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**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 Knight

### Basket Case

I seem to take quite a lot of space in this newsletter moaning about television programmes in which scales are misrepresented or grossly abused.

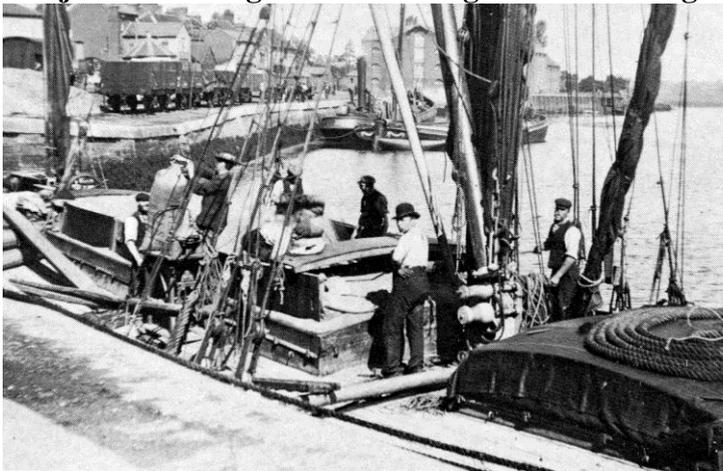


There is however one programme of the 'doing stuff up' genre where even my cynicism, honed to a rusty jagged edge by years of public service, softens slightly. The programme which appears on the BBC in the UK is called *The Repair Shop* and features people repairing broken or distressed items. The difference between this programme and superficially similar offerings is that the items in question are actually



submitted to the show by members of the public to whom the piece has some meaningful family attachment and the repairs are carried out sensitively by craftspeople who actually seem to know what they are doing. They do also seem to be genuinely nice people. In an age when obnoxious self seeking dickheads seem to dominate the airwaves, this makes a pleasant change. The format is that there is a coterie of resident craftspeople in the 'shop' who deal with most of the tasks submitted. Sometimes items requiring different skills arrive and then specialist experts are trundled in, presumably from some great 'craft mead hall' situated out the back somewhere. Most of the items are domestic pieces of furniture, clocks, toys, paintings etc which usually belonged to a much loved relative and have suffered some degree of disintegration over the years. On occasion it turns out the 'much loved' item has actually been kept in the coal shed for the past 25 years and the owner is somewhat perplexed as to why it has suffered a degree of degradation.

In one programme a scale arrived in the Repair Shop and I wondered who would appear, to deal with whatever was wrong with it. It turned out the fault related to, what we might refer to as the 'goods pan'. The machine was a midwife's counter machine and the pan was therefore designed to hold a small human rather than a stone of potatoes. It was made of wicker and as shown above was somewhat the worse for wear. Any wriggly small human placed within this wrecked container would likely be jettisoned long before the weights could be organised on the other end. The losses from



the basket had also affected the balance of the scale as, can be seen in the above top left, where the weights pan is firmly down on its back stop.

An expert wickerist, caneölogist, basketsmith or whatever the correct term is was dragged in from out the back and set to work on the crumbling container. The young lady in question was clearly very good at her job and after a degree of soaking, twisting, bending, plaiting and weaving she rebuilt the basket back to its original glory as seen in the lower left hand photograph.



The new basket was lovely but clearly too heavy, as the beam now sat firmly down on its front stop (lower right). This, I thought would soon be rectified by rebalancing the scale via the balance box attached under the weights pan. Who would be called upon to perform this simple but vital step before the machine was returned to its owner? I think you're probably way ahead of me

as of course nobody did and the scale disappeared into the night in its inaccurate condition.

### Weighing At The Wharf 1900s Style

The two photos (above left) are quite difficult to interpret, but the lower one is a close-up of the upper taken from a slightly different angle.

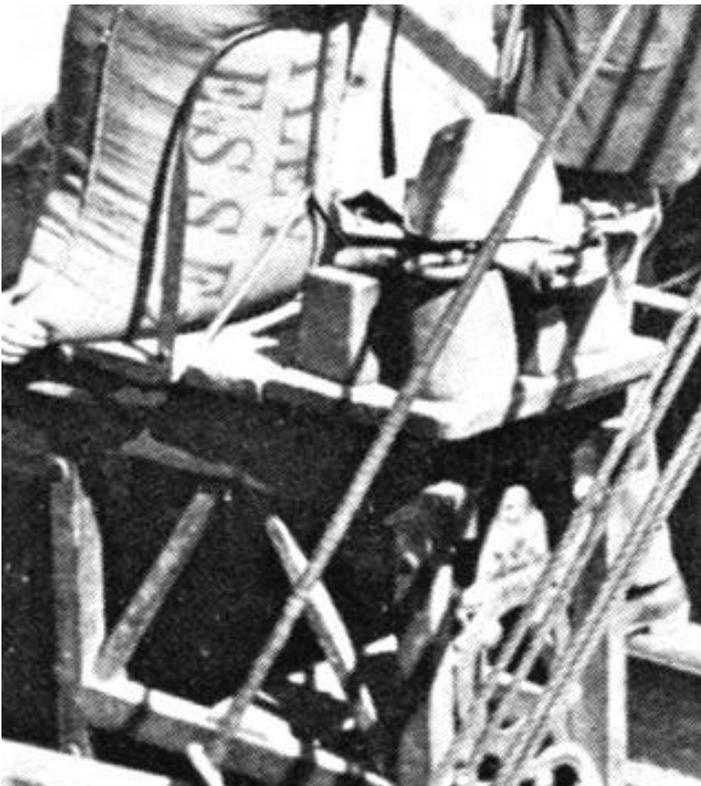
They turned up in a book I was studying for Family History purposes ‘A Mistleymen’s Log’ by Chubb Horlock, of Mistleymen, Essex (1977, Fisher Nautical Press, Hove, UK).

This is a tiny port on the River Stour, which divides Essex from Suffolk in Eastern England. Harwich, Felixstowe and Ipswich are not far away, and are enormous modern ports with international traffic.

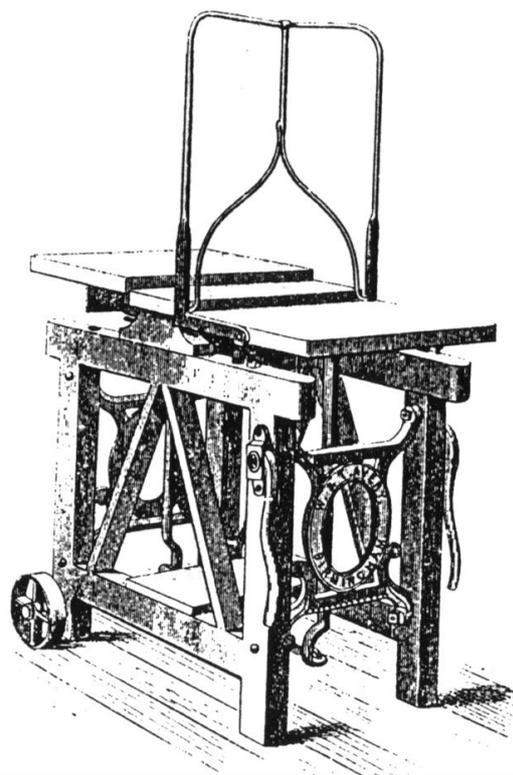
One industry Mistleymen had in Victorian times was a group of maltings, where barley and wheat grains were treated with heat and water in a factory to produce the raw material for beer, foodstuffs (I remember malt extract!) and animal feed.

The barley was grown and threshed in farms across East Anglia. One peculiarity of the early industrial landscape here was that a lot of farms were more accessible by river creek or canal than by road.

Thus there was an enormous volume of waterborne traffic using sailing barges and coasters all around the coast to London and beyond through the Victorian and Edwardian eras.



In the photos the bulk grain is being



unloaded from a 120-ton barge. The English class system was underpinned by the type of hat you wore. I therefore take the man with the straw boater to be the maltings' representative, and the barge skipper is in the bowler. One of the 'lumpers' (dock labourers) appears to be filling a sack using a wooden grain measure. It has metal handles towards the base rather than at the top. Another horny-handed son of toil holds the sack open for him and then someone has to heave the filled sack over the hatch coaming, using the hand-operated wire crane, to the scale, which is still on the vessel. Here the dandy in the straw hat stands charmingly with a piece of string in his mouth. The main interest is in the size and construction of the scale, which may well match several in John Knights' collection. It looks to be a very robust high-pattern deadweight with platforms above hip height, and there could well be 224 lbs of iron weights counterbalancing a full bag of grain. This makes 10 bags to the ton with perhaps 1000 bags per shipment. I can see the scale's wooden construction, with an end-piece in more ornate cast iron, a large metal curved sack hoop with triangular bracing, and not much else. The writing on the sack is discernible as 'Mistley, Essex'. The book identifies William Brooks and also Free, Rodwell & Co as maltings operators. Whether these scales were stock items or tailor-made locally is an interesting question.

The photos show a way of doing things that is gone forever, but which has left traces in artefacts and documents.

*Mike Sharpe*

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Mike has found two very interesting photographs relating to this aspect of river trade at the turn of the 20<sup>th</sup> century. Scales rarely feature in such photographs which usually concentrate on the boat and other technical aspects of the process. The scale is not dissimilar to the one, featured in the last edition, having the 'bejeezus' sanded out of it on a UK television programme.

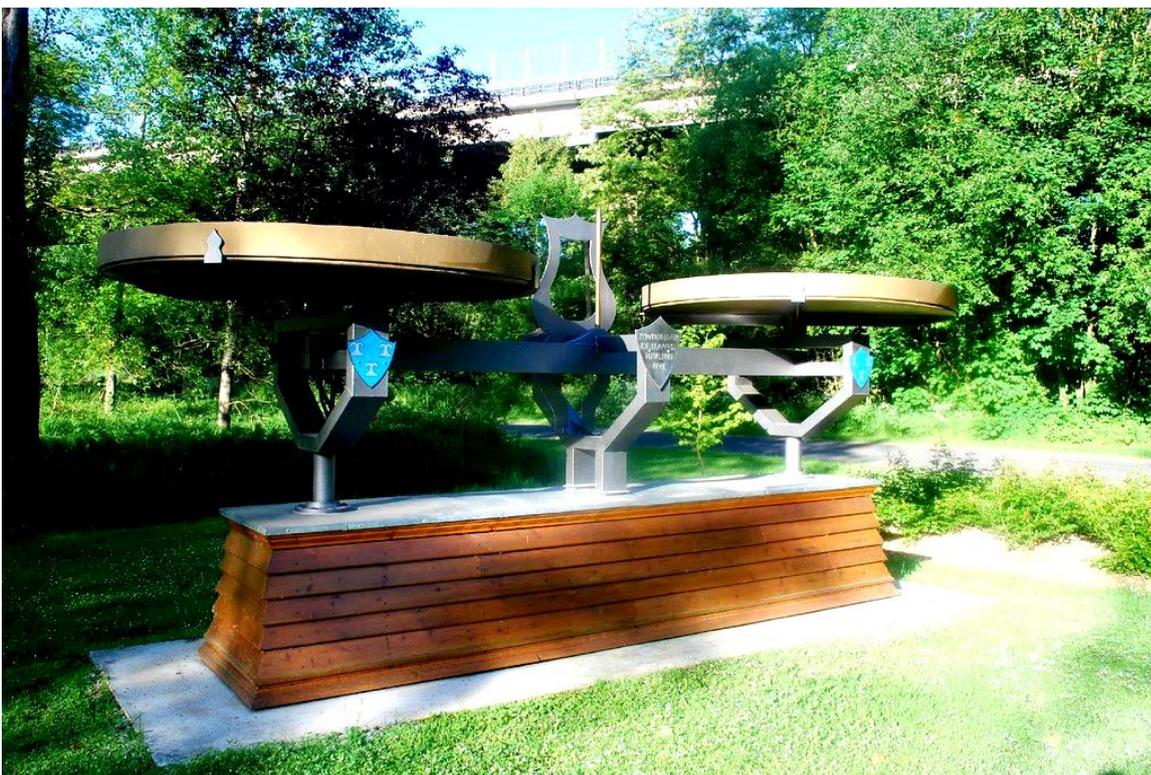
The large cast iron end plate however identifies it as a product of one of the major manufacturers. An Avery version is shown on the right. The make in the photograph is unidentifiable although there does seem to be the hint of a Royal coat of arms at the top which could narrow it down a bit.

The sacks being filled were known as West of England sacks, despite being filled very much in the East of England in this example. The West of England or 'gutbuster' sack was designed to hold four bushels of grain and, when filled, weighed 2cwt, give or take a bit depending on the type of grain. The measuring and weighing seems a bit belt and braces but grain is a product that has long exhibited a degree of schizophrenia when it comes to buying and selling.

Just as ancient philosophers could not decide whether light was generated as particles in a vacuum or waves in the æther it seemed no one could decide whether grain was a 'weighy' or a 'measury' thing. In antiquity measures such as medimnes and modii were used and in Britain people spent hundreds of years shovelling their harvests about in bushels. In the Corn Returns Act of 1842 indeed, legal returns relating to the price of wheat were required to be by reference to the bushel and any other forms of measurement were required to be converted into bushels in those returns. By contrast,

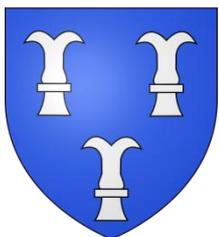
at the end of the 18<sup>th</sup> century millers, legendarily upright and trustworthy tradesmen that they were, were required to have about their person accurate scales and weights rather than measures.

Commodities such as grain do lend themselves to being measured and I have always felt it was the preferable method. In an age of industrialisation however weighing prevailed as it became more convenient to automate the weighing process than volumetric measuring. In a parallel universe there are vast automated volumetric measuring systems for dry products but alas it was never to be in our dimension. At the time the Mistley boat was being unloaded they were clearly hedging their bets by both measuring and weighing which must have complicated the transaction. In the mid 19<sup>th</sup> century there were regional equivalents for the weight of a bushel of various types of grain. In Liverpool a bushel of wheat was 70lbs but in Gloucester it was 60lbs. Whether they were actually weighing it or measuring it is not clear but it all sounds a bit bizarre. In 1921 the matter was resolved when legislation required that transactions in grain, in excess of 1cwt, be conducted by reference to the hundredweight of 112lbs only. The requirement was enforced, not by means of criminal sanctions but simply by making transactions conducted other than by weight, legally unenforceable. This would have immediately ensured compliance as no trader would risk transferring property in a manner which meant payment could be withheld. *John Knights*



### Roberval! Where's That?

If there is one name familiar to all who know about scales it is the name Roberval!



The 'Roberval' scale was the most widely used type of machine in the world and still pops up today in its various forms and variations. The man who devised the mechanism in the 17<sup>th</sup> century dabbled in various areas of philosophy, mathematics, astronomy, mechanics, cartography etc and was one of those all round smart arses (Renaissance Men surely?) who seemed to be around in profusion at that time. The

balancing linkage that developed into the weighing machine was but a

Coat of Arms  
of Roberval

small part of his output and was devised as a demonstration of mechanical principles rather than as a practical device.

His name was in fact Gilles Personne and the Roberval bit refers to the place of his birth. The commune of Roberval is, today, a small village that sits beneath a motorway viaduct in the Northern French Department of Oise.

The people of the village, which only has some 300 residents, are naturally proud of their illustrious former son and have gone to great lengths to commemorate him.

As a concrete celebration of the 400<sup>th</sup> anniversary of his birth some 20 members of an association of volunteers, Le Trait d'Union Robervallois, set to, to construct a monument in the village and decided it should take the form of an enormous Roberval Balance. They clearly succeeded as a scale, 6 metres long and 2.2 metres high has sat at the entrance to the village, since October 2005, in a leafy parkland area with a fine view of the aforementioned motorway viaduct (above). Not only is it a wonderfully accurate, giant scale representation of a Roberval balance but, according to the Mayor of the commune, 'elle fonctionne parfaitement', so it appears to be a working model. It seems to have miraculously avoided any attention from vandals, graffiti artists etc which I suspect would not have been the case in the UK where civic pride can be in short supply.

I actually hate to think what would happen if a British village wanted to erect a similar installation within its bounds. The whole process would become entangled in endless planning applications and disputes with County Councils, District Councils, outraged neighbours concerned about possible property blight etc. By contrast, even tiny French communes, such as Roberval have much more autonomy and the ability to control what goes on within their own community. Thus, they now have a wonderfully quirky celebration of a great erstwhile resident of whom they are rightly proud.

### **Autumn Meeting**

In what will turn out to be the final 'official' meeting of the European Chapter of ISASC a small but perfectly formed group of enthusiasts rocked up at the Rothamsted Research establishment at Harpenden in Hertfordshire. The use of this location had been engineered by Barry Oliver who has been there a number of times to advise the keepers of the historical artefacts at the establishment about their impressive collection of scientific balances and other metrological items. These have been used over the years in pursuance of arable crop research that has been carried out on the site since 1843. In addition to the weighing devices our hosts had also put out photographs and documents relating to the history of this prestigious establishment.

There were examples of unusual, delicate and interesting balances in beautiful glass cases and more chunky pieces including an enormous deadweight machine, so big that Gracie Fields should have sung about it, which according to the accompanying photographs had been towed around the site by a heavy horse.

It was all magnificent and those assembled enjoyed a glorious day.

At the AGM, held in the afternoon it was resolved to close the European Chapter at the end of the financial year. Members will receive formal notification of this and the closure will then proceed in accordance with the constitution.

While this sounds drastic it is intended that some kind of informal association will continue for those who still wish to participate and membership of the US chapter will also be an option for those wishing to remain full members of ISASC.