GOLD-FISH, AND HOW TO MANAGE THEM.

(*Illustrated from Photographs by* CLARKE & HYDE.)

Most boys have at some time or other kept or attempted to keep an aquarium, yet in all probability they have not the remotest idea whence come the enormous quantities of gold and silver fish that are to be purchased for a few pence in every town in the country.

Gold-fish were originally imported from China in the seventeenth century, and were possessed of a curious double tail. This four-tailed variety was and still is highly prized by the Chinese and Japanese, some strains of these remarkable fish having pedigrees as carefully registered as those of

At work at Gay's Gold-fish Farm.

In the North of England mill-dams innumerable are to be found in the manufacturing districts; in many of these the water is maintained at a tepid temperature summer and winter alike by the discharge of steam and warm water from the engines, and in this tepid water gold-fish thrive and grow with great rapidity. However, the

Spawning-tank.

rearing of young fish in warm water renders them more delicate of constitution than those reared in natural ponds or streams.

There also exists at Sunbury-on-Thames a unique farm devoted to the hatching and breeding of these handsome ornamental fish. The methods adopted are carefully studied so as to reproduce natural conditions as nearly as possible.

blood horses or prize fowls. Moreover, a genuine pedigreed Chinese four-tailed gold-fish is credited with being the most expensive living thing on earth, judged from a price-for-weight standard.

Since their introduction into this country, however, intermingling with native fish—carp, tench, and so on—has caused the curious double tail to disappear, though some of the original type are still to be obtained, and are not freaks, as some people suppose, but a distinct type!

Loading Tanks ready to be sent abroad.

Mr. Gay's fisheries at Sunbury will be found an interesting place to visit. As seen in one of our illustrations, there are eight distinct ponds, each fed by a small jet of water, and with no artificial covering at all; the fish thus being exposed to the inclemencies of the weather in a natural manner acquire a hardy constitution in early youth that stands them in good stead in later life.

The fish in each pond are all of the same age. On leaving the breeding-tanks the fry are placed in the first pond near the house, and each succeeding year are promoted to the next pond.

Large or small quantities of fish of any required age are despatched daily by rail to all parts of the kingdom—in fact, the distance which they can be sent in the specially constructed travelling-tanks is remarkable, consignments bound for South Africa being despatched almost daily; and, on the occasion of the writer's visit, some fish that were going all the way to New Zealand were being taken from the ponds and were expected to arrive in good condition after the voyage.

To those who possess or contemplate the keeping of an aquarium, a few words of advice from the man responsible for this unique industry should be of interest.

The most important item in the successful keeping of the fish, either in the open air or in indoor aquariums or bowls, is to see that they have a constant supply of fresh water, running water if possible; if this cannot be arranged, then the water should be changed three times a week.

Most boys who have a bowl of fish for the first time will effect this change of water by nearly draining off their bowl and then filling it up again from a tap or jug. This method is wrong, and is the cause of the death of innumerable fish. The reason is extremely simple and obvious when you come to think of it. Gold-fish, like human beings, are susceptible to the effect of a sudden chill, more especially those bred in tepid water. Now, the water in the bowl in which they have been swimming has naturally been warmed to the same temperature as the room in which it stands, and has been, moreover, exposed to the atmosphere, whereas the water with which it is replenished is generally drawn direct from a tap and is much colder. The sudden change in quality and temperature gives a violent shock to the

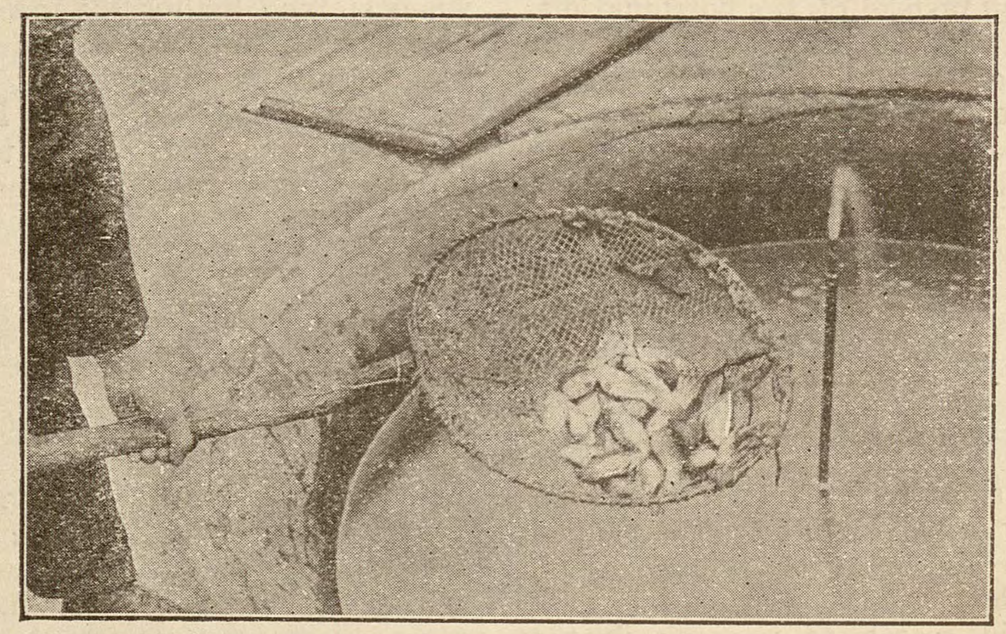
fishes' systems, and if persisted in will kill all but the hardiest.

Improper feeding is also a prolific source of death to fish in captivity. On no account should they be given bread-crumbs; ants' eggs are the best and most natural food, and they can be readily purchased; in addition, a little finely chopped meat may be given.

A disease that gold-fish are especially liable to is fungus. This must be watched for, and can readily be recognised, for the tail part of the fish presents a fluffy appearance. A fish so affected will soon contaminate all the others if allowed to remain with them. The cure is simple. Immediately the fungus is noticed, remove the fish with a small net; they should on no account be touched with the hand unless absolutely necessary. Having captured the finny patient, if it is a small one, lay it on a bed of clean dry silver sand, its struggles will effectually remove the fungus; but if it is a large one, lay it carefully upon the hand and wipe off the fungus with a wad of soft cotton-wool. Having done this satisfactorily, release it in a bowl apart from the healthy fish and add a few drops of Condy's Fluid to the water, and in a few minutes fill the bowl again with clean water.

The affected fish should be carefully examined for a few days for any sign of the recurrence of the malady, and on no account replaced with the others till the cure is ascertained to be permanent. In some bad cases it is necessary even to trim the tail with a sharp pair of scissors; this must be done gently and carefully; the tail will grow again, but this treatment should not be resorted to if it can be avoided.

Many boys, of course, like to keep in their aquariums the fish that they catch themselves in ponds and rivers. A large variety will be found, such as carp, roach, dace, eels, minnows, etc., that are suitable; however, care must be exercised in the choice of inhabitants, otherwise the voracious will devour the weaker ones. Jack are notorious in this respect, and must not be placed with other fish. Minnows have a habit of leaping out of the water, and so, if they are to be preserved, a cover of some sort, wire-gauze for preference, must be placed over the top or they will be found on the floor instead of in the tank.



A Net full of the little Gold-fish.

A suitable place for the aquarium is imperative. Fish will not live in dark corners, but must be placed as near the window as possible, if in a room. Their surroundings should be made as home-like as may be by the introduction of water-weeds. Small water-beetles and water-snails may also be inserted, as they keep the tank clean and prevent the formation of the unsightly scum seen in so many amateurs' fish-tanks.

Provided hardy fish are secured at the outset, and these simple directions are followed, the fish will be a source of delight for years, the average life of a gold-fish being about eight years, though they have been known to attain the mature age of twenty, even in captivity.

THE BOY'S OWN WORKSHOP.

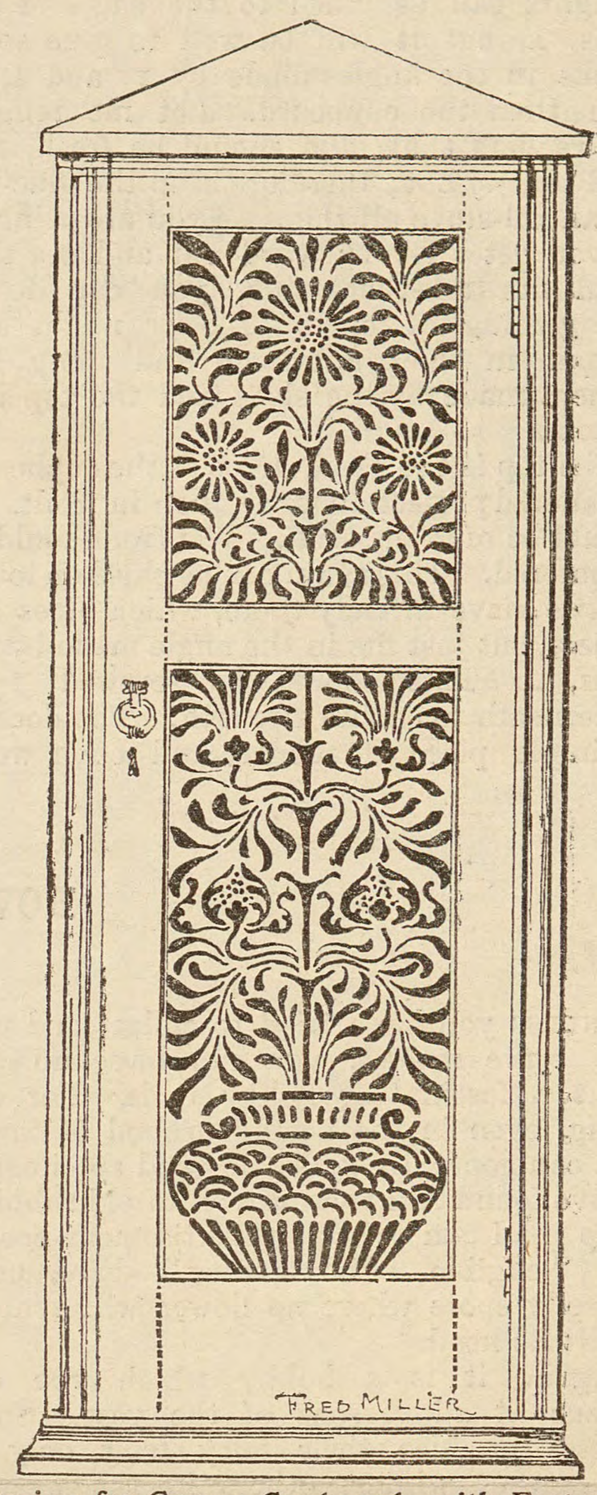
By Fred. Miller.

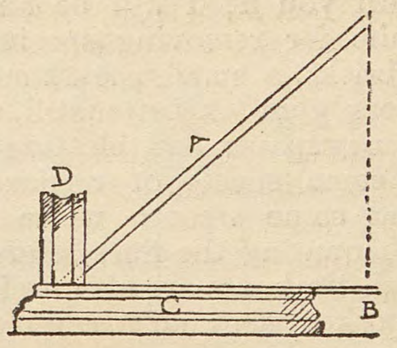
HOW TO MAKE A CORNER CUPBOARD FOR BATS OR GOLF-CLUBS WITH FRET-CUT PANELS.

It is hardly necessary to say much with regard to the making of the corner cupboard, but for the sake of those who have never tried to make a piece of angle furniture we will stay for a few moments to consider one way of planning such an article. We first get out the sides, and as our cupboard is tall and narrow we can get wood wide enough for the back without joining. A plan of the cupboard is given which will help this description. The sides, A, form a right-angle and one piece therefore can butt against the other, but if we are going to make a good piece of work, then they should be dovetailed. If not, then screw them together with fine screws, as nailing should be left, as a rule, to packing-case makers.

Now get out two triangular pieces shaped to the plan of the bottom of the cupboard out of $\frac{3}{4}$-in. stuff. Be very accurate in marking and cutting out these pieces, as our back has to be screwed to them, and therefore the shape of our cupboard depends upon these triangular-shaped pieces. When these are ready you can glue and screw your back to them, *flush* in both cases with the ends of the sides. The height of the cupboard is a matter of choice and must be regulated by the uses to which it is to be put.

As the sides, A, have to come against the uprights, D, they must be planed to such an angle as will make them square with the front, B, which is a strip of wood about 3 in. wide and same thickness as that used for the back, which is glued and screwed to the bottom and to the sides. The moulding, C, is afterwards glued to B, and to ensure its permanence it will be well to screw it through from the back of B. The uprights, D, are indicated as mouldings, and as mouldings of all kinds are easily purchased at a small cost I think it would be worth while buying enough for the plinth, C, and two uprights, B. Those who have a "reeding" plane could reed some pieces instead of buying the uprights, or some of my readers may have the necessary plane to make their own mouldings, but few joiners now do this, as machine-



Design for Corner Cupboard, with Fret-cut Panels.

Detail of above.