

ORBOST & DISTRICT HISTORICAL SOCIETY Inc.

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NEWSLETTER

No. 139 July 2017

FROM THE COLLECTION

SCALES

AND



BALANCES



Anubis - Guardian of the Scales

Here is the balance used by the Egyptian god Anubis to weigh the hearts of the deceased and decide which were worthy of entering heaven.

The "weighing of the heart," from the book of the dead of Hunefer.

The balance is the oldest, real, measuring instrument.

Balances have had a strong symbolic significance in many civilizations.

In ancient Egypt, the God Anubis was frequently depicted with a set of scales on which he weighed a deceased person's heart against the Feather of Truth. The feather represented "Ma'at" or truth.

If the scale of justice tipped toward the heart, the dead person would be consumed by Ammit, a female demon whom the ancient Egyptian people dubbed "devourer of the dead."

If the scale of justice tipped toward the feather, Anubis would lead the decedent to Osiris so he could ascend to a worthy existence in heaven.

In our collection we have a wide range of weight-measuring devices – scales and balances. They are diverse in their intention, usage and age. However, all are immediately identifiable as instruments for the purpose of determining an object's weight.

With the exception of the sovereign scale, all can be adapted for measuring a variety of objects and so, often the original purpose was lost.

FACT

The term 'scale' as in 'weighing scale', originates from words like 'skal', 'scala' and 'schaal' that mean 'bowl' and 'drinking cup' in several different languages from the 1200's and earlier.

BALANCE SCALES

Balancing weighing scales have been used for thousands of years to measure objects. A balance scale has a balanced beam and two pans. When the pans contain exactly the same mass the beam is in balance. A standard weight is used for comparison.

Even though the basic balance scale has been around for thousands of years and its accuracy has improved dramatically over the last several centuries, the principle behind this tool remains unchanged. At the beginning of the 19th century, only tradesmen would have owned a set of balances.

This is our oldest balance scale and has an interesting history.



gold assayer's scales

***Circa 1850's. Made by W. & T. Avery, England.
Donated by Estelle McKenzie.***

This is a very sensitive balance used in the assaying of gold, silver, etc. The scales are comprised of two circular brass pans suspended via brass chains to a metal balance.

These scales were used in the Tarnagulla area of Central Victoria by Albert Charles Nicholls, who was a licensed assayer. These scales were for the preliminary assaying of gold.

This information comes from David Gordon who wrote the series "Tarnagulla's Golden History" and administers the Tarnagulla web-site.

"The Nicholls family were very well known and highly respected at Tarnagulla in the 1800s. Albert's father, William Nicholls, was a leading figure in the gold mining community, and he both managed and owned quartz processing facilities for decades. He was probably the leading mining expert at Tarnagulla in a town full of mining experts, and it was said that no man at Tarnagulla had handled more gold over the years than him. (think in terms of tons of gold!) I would imagine the assaying equipment was probably passed in due course by William to Albert Charles.

There are records of Albert Charles mining at Tarnagulla with his father as a young man, but AC apparently came down to the city when the gold began to fade. There are records of him living in Kew up until his death in 1932. He was employed as a draper for a long period."

FACT

The weight of a Carat (200 mg), standard unit of measurement for gemstones, is based on the weight of the carob seed, which was once used as a weighing standard by jewellers in Africa and the Middle East.



Large metal baby scales and weights with attached white cane baby basket.

It is slightly chipped and rusty.

A scale with a cane basket and sliding metal weights for lbs and ozs on two separate scales. This scale is worked on a beam balance principle. The weight of the baby compresses the mechanism. A known weight is placed on the end of the beam and the fulcrum point is adjusted to measure the baby's weight.

Many Orbost babies were weighed on these scales in the early 1920's.



Two steel, circular 10lb weights used with these scales at Orbost Hospital. They are gold painted.

FACT

Mass and weight are two totally different things. Mass is the actual amount of matter that is contained in an object. Weight is the gravitational force that is pulling on an object.

The earth's mass is 5.9736×10 to the power of 24 kg. (six trillion trillion) kg.



A brass sovereign and half-sovereign balance and its cardboard case. The case is principally red and pulls apart in the middle.

From Mrs Frank Richardson

These items are examples of items no longer in common use, as sovereigns were once unique in that they had no denomination, or currency value printed on the coin. Its value was tied to the value of gold.

Current sovereigns are struck in the same 22 carat Crown gold and copper alloy as the first modern sovereigns of 1817. Alloys are used to make gold coins harder and more durable, so they can resist scratches and dents during handling

The sovereign is a gold coin of the United Kingdom, with a nominal value of one pound sterling. Prior to 1932 it was a fully circulating coin within Britain's then Gold Standard currency.

A sovereign balance, or sovereign rocker, was used to check that the weight was adequate, that the thickness and diameter were not excessive, and that the shape was a good circular cylinder.

Half sovereign minted in Sydney -1914



Sovereign Balances



This one was donated by Jean Snow.

This sovereign scale was made in England in the early 19th century.

These balances measure

90mm X 20mm - small enough to be easily portable.

U.K. sovereign 1894



Another Balance in Our Collection



A set of beam balance scales in a wooden framed cabinet with glass windows on all four sides.

Made by Griffin & George Ltd, United Kingdom

This item was used by students at St Joseph's School.

The front is a vertical slide which opens to allow access to the scales. It is enclosed so that dust does not collect and so any air currents in the room do not affect the balance's operation.

The scales have one fixed leg and two adjustable legs for accurate levelling.

The balance is a comparison instrument. It compares standard or known weights placed on the left-hand pan to unknown samples or objects placed on the right-hand pan.

It is used to measure masses – mainly chemicals or liquids - very precisely; the reading error is 0.05 gram.

SPRING SCALES

A pocket scale – also known as a **spring scale** – is simply a spring fixed at one end with a hook to which an object can be attached at the other. The object to be weighed is hung from the hook and the force that this weight exerts on the spring is proportional to the distance that spring is extended (Hooke's Law). The scale markings on the spring balance identify the mass accordingly. A spring scale cannot measure mass, only weight.

The pocket balance was first created in 1770 by Richard Salter in the UK. From the late 18th century onwards these little scales were widely used in markets, grocers and farm shops – wherever people needed to be able to verify the weight of goods to be purchased in order to calculate the correct pricing. They were portable, quick and simple to use and thus were ideal for weighing goods where pinpoint accuracy was not required e.g. weighing freshly caught fish.

Spring Scales in Our Collection



Donated by Mrs K. Macalaster.

These scales were probably made in the late 19th or early 20th century. They were most likely made in Germany.

These two spring scales are examples of Mancur balances, the spring being a "C"-shaped band of metal (usually steel). The object to be weighed is suspended from a hook below the "C" the scale is suspended from above causing system of levers to move a pointer opposite a calibrated scale.

They were used for rough weighing on farms, in kitchens, on hunting trips. Large numbers of Mancur scales were made in America and Europe during the latter half of the nineteenth century, and they were generally used by farmers. Of all the pieces of old weighing equipment which turns up, from time to time, the so-called Mancur balance is the one most frequently "discovered".



This scale was donated by Billy Blackmore.

Who was Billy Blackmore?

(From John Phillips)

Billy Blackmore was born at or near Richmond, Victoria. At age 26 he joined the A.I.F. in WW1 while he was employed at Orbost as a labourer. He served in Egypt and France until following his discharge on December 20th 1916; he transferred to 15th Machine Coy in January 1917. He was severely wounded, repatriated to England until after an operation and further hospitalisation returned home to Orbost.

In Orbost he did farm work for George and Elizabeth Trewin, eventually building a small shack on what was Rupert Leatham's property at Brodribb.

He fossicked for gold in a nearby creek and the story goes that he buried his coins around the property.

Perhaps he used these scales on his fossicking expeditions.

This pocket spring scale is made of steel. There is a spring fixed at one end with a hook to which an object can be attached at the other.

At the top of the scales there is a metallic ring to fasten the object. This is attached to the main body which on one side has measurements inscribed into the metal surface. Inside the body is a spring loaded mechanism which moves along the scales when weight is added to a hook at the bottom of the shaft.



This is a 1920's pocket scale - 170mm long

It is an ARROW brand possibly used for weighing fish.

Because it is spring loaded, the accuracy would fade over time especially from over weighted loads.

Spring scales are still fairly common today because they are very cheap to make and easy to use. It was not until the late twentieth century that they became accurate enough for widespread usage.

However, they are still not quite as accurate as the electronic systems designed and perfected during the 20th century.



FACT

Lady Justice is most often depicted with a set of scales typically suspended from her left hand, upon which she measures the strengths of a case's support and opposition. The personification of justice balancing the scales dates back to the Goddess Ma'at, and later Isis, of ancient Egypt.

The scales of justice relate to fairness in the judicial process. They indicate that each side of a case will be considered in a court case. The scales also stress that decisions will be made by weighing the evidence in a fair manner. The sword symbolizes Lady Justice's authority to make decisions. She is always depicted wearing a blindfold as it represents objectivity.

COMMERCIAL SCALES

The underlying principles of the spring balance were later incorporated into the spring scale weighing system widely used by retailers. In this case, the items are placed on a tray (or platform) underneath the spring mechanism and the pressure exerted (expressed as weight) is shown by the position of pointer on the numbered dial.

A large set of commercial scales painted white. The measuring scale gives the weight in pounds and the price per pound. There is a brass plate with NO A572/19951 W. & T. AVERY LTD.

These scales were in the Dicken building in Nicholson Street, Orbost. Frank B. Dicken and his son, Selwyn, were General Merchants.

Frank and May Dicken moved to Orbost in 1936 where Frank became manager of Pardew Brothers store in Nicholson Street. In 1945, Frank purchased the business and in 1947, formed a partnership with his son, Selwyn. The store was then called F.B. Dicken and Son. The premises are still retained by the Dicken family although the shop business was sold in 1981. (ref. *In Times Gone By* - Deborah Hall)

W. & T. Avery Ltd. is a British manufacturer of weighing machines. The company was founded in the early 18th century and took the name W & T Avery in 1818. Today the company is known as Avery Weigh-Tronix.



“White Knight Scales - British Made Scale Co Ltd Truly Level”

Mystery Scale. Do You Recognise It?

This item has been described as: “A set of cream scales with a metal base and a copper swinging weight. It has an aluminium dish on top.” It was donated by Judy Walcott and there are no other details provided.

It looks very similar to a letter scale – a letter/postage weighing scale (see below left).

Was it given a different pan and used for weighing cream? Cream for what?

