

"But I was wanting you to come as a wife, Mrs. Mitchell."

"That could never be, Ritchie; I am promised to another, and when the Lord's time comes I'll meet him. I know you need a wife, and I hope, both for your own sake and the children, you'll get a good one. You have my best wishes. Good-night, Ritchie."

Half-an-hour after, when Gourlay had left, Girzie descended to the kitchen. Katie Macnab, the pretty parlour-maid, was busy polishing her trays; May Macfie, the cook, was arranging her pans on the dresser. They evidently knew what was coming, as Girzie said,

"How could you lasses so far forget yourselves as to stuff any man's head with such havers? It's barely decent in me to hear such a question from any man, and me promised twenty years ago."

And Girzie stalked off, her cap almost brushing the top of the door frame, she held her head so loftily.

Gourlay Ritchie married the pretty parlour-maid. I went to the wedding, and was held in Gourlay's great hands to kiss the bride. Katie made a kind mother to the little ones and a true help-mate to Gourlay.

Girzie was sixty when she fairly settled down in her little cottage. She ostensibly went back to the occupations of her girlhood, and spun wool for blankets; but wherever there was a sick person to be nursed or motherless little ones to be comforted Girzie was always ready. Wherever she was, busy or not, it was her custom to return to her home at seven o'clock every evening for one special purpose, and, whether she was alone or had guests, as the hour of seven struck she took down the great Bible, and said, "Now we'll take the Book," and read, always *aloud*, in grand, impressive tones, the words of Holy Writ.

She used to say, "Miss Isbell, you need never fear a lonely life if you have your Bible and your Father in Heaven;" and always she would continue, "At one part of the day read a portion of it out loud. You will wonder how much more instructive it is if you hear it read, even by your own voice."

In after years I often visited Girzie, yet never left without some talk of Willie and looking over her treasures—Willie's Bible and "Pilgrim's Progress," two gigantic pink-lined shells that Willie had bought for her at one of the islands, the old seal, and John Haxton's mother's wedding ring, in the little foreign box.

Many a time of weeping I had over these sacred relics, Girzie sitting dry-eyed, saying, "Eh! lassie, but it does my auld heart good to see Willie's things in your bonny fingers."

Girzie never repined. "It was the Lord's way," she said, and "He has a right to do according to His own will."

The last time I saw her she sat propped up in a great easy chair. Pale she was and wrinkled, but in her old age was perfectly beautiful.

I was going to a foreign land, and had come to say farewell. She said, "If ever you are in that part of the

earth, you'll look for Willie's grave, lassie. John Haxton had a wide, wide grave, I've often sat by it. But I'll meet them a'—aye! aye!—I'll meet John. I've ne'er lost grup o' his han'. When you hear that I am gone you will know that I am with the blood-redeemed throng. The Lord will not enter into judgment with His servant, for the Saviour has thrown around me the robe of His righteousness. It's all of grace! all of grace!"

The love of seventeen had not died out at seventy. Often she said, "I'll meet John there. I've had that hope all my days."

Surely, when she neared the shining portals there would be accorded to her Christian's "and all the bells of the city rang again."

As she lay in her last sleep the old seal with its clasping hands rested on her heart.

ISABELLE WILLIAMSON.

HOME TRADES.—II.

BOOKBINDING.

I DO not propose to supply directions for the pursuit of the art of bookbinding in its more costly and beautiful forms; for comparatively few amongst my readers would feel disposed to make the outlay demanded to carry out the work to the highest point of excellence of which it is capable. Besides, this article is not designed for persons aspiring to an engagement in the great firms of large cities, the competition being already so great, for no less than 5,272 women are employed in the craft in London alone. I address myself to two classes only, to the amateur, who seeks an agreeable occupation, or who has little to bestow on the preservation of her books, save the "cunning" of her own right hand, and to the professional who might earn a modest independence in some small country town, where likely to enjoy the monopoly of a business which could be prosecuted without leaving the threshold of home.

The first matter for consideration regards the appliances, and the unavoidable outlay to be made upon them. They consist of the following articles:—

Harrild's smallest lying press, combining lying, cutting, and backing appliances, which can be had for £1 5s., having a plough, press-pin, and knife or shear supplied with it.

A middle-sized sewing press at 8s. 9d., including three brass sewing-press keys (at 3d. each, the full five are required).

A folder, or kind of paper-knife, 4d., and a folding-stick.

A cutting out knife, 8d., about the size of a small table-knife, which latter might serve sufficiently well.

A beating hammer, from 4s. to 6s.

A Lancashire wing compass, at from 3s. to 5s.

A backing hammer at 2s. 6d.

A pair of royal octavo cutting boards, at 5d., ten inches in length.

A pair of do. backing boards at 7d.

A pair of do. pressing boards at 1s. 6d.

A French knife for paring leather.

A pair of shears (scissors) at from 10s. to £1 10s.

A bookbinder's finishing stove.

A knocking-down iron, 4s. 6d.

A bookbinder's rule, 4s.

A bodkin (or awl), 6d.

A packet of sewing needles.

A fine tenon saw.

Marshall's sewing thread.

Hempen cord for "bands."

Straw-board, for common work, or black-board, which is the best, sold by the sheet, one of which will suffice to make the covers for about four royal octavo volumes, leaving enough for one extra cover.

A stone for sharpening the cutter of the plough.

Glue and paste brushes, paste, glue, and glue-pot.

Stout brown paper for making spring-backs.

End paper, coloured, the "marbled" to be had at from 2s. 9d. per *quire* and upwards, and thinner white lining paper.

Bookbinder's cloth, at about 1s. a yard, to be had in pieces. Or roan leather, sold by the skin at 6s., which will cover about twelve royal octavo vols. I name these two inexpensive materials only, as calf, Russia leather, Morocco, vellum, silk, and velvet would scarcely be selected by a novice in the art of binding.

Of course, for purposes of decoration, many more articles would be required than are here enumerated, such as marbling materials and colours, gold and silver leaf, burnishers, pressing-plates, brushes, &c., but our present article is designed to teach the process of simple binding, apart from the art of decoration, which latter could only be carried out at a considerable extra expenditure. Machinery, tools, and all materials employed in the trade, may be procured at one and the same manufactory.

We should now make a little further acquaintance with our tools. The backing and cutting boards appear similar at first sight, but they differ in this respect: that, while both are thicker at one side-edge than at the other, the backing boards are cut flat at the thick edge, while the cutting boards are chamfered off. The pressing boards are of one uniform thickness, and are designed to cover the entire sides of a volume, excepting the raised edge above the groove on either side, formed by the beating of the back over the thick portion of the backing-boards—of which hereafter.

The ploughshear, or cutter, has a rather rounded, vandyke-shaped point, and when sharpened should be kept in the same form. The knocking-down iron is of an oblong shape, flat at each side, and having a handle on one of them, by which to hold it when, laid on one edge, the sewn but unbound volume is hammered against it. A common flat iron might be employed as a substitute by an amateur if to save expense were an object. The sewing press consists of the stand, or "bed," the two vertical screws, the cross-bar, on which there are five or more movable rings called "lay cords," to which the hemp cords, or "bands," which fasten the covers of a book to the leaves, are secured. Directly under the cross-bar, and in the "bed" or foot of the sewing-press, there is a long opening running the whole length of the cross-bar, which is called the "slot." The brass keys resemble tuning forks, having two prongs at one end, and a flat piece at the other, with a round hole through it. Enough now respecting our implements.

The process of binding, and the order to be observed in the execution of its different departments is as follows.

1.—Fold sheets, if a new book, or sever the compartments.

2.—Collate.

3.—Roll or beat with a beating-hammer.

4.—Sew.

5.—Prepare end-papers, and paste them in.

6.—Plough the fore edges.

7.—Glue the back.

8.—Round the back.

9.—Plough head and tail.

10.—Fan out, and colour edges if desired.

11.—Beat over the grooves.

12.—Cut the mill-boards, and line, if desired.

13.—Affix them to the book.

14.—Make and put on spring back.

15.—Make cloth covers.

16.—Put in book, cut, and finish.

17.—Stamp, gild, and letter, if desired.

Supposing that "half-binding" be required, the work must be carried on so far as when the spring back has been affixed. Then the leather pieces for back and corners must be measured, cut out, and shaved—the edges thinner than the middle—and pasted on. Then the calico must be measured and pasted on over the edges of the leather.

Try to learn this order of your work by heart so that you need not hesitate in passing from one branch to another, as great expedition is often essential. So much for our sketch of the several departments of the art; we now pass on to the details of each successively.

Two descriptions of work must be considered, a new and an old book, demanding respectively a different mode of treatment. In the former case the trouble is greater, for there is "folding" to be done as well as "collating," as the printer sends the books in sheets. Arrange the latter on a large table, and turn the "signatures," which you will observe at the foot of the first page of every sheet facing downwards, on the left-hand side. By "signatures" I mean the letters or numbers by which the correct sequence of the leaves in their collective form or "compartments" is guided, and their arrangement thus is called "collating." When letters are used, and the first alphabet has been run through, the letters re-commence doubled. Having laid these signatures facing downwards on your left side, take the "folding-stick," lay it in the central margin and turn over the sheet from the right to the left side. Hold the doubled sheet up, and you will see through it sufficiently well to ascertain whether the printing on one side faces truly upon that of the other. If at all askew, you must rectify it at once, or the type may run slantwise, and the margin will not be of one uniform width. Then hold both sides firmly together, and turn over the top double portion of the sheet, drawing the folder across it on the inside, and making the crease exactly in the middle of the double margin, when the lower parts of the letter press will again lie evenly, face to face. A third repetition of the same process will complete the folding of the sheet and bring the signature uppermost, as lying on the table at the foot of the first page. Should the sheets be those of an octavo volume, there will be sixteen pages in each compartment, being eight leaves in the four folds.

If, however, the book to be bound be an old one, you are saved the trouble of folding, but you will have delicate work to do in separating the several compartments, sewn and glued together. Lay each successively back on the table, flatly, pressing the first compartment down well at its junction with the rest, and sever the threads before you draw them, one by one, from the series. As each is removed, clear off all the old glue from the folded edge, holding the knife as flat with the outer sides of the compartment as possible, so as to make no tear in meeting with obstruction.

When all the sections are folded, or divided, and cleaned, they should be rolled, the "dog's ears" having been previously opened out. But if you have not got a roller they should be well beaten with a broad rolls. weight "beating-hammer" upon a hard stone or iron, the volume divided into sections of about half an inch in thickness. Should you have no "beating-hammer," nor iron slab or stone, you might place them between pressing-

boards under a heavy press. Let all the backs be even with each other, knocking the series with the backing-hammer at the "head," or top of the leaves, but not at the "tail," or under part, and also at the back, or folded edges. A roller-press would be desirable; but this, as well as a binder's press, is expensive; the former is a little dangerous to the fingers of a novice, for they might easily be drawn under the roller, and a common table-linen press would serve as a substitute.

The next part of the process is to place the book, still evenly adjusted, between the backing-boards, the latter placed about the eighth of an inch below the corners of the back; and then all must be secured firmly in the lying-press, so as to keep the back steady for the sawing across it. If the book be an old one you must avoid the old saw indentations, and make new ones; if one that has never been bound, saw five times (more or less) across the back at equal distant places. Large folios should be sawn in six or seven places, an octavo volume in five, smaller and thinner ones in three, the saw selected having teeth both close and fine. Having taken the volume, carefully adjusted between the backing-boards, and tightly held in the left hand, slip it down between the boards (or vice) of the lying-press, leaving the back about an inch above them. This is an operation that demands much care, for there must be no slipping of the compartments between the packing-boards, nor of the latter askew between those of the press. Then turn the screw with your right hand, and remove the volume to readjust it should it fall out of position in so doing, which it is liable to do. The incisions made by the saw should be only deep enough to receive the "bands," or hempen cords, and the coarseness of the latter depends on the size and weight of the book to be bound.

You will observe that in good binding a rather longer space is left between the last "band" and the "tail end" of the book than the first "band" and the "head"; your incisions with the saw should therefore be regulated accordingly. Another point to be remembered, before using the saw, is the fact that a space at head and tail must be left beyond the first and last "bands," respectively, for what is called the "catch stitch" (or by some the "kettle stitch"), which is made in an octavo volume at half an inch from each end. Within these the incisions are now to be made.

The sewing-press must next be prepared. Take the hempen cord to form the bands, and cut from the ball as many lengths as you have made incisions. They should be about half-a-dozen times the thickness of the book in their respective lengths. Tie them with a slip-knot to the rings on the cross-bar, and pass each cord into the fork of a brass key, then twisting it several times round the neck of the latter, first so adjusting the length of the cord from the cross-bar as that it shall reach the "bed," or foot-board of the press. Then turn the key round, and pass the upper part of the cord back again into the fork of the key, and fix the latter under the front part of the stand, and the loose end of the cord through the hole at the other end of the key. Having thus measured and regulated the length of each band so that they shall be precisely similar one to another; remove the keys from the front, and pass them all down through the "slot," fixing them securely by the two ends of each key.

You must now turn the screws by the nuts on either side until the bands are as tight as harp-strings, and proceed to fit them into the saw-cuttings. Take the first compartment in the left hand, opened in the middle, and holding it so by the introduction of the forefinger, each leaf fitting tightly into its fellow. Stand at the end of the sewing press, on the left side,

having your right hand next the cords, and press the compartment against them, fitting the saw-cuttings to them, so that each shall receive its cord in every leaf of the series. Hold it steadily, and pass a needle supplied with the proper sewing thread through the whole compartment (passing it inwards, from the outer edge of the fold) to make the catch-stitch; bringing it out again through the first saw-cutting, at the nearest side of the cord; and passing it inwards again, round the cord (on the other side of it) carefully avoiding to make any new hole. Continue thus through the back, making a complete circle round each cord successively, and out at the catch-stitch at the other end; and then take a fresh compartment, repeat the same process back again; and tie the end of the thread at the spot where you began. When the third is laid on, raise the corner of the preceding compartment with your left hand, pass the needle under it, and bring it out from underneath inwards, passing it round the thread already sewn at the end, so as to secure all the catch-stitches together, successively. When all the series of compartments have been sewn together, fasten-off the thread at the catch-stitch by passing it round through itself.

This done, you may proceed to slacken the screws on either side, and remove the book from the sewing-press and keys. Cut the hempen cords on each side of the back, leaving ends a couple of inches in length. Then take the book by the fore edge with your left hand very firmly to keep the whole in perfect position, lay it on the table, the thumb upwards and the ends of the fingers underneath, that the back may rest flatly, and hammer the back to make it less thick and bulky after the sewing. After this screw it into the lying-press as tightly as possible, and placing the face of the "knocking-down iron" against each side successively, hammer the back again, while holding the slips with the left hand, to prevent the accident of their being drawn through. The first and last sections or sheets must now be pasted to those next them. The top section being thrown back, lay a straight piece of waste paper along the next, at about the eighth of an inch from the back; and paste the narrow space between the latter and the waste paper; remove the paper, and repeat the operation on the other side of the book, and applying the pressing-boards, place the book under a press for a quarter of an hour.

And now while the drying and pressing are going on the making of the end-papers should be accomplished. Of these you may select from a great variety of fancy patterns, and of cream or gold-coloured "surface" papers, as well as from dark shades; also from "marbled" paper of an equally diversified character. These should be cut rather larger every way than the leaves of the book, and a thinner kind of white paper to act as a lining to the loose leaf of the folded marbled paper, and the other half to be left as an inner fly-leaf. Lay a sheet of paper on the table, and use the paste thinly. Fold both the coloured and the white sheet. Brush the paste smoothly over the outside of one of the white fly-leaves, and lay it upon the uncoloured side of one of the end-paper leaves, remembering that the end-paper sheets are to be folded the right or coloured side inwards. When thus pasted together the two sheets, coloured and white, will form three leaves; and when the millboards are attached to the book the unlined coloured leaf will be pasted, on either side respectively, upon their insides as linings. As soon as the end-papers are thus made and ready for use, lay them between two pieces of wood or millboard, sheets of clean paper between each to keep them from being soiled, and lay them under a press, and then put them in.

(To be continued.)

thing. In other words they encourage us to work and correct our errors in working, and help us to become "realities" and not "shams."

2. As encouragements their value is scarcely of less importance, and to those who are brave enough to work for the love of the work itself the satisfaction which comes from having done well in an examination is beyond description.

3. As guides, especially to private students, who have few opportunities of judging from any other standpoints than their own, they point out the position they take in the world at large when measured by a general standard of opinion.

Many points might be given here, but we will pass on to another view of the case, what has been called the *wrong* uses of examinations:—

1. The narrowing of the depth and breadth of intelligent culture and the degeneracy into a system of *cram* and *superficial* knowledge in order to secure a "pass" must always be looked upon by true educationists as a wrong use of examinations. A necessary evil some people call it, surely without having sufficiently weighed the matter. Where does the fault lie? In the pupil? In the teacher? In the examination questions? Where?

2. The pushing on of quick pupils to obtain distinctions, to the disadvantage of the moderate and slow workers in a class, is another wrong use to which some persons put examinations.

3. The undue pressure put upon some to secure success, whether self-inflicted or otherwise, cannot be a good or right use of examinations, and yet how often one hears of this pressure. Injudicious parents in some cases urging their children forward; enthusiastic and eager teachers overtasking young brains; or ambitious and over-wrought students pursuing a reckless and ill-regulated course of study to pass an examination, which in its very preparation has eaten out the life and health!

The inquiry into this phase of the subject might be pursued much further, but we will proceed to find out some of the effects of examinations, both good and bad, and leave our readers to decide what they consider to be advantages or disadvantages. In their reflections here, too, we would ask them to consider whether the system of examinations is always at fault, or whether the evils which arise may not spring in many cases rather from its *abuse* than its legitimate use.

1. Examinations help us to establish an approximate standard of the acquirements and culture of people in the *mass*. This enables us to classify and arrange persons and things. It helps us to put "the right person in the right place."

2. Examinations often require great detail and minuteness of work, hence they encourage patient research and steady perseverance. In many cases they create a desire for the *best*, for excellence in everything one undertakes, for reading up much more than is required to "pass" the special subjects of study, for wider and better reading than one has been accustomed to indulge in, for real thought and serious inquiry for legitimate grounds upon which to form a judgment on a given subject; in fact, they tend to produce the most admirable order of mind.

3. But *examinations are often* productive of undue emulation, jealousy, and prejudice. They sometimes, especially when success (as often happens) follows "cramming," produce a conceited, ill-regulated, and contemptuous order of mind: we know these people tolerably well, and give them a class to themselves in the world. We call them "prigs."

4. Some examinations have such definitely marked features that, after a little careful ana-

lysis of previously given questions, their requirements may be reduced to the state of a series of probabilities. This often leads "adventurers" both among teachers and pupils, to "cram" up to the particular points and produce an artificial and much-to-be-deprecated educational polish. One might compare this to veneered furniture, plated metal, &c., which are often well got up, expensive, showy, but valueless.

5. Examinations are accused of producing nervous diseases and mental disorders. We cannot deny that they sometimes do this. But why? Are there no circumstances to blame outside the examination?

What little child is there who is incapable of answering a question? Who is thrown into a state of nervous excitement because a question has been asked? There *may* be some children of this kind, but are they healthy? What boys or girls are there who will not have to answer many questions during life; accept many positions not always quite in keeping with their wishes; fulfil many duties which are not real pleasures? What man or woman is there who will not be called upon to pass many judgments; to take decisive steps in many duties of life; to undertake many duties which will not be perfectly agreeable?

My reader who has so far followed will agree with me that some sort of preparation should be given to the little one for the duties of youth, and to the youth for the duties of maturity. Perhaps no better preparation could be given in many cases than by a steady system of examinations. One point only I insist on, *the examination shall be suited to the age, acquirements, and temperament of the examined*. By degrees the nervousness, indecision, hesitation, fear, &c., will all disappear, and a clear, cool, decided, well-regulated mind must be the natural outcome of such a course of training. When people plunge headlong into impossible studies and work at impossible speed to make up for defective training or idleness, or to satisfy an unworthy ambition, or from some other cause, then these evils will result; but I *deny* that the examination itself is the sole cause of the evil.

6. One evil I should like to point out specially to the readers of THE GIRL'S OWN PAPER. It is the increased production of unsatisfactory books—"cram-books." They are, as a rule, replete with errors, but they are cheap and have a wide circulation. They should be avoided. They are deceptive, and those who build up their minds on such a foundation will be shallow, frivolous, and conceited.

Let us now for a short time turn our attention to the *best methods of preparing* for an examination.

All who have read carefully up to this point will realise that the writer assumes that no one would attempt to pass a public examination without having a good foundation of general knowledge. Now we may fairly launch out into the question of particulars.

1. First obtain the syllabus of subjects which you will be expected to answer questions upon.

2. Obtain the necessary books required.

3. Fix the certain amount of time to be devoted daily to each subject, and keep to it.

4. Concentrate your whole thought and attention on the subject in hand. Do not for one moment suppose that you can comfortably carry on a conversation with your friends while you are "getting up" the prescribed pages.

5. Make from memory notes of the portions you feel you have mastered, and compare these with the books you have studied.

6. Clear up every difficulty as you go, either by reference to other books or to persons to whom you can apply.

7. Never be satisfied with "that will do" unless you have done your best.

8. Provide yourself with copies of questions, which have already been given in previous examinations, and test yourself by them.

A good preparation for examination can scarcely fail to *produce a good pass*, and to secure this let us sum up a few points to be remembered:—

1. Carry out fully all the printed rules provided for you.

2. Write clearly and distinctly, and spell well.

3. Write your answers (for the most part) at once on the examination paper. Do not make rough copies. There is not time to copy, for one thing; and in copying mistakes often occur.

4. Do not write something that you happen to know in the place of something that you happen not to know. Answer the question asked of you, and keep to the point. The question, the whole question, and nothing but the question, will be a good motto for examinees.

5. Do not spend too much time over the first few questions. Find out how many questions are expected of you and arrange the time given to the best possible advantage.

6. Read your question at least twice before writing your answer, and be sure that you see exactly what is required of you.

This inquiry, though far from complete, will perhaps open up a new vein of thought to some who are interested in examinations. It will be clear that there are several ways of viewing an examination before we give a judgment as to its use, and that there are certain natural defects in examination systems as in most other things in this life. We do not put them forward as being perfect, but we do wish to show that those who dread them most and abuse them most are probably the people who have never thought of them in the true light, and who include among them some persons who regard them in the light of modern innovations, and as instruments of torture.

J. P. M.

HOME TRADES.—III.

BOOKBINDING (continued).



EXT, prepare the plough, securing the cutter, or shear, with the screw, and wedging the frame of the plough with a scrap of paper, if unsteady. Let the point of the shear just touch the leaves of the volume when fixed into the vice. Measure on the outside leaves at each end how much may be spared from the margin, cutting off as little as possible, consistently with obtaining a clean border. Take the hammer and knock the back and top of the book quite square. Place the cutting boards on each side, respectively, the under one beyond the margin of the leaves to be cut, and the top one so as to form a line indicated by the marks already measuring the new margin. Fix all in the laying-press, the back being perfectly even, and turned downwards, ready for the cutting of the foredge (or long way of the leaves). Take the plough by the screw-handles on each side, and begin planing, or ploughing, backwards and forwards, your left hand to the book, turning the handles at each forward pass of the shear from you, but very slightly indeed, because, if it were pressed violently forwards, it would force its way through too many leaves at a

time, and probably tear, or rub them out of place, and fail to make a clean cut and to leave a polished surface. As the process of shearing is going on remove any loose shreds of the paper which may be in the way. Having ploughed the foredge, leave the head and tail of the leaves uncut for the present.

The next business is to glue up the back to hold all the sewn compartments the better together, and to make them take the form, and retain it, produced by the process called "rounding." Take the backing-hammer and beat the book at the back and head, and when quite true place it between old boards of any kind, firmly screwing it into the laying press, the "slips" being well drawn down out of the way on either side, underneath the old boards, to preserve them from glue. Then apply the latter well heated, but in no great quantity; remove what is superfluous, and leave it to dry for about three-quarters of an hour.

All books should be more or less convex in the back, and proportionably concave in the foredge. To effect this change in form, so hold the book in the left hand as to force out one edge of the back into a sharp angle, making the back to form a continuation of the side. Lay it thus held on the table; then beat the back with the face of the hammer to flatten it on the latter, and, after several firm strokes up and down, turn the book, reversing the angle of the back, and treating it in the same way. On closing the book after the repetition of this process it will have assumed the form desired.

The time has now come for ploughing the head and tail, and the cutting-boards are to be placed again in position, first for the head and then for the tail, always keeping the back of the book towards you, and then the edges will be ready for colouring, if desired.

In case you should wish, for example, to give your book red edges, procure some powdered vermilion, and mix it with paste; lay down all the leaves on the table askew, or "fanning" them, *i.e.* opening them all out, so as to show each other's edges successively, one beneath another. First hold one end of the book, and when the other end is "fanned" pass a brush dipped in the vermilion paste over the edges, then hold it at the other end as soon as dry, and fan the uncoloured portion, painting it also. Afterwards turn the book on the other side, and repeat the double operation as before described.

The colour being dry, draw the slips out of the way, replace the backing boards, the thick edge of the boards towards the back of the book, at about the sixteenth of an inch from it on either side. Tighten the vice of the lying-press on the boards and book, the back upwards. Then (the glue being tacky, and nearly dry) the grooves on either side of the back have to be formed. To accomplish this take the hammer and beat the back with the sharp, adze-shaped end, crosswise (or slanting), not on the rounded centre of the back, but down one side in regularly successive lines, and then down on the other side, always taking the same forward direction. This will press the angles of the back over the backing-boards, forming a groove on either side beneath them.

It is time now that the millboard covers be prepared. That called the "Buckingham," of Maidenhead, is one of the best descriptions. All kinds are sold by weight, and the heaviest are superior in quality, the black being made of old naval tarred rope, and the darker and harder the better. A new sort of board has lately been manufactured, which is composed of wood-pulp, and intended to supersede the common strawboard. Whichever kind may suit your purpose, lay a sheet on the table and the book upon it, and measure accurately with the wing-compass, obtaining the width by ex-

tending it from the back of the book to the edge of the smaller bolt, or fold in the foredge.

Then mark the length and width on the millboard with the bodkin. After screwing them up, lock them square, they can be cut by the plough laid up against a "cut-against," or held steadily by hand in a cutting-press, under the sort of lever-guillotine knife; or else by means of fixing one handle of the large shear-scissors in the vice of the lying machine, and pressing down the other to cut it. When the covers are ready, lay them on each side of the book, respectively; mark the inside of each, and arrange where the several pairs of holes are to be pierced, those nearest to the back being opposite the hemp cords belonging to them; open out the strands of the slips, scrape the points, and taking a little paste between your thumb and forefinger, twist them into points so as to pass them easily through the holes to be made in the covers. Take the bodkin, or awl, and pierce the first hole slantwise through the cover, first on the outside, about half-an-inch from the edge which is to lie in the groove of the back, and then turn the cover, and make the fellow-hole out through the cover again in a sloping direction from the first, and about half-an-inch from it. Pass the slips through the holes, and "draw-in" firmly, tapping them gently so as to close the frayed pieces of the holes closely upon each; after this cut them off flush with the covers, and lay the latter alternately on the knocking-down iron, and, holding the hammer very square, beat them gently, till quite flat with the boards.

The pasting of end-papers should now be finished; two leaves on each side will be loose, the third or coloured leaf is to be pasted down inside each millboard cover. The millboard may be lined if desired, but this should be done when the boards are made.

This accomplished, fix the book into the laying-press, and cut out the thick brown-paper for making a spring back. It should be made double the width of the back, and an inch longer at each end, and then folded double. Glue the back of the book, and lay one-half of the brown paper along it, taking care that it be laid on the outer side of one of the folds. Rub it down well with the folder; lay back over it the loose half of the brown paper, and make a cut at each end, exactly in the crease of the fold, dividing the loose from the glued portion at each end, head and tail of the book, making the cutting in the crease of the fold nearly as far up as the first bands, respectively. Then cut off the ends of the glued half of the brown paper quite flush with the head and tail of the back.

The binder's cloth should next be prepared. Cut out a piece a good inch wider than the covers of the book every way. Lay it on the table upon a clean sheet of paper, the inside upwards, and brush some hot, but rather thin glue quickly all over it with a large firm brush, and not very thickly laid on. Remove any scraps that the brush may leave, and fix the book as soon as possible into the cloth cover, first one side, and then turning it over on the back to lay it on the other side. Take the folder then and rub the cloth very carefully and rapidly over, that it may adhere to the covers in every part, and fit well into the grooves. Next, hold up all the leaves with the left hand, resting the back of the book on the table, and tuck in the margin of the cloth under the back of the book at head and tail with the folder, there being an opening in the spring-back to allow for its insertion. After this, take the shears and cut off the four corners of the cloth, but not quite flush with those of the millboard. Indent the bend of the cloth corners with the thumb-nail, so as to make a sharp fold closely to the mill-board when turning in the cloth. Draw the margin evenly over at the side, and then each end

successively, repeating the operation at the other side. Shut the book speedily when the work is done; lay the pressing-boards on either side, within the grooves, and place all exactly in the centre of the press, or under a heavy weight.

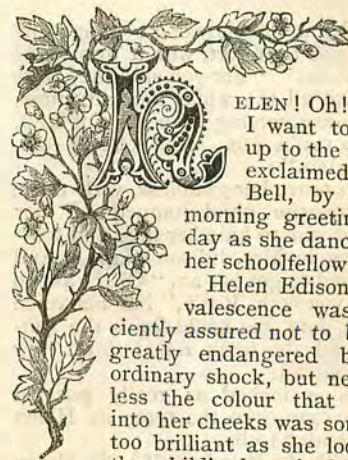
(To be concluded.)

THAT AGGRAVATING SCHOOL GIRL.

By the Author of "Wild Kathleen."

CHAPTER XXIX.

"WISE AS SERPENTS, HARMLESS AS DOVES."



ELEN! Oh! Helen, I want to dance up to the moon," exclaimed Rosie Bell, by way of morning greeting, one day as she danced into her schoolfellow's room.

Helen Edison's convalescence was sufficiently assured not to be very greatly endangered by any ordinary shock, but nevertheless the colour that rushed into her cheeks was somewhat too brilliant as she looked at the child's beamingly happy face and started forward to ask what caused her excitement.

"Come here, little one," called Mrs. Edison; "come here and sit down, and tell Helen you are to give her no explanation until she comes back to her breakfast. To-morrow morning," added the mother, smiling, and addressing her daughter, "you shall have it in bed again by way of punishment for getting up from the table in this fashion."

"Suppose I sit on the bed to eat my dinner to-day instead, please ma'am?" was asked demurely and with folded hands, and then an eager return to the little schoolfellow.

"But now, Rosie, out with that news of yours. It will burn a hole in your mouth as money does in my pocket."

"I think it's much more likely to serve me as that sugar-plum did yesterday, and choke me," laughed the child. "But you know, Helen, I ought not to have made you think so much about it, for it is nothing much to concern you, after all; excepting as you care about me and Josephine. For they are not your papa and mamma, you see, and you don't even know them a weeny bit."

As Rose finished this long and somewhat incoherent speech, she wound up breathlessly with a "Don't Helen! how can you? What an ugly face!"

"Mrs. Edison also laughingly ejaculated, "Don't Helen; you look a perfect little fright."

"Little, mamma?" was the slow, grave inquiry; "rather a lanky 'little,' isn't it? But I am sorry I look a fright."

BOOK-BINDING.—III.



UR volume is now bound in cloth, and needs only to be lettered. I do not propose to teach the art of decoration in connexion with this art, because it would prove very costly to the mere amateur to procure all the requisite appliances; while, to those who

propose to adopt the trade as a means of livelihood, I do not consider that the reading of certain rules would obviate the necessity for the personal inspection of some practical demonstrations. Suffice it, therefore, that I should give a few words on the subject of lettering, ribbing the back, making and affixing "head-bands," binding in leather, velvet, silk, and vellum; elastic backs, half-binding, and a few other matters connected with the work.

To letter the back of a book, the cheapest method is to procure a "spring type-case," and brass or leaden type—the letters of various sizes, and in sufficient numbers to enable you to duplicate any letters at will. This type-case must be heated before the letters are put into it, taking care that, if leaden, the type be not so heated thereby as to melt. You will also require "spaces," or blank squares, to divide words and letters if need be. Take great care in the arrangement of the letters, copying the form which they shall take, and their size, from some good example. See that a perfect level be obtained, which may be effected by pressing them up against the vertical slabs of a marble chimney-piece, or even a letter-weight, prior to the final tightening of the screw. Then warm again over a stove before application to the back or side of the book. If the lettering be applied to leather—a "lettering-piece," or otherwise—press the type upon the space designed for them, "in blind" (or without gold); then damp it with vinegar, and as soon as dry take a small painting brush, and dipping it in glair, paint over the lettering, applying two coats of the glair. Then take a gold leaf from the book, lay it evenly on the gold cushion, and cut it with the gold knife, so as to cover all the lettering. Raise it by means of a pad of cotton wool, having given the latter the right amount of greasiness by delicately touching your hair with it, which will make the gold leaf adhere to it. Should the latter look thin, or broken in any part, breathe on it, and quickly lay another leaf over it. Then taking a heated burnisher of a suitable size—so warm that when wetted it dries immediately, but does not hiss—and, placing the flat edge within the stamping of the letters, rub it evenly backwards and forwards. Then wipe away any superfluous gold with the gold rag, which must be impregnated with a little oil. Remember that the heat of the burnisher, which must be regulated before use by means of a sponge and some cold water, is a matter of great importance, for it will dull the gold if used too hot, and, the latter will not adhere, if too cold. You will readily perceive that more tools and materials would have to be purchased, if lining and decorative stamping should have to be done, since, for the mere lettering, you will have to add the following appliances to your collection:—

- A small spring type-holder, 5s. to 6s.
- Cast brass type, per 100, 12s. to £1 10s.
- Deep-gold leaf, 1,000 leaves, £2 6s. to £2 7s.
- Gold knife, 1s. 6d. to 3s.
- Burnishers, 4s. 6d. to £1.
- Handles (one) for burnisher, 9d.
- Gold cushion, 3s.

Prepared glair (a pint can), 1s. 6d.

Also, book-binders' varnish, to be used where glair has been applied, and then polished.

A small sponge, &c.

Leaving the subject of lettering, let us consider that of employing leather for binding, instead of cloth, the various kinds needing some variety in their several modes of treatment. Into all these we have not space to enter, but shall give a sketch that may serve so far for all. Lay the skin on the table, and be careful that you do not cut it cross-wise or diagonally; select a part where it is of a uniform thickness throughout, lay the book open flat upon it, and draw a pencilled line all round it, to show the exact size. Then, with the knife well sharpened, cut out the cover, leaving a space between the knife and the pencilled line of about three-quarters of an inch every way. This margin will be required for turning in. As Russian and Morocco leather are thicker than cloth, a "French knife" will be requisite for the purpose of paring or thinning the edges, more especially just at the head and tail of the back. Hold the knife in a very sloping direction, laying two fingers on the upper side of the blade, and, as the cover lies on a thick sheet of glass, or on a marble slab, cut away the thick, rough, inside part of the leather, after the manner of shaving, pushing the blade forward, with the back towards you. The leather will require to be held firmly, and an examination of the thinning process should be frequently made to ensure its evenness, and that no holes are produced by over-shaving. Russia, Morocco, and calf need to be damped with a sponge, before being glued all over on the inside; but, in reference to the shaving process, calf needs only to be pared at the head and tail of the back; and the damping of it with a sponge, accomplished when the cover is on the book. The leather being glued, lay the entire open book flatly down upon it; then take all up, stand the book on the fore-edge, and draw the cover well down with both hands, across the back and over the sides, and cover the head-bands with a scrap of paper each, to preserve them from the glue. It is very usual to turn in the edges of leather by means of paste, instead of a continuation of glue. The rest of the covering process is as for calico.

In covering with roan—as with calf—only the head and tail of the part covering the back should be pared. In using velvet, the back only should be glued at first; and, then, when set, the sides. In case the pressure of the fingers should have marked it, raise the pile by holding it over steam, and, perhaps, giving a gentle brushing the right way of the velvet. Should silk or satin be employed, you must line it first, by affixing thin paper with a slight coat of thin glue to it; and when pressed, and quite dry, then proceed to cover the book—first, the back only, and when set, then the two sides.

There is no description of binding-material so indestructible as vellum; of these are three kinds—the Roman, Oxford, and Artists'. The latter has a very white and artificial surface; the Oxford is, on the contrary, left in its natural state; and the Roman, which is darker in colour. There is also an artificially-made substance called vellum, which is much in vogue in France, but is composed of unsized paper which has been dipped in a bath of diluted oil of vitriol. The genuine article is made from calf-skins. A book-cover made of vellum will need careful yet rapid sponging before use. That called artists' vellum will scarcely bear this treatment. All parts designed for gilding will require to be painted with glair, then work-in "blind," preserving a uniform and common outline for the glair painting and "tooling." Much gentler

handling is to be adopted in reference to vellum than leather; and the mallet must be only warm, not hot, otherwise it will cut the strip out and leave the boards in view very quickly. The gold must be laid on and worked in when the glair is dry. Also, you will have to scrape the compartment on the back allocated to the leather lettering-piece, with a sharp knife, to produce a roughness on the greasy surface sufficient to ensure the adherence of the pasted label.

I gave a table to show the order to be observed in the process of binding in the first part of this series; but did not include the insertion of "head-bands," because they are not affixed to calico-bindings. By these I mean the small strap, or finish, of coloured silk or cotton, either worked or cut from a piece and pasted on, at the head and tail of more handsomely-bound volumes. I reserved this decoration for some notice when dealing with those materials with which they are associated. They may be purchased ready-made, and worked in silk or cotton, at from 2s. 3d. to 4s. 6d. for a piece of a dozen yards. But they may be cheaply manufactured at home by using coloured calico of some bright and suitable colour. Get a piece with a very fine stripe—for example, in white and red—and with a small cord make what workwomen call a "piping" of it, with glue; and using the folder, making the calico fit in closely round the cord. Cut it when dry to the proper width to fit round the back of the book, about an inch wide or more; then glue the head and tail of the book, and place the head-bands in position upon them, smoothing the ends of the calico inwards up and down the back. After this, the spring-back is put on, the book lined, and the covering with leather to follow. The working and tying on of superior head-bands I need not here describe. Like the decorative work of the coverings, they can be learnt when the novice has thoroughly acquired the art of binding in its cheaper and simpler forms.

Should you wish to bind music, an atlas, or any wide volume which should lie flat on the table when opened, a "flexible" or elastic back should be made, instead of a "spring" or open one. In this case a few other appliances will be needed, such as a "bakers' rasp," some fine unbleached calico instead of brown paper, and a solution of indiarubber instead of glue. This solution is sold in tins, one being sufficient for a dozen 8vo. volumes. Three coats of it should be applied to the back of the music book, and two to a strip of the calico, which latter should lap over half an inch on each side. In preparing the back for the solution you must rub up and indent the folded edges composing the back with the bakers' rasp, so as to leave crevices for the reception of as much of the solution as possible. The head-band is secured by glueing a piece of fine calico all down the back covering the ends of the head-bands.

In leather binding, whether flexible or otherwise, it is an improvement to make bands or ridges at certain distances from each other across the back, the usual number being five. To make them you should glue a piece of leather on one of paper, and put a heavy weight upon it. When dry, glue it again a second and third time, drying on each occasion under pressure as before. Then cut narrow strips of the width and length suitable for the back of your book; mark the places for the five bands with the compasses, moisten the glue on each with hot water, and affix them according to the "marking up." The irregularities of the ends are to be bevelled off, and the sharp angle of the boards, if necessary; but they usually fit into the grooves. For "blind-tooling" lines across, above, and below each rib or band, on the back, you will need an extra tool, called a "pallet." Damp

the back with clean water and a sponge, warm your pallet over the stove, and then, the book being fixed in the lying press, rub it firmly backwards and forwards in a straight line, reheating the pallet as the leather dries. If requisite, damp the places two or three times during the "blind-tooling." Take care not to burn the leather, for fear of which melt an ounce of lard and one and a quarter of white wax in a pipkin, and, when blended, rub a little on the inside of a waste piece of leather, and the pallet upon this from time to time, during the "blind-tooling," which will make it slip well to and fro in polishing the line indented. A good deal of work, in short spaces at a time, after the method called "gigging," may be necessary to produce the depth of colour and high polish desirable. A line all round the covers on each side may be marked up with a folder and straight-edge, and produced as now described.

When giving directions for lettering the back, I alluded to "lettering-pieces." They should be of a different colour to the rest of the back, and if a second be used for the number of the volume, it should be of a different colour to that of the title. First damp it, and then pare it as thin as you dare to make it with the French knife. Cut it to the size of its allotted panel, pare the extreme edges still more, and then with a little stiff paste affix it well to the back, taking care that no portions of it should overlap the ridge of the side grooves.

Such instructions as are essential to the work I have now given, and, with sincere wishes that my readers may find them thoroughly intelligible, I take my leave.

S. F. A. CAULFEILD.

LADIES' WORK AMONG SAILORS AND SOLDIERS.



No one can deny that this is an age of much talking. There is talk in season, and out of it, about everything; talk on paper, and off. This being the case, it is highly satisfactory to know that there is much noble doing, and our girls may be proud to know that some of the most practical and earnest of this real, active work is organised and carried on by women. There is no better and brighter example of this than "The Soldiers' Institute" and "Sailors' Welcome," both opened at Portsmouth, by the single-handed effort and Christian energy of one woman, Miss Robinson. It was our good fortune the other day to visit these two institutions, and we want now to tell our girls a little about them, because we think that to hear of such things will help them on to do similar work.

Let us start, then, at once, for our expedition into the busy heart of our great, national seaport town; we have a good deal to see, and we shall not find that we have too much time. It is a long walk, so we will get into one of the many trams that go rattling up and down the thronged, noisy streets, helpful and kindly to everyone except canine passengers; these are charged 1s. each, whereas their master or mistress can travel for any distance for 2d. A dog, and a dog of no very great size or fierce appearance, is our travelling companion to-day on our road to Miss Robinson's two scenes of life long-labour. We naturally expostulate a little with the tram conductor at this apparent imposition on our tiny, four-

footed friend. "It is our rule!" Such is the cabalistic and evidently, in his eyes, all-sufficient sentence with which that official meets, in stolid calm, all our complaints; and seeing no hope of redress, we subside into a corner. Then we soothe our ruffled feelings by turning our attention towards our fellow-passengers, two military men, who are enveloped in public affairs, and a portly dame, who seems absorbed in the effort of freeing her purse from an immense and intricate confusion of petticoat folds, until at length we find that our destination is reached, and we descend at the door of "The Soldiers' Institute."

We stand now in the wide entrance hall, and from thence are led into a waiting-room, where a man, whose civil manner and prompt address stamps him at once as an old soldier, tells us that one of the ladies who manage the institution in conjunction with Miss Robinson will be with us in a few minutes, and meanwhile engages us himself courteously in conversation. He proves a very agreeable companion, so agreeable, indeed, that we scarcely know how the minutes are flying, until, at last, he begins to make excuses for the tardiness of his superiors, saying that his ladies' hands are so full of work they often cannot attend to visitors. He offers to "lead on" himself, in default of a better guide, but just as we had half made up our minds to accept his proposal, Miss L., one of Miss Robinson's most competent and efficient helpers, makes her appearance, and bids us follow her.

First we are led into the bar on the ground-floor, where people are hurrying hither and thither in a lively way that reminds us, in turns, of a colony of ants, and of the kitchen in the fairy-tale, where the prince's wedding feast was being prepared. Here we are told various wonders in the way of cheap provisions: a cup of tea and quite a mound of bread-and-butter are served out to the soldiers for one penny, a plate of meat with vegetables for fourpence; other poor people may also have meals here at a comparatively low rate, but not on such moderate terms as military men. Everything is singularly clean and neat in this department, and makes us almost wish that we wore a red coat, that we might enjoy the privilege of making this our dining-room.

From the place where the men find food for their bodies, we go on to the apartment where their minds will get plenty to feed upon, if ever they feel inclined for such diet. Here we see that the reading-room is in favour with the frequenters of the institution, from the spell of a calm and silence that pervades it, as well from the many books that muster on its shelves, and the varied magazines and papers that are scattered over its tables. One man is reading, a second is bending, with an earnest face full of grave, important meaning, over a sheet of writing paper which he is laboriously and conscientiously trying to fill from top to bottom; it is evidently a much harder task for him than drill or sword-exercise, but he is resolved that his relations at home, in the distant country village, shall have their pennyworth while he is about it. A third poor fellow has plainly had enough of it last night on sentry's duty somewhere, for he is stretched at full length on one of the broad, comfortable sofas that surround the room, and is fast asleep, dreaming, it may be, of the green fields where he and his school-fellows used to play at soldiers—it may be of real, hard service that he has seen in his time. We ask Miss L. if men are ever inclined to grow noisy and disorderly in this room, which is evidently given up to them as a place of thorough freedom and relaxation, but she tells us that such a thing rarely if ever occurs; the mere thought that Miss Robinson and their other lady friends and teachers are near has a softening, harmonising charm for the soldiers'

natures; besides, the institution is carried on on strictly temperance principles; no intoxicating liquor is sold within its precincts, and thus the men escape the grand temptation which leads on to riotous talk and behaviour. If a man ever appears in the institution at all the worse for drink, he is instantly and summarily expelled from the place, and thus taught a useful lesson, which it well becomes highly cultivated ladies to insist on in their dominions.

Next Miss L. takes us upstairs into the lofty, airy dormitories, where the little beds stand side by side in long rows, and look as if they might just have floated out of dreamland to meet weary heads and limbs. There are smaller, but still large and comfortable bedrooms provided for the reception of married men and their wives; the soldier's wife is far from being forgotten in the institution. There is one room in the house set apart for holding mothers' meetings for these women, and the basket, filled with neatly put-out-of-hand needlework and ready balls of cotton and thimbles, shows that this is by no means the least flourishing department of the establishment.

Now we are in the room where the Bible classes for the soldiers are held, the Bible classes that have led many a man, who wears the colours of an earthly sovereign, into the ranks of the great King's army. There is the teacher's chair, which is generally filled by Miss Robinson herself. A class is daily kept here for any who will come in to hear the good gospel tidings, and there is never wanting some who will draw near to seek the food of eternal life; though, of course, the Sunday classes are more numerous attended than the week-day ones. Next we are led up another flight of stairs, down which come floating softly towards us, in clear melody, the words, "Sweet and low, sweet and low," and ever as we mount up higher, the strains become fuller and more distinct. We enter a room where another of the ladies of the institute, Miss G., is sitting at the piano singing. This evening there is to be an entertainment in the large hall, into which we were taken just now on the ground-floor. A well-known lecturer is going to address the meeting, and glees are to be sung by some of the soldiers whom she has trained, leading them with her own voice, and she is now practising a little to be perfect to-night. Many of the men, she says, have correct musical ears, and a taste for harmony, which repays cultivation. These entertainments are frequently held in the institute, and are in great favour with the soldiers, who prove, by the eagerness with which they attend them, their readiness to come to places of amusement where rational recreation is provided for them.

We now sit down for a little while, and talk to the two ladies about the general working of the institution. They speak with joy and thankfulness of what it is doing for the soldiers, and say that until they came here they never could have imagined the great powerful influence which ladies gain over the roughest and wildest fellows among them. They tell how Miss Robinson's whole heart and soul are in the noble Christian work of love, which her Master has put into her hand to do, and how bravely and truly she does it with her might. Many tales they likewise tell of wonders wrought by sympathy and love, of victories gained over evil in its hardest, darkest forms, by gentleness, and patience, and long-suffering. They speak of the lively intelligence which dawns in the men's faces as, day by day, they come to this home of blessing and grow familiar with it; of letters full of gratitude and love received by Miss Robinson from soldiers on distant foreign service, of testimony borne to the enduring nature of her work, on fever-stricken death-beds in Indian swamps, and death-beds