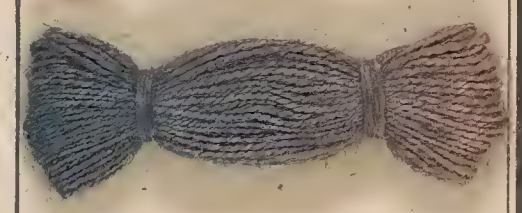
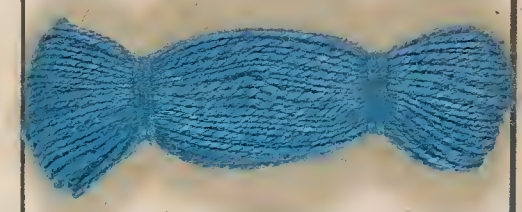
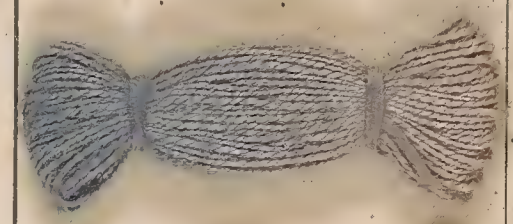
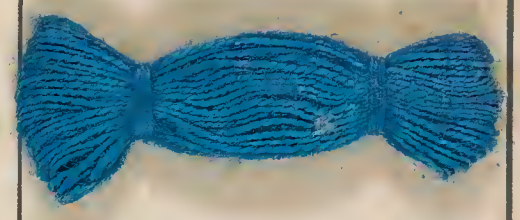
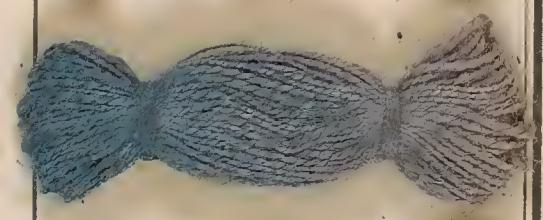
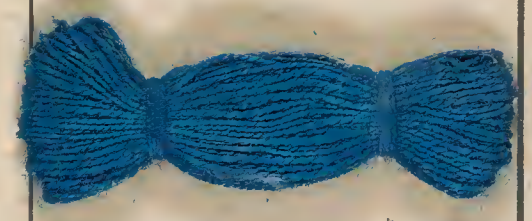
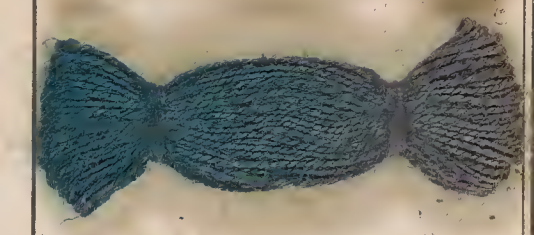
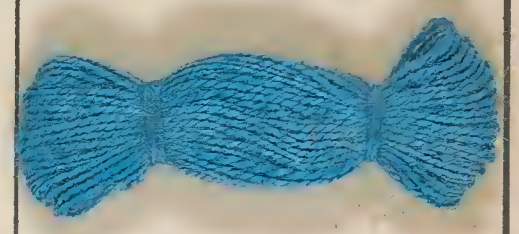
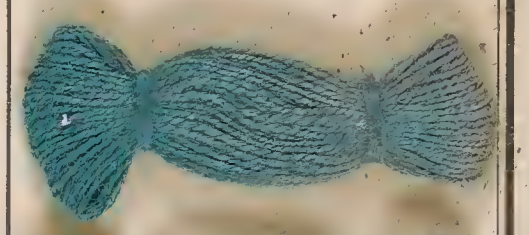
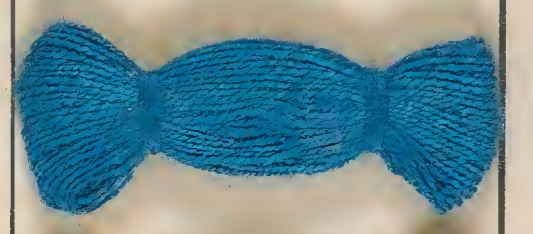
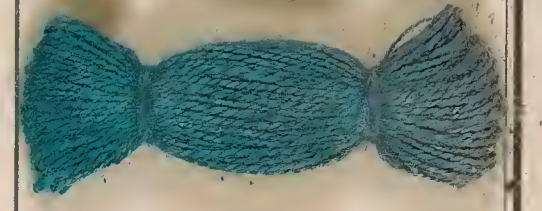
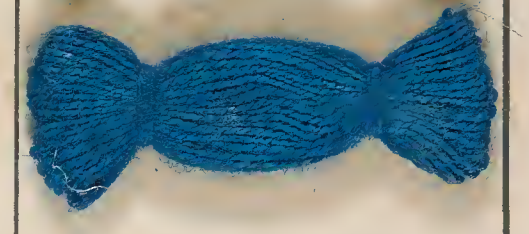
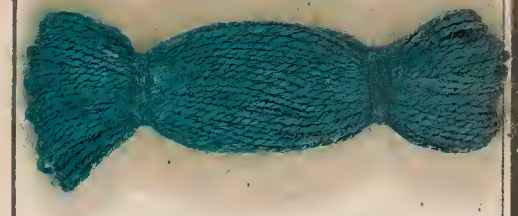
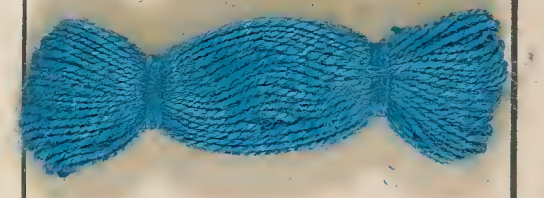
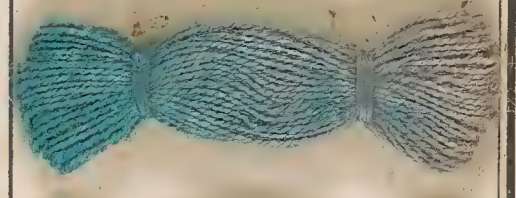
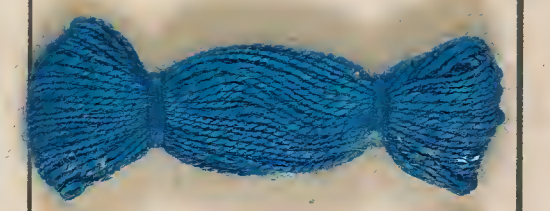
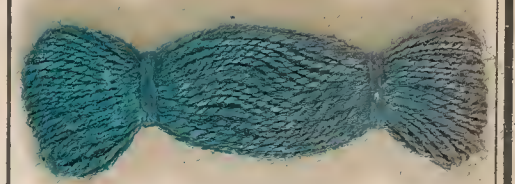
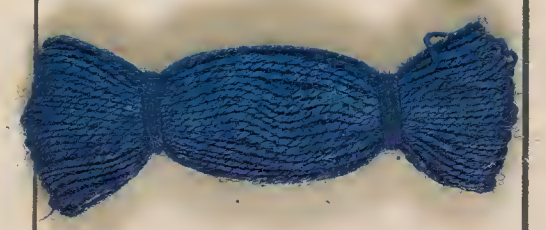
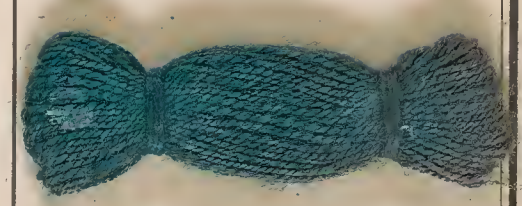
The percentages stated refer to the weight of the yarn.

Badische Anilin- & Soda-Fabrik, Ludwigshafen °/Rhine, Germany.

217. 0·25 % Methylene Blue BX.		**229.** 0·25 % Methylene Blue BZ.	
218. 0·5 % Methylene Blue BX.		**230.** 0·5 % Methylene Blue BZ.	
219. 1 % Methylene Blue BX.		**231.** 1 % Methylene Blue BZ.	
220. 0·25 % Methylene Blue L.		**232.** 0·25 % Methylene Blue MD.	
221. 0·5 % Methylene Blue L.		**233.** 0·5 % Methylene Blue MD.	
222. 1 % Methylene Blue L.		**234.** 1 % Methylene Blue MD.	
223. 0·25 % Methylene Blue M.		**235.** 0·25 % Methylene Blue B.	
224. 0·5 % Methylene Blue M.		**236.** 0·5 % Methylene Blue B.	
225. 1 % Methylene Blue M.		**237.** 1 % Methylene Blue B.	
226. 0·25 % Methylene Blue NN.		**238.** 0·25 % Methylene Blue BH.	
227. 0·5 % Methylene Blue NN.		**239.** 0·5 % Methylene Blue BH.	
228. 1 % Methylene Blue NN.		**240.** 1 % Methylene Blue BH.	

The percentages stated refer to the weight of the yarn.

Badische Anilin- & Soda-Fabrik, Ludwigshafen o/Rhine, Germany.

241. 0·25 % Nile Blue R.		**253.** 0·25 % Victoria Green extra conc.	
242. 0·5 % Nile Blue R.		**254.** 0·5 % Victoria Green extra conc.	
243. 1 % Nile Blue R.		**255.** 1 % Victoria Green extra conc.	
244. 0·25 % Nile Blue A.		**256.** 0·5 % Diamond Green B.	
245. 0·5 % Nile Blue A.		**257.** 1 % Diamond Green B.	
246. 1 % Nile Blue A.		**258.** 2 % Diamond Green B.	
247. 0·25 % Nile Blue B.		**259.** 0·5 % Diamond Green G N.	
248. 0·5 % Nile Blue B.		**260.** 1 % Diamond Green G N.	
249. 1 % Nile Blue B.		**261.** 2 % Diamond Green G N.	
250. 0·25 % Nile Blue B B.		**262.** 0·25 % Brilliant Green extra.	
251. 0·5 % Nile Blue B B.		**263.** 0·5 % Brilliant Green extra.	
252. 1 % Nile Blue B B.		**264.** 1 % Brilliant Green extra.	

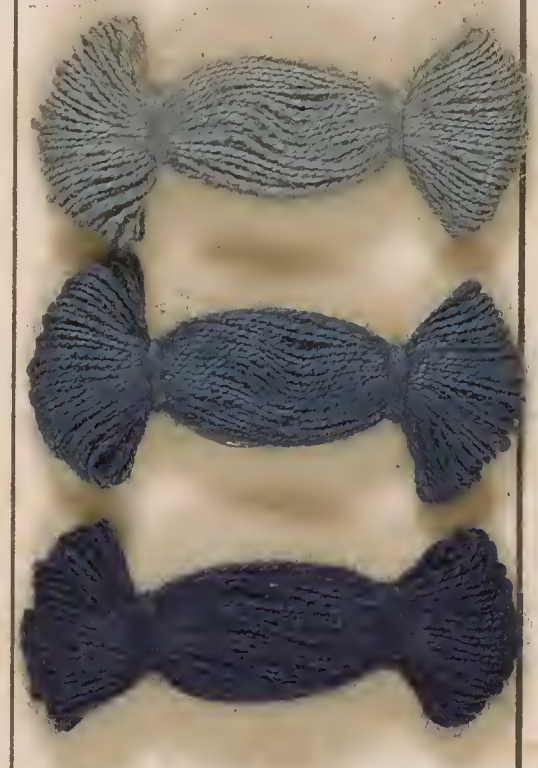
The percentages stated refer to the weight of the yarn.

Badische Anilin- & Soda-Fabrik, Ludwigshafen o/Rhine, Germany.

265.
0·75 %
Dark Blue R.

266.
1·5 %
Dark Blue R.

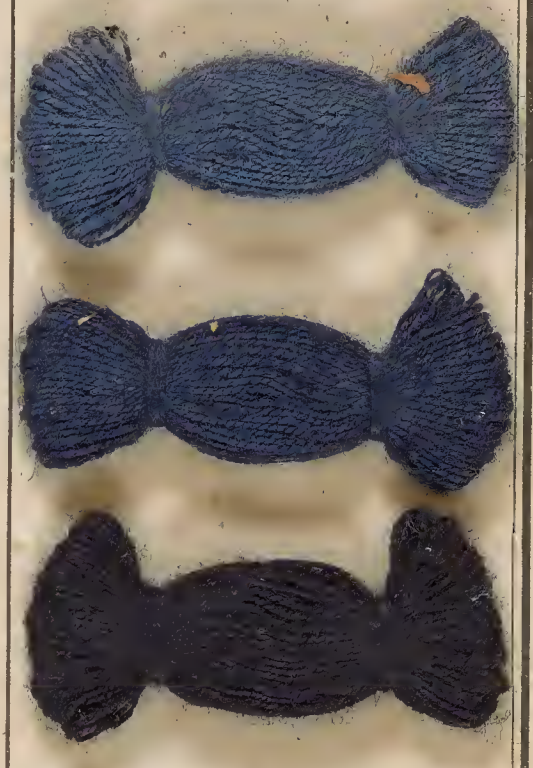
267.
3 %
Dark Blue R.



277.
0·6 %
Indoine Blue B B N powder
addition of about 3·5 % sulphate of alumina.

278.
1·25 %
Indoine Blue B B N powder
addition of about 1·75 % sulphate of alumina.

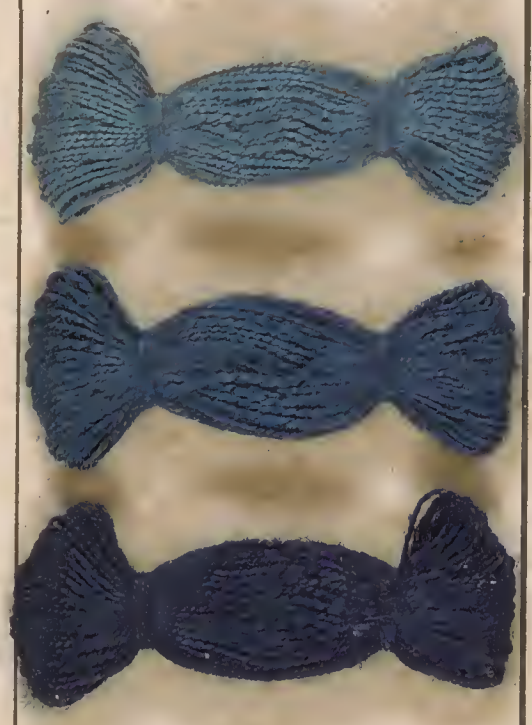
279.
2·5 %
Indoine Blue B B N powder
addition of about 0·5 % sulphate of alumina.



268.
0·75 %
Dark Blue B.

269.
1·5 %
Dark Blue B.

270.
3 %
Dark Blue B.



280.
0·6 %
Indoine Blue B B powder
addition of about 3·5 % sulphate of alumina.

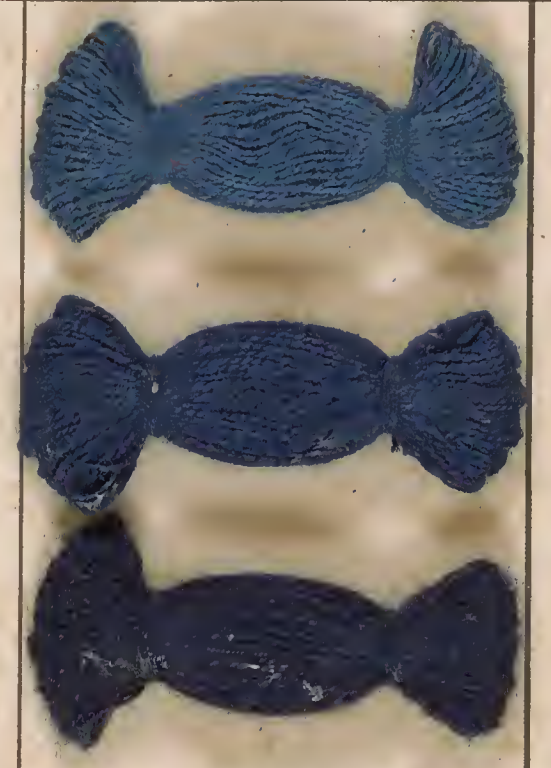
281.
1·25 %
Indoine Blue B B powder
addition of about 1·75 % sulphate of alumina.

282.
2·5 %
Indoine Blue B B powder
addition of about 0·5 % sulphate of alumina.

271.
0·5 %
Methylene Blue D A.

272.
1 %
Methylene Blue D A.

273.
2 %
Methylene Blue D A.



283.
0·6 % Indoine Blue R N extra powder
addition of about 3·5 % sulphate of alumina.

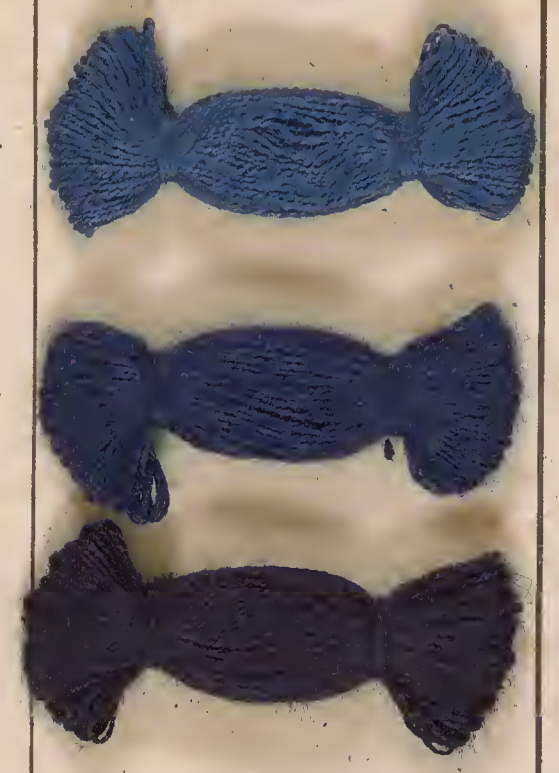
284.
1·25 % Indoine Blue R N extra powder
addition of about 1·75 % sulphate of alumina.

285.
2·5 % Indoine Blue R N extra powder
addition of about 0·5 % sulphate of alumina.

274.
0·6 %
Indoine Blue B R powder
addition of about 3·5 % sulphate of alumina.

275.
1·25 %
Indoine Blue B R powder
addition of about 1·75 % sulphate of alumina.

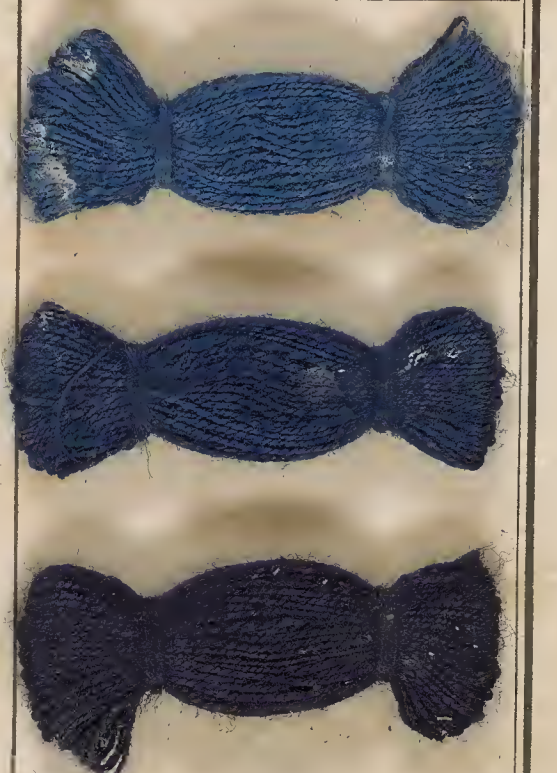
276.
2·5 %
Indoine Blue B R powder
addition of about 0·5 % sulphate of alumina.



286.
0·6 %
Indoine Blue No 2 powder
addition of about 3·5 % sulphate of alumina.

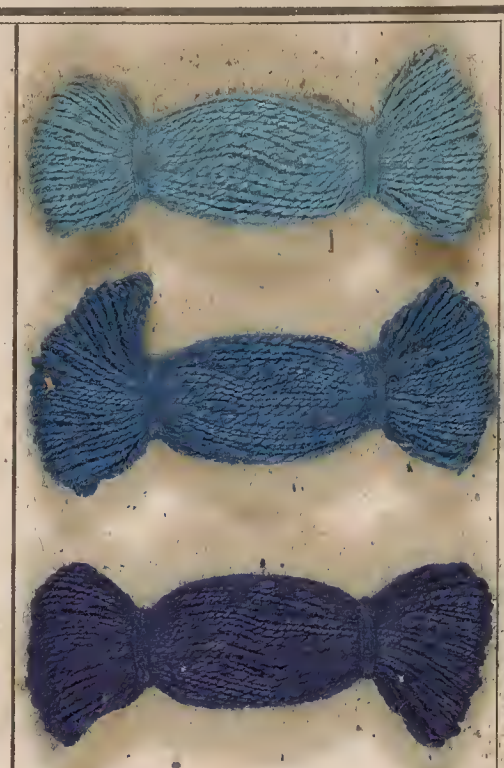
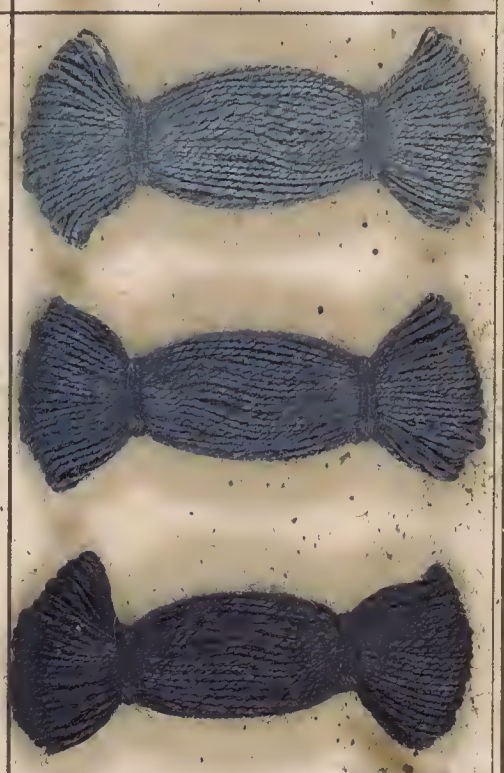
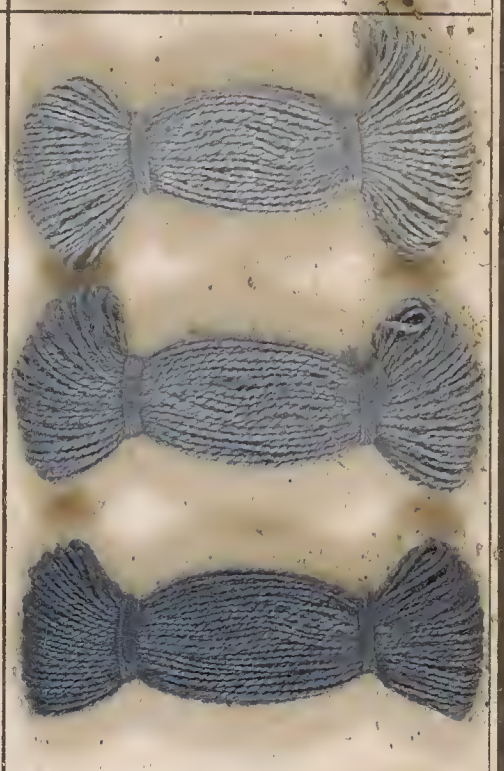
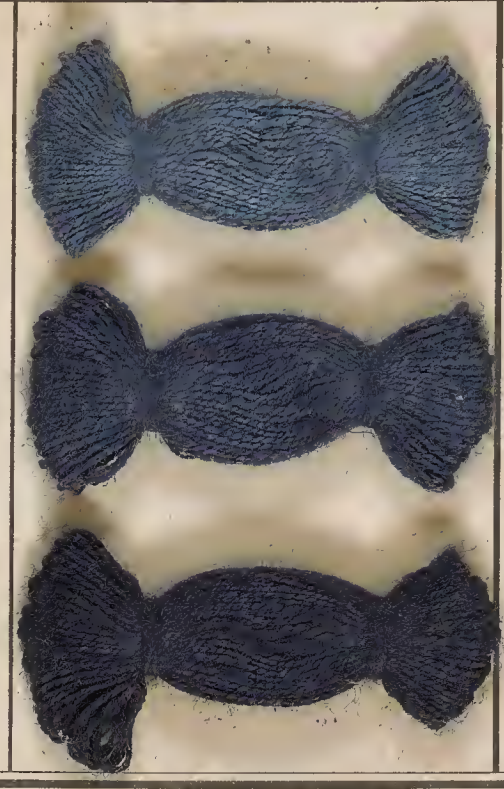
287.
1·25 %
Indoine Blue No 2 powder
addition of about 1·75 % sulphate of alumina.

288.
2·5 %
Indoine Blue No 2 powder
addition of about 0·5 % sulphate of alumina.



The percentages stated refer to the weight of the yarn.

Badische Anilin- & Soda-Fabrik, Ludwigshafen o/Rhine, Germany.

289. 0·75 % Cotton Blue R.		**301.** 1 % Fast Blue 5 B.	
290. 1·5 % Cotton Blue R.		**302.** 3 % Fast Blue 5 B.	
291. 3 % Cotton Blue R.		**303.** Fast Blue 5 B. *No. 301—303 : addition of about 5—10 % alum.*	
292. 0·75 % Cotton Blue B.		**304.** 1 % Fast Blue R.	
293. 1·5 % Cotton Blue B.		**305.** 3 % Fast Blue R.	
294. 3 % Cotton Blue B.		**306.** Fast Blue R. *No. 304—306 : addition of about 5—10 % alum.*	
295. 0·75 % Methylene Blue DD.		**307.** 0·5 % Nigrosine W H.	
296. 1·5 % Methylene Blue DD.		**308.** 1 % Nigrosine W H.	
297. 3 % Methylene Blue DD.		**309.** 2 % Nigrosine W H. *No. 307—309 : addition of about 5—10 % alum.*	
298. 0·75 % Cotton Blue B B.		**310.** 3·5 % Jute Black G.	
299. 1·5 % Cotton Blue B B.		**311.** 3·5 % Jute Black B.	
300. 3 % Cotton Blue B B.		**312.** 3·5 % Jet Black B T.	

The percentages stated refer to the weight of the yarn.

Dyeing Process II.

Applicable generally for dyestuffs of the acid group.

(Patterns No. 313 — 348.)

Several dyestuffs of the acid group are taken up from a concentrated bath by unmordanted cotton. The shades so obtained are not fast to washing or water but thanks to their brightness and comparatively good fastness to light, (the brands **Orange II, R, Cotton Scarlet,** etc. are particularly prominent in this respect) they can scarcely be dispensed with for many special purposes.

The unmordanted bleached yarn is worked in the slightly lukewarm dye-liquor to which is added per 10 gallons water, 1 — 2 lbs. common salt and 3/4 — 3 oz. alum.

The quantity of yarn to liquor should be as 1 : 10.

NOTE:—

With **Metanil Yellow, Quinoline Yellow,** *and* **Naphthol Yellow SE** *the alum is omitted; with* **Azoflavine** *and* **Orange X** *only half the above quantities are added.*

Dyeing Process III.

Applicable generally for the different brands of Eosine, Erythrosine, Phloxine and Rose Bengal.

(Patterns No. 349—384.)

These colors are worked in a similar manner to that described under Process II, but to the slightly lukewarm dye-liquor an addition is made of 5 lbs. common salt per 10 gallons water.

Without guarantee.

313.
3/4 oz.
Quinoline Yellow.

314.
3 oz.
Quinoline Yellow.

315.
9 oz.
Quinoline Yellow.
No. 313—315: Process II.

325.
3/4 oz.
Orange II.

326.
3 oz.
Orange II.

327.
9 oz.
Orange II.
No. 325—327: Process II.

316.
3/4 oz.
Naphthol Yellow S E.

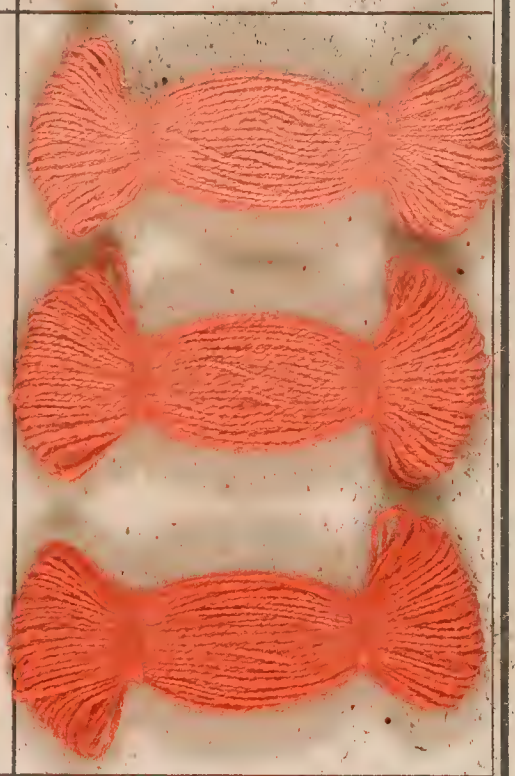
317.
3 oz.
Naphthol Yellow S E.

318.
9 oz.
Naphthol Yellow S E.
No. 316—318: Process II.

328.
3/4 oz.
Orange X.

329.
3 oz.
Orange X.

330.
9 oz.
Orange X.
No. 328—330: Process II.



319.
3/4 oz.
Azoflavine R R.

320.
3 oz.
Azoflavine R R.

321.
9 oz.
Azoflavine R R.
No. 319—321: Process II.

331.
1/3 oz.
Orange R.

332.
1 1/2 oz.
Orange R.

333.
6 oz.
Orange R.
No. 331—333: Process II.

322.
1/6 oz.
Metanil Yellow extra N.

323.
2/3 oz.
Metanil Yellow extra N.

324.
2 1/2 oz.
Metanil Yellow extra N.
No. 322—324: Process II.

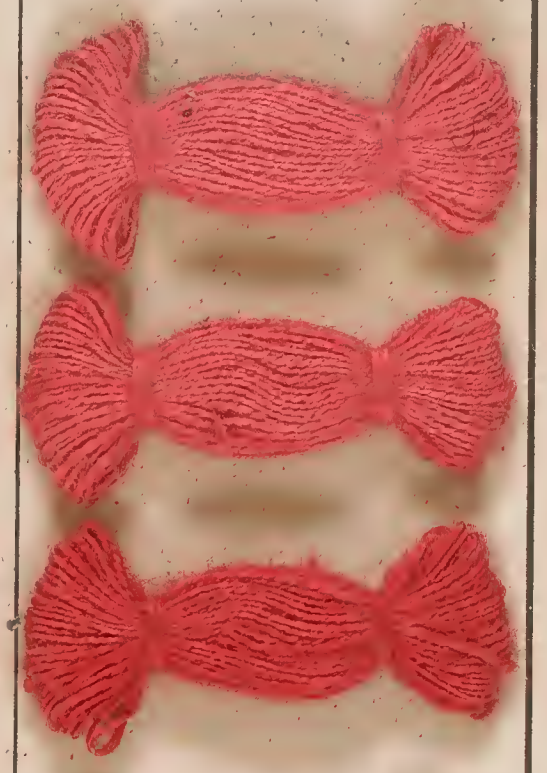
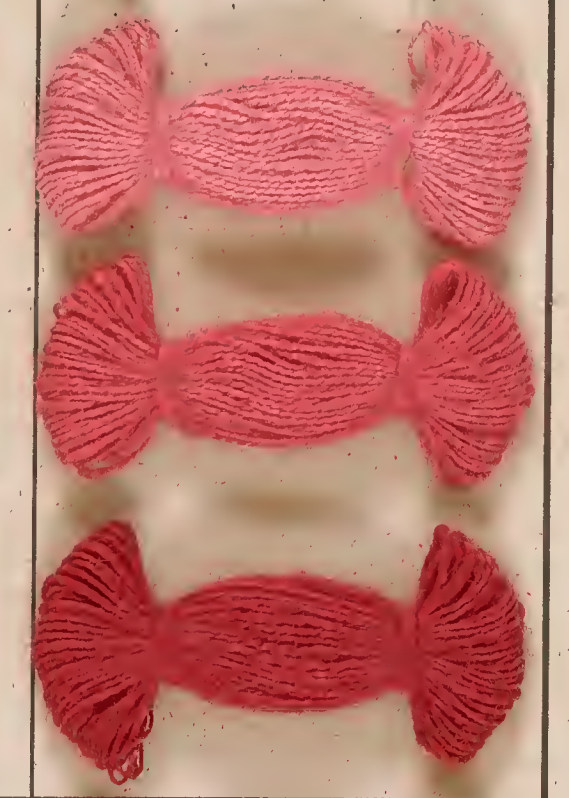
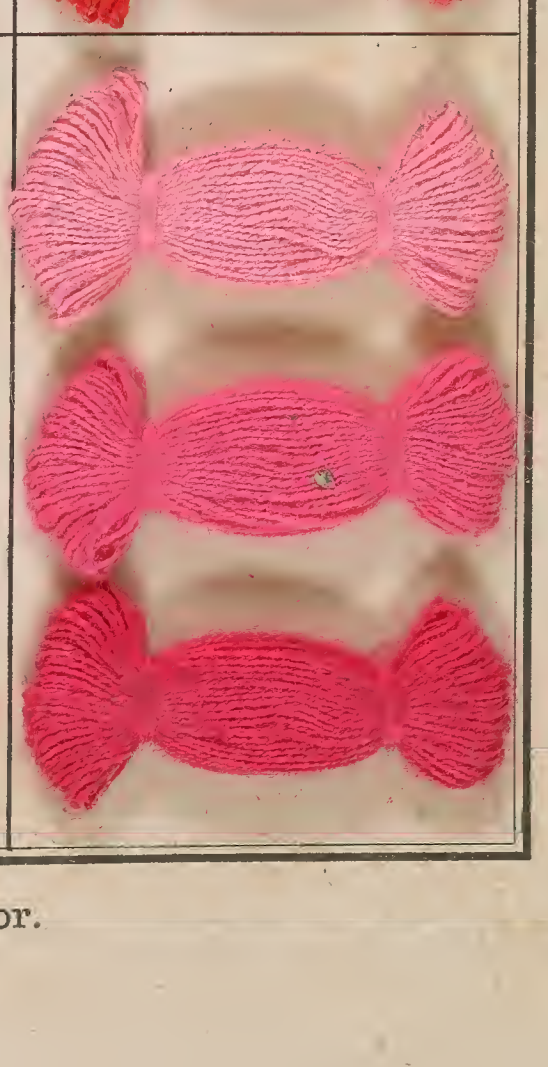
334.
3/4 oz.
Scarlet R A.

335.
4 oz.
Scarlet R A.

336.
16 oz.
Scarlet R A.
No. 334—336: Process II.

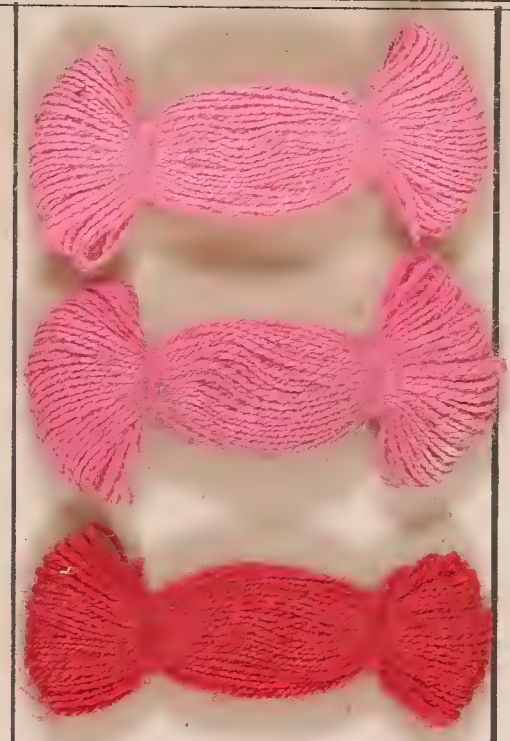
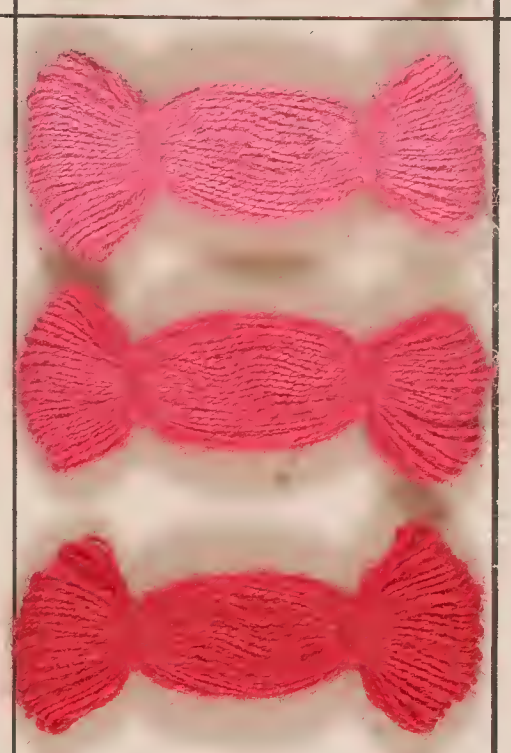
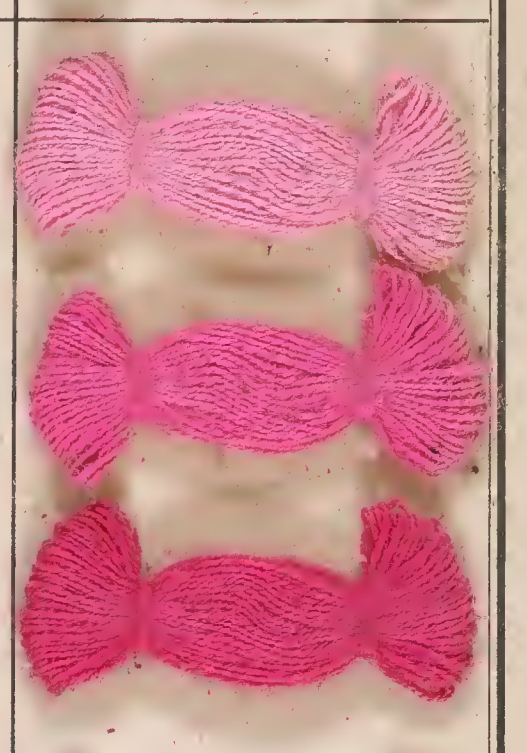
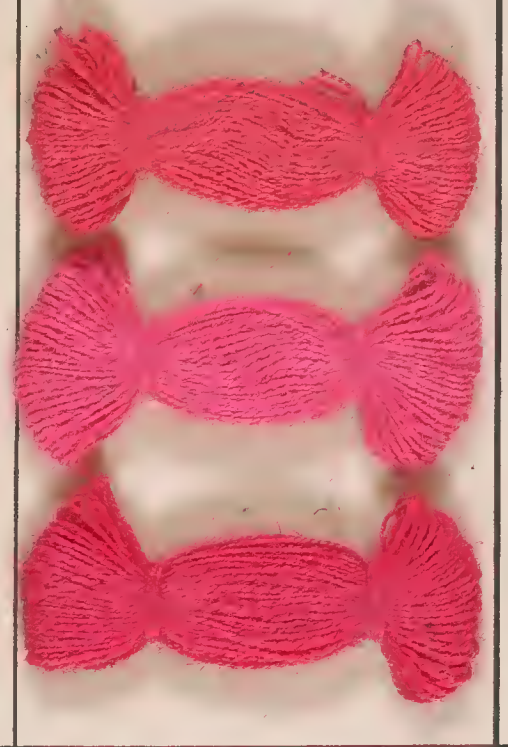
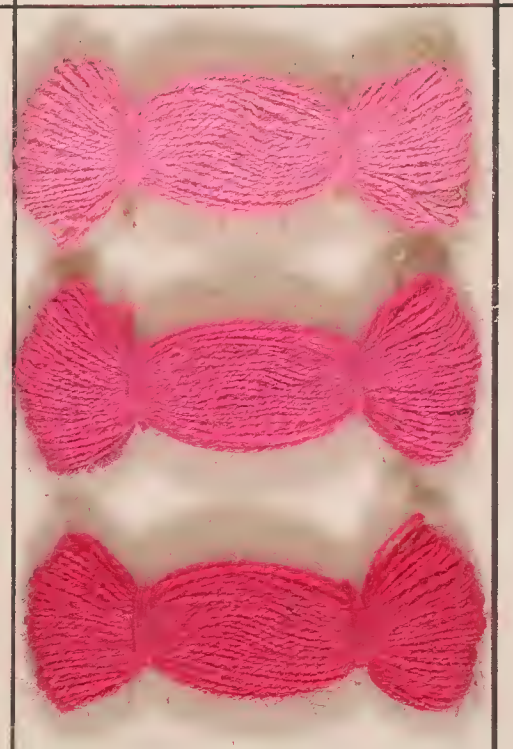
The quantities stated are for 10 gallons dye-liquor.

Badische Anilin- & Soda-Fabrik, Ludwigshafen o/Rhine, Germany.

337. 3/4 oz. Scarlet RR.		**349.** 3/4 oz. Eosine A.	
338. 4 oz. Scarlet RR.		**350.** 4 oz. Eosine A.	
339. 16 oz. Scarlet RR. *No. 337—339: Process II.*		**351.** 16 oz. Eosine A. *No. 349—351: Process III.*	
340. 3/4 oz. Cotton Scarlet.		**352.** 3/4 oz. Eosine BN.	
341. 4 oz. Cotton Scarlet.		**353.** 4 oz. Eosine BN.	
342. 16 oz. Cotton Scarlet. *No. 340—342: Process II.*		**354.** 16 oz. Eosine BN. *No. 352—354: Process III.*	
343. 3/4 oz. Erythrine RR.		**355.** 3/4 oz. Erythrosine G.	
344. 4 oz. Erythrine RR.		**356.** 4 oz. Erythrosine G.	
345. 16 oz. Erythrine RR. *No. 343—345: Process II.*		**357.** 16 oz. Erythrosine G. *No. 355—357: Process III.*	
346. 3/4 oz. Erythrine P.		**358.** 3/4 oz. Erythrosine IN.	
347. 4 oz. Erythrine P.		**359.** 4 oz. Erythrosine IN.	
348. 12 oz. Erythrine P. *No. 346—348: Process II.*		**360.** 16 oz. Erythrosine IN. *No. 358—360: Process III.*	

The quantities stated are for 10 gallons dye-liquor.

Badische Anilin- & Soda-Fabrik, Ludwigshafen o/Rhine, Germany.

361. ¾ oz. Erythrosine I. — **362.** 4 oz. Erythrosine I. — **363.** 16 oz. Erythrosine I. *No. 361—363: Process III.*		**373.** ¾ oz. Phloxine BBJ. — **374.** 4 oz. Phloxine BBJ. — **375.** 16 oz. Phloxine BBJ. *No. 373—375: Process III.*	
364. ¾ oz. Phloxine BJ. — **365.** 4 oz. Phloxine BJ. — **366.** 16 oz. Phloxine BJ. *No. 364—366: Process III.*		**376.** ¾ oz. Phloxine BBN. — **377.** 4 oz. Phloxine BBN. — **378.** 16 oz. Phloxine BBN. *No. 376—378: Process III.*	
367. ¾ oz. Phloxine GN. — **368.** 4 oz. Phloxine GN. — **369.** 16 oz. Phloxine GN. *No. 367—369: Process III.*		**379.** ¾ oz. Rose Bengal NT. — **380.** 4 oz. Rose Bengal NT. — **381.** 16 oz. Rose Bengal NT. *No. 379—381: Process III.*	
370. ¾ oz. Phloxine H. — **371.** 4 oz. Phloxine H. — **372.** 16 oz. Phloxine H. *No. 370—372: Process III.*		**382.** ⁴/₄ oz. Rose Bengal B. — **383.** 4 oz. Rose Bengal B. — **384.** 16 oz. Rose Bengal B. *No. 382—384: Process III.*	

The quantities stated are for 10 gallons dye-liquor.

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