

"May God forgive me!" exclaimed the penitent and awe-stricken Mrs. Sandford. "I well remember that I wore this shawl the day I turned over the contents of my jewel-case. How cruelly I have wronged you, my poor, poor girl! What amends shall I ever be able to make for my injustice?"

"Not another word, dear aunt," cried her niece, kissing her affectionately; "not another word. It was a time of chastening and many mortifications, yet I do not regret it. But for that I should never have known half my dearest Hag's goodness. And now I will tell you," and she blushed prettily, "why I opened your drawer when I thought you sleeping. I had always cherished a species of hero-worship for this gallant gentleman, and there was something exquisitely delightful in touching and kissing the bracelet he had sent, and the letter he wrote with them. Very foolish and very romantic, baby darling, was it not? We don't do such silly things now, do we?" and the rejoicing young mother, with her child on her bosom, nestled closely to the faithful heart which had never mistrusted her integrity.

LOUISA CROW.

## THE YOUNG CHEMIST.

### LESSON X—Concluded.

HAVING demonstrated the effect of protochloride of tin upon a solution of bichloride of mercury, repeat the experiment with a solution of protonitrate, and with the insoluble protochloride, remarking that in either case metallic mercury results. Various other means exist of throwing down metallic mercury from its salts, the following of which is one.

Pour a drop of any soluble compound of mercury, proto or per, upon a plate of gold—a sovereign will do,—and touch both the drop and plate with a bit of iron wire. By virtue of a galvanic action set up, the mercury will be deposited on the gold and will form an amalgam. The sovereign will lose its yellow tint and seem like silver coin. By holding it for a few instants, however, in the flame of a spirit lamp, all the quicksilver will be driven off; or by immersing it in nitric acid the quicksilver will be dissolved leaving the gold untouched. Thus the fact will have been casually imparted that gold is insoluble in nitric acid. The common plan had recourse to by jewellers for testing the genuineness of rings, bracelets, &c., supposed to be gold, is as follows:—

A drop of nitric acid (aqua fortis) is let drop upon the article, and if no little bubbles appear, or action result, the ornament is presumed to be gold. The test, however, is practically fallacious:—articles of jewellery being frequently made of copper or brass over which is a sheathing of gold sufficiently thick to prevent the acid acting on the base metal; such articles are technically known to the jewellery trade by the name of *duffers*. The facility with which mercury is thrown down from its soluble salts by galvanic action is of great use in cases of investigation, for the bichloride of mercury (corrosive sublimate) in case it may have been administered as a poison. Now the chief difficulty experienced in the chemistry of poisons, is that of getting rid of organic matters, which, by their presence embarrass the operations of tests; but the galvanic action not only acts in a pure aqueous solution of bichloride of mercury, but also when that salt is mixed with animal and vegetable matters.

The operator, however, will bear in mind the fact that the poison to be sought for was not quicksilver, but quicksilver in combination with chlorine, and not the chloride of mercury (calomel), which is harmless, but the bichloride of mercury. The result of our operation, however, yields quicksilver only in the metallic state. Hence the train of reasoning is inferential, but it is nevertheless satisfactory.

In the first place it is quite evident that the iron wire and sovereign made use of in the preceding experiment could not have been acting on an insoluble compound such as calomel. It therefore follows that mercury being deposited, a soluble form of that metal must have existed in

the solution, and all soluble salts of mercury are poisonous.

To the remaining portion of aqueous solution of bichloride of mercury add ether, and agitate in a flask. Now pour the mixed fluids into a long test tube which having corked to prevent the evaporation of the ether, place it to stand upright and at rest in a test tube stand.

Presently the ether will be seen to have risen above the water, forming a definite layer, and this layer being carefully decanted off or drawn away by suction into a glass tube made to end in a tapering point, will be found on evaporation to yield the bichloride bodily, tangibly. A watch glass is perhaps the best instrument in which to perform this evaporation. No artificial heat is required, the natural volatility of the ether being sufficient to ensure evaporation.

For the purpose of avoiding accidents, pour all the solutions of bichloride into a basin, stir the mixture up with white of egg, and throw it away. J. W. F.

## BABBLING WATERFALLS.

O Bijou! you slowest of girls!

I'm afraid I'll be late for the ball!

Have you finished arranging those curls?

Do you think you are dressing a doll?

Do they answer my hair to a shade,

As fair, and as glossy and fine?

'Twould be hard with the price that I paid,

If nobody thought they were mine!

Whose were they, I wonder? Bijou!

Though what does it matter to me,

If the false be but taken for true,

That, like Venus, they rose from the sea!

Yet the sea, we know, has its dead

In its "vast and wandering grave,"—

That's Tennyson—Bijou! my head!

Is it any wonder I rave?

I have heard of a trade—never mind!—

It's the fashion;—who goes without curls?

And to-night they shall fly like the wind

In the most delicious of whirls!

Whose were they? Why, bless me! what stuff?

Bijou! will you never be done?

They are mine now, and that is enough.

—Perhaps—they belonged to some nun,—

Some nun, who now by the bed

Of the sick, may be speaking of God—

While I am donning my head

With her curls! Well, isn't it odd?

What fancy! who knows whose they were?

—Perhaps some German *Baronne*

Went mad, and the doctors took care

To shave her as bald as a stone.

They're not Spanish, Italian, or French,

For blondes in these countries are few;

And such hair! why no southern wench

Would sell it, (now, finished, Bijou!)

Are they English! some girls who—oh, no—

Some beautiful sisters of love,

Who by labours of mercy below

Look meekly for mercy above.

Was she like me, I wonder? It's queer—

(Bijou, have you finished, I mean?)

Do they match? I am glad; they're not dear!

Oh! there is a head for a queen!

Now, bring me my dress, the blue *tulle*;

I may yet be in time for the ball,

And dance into frenzy some fool,

With love for a *false waterfall*.

Oh! charming! I glory in *blue*,

With my *red and white*, like the song—

And these curls—(oh? thank you Bijou!

I forgive you for being so long).

J. R. CLERK.

A hanatful of good life is better than a bushel of learning.

Humble hearts have humble desires,

A cheerful look makes a dish a feast,

## THE WISHES SHOP.

Continued from page 198.

Another applicant succeeded, who wore the appearance of rich poverty, in other words of a poor gentleman. The collar of his coat was greasy, his shirt was tumbled, and his gloves dirty. He came up to the counter with a brave look, as much as to say he should have preferred talking over his affairs in private; but, as it was, the opinion of the world was nothing to him. He began,—

"Sir, I have seven sons and one daughter, and have nothing wherewith to educate them."

"Just the opposite to the rich man, who must have met you at the door; what a pity you and he could not have made a bargain! Well, sir?"

"I wish for money."

"Very natural; you have other advantages, no doubt. What equal value have you to spare? Suppose you give up your health?"

"I have not very much of that, sir."

"That's unlucky: will you make a sacrifice of your principles?"

"Of course I will not. How can you venture to ask?"

"I did no harm. Your answer proves that in your honesty you are rich in something which is very valuable in your own opinion, as well as in that of others. Will you give your talents? I know who you are, and the mental power you possess."

"And be an ass like those I despise? No; I should do the boys no good by that exchange."

"You are in want of a very valuable thing—a means of freedom to do and have and go and come; a means to leave sordid cares behind; to be of use—so that it requires a great equivalent. You have eight children you say; people are very happy with two or four or even one; suppose you give up one child? It would be to the advantage of the rest."

"It certainly would. If one of them had not been born, I should not have been unhappy because I had only seven."

"Well said. It remains then only to fix on the one. Can you part with the eldest?"

"Impossible. He is just eleven, and so clever! He is full of talent and application. With a book in his hand, he does not know whether one speaks to him or is silent."

"I should be inclined to punch his head for that; however, it will all go right at school. The second?"

"No, not the second, because he is one of twins, and to separate them would be to destroy both; they are twin cherries on one stalk. I can't part with two."

"That settles three, then. And the fourth?"

"A little fellow of eight. The most beautiful child; like my own mother—and as gentle as an angel. He meets me every day when I come home, and flings himself into my arms. I could not be such a heartless brute."

"I don't want to press you. But you have a girl. Let her go. Women are both useless and a heavy weight when you have to push them on in life."

"Useless! how you mistake. Though she is but six, you should see her help her mother. She knows where everybody's everything is to be found, and has run for it and back almost before you know you want it. And when I or when anybody is ill, the little, helpful, considerate creature! is moving noiselessly, sitting to watch and wait; the very baby likes to be on her knees."

"A baby, too, oh, let the baby go."

"Poor little baby. I could let it go for my own part. No doubt it cries and keeps one awake. But my wife, who has nursed it for seven months at her breast, loves it better than all the others. Its slightest ailment puts her in misery; what would become of her if it died?"

"I should recommend parting with the baby; but it is for you to decide. And indeed I don't know that the value of the baby if exchanged would be very great. There remain two more. Surely they are superfluous?"

"No, no, they are not, dear children? One can but just speak—and the first word was my name. He asks when I shall come home, and