

HOW TO BUILD A BANJO.

By C. J. HYNE,

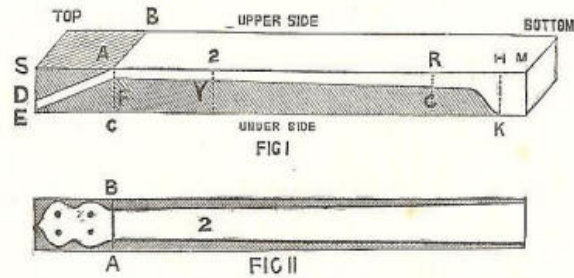
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score of years ago a negro, who, with his wife and family, lived in the savage solitude of an African forest, chancing one

day in his rambles after food to stumble across a large tortoise enjoying his *otium cum dignitate* in a sunny glade, picked the unfortunate up, and returned home perfectly satisfied with his 'bag.' The body

minds. So she cast about her for a safe stowage-place, and, chancing to see the tortoise-shell lying idly on the green without the door, picked it up and popped the offending molar in and covered the open



was converted into a meal, the shell into a plaything for the youngest son, and time rolled on, none the worse for the incident. However, some short time after, the matron of this hopeful group chanced to lose a tooth; and she, being a superstitious sort of body, did not wish Obi to lay his ugly paws upon it for fear he should do her an evil. Obi, as every one knows, makes an invariable point of injuring any one who is foolish enough to leave his teeth about. And to bury it (which is the usual plan) implied waste, the which is abhorrent to frugal

space with a piece of dried snake-skin. 'There, my son,' said she, to her dusky youngest-born, who was basking in the sun, dozing dreamily, 'here's a rattle for you.' The child took his new toy, tried it, and then, with the perversity inherent in every human nature, attempted to make something else out of it. There was a piece of string stretched across the skin. Idly he shoved a twig under either end, raising the string from the surface. Then he twanged it. This amused him, so he twanged it some more. And he continued at it mono-

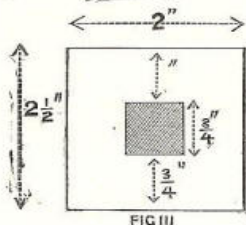


tonously and mechanically; deriving a pleasure therefrom which only a small child could appreciate. Indeed, paterfamilias became quite annoyed after this one note had been dinned into his ear some half a million times; so he took the instrument away and tried it himself.

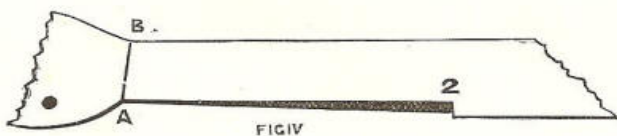
"Hullo! by pressing the string down in the middle it makes a different noise!"

"That man became a benefactor to his tribe. He invented the banjo."

Such is the gist of a legend that an old crone (an Obeah woman, they called her) told a group of exiled Africans who were one



night sitting moodily round a fire on a New Orleans sugar plantation. All negroes are musical, and the idea struck them as good. And so the banjo was remade in America, though for a long time it was monopolised by the children of Ham. Their white masters would have none of it. But with anti-slavery societies, slaves' amusements began to be thought about, and the "jo" first came into notice. With rapid strides it improved in form. First a wooden hoop, and then a metal one; first a rough skin for the drum, then the best parchment; first nails to hold it on, then neatly-made tension-screws. At one time the strings were made of anything that came handy, now they are formed from the "intestines of the agile cat." And so with its popularity in Great Britain. It is not very long ago that the first Ethiopian serenaders were "all the go" in London, and even to-day I believe there are still benighted people who associate the banjo with them. But to those who have any qualms on the subject, and dread being classed with "cavaliers of the corky countenance," let me say that the



"first gentleman of the kingdom," his Royal Highness the Prince of Wales, has set the fashion, and, *ergo*—if, indeed, for no other reason—the banjo is destined to be "the correct thing."

So much for an *apologia pro vita sua*; now to descend to personalities, as the burglar said when he called his victim a timorous idiot after robbing her. You want a banjo; you have not enough hard cash at your disposal to purchase one; or you wish to have a more vested interest in your instrument than mere money will buy. Very well, then. First gaze with attentive mind on the very best banjo you can set eyes on, and then just con these columns and see if you cannot contrive to make one like it.

Journey to a cabinet-maker's and ask if he has any walnut. He'll say yes. Then inquire if it's seasoned, and he will promptly assure you that he hasn't a slip of green wood about his shop. Nevertheless, impress on him your urgent need for dry timber, and, having eased him to think you are about to purchase his whole stock,

watch for him to faint when you meekly order a piece, free from knots, and of two inches and three-eighths by two and a half inches by two feet. Then get two planed-up pieces of one-eighth of an inch ebony planking: one two inches and one-sixteenth by eighteen inches and five-eighths; the other two inches and five-sixteenths by five inches and a quarter; and retire to the privacy of your own workshop. Lay the oblong block of walnut on the bench and contemplate it. That is to be the banjo's handle, so plane the narrower side dead true, and test its accuracy by every means in your power, and be not content till it is perfectly even. Measure off eighteen and a half inches from one end, and, with the help of the square, draw a line across (A B, Fig. 1). Next roughly plane one of the adjacent sides, and draw A F C again squarely across. Next find D (a point half an inch distant from E on the end); join A D and draw E F parallel to it. Now measure off from M, M H, and M R, of one inch and one-eighth and four inches and three-quarters respectively, and make R G an inch and a quarter long. Join F G, and sketch in the curve G K as marked in the figure.

All this may sound a trifle complicated, but really it is very simple.

The next job is to cut away the parts that are shaded, and if you have access to a big carpenter's shop, where they have a band-saw, I should advise you to save yourself trouble, and get it done for you. If, however, you wish to be independent and do everything for yourself, take care that your saw cuts accurately in a line vertical to the marked surface. Plane the upper surface of A D.

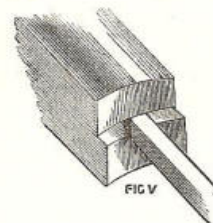
Supposing, then, that so much has been done, let us start marking out the upper surface. The width, when finished, at the "nut" (whereof more anon), whose position is indicated by the straight line A B, is to be one inch and three-sixteenths, so chalk it down and see that it falls amidships. The other end of the handle—the hoop end—must be two inches; mark this too, and rule lines joining the marks, as in Fig. 2. Next sketch in the head, taking care that the two sides balance accurately. A little india-rubber will remedy deficiencies in the pencil drawing, but wood once cut away

cannot be replaced; remember that. Having done this, cut away the parts shaded (Fig. 2), remembering to keep the edge D E, etc. (Fig. 1) square with A R, and *not* with A D, and then commence to pare down the under side, making it nice and round, yet taking care not to trespass on the upper

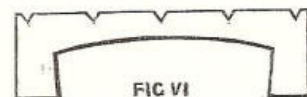


side, or the part above the nut. This latter portion may be touched up with a file, and in fact, after the rough corners have been taken off with pocket-knife or spokeshave, the same instrument is best suitable for finishing the remainder of the handle. But I do not want you to do more than get it roughly into shape yet. There are other things which must precede the final finish-

ing. First, a rod must be inserted into the bottom end of the handle to connect it to the hoop. You cut a piece of wood E F G K (Fig. 1) from the original block, which is now—or ought to be—lying idle. Shape from it a stick, twelve inches and three-quarters by three-quarters of an inch by five-eighths of an inch when planed up, and after making a hole one inch deep in the bottom end of the handle and in the position indicated by the shaded part in Fig. 3,



fasten it in tightly with glue. Then proceed to fix the ebony on the upper side of the handle. This must be done with glue, hot and thin, like the tea at a school-treat, and the parts must be tightly tied together with string to ensure perfect union. There will be a little space left at A B, but don't be alarmed—the nut will go there. And whilst the glue is hardening you may as well make this said nut. Get a tooth-brush with a straight handle—one that is moulting is quite good enough—and file away the ivory (or bone, is it?) till you have a piece three-



sixteenths of an inch by an inch and a quarter by a quarter of an inch, with one of the three-sixteenths of an inch edges slightly rounded. In this rounded part cut with a fine saw two transverse nicks, each three-thirty-seconds from the edge. Divide the intervening space into three equal portions, and at the two divisional points make two more gaps, thus having four in all. When the glue which holds the ebony is firmly set, file out a neat bed (A B Fig. 1) for the nut to rest in, fix it with glue or cement, and then proceed to cut down the overhanging ridges of the hard wood facing flush with the walnut. Next measure off from A (Fig. 1) a distance A Z of six inches and three-quarters, and make at right angles with the upper edge a neat nick one-eighth of an inch deep with the saw. Fig. 4 shows this plainly, and part is shaded to signify that it must come away. Now mark off on the bar which projects from the end of the handle, half its length, place one leg of a

pair of compasses there, and the other leg at one of the nearest corners of the under side, both being, as you will observe, equidistant. Describe an arc of a circle, and repeat the process to the upper side, only making the arc a quarter of an inch farther inboard. Cut away the parts thus marked. A reference to Fig. 5 will make this perfectly clear.



Next journey to the other end of the handle, and mark out on the upper side the four dots which will indicate the position of the pegs—which, by the way, you had better buy. The holes must first be drilled with the centre-bit (taking care that they are considerably too small for the pegs) at right angles (Fig. 1) to D A, and not to R A. Another thing: do not send the bit completely through, but bore from both sides, otherwise you are liable to splinter the wood. One more hole must be made at Y (Fig. 1) for the reception of the thumb-string peg, and then all five have to be "tapered." This can be done either with a "rimer" that will fit the centre-bit, or more slowly with a rat's-tail file; but with either method great care must be taken that the protruding parts of the peg are symmetrical.

Now you may set to work with file and sandpaper to finish up. Use the eye freely to see that the sides balance each other, that the curves are unbroken by unsightly and unintentional protuberances, and grind the surface down as smooth as a looking-glass. When you are firmly persuaded it will come no finer, well rub in some linseed oil, and apply your oldest, finest, and most worn sandpaper again. Now see the difference! Repeat the oiling and rubbing. Still an improvement. Get some French polish—a pennyworth will be ample—put a little on a rag, and rub that on. Scrub till your arms refuse to work any longer through sheer weariness, but be heedful not to administer an overdose of the polish on one spot at one time, or you will get a caking of shellac which is both unsightly and unpleasant.

Supposing now that you have the handle as shiny as a new top-hat, we will proceed to put in the frets. The style known as "raised" are mostly used on the other side of the Atlantic, so I should strongly recommend them. The fretwires, a set of sixteen, must be bought, and trimmed down to length with a file. To find out the position they will occupy you must go through the following operation. Measure out carefully on paper the distance between the nut on the handle and the bridge, which is nine inches below the bottom of the handle. Divide this space into eighteen parts with a pair of dividers, and mark off a distance from the nut equal to one of these parts. That will be the position of the first fret. From this point, measure to the bridge again, subdivide into eighteen, and mark

off this new division below the first, and so on for the whole sixteen. Thus each fret is shorter than its immediate predecessor in a definite proportion. To put them into the handle, grooves must be sawn, with a tenon-saw of such thickness that the gaps it makes receive the wires so tightly that force is required to drive them home. One more little thing, and the handle is finished. Above the fifth fret there is a small space left to receive the nut for the thumb-string, and there you must let in a little peg of toothbrush-handle (beg pardon, ivory I meant), with a nick at the top to catch the gut.

And now for the hoop. If you be wise, and have no pecuniary objections to such a course, you will buy one, as it is impossible for an amateur with the limited supply of skill and tackle usually at his disposal to hope to make successfully an article whose manufacture is almost a trade to itself. Of course the quality varies with the price paid; but, if possible, obtain one in which the vellum of the head is to be strung over metal. That is the chief secret of clear and ringing tone. However, if you are clever enough to make the hoop yourself, minute details on my part would be superfluous; so I will merely state that a hoop of oak ten-and-a-half inches internal diameter and two-and-a-quarter inches deep, is covered with thin sheet-brass, with the edges turned down over wires. A ring of stouter brass half an inch deep fits loosely

over the outside of this and in company with a ring of wire, all the metallic parts being if possible nickel-plated. Brackets and screws, too, you should certainly buy. They are made chiefly by machinery, and any attempt to manufacture them at home for a less price, except at a terrific expenditure of labour, would be futile. Moreover, you must get a vellum head, a tension tailpiece and a screw, and a perch-bracket.

Having obtained all this gear, proceed to satisfy yourself that the projecting-rod at the bottom of the handle fits neatly into the holes provided for its reception in the hoop, and then set to work putting on the vellum, which will probably irritate you for two hours, so don't be disgusted if it doesn't jump on automatically in a couple of minutes. Balance the stiff parchment over the top of the hoop, and press the wire over it. Next force the edges up—still keeping the wire down—and gradually work the narrower hoop down over the other; hitch on the hooks, and screw home. It sounds simple, but, as I remarked, it is tedious work, as you will find by experience. If the worst comes to the worst, you may moisten the edge of the vellum with a sponge, but only attempt this as a last resort.

Now slip in the handle, fasten it with tailpiece-screw and perch-bracket, make a bridge (Fig. 6) out of cigarbox-wood, put in your strings, tune up, and set to work.

