

FULCRUM is the newsletter of ISASC(E), the International Society of Antique Scale Collectors (Europe). It is published in February, May, August and November. Contributions should be sent to the Editor, John Knights.

Down the Pan

In the last edition we looked at the two knife edged one pan balance with its elaborate mechanisms that sought to modernise the mechanical scale. The internal array of weights, the air damping, the direct read out and the externally operated depositing mechanism allowed its use by an unskilled but not ham fisted, operator and avoided the need for loose weights. This in turn avoided the all too frequent spectacle of tiny slivers of metal pinging across the room and the subsequent panicked scabbling around on the floor to retrieve the near invisible speck (*or maybe that was just me*).



Whilst wandering around the Newark Antique Fair, I spotted, amongst the 1950's tea sets and other non-inspirational detritus that seems to infest these events these days, an

Oertling balance that reminded me that other approaches to balance improvement were happening in the 1950's and 1960's.

Some people still preferred a more conventional design of balance and thus an internal array of weights was built into certain designs of two pan balance. The large weights were still added in the traditional way. The symmetrical balance actually presented certain advantages over the asymmetrical one pan design. Because of its irregular form the single pan device suffered from a degree of variation, particularly at zero, caused by changes in air buoyancy. The symmetry of the conventional design obviated these effects. The two pan balance could uniquely be used to perform Gaussian weighing in which the load and the weights are interchanged after the first weighing, the weighing is repeated and the square root of the product of the two values gives the correct result. *Not that anyone ever actually did that of course!*

There was a third 'in between' pattern that appeared to adopt the worst aspects of the other designs, so probably never really caught on. This design had a symmetrical beam with three knife edges but only one

pan for the load. Weights were applied, by an external control, to a carrier on the knife edge where the weights pan should be. Because the load on the beam varied, the consistency of value associated with the two knife edged one pan balance was lost in this design but the lack of symmetry meant it was still susceptible to variability at zero caused by changes in air density.

Of course with the overwhelming success of the electronic balance, the one pan format became the only game in town and any further debate about the various merits and disadvantages has become totally irrelevant.



Here We Go Again!

In the last two editions I recounted the tale of the four stone poise that, along with the rest of the set made its way from Lincolnshire, England via London to a hotel in Tuscany, Italy.

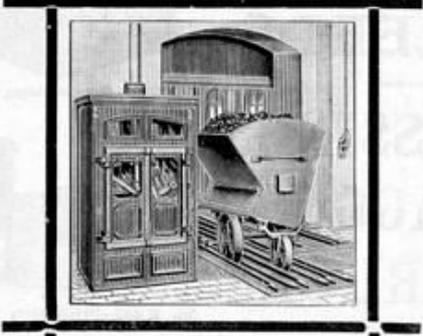
There the story might have ended but our good friend Carol Hayden, who was instrumental in the whole saga approached the gent in Italy to see if she could acquire the residual poises from the set. I'm not sure whether the stone exists as unit of weight in the USA but she clearly had a personal interest in acquiring these poises. After some negotiations, to which I was not privy, the poises, minus of course the four stone were soon on their way to Austin in Texas where they now reside on a shelf in the Hayden household. Carol is pleased with her acquisition but of course would dearly love to complete the set with the missing four stone. Thus we are now appealing to our membership to search their ironmongery to see if an iron four stone poise, see below, happens to be lurking within. If one is found and is considered surplus to requirements please let me know!



Carl Schenck?

. The early 20th century saw a strange mixture of weighing machines on the market in the UK, as depicted in the Board of Trade approvals that were published from 1905. There was a strange mixture of very traditional devices from the 19th century with perhaps a minor modification or 'novel feature' as the legislation had it, and sophisticated self indicating machines, automated packing scales and totalising devices. Whilst fiddling about on EBay I came across an interesting advertisement, taken from an engineering magazine of 1909, for a Pit Bank machine made by the Carl Schenck Co. The machine featured in the advertisement is described as a device that weighs, registers, sums up and prints, all without any human intervention.

**AUTOMATIC
WEIGHING MACHINES**
| A SPECIALITY |



**THE "SCHENCK"
AUTOMATIC WEIGHING MACHINE**

illustrated above is warranted to Weigh, Register, Sum Up, and Print the Number of Trucks Weighed, and Total Weight passed over the machine

ABSOLUTELY AUTOMATICALLY
and without any attendance or starting by hand or power whatsoever.

We have made a Special Study of Automatic Weighing Machines for over 25 years, and have supplied thousands of them to all parts of the World.

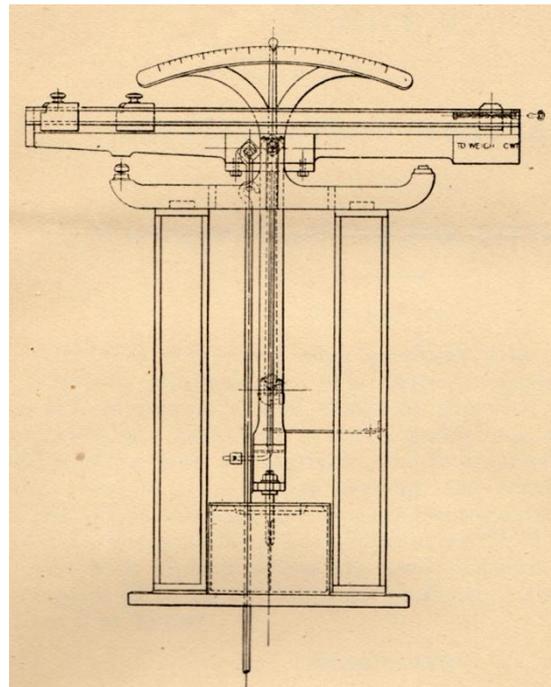
They are the most reliable machines for preventing irregularities in weighing or frauds, and attain an accuracy of about 1 per cent. of the margin between minimum and maximum net loads of trolley or skiff.

We can arrange them to weigh a trolley within 5 seconds, and they are passed by Inspectors of Weights all over the World.

The CARL SCHENCK CO. (Darmstadt)
42 & 44, MOOR LANE, LONDON, E.C.

AGENT: E. C. KOOP. D094

At about the same time we still see approvals for comparatively simple devices performing a similar purpose but which still appear to come from the age of the Spinning Jenny. Below we see another Pit Bank machine of 1906 consisting of a simple 'see-saw' steelyard on which the tare and minimum expected load values are set manually. The oscillations of the mechanism are damped by a paddle sloshing about in a water bath. The resulting



weight has to be read on a simple quadrant chart and be recorded presumably, by writing it down on a piece of paper.

In the advertisement, the Schenck Company claim to have been a major provider of fully automated weighing devices throughout the world for 25 years. This would appear to take us back to the 1880s which sounds quite impressive. At the time the company was based in Darmstadt Germany but also, according to the advertisement, had premises at 42 to 44 Moor Lane in East London.

The business was developed by Carl Schenck when he acquired an engineering business in 1863 and began to automate the manufacturing process of weighing instruments such as weighbridges. In the 1870's The German Empire was formed from the motley bunch of Teutonic states that existed before and this was also the time when the metric system was adopted in the region. The Schenck business apparently thrived in this new climate and at one time it employed one Carl Benz, who went on to invent the German motor car industry. The business still exists as a major provider of engineering products including weighing machines.

The odd thing is I have never previously come across the Carl Schenk Company. nor do their devices appear to feature among those in those early approvals in the UK.

Anybody?

Norweigh!

Yet another of my friends has taken to sending me pictures of scales from faraway places. This friend does not have a caravan but recently embarked on a cruise to Norway. During one of the periods of shore leave, that occur during these maritime sojourns, he ventured into, of all things, a Leprosy Museum in Bergen (who knew?)

Apparently leprosy was bit of a thing in Norway (the modern name for the condition is Hansen's Disease, named for Gerhard Hansen the Norwegian physician who identified the bacillus



housed in 18th century premises.

Among the exhibits is the patient weighing scale shown above. It is a 200 kg machine and appears to be of somewhat chunky German manufacture. There is a Norwegian seller's plate attached.

All hospitals keep records of patients' weights as it is regarded as an important indicator of how the health of the subject is progressing. Today of course, excess patient weight is a major cause of concern in medical circles and a great strain upon health services. At one time in the UK, person weighing machines were designed to weigh up to 20 stone or approximately 130 kg. This represented the maximum weight then expected of an individual. This has become somewhat insufficient in today's bariatric times and

in the 19th century) because of the seafaring nature of the country including the constant presence of vessels from foreign parts in the nation's ports. Hospitals were established in Bergen in the 15th century and the last one only closed in the mid 1900's. One of these establishments has now become the said museum

hospitals now have machines weighing over 250 kg (that's ¼ tonne people). It has to be wondered why they needed a 200kg scale in the Norwegian Leprosy Hospital.

Gloucestershire in the Sunshine!

Sunday 15th July was St Swithin's Day. No sign of rain, so you know what that means...In the meantime, 19 members/guests enjoyed a friendly visit to the Rural Scales and Weights Museum courtesy of John and Bobbi Wintour and old friend Mark Haines. It was a delight to meet friends old and new. The exhibits in John's museum encompass many types of scales, weights and measuring technology, and include some rarities that may well be the last of the types remaining. Deep discussions were overheard on just why one artefact was worth photographing out of a whole host of tangible examples – in my case it was the 1000 Troy Ounce weight (weighing 31.1kg) which I want to send to my New Zealand contact for visual exposition. Claus Borgelt had come all the way from Germany, and gave an illustrated talk on how he rescued a fascinating part of the Berlin U-Bahn (Metro/Underground) history in the form of more than 40 person weighing machines. These stood on various platforms in many colour schemes so that waiting passengers could pass the time hanging about for a train in finding their weight, for a small coin. The logistics of uplifting such hefty and still-functioning bits of kits from Underground stations (without lifts in some cases) were very entertaining, and became the subject of a short documentary film (available on YouTube – in German). Claus also brought fraternal greetings from the German scale collectors' society 'Mass und Gewicht' see website 'Links' for details.

The barbecue catering was just right for the long hot summer we're having, and delicious puddings made from farm apples, blackberries and other delicious produce were produced with a flourish by Bobbi, to universal acclamation.

Several people took the opportunity to trade items – from the look of the photo below, they could have been too big for the boot! And because there were more than the 10 members now required for a quorum the Society was able to continue and complete the adjourned AGM from last October 2017 for governance purposes.

All in all a Grand Day Out! Thanks to all who made the trip and especially our hosts for a very congenial occasion. *Mike Sharpe*

