Recollections of a Soapworks
SCWS Soapworks, Grangemouth

A.W. Kerr

Employment in the soapworks was very much sought after as it was steady employment at then good rates of pay and even as early as 1938 it had a five-day week of 40 hours. Many tradesmen worked there in preference to less steady employment at their trade and it also required a large number of girls and young women in the various departments.

Illus: Bars of soap being cut into tablets, wrapped and packed in cartons. c.1955.

Most raw material arrived at the works by rail or road and was handled by the "outside squad", foreman Matthew Jarvie and later Dan Ramsay. Tallow, caustic, various acids and soda lime were handled by this squad and stored until required. This included unrefined salt in large quantities.

Initially all the ingredients required ended in the "Pan Room" at the top of the largest central building. There were fourteen "pans" – large iron tanks fitted with steam coils to enable the contents to be heated up so that the process of "saponification" could take place. In the main there were two categories of soap – "Household" and "Toilet", but "Soft" soap and "Shaving" soap were also manufactured. In addition to this a base for soap powder was made - this was subjected to the addition of soda ash then dried and ground into powder.

I started as a boy of sixteen in the "Frame" Room, nailing lids on boxes which had been filled with wrapped tablets of household soap. Groups of girls at "benches" drew these off stamping machines, checked those for quality and packed. The nailed boxes were loaded on to a roller conveyor and sent to a warehouse for despatch by road and rail to co-operative retail shops all over Scotland. Soap sent to these shops was often stamped specially with the name

of the district, eg. "*Lothian Cleanser*", "*Burnbank Cleanser*", etc. As well as these cleansers there were "*White Windsor*", "*Carbolic*", "*Naptha*" and "*Kneedit*" – most of which disappeared with the advent of modern detergents.

Generally, finished soap was run from the "pans" into large frames (10cwt or 20) where they were allowed to cool for three of four days until completely solid. The blocks were then pressed through cutting machines and the frames were removed and loaded horizontally and "dabbed" before being cut vertically into bars. A bar weighed between three and four pounds and was finally cut into three 1lb tablets and stamped. The more modern machines could wrap the tablet ready for packing in the box. However, after being "barred" and before being cut into tablets, bars were piled into columns to be air dried at room temperature, or, if required quickly, kiln dried in a steam heated drier. These operations took place in a large low building named the "frame room". The foreman was a gentleman named Tom Russell, a real character who addressed all and sundry not by Christian or surname but by the term "Bo".

At the start of the war I was asked to work shifts on a new machine installed for making soap chips. Originally toilet soap was processed much as domestic soap was, being framed, dabbed, barred and cut up into chips before transmission to the toilet department for conversion into toilet soaps in tablet form. This new machine was designed (by Simon of Cheadle Heath) to draw liquid soap from the pan, cool it, stir it, chip it and dry it ready for use. The drier operated on three shifts over 24 hours most of a five day week. During part of this period I operated a large milling machine which produced domestic soap flakes known as "Diamond Flakes". Toilet soap chips were milled through sets of rollers until polished to a fine sheen, perfume being added before the process was completed. Girls packed the soap flakes in large cartons which sold at an old 6d for special batches of "*Rose*" and also "*Lavender*" flakes were made for use in the bath.

The toilet soap chips were blown into hoppers in the Toilet Department and subsequently drawn off in weighed quantities. These were then passed through smaller mills and perfumed and dried to suit the various types of toilet soap made, eg cold cream, *Lovely*, toilet carbolic, eucalyptus, lavender, rose, floral bouquet. The milled soap chips were passed into "plodders" where large metal worms compressed the material to remove air bubbles and pushed it through nozzles which determined the shape of the bar or tablet, and cut it into the desired length. This piece of soap was lifted manually and placed between two dies which pressed the tablet into final inscribed shape. These pieces of soap were passed on to "trimmers" who pared off all the die marks with a pocket knife. It was then passed off to packers who wrapped it in a tissue, put it in a carton and then into a large carton holding say, three dozen tablets. The larger cartons were tied two together and sent to the warehouse for dispatch. The Toilet Department also made shaving soap in sticks, complete

in Bakelite holders. The tubes were brought in empty, filled from the bottom end and sealed, then boxed for transport. Less often shaving cream was made.

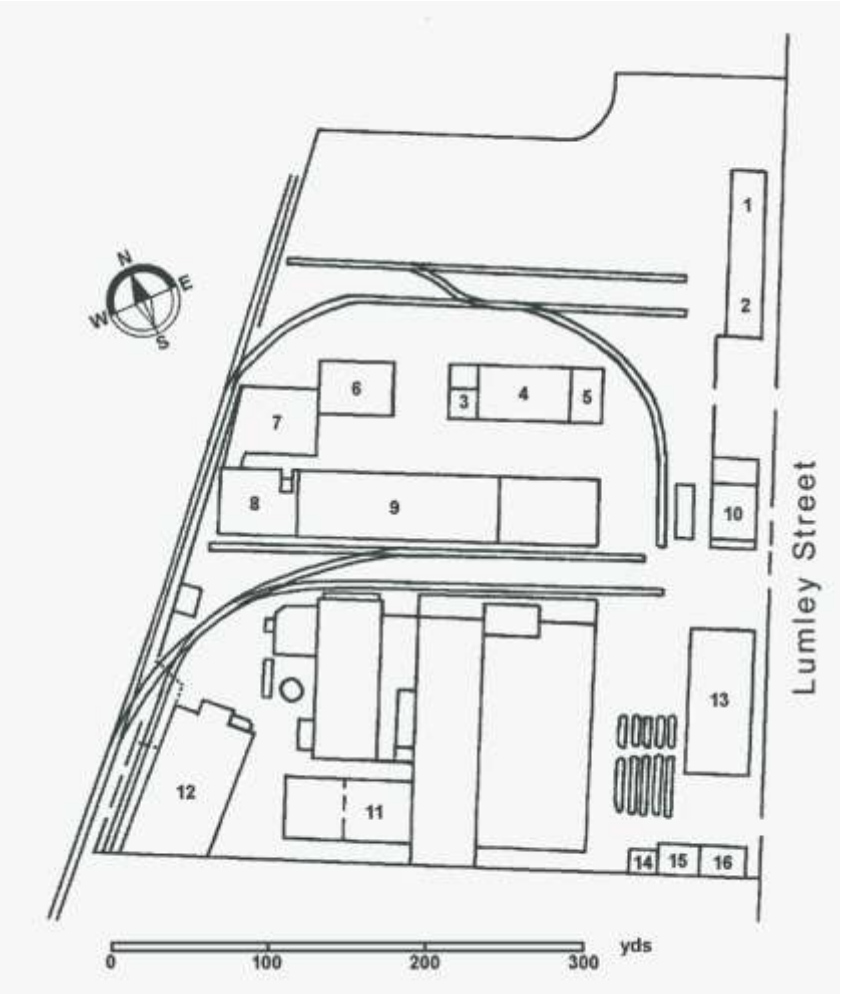
I volunteered for the forces in December 1940 and I went off in February 1941, returning in December 1946. The job in the soapworks was kept open for me, as was the case for most returned servicemen. I worked again in the "frame" room, and in the Toilet Department, then for some time in the warehouse moving boxes of soap and soap powder in from various departments and out into wagons, vans and lorries. At that time there was a siding into the works from the rail system

During the period I worked in the warehouse the other men and I occasionally had a day out at Grangemouth Docks, where the SCWS had a Tallow Fat Works. Boxes, fat, tallow, margarine and butter unfit for human consumption were collected there and rendered down in huge steam heated digesters. These were like oversized pressure cookers. A few men were employed there full time, a nasty smelly job as the townspeople knew full well when the wind blew from that direction. The fats were used for soap making, the boxes were so soft after being in the digester they crumbled easily and were ground down to meal. This garden fertiliser could be bought cheaply in the local Co-op. Our squad was not concerned with normal operations, but the large sheds there were used to store soaps and powders (in boxes) which were used at times of peak demand and transported back and forth by road and rail.

I was then transferred to the "Dry Soap" Department and got involved in the process of turning liquid soap into dry powder. In this case hot soap from the pans was piped into the department and run into small tanks fitted with paddles driven via a clutch. These tanks were suspended on a monorail which ran out over steel sided beds. To a given quantity of soap was added a specific quantity of soda ash, the motor was engaged and the mixture violently stirred. The tank was disengaged from the drive and run out over the beds, a drain flap opened and the mixture run out to a depth of a foot. That procedure was carried on until a given quantity of soap lay in the beds. The following day or the one after that, all the soap in the beds was delved over in similar fashion to a garden, but kept in lumps 12-15ins long, 3-4ins thick and in the width varying from 4-8ins. These pieces were left to air dry for a day then stowed in loose heaps until required. At this time the dry soap pieces were conveyed by barrow to the end of the department, and passed into milk which broke up the large pieces first then crushed the lot into powder - not very finely as it was a mechanical operation. The ground powder was raised to overhead hoppers which fed the various packing machines. There were several well-known SCWS brands of powder. No. 1 soap powders, *Haeme*, *Dinna-fret*, and a scouring powder *Rubitoff*, all with slightly differing compositions. These were all superseded, like hard soaps, with liquid detergents and blown powders and that leads me to mention another job I worked at for a wee while after the war. But I must initially go back to 1937 or so when the SCWS developed a new washing powder in time for the Empire Exhibition at Bellahouston. This was a "blown" or "spun" powder by which method all the long drawn out operations described in the making dry soap powder were short circuited and a far lighter weight fluffy powder was made. In this case the soap soda ash solution was passed into a pre-heater and pumped through a nozzle revolving at high speed whereby the powder was spun out in a fine dry powder spray and passed down a cyclone

hopper and filled into bags. A new building was erected for the plant and the final product was marketed as "*Sprinkle*" in post war years.

Illus: Plan of the Soapworks, c1926.
1 – dining room
2 – garage
3 – smithy store
4 – engineer's workshop
5 – joiner's workshop
6 – smithy
7 – case shed
8 – dry soap dept
9 – glycerine room
10 – office & laboratory
11 – toilet soap dept
12 – warehouse with loading bay
13 – timber shed
14 – lorry shed
15 – hay shed
16 – stable



Many people in Grangemouth, even those with soapwork connections never realised that glycerine was a substantial by-product of soap and that Nobel Explosives bought quite large quantities of crude glycerine for refining and later use in the explosives industry. In making soap large quantities of salt were spread over the soap in the vats and this trapped impurities and other materials present. A liquid known as "lye" was formed and glycerine in dilute crude form was present. The lye was pumped to the glycerine department and stored in tanks to be treated with chemicals and finely filtered. It was then drawn into special evaporation chambers to be boiled off – strengthened up in the way jam is thickened. The salt used in the soap making process was recovered and sent back to the pan room for reprocessing. The special evaporation process was a very efficient heat exchange system which ensured that a minimum of steam was used and this efficiency was further increased by carrying out the process under vacuum. The vacuum was created by the condensing action of water sprayed into a cylinder connected to the heating chambers. Since water was expensive (6d per 1,000 gallon) it was drawn by a large pump from the Grange Burn at "The Third" which is situated at the junction of Newhouse Road and Abbots Road. There is a tank there which was connected to the soapworks along the line of Newhouse Road (The Third was a favourite dooking place for laddies

in the 20s and 30s, so-named because it was the third sluice on the Grange Burn. I think the Second was about behind the swimming pool). To get back to the subject of the glycerine plant, the exhaust from the plant ran into the town drains at the top of South Lumley Street, and as a result the street was kept dry and snow hardly ever would lie on it.

Sometime in 1948 there was a vacancy in the boiler house team and I applied and was accepted for it. Although I knew nothing about firing boilers I entered a new and interesting world which was to occupy me for 35 years. There were three twin-furnaced Lancashire boilers, coal fired with mechanical stokers fed from a 100 ton capacity overhead bunker. An economiser bank set into the flues between the boilers and chimney, pre-heated the feed water and cooled the gases before they vented up the chimney. The six furnaces had to be cleaned three times a shift and the ashes removed to a tip in the yard. These ashes often found their way into local gardens for they were an excellent medium for breaking down the carse clay. The boiler flues were cleaned every three months and the dust from them was also used to free up garden soil. The boilers generated steam at 90psi – steam at this pressure was used for a few purposes but generally it was reduced in pressure to 30psi and used throughout the factory for process and heating. A most unusual piece of equipment was in use here. It was a Rath's Steam Accumulator which was a large tank capable of storing 10,000lbs of steam at 90psi. It consisted of a series of nozzles immersed in water and operated thus. With boiler output full and factory consumptions low, steam passed into the vessel and through the nozzles into the water. The water eventually boiled and stored steam. When boiler output was lower than factory consumption the drop in pressure resulted in the stored steam passing into the factory steam main, so satisfying steam demand. Although this is not strictly part and parcel of soap history, it is a fact that the soap and sugar industries are subject to very high peak steam demand and the Rath's system was designed to cope with this.

Another more obvious department was "the Box Shop", the large red brick building still extant [unfortunately not]. This was known to incumbents as "McConnel's Building" after the very well-liked foreman Bob McConnel. In this building soap boxes were made, before the days of the now ubiquitous carton. Van loads of wood spars of assorted sizes were stowed in this building, later to be put through quite wonderful nailing machines, made into boxes with accompanying lids and transported to the relevant departments. Bob was always ready to assemble "specials" - not always for soap.

So from the gatehouse there was the office and laboratories, the garage and canteen. The Box Shop to the left of the entrance. To the right, the Sprinkle Department followed by the long line of the Glycerine Department and the Dry Soap Department. After McConnel's, the Frame Room, then "the Bench" where barrels of tallow and other semi-solid material were melted. Next, the bleaching vats and caustic tanks. Then the boiler house and engine house at one time housing a DC generator – scrapped when grid supplies became available. That took you almost to the back boundary along which lay the steam accumulator and in the corner next to the woodyard was the warehouse. Back again to the main yard, to the left above the tallow benches a taller building housing soap vats on the top and middle floors and also the department where soft soap and shaving soap was boiled up. Along the ground floor were areas for storage

tanks and pumps. Between the frame room and boiler house was an Arcade mainly consisting of cloakrooms, but where a candle department was situated. Here paraffin wax was brought in in slabs, melted and poured into candle moulds. These were water cooled so it was almost a continuous process. Two sizes of candles were made – 8s and 10s – the numbers referring to the number of candles per lb. Only plain wax candles were made, no fancy or coloured ones were available. The newer building on the northwest corner of the site was occupied by the Toilet Department. On the ground floor were housed the very heavy flake mills and drying machines; on the first floor lighter soap mills, "plodders", stamps and packing benches. On the top storey, level with the pan rooms, was a small packing department for special orders.

Behind the dry soap was the engineers' shop with lathes, a shaping machine, pillar drill, etc, including a well-equipped blacksmith's shop and an electrician's shop. There was also a joiner's shop and a paintshop – although most painters were employed from Glasgow.

There was a large yard behind the canteen and this was used for storage of coal and barrels of fat, coarse salt too sometimes. The adjacent ground was formerly a town council depot, the SCWS bought it over with the intention of building a modern soapworks, but once again the advent of detergents intervened to prevent such plans bearing fruit. The subsequent run down and closure of the soapworks meant a loss of employment for many, but although it is inevitable that the old stagers fade away there are still lots of folks who even a generation removed have recollections of happy days.

A personal note

The above account was written by Wilson Kerr in 1988 from memory. I was very lucky to know both him and his wife Daisy. During my conversations with them I picked up the following information which relates to the soapworks. As it provides a social context for the description of the works I include it here.

Geoff Bailey.

Daisy Gibson entered the soap works at the age of 16 years in 1936. Her father had paid for a session at a secretarial college and was annoyed that she chose to do manual work. However, as a clerkess she would have expected to earn 5s a week, whereas a friend had told her that she could get 16s at the soapworks. Furthermore, she only had to work 35.5 hours a week. Her job was in the despatch office. So when the Second World War began Daisy was 19 years old and was still living with her parents in Queen Street. It was around this time that she started courting Wilson Kerr.

Soap soon went on the ration. The soap works were taken over by the Ministry of Food Control, as it used food substances. Any cooking fat, margarine or butter that had gone rancid and was unfit for human consumption was sent to the works for processing into soap – and every two weeks large sealed tubs of glycerine were sent by rail to the Westquarter Works.

Wilson volunteered for the army in December 1940. He joined the 9th Armoured Division and was posted to Ayr for training. During his embarkation leave Daisy and Wilson were married on 16th December 1941 at Kerse Church.

Daisy wanted to volunteer for the ATS, but Wilson considered that one of them fighting for their country was enough. There were three girls working in the despatch office (including Nan Glen) and it was no surprise when Daisy was called up. Most of the men at the works had already been called upon by this time. She was told to report to Nobel's at Westquarter, where she was to become an inspectress. This would involve working the three shift system. However, Daisy was still living with her parents and was concerned that such timekeeping would be a severe disruption and concern for them. She was offered an alternative in Grangemouth Docks with two shifts. These were 8am-5pm and 9pm-6pm, with an hour for a meal break. In the night this was at 2am. The work was with the Railway Company at No 9 shed at the south end of the Tongue. The shed was used as a transit point for goods supplied to the armed forces.

On his return from the forces in 1946 Wilson got his job back in the soap works. Daisy had already returned to it. They were allocated a prefab house of "Blackburn" type (named after the aircraft manufacturers of Dumbarton) in Wood Street and settled down to a long life together.