

How Goldleaf is Made

The art of the goldbeater is one of the oldest handicrafts in the world, and among those which have changed least. Much of the decoration of Solomon's Temple is believed to have been covered with gold-leaf, hammered to the requisite thinness by hand, as it is to-day.

The goldbeater receives his material not in the form of the 60-dwt. ingot in which it is cast, but in the form of a ribbon about 1 in. wide and 24 ft. long.

The ribbon is first cut into 200 squares and placed in the 'cutch,' which is a pile of square pieces of a peculiar paper, part animal and part vegetable in composition, the preparation of which is a secret. The best cutches are made in London. A square of gold is placed between each two leaves, and the whole mass is ready for the first beating.

This is done with an iron hammer, weighing from 12 lb to 17 lb, while the cutch rests upon a granite block, which is supported by a heavy wooden post.

Under the heavy, measured blows of the hammer the sheets of gold begin to stretch, or expand until, in half or three-quarters of an hour, they have reached the edges of the cutch. They are then removed, and with a thin strip of bamboo are cut into quarters, so that the 200 pieces become 800. Next comes the 'shoder,' a collection of 800 pieces of skin, 4 in. square, made from the intestines of cattle. As in the cutch, each piece of gold is placed between two leaves of skin, and bands of parchment or vellum are slipped over the whole pile to keep it together.

Another beating, this time with a hammer weighing from 8 lb to 10 lb, now follows. This takes about an hour, during which the sheets of gold are all the time expanding.

The last stage is the 'mold,' which, like the cutch, and the shoder, is composed of alternate leaves of gold and skin; but the mold is about 5 in. square, and made up of goldbeater's skin. The preparation of this is a jealously guarded trade secret.

The skin, like that in the shoder, is made from the intestines of the ox. It is translucent, and not unlike rawhide in color. Although it will stand continuous beating without breaking, it will tear like a sheet of thin paper. The making of a single mold requires the intestines of 500 bullocks. Between each two beatings the skin is rubbed with baked and pulverised gypsum.

A mold contains 1000 sheets. After the second beating the workman takes from the shoder a single leaf of gold at a time, handling it with bamboo pincers, and, when necessary, smoothing it with a rabbit's foot. With the strip of bamboo he cuts each sheet into quarters again, so that the original 200 have now become 3200. One shoder, therefore, contains more than enough gold to fill three molds.

The final beating, in the mold, is done with a 7 lb hammer, and requires from three to four hours. By this time the gold leaf should have expanded again to the edge of the skins, and should be of the requisite thinness, which is determined by holding it up to the light. If it transmits green rays it is done, and will measure about 280,000th of an inch in thickness.

The hammers used in beating gold are slightly convex on the face. The art of the workman consists in so striking that the gold will always be thinnest in the centre. He must pound with evenness all over the square in order that the sheets of gold may expand without losing their form; but at the same time

he must keep the thickest part near the edges, so that when the sheets are finally trimmed to size, the thicker portions may fall in the waste, to be recast. No machinery has ever been devised which will do this successfully.

The tools of the craft are interesting and peculiar. The rabbit's foot is exceedingly soft, and just oily enough to prevent the gold from sticking, and the bamboo pliers and cutting slips are the only things with which it is possible to do this delicate work. The gold does not adhere to the fibres of the reed as it does to steel.

The goldbeater performs all his work standing. The use of the heavy hammers in such continuous pounding would, one would think, impose an almost intolerable strain upon the hands and arms. The men say, however, that their arms never ache. The only place where 'it catches them' is in the bend of the knee.

The lack of strain upon the arms is accounted for by the fact that the hammer rebounds. It is an astonishing but by no means a rare thing to see a goldbeater change hands while the hammer is in the air, and without losing a stroke.

At the time of the census the bacon-curing establishments were 52 in number, employing 224 hands; against 39, with 196 hands, in 1900. There is a steady increase observed in the value of the output, the figures being £86,022 for 1895, £159,564 for 1900, and £253,937 for 1905. The business done in bacon now amounts to 56,831 cwt, besides which there was a large output of hams and lard.

What is known as the Mount Royal sticking-up case has had a most extraordinary sequel (says the *Palmerston South Times*). About six weeks ago an employee at Mount Royal Station informed Constable Hilliard that on the previous evening he had been waylaid by two men on the Mount Royal road and robbed of his watch and chain. After spending a day in investigating the matter the constable came to the conclusion that there was nothing in the affair. His enquiries elicited the fact that the victim of the alleged robbery was intoxicated, and was escorted home by two residents of Dunedin, who were camped near the Goodwood Railway Station during the holiday. Constable Hilliard interviewed the two men, and while they admitted that they had assisted the informant part of the way to Mount Royal, they stoutly denied having seen his watch and chain. On Thursday last a young man named John Dwyer was fishing near the Goodwood Railway Station, when he captured an immense eel, and on opening the fish he was surprised to find a watch and chain in its stomach. The articles were handed to Constable Hilliard, and as the chain consisted of a collection of Italian coins, it was at once identified as the one alleged to have been stolen from the Mount Royal man six weeks previously. The eel was captured in a large water-hole close to where the two residents of Dunedin, previously referred to, had camped. The original owner of the watch and chain left the district some weeks ago, and the police are enquiring as to his whereabouts.

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