

Goldsmith

The Pyrenees Heritage Preservation Magazine No136 April 2016

Lake Goldsmith Steam Preservation Association Inc Registration No:- A0032895

Rally Grounds:1234 Lake Goldsmith-Carngham Road
Lake Goldsmith Vic.
Next Rally

GOLDSMITH AUTUMN RALLY No 107 April 30 & May 1 2016





Don't miss the Special Event:-Wimmera Axemen's Association Wood Chop





There was a day when the timber industry was something to bank on and the Axe was king. This Australian bank note and the 1895 Tasmanian picture it was based on can be found on the Reserve Bank Museum site.

For the 107th Rally the axe will be part of a new event for Lake Goldsmith when the Beaufort based Wimmera Axeman's Association will be running a

WOOD CHOPPING AND SAWING COMPETITION

on Saturday, and a saw demonstration on Sunday.

Welcome to the Timber Industry Rally

Mission Statement

To foster, nurture, encourage and demonstrate technical, agricultural and life skills associated with the Industrial Era.

To provide a quality environment where these skills may be used to educate and entertain members and visitors.

To run two weekend rallies each year, and be available at convenient time for other interested groups or individuals.

To conserve and develop a heritage collection.

Find us on the net at:- www.lakegoldsmithsteamrally.org.au

Or contact us by email info@lakegoldsmithsteamrally.org.au

Or write to: The Secretary:- P.O. Box 21 Beaufort 3373

Or contact the editor:- goldsmithgazet@optusnet.com.au

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Editors Overview

The 107th Rally is nearly with us, and the Timber Industry is a theme that affects us all in some way. For Lake Goldsmith this offers some broad horizons. Steam has been involved in this industry from the first attempts to mechanise it. Steam powered bush mills and the skyline ropeways and the timber tramways that hauled the timber to finishing mills and rail heads, and steam powered Traction engines and Lorries transported it. Much of this equipment can be seen at Lake Goldsmith, portable steam engines, traction engines, steam Lorries and a bush mill can be seen in operation at our Rallies.

These bush mills supplied timber for building construction, underground mining, bridge building poles for electric power transmission and fire wood for boilers in industry and home heating. Most mills used their own waste offcuts and sawdust for fuel. This fuel made steam a practical power source when fossil fuel was expensive and costly to transport to remote areas.

Victoria had thousands of bush mills over the years. These mills worked in State Forests and on private property to clear land for farming. This era in our history is a colourful one, and for those who may like to delve deeper there is a lot of history available from the Light Railways Research Society of Australia, and the Alexandra Timber Tramway and Museum at Alexandra in Victoria who have made a serious attempt to preserve all aspects of the bush mill era, particularly the aerial ropeway and steam tramway.

Eventually the steam era faded as road vehicles became more powerful and reliable. Crawler Tractors and Bulldozers were able to open roads and snig timber to loading platforms. Gradually the bush mills and the communities that they supported faded into history.

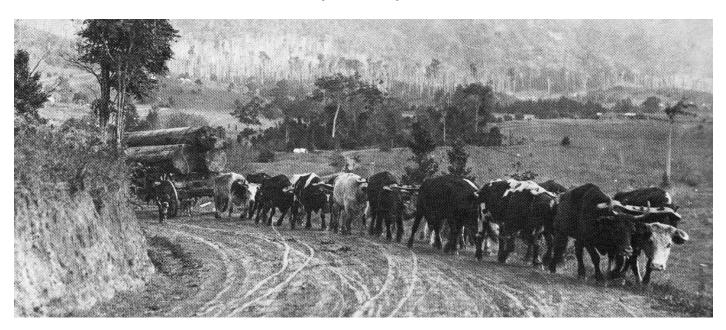
Before all this mechanisation came the axemen. The axmen scaled the tress and lopped the unmillable tops and branches and then felled the trunk. These axemen were skilled operators and these skills became competitive, as did the axes that they used, and this competitive spirit is still with us today.

This competitive sport will make its appearance at the 107th Timber Industry Rally. Beaufort is fortunate to be home to the Wimmera Axeman's Association who will be running the first wood chopping and sawing competitions at a Lake Goldsmith Rally.

The competitions will be held on Saturday and a chainsaw demonstration will be held on the Sunday. These events will add a new dimension of interest to the static and working displays and exhibits at the Rally.

The President, Committee, Members of the Association and exhibitors look forward to a great weekend of:-

Timber Industry History in Action







The 3 previous photos have been downloaded from the net. There is a lot of fascinating history available there from axe's to Dozers and everything in between.

Before we get to the timber industry machinery, let's look at the evolution of the modern racing axe.

Axes of stone and flint must have been among man's earliest tools, and bronze and iron had their turn as these metals developed.

Steel axes arrived with the first fleet. These axes had evolved to work with timbers grown in the British Islands and they were not good performers with our native hardwood timbers. Axes were made individually or in small numbers by blacksmiths or armourers to suit their customer's needs. In Australia these thick axes with short blades gradually thinned down and got longer blades to improve their performance.

The Goldrush, and the move to underground mining increased the demand for prop timber. Similarly Railways needed sleepers and bridges. This demand led to an increase in axemen and a demand for axes, which led to inferior axes being imported from England with Elwell, Braide and Gilpin, and America with Collins, Plumb and Kelly to satisfy the demand that Blacksmith's could not match.

By 1870 the early versions of the Australian Racing Axe had evolved and wood chopping started as a competitive sport, and in the 1890's rules were in place and competitions were held in Australia and New Zealand.

These early work axes were generally made of soft cast steel with a hard steel cutting edge forge welded into the head. The head was often high above the handle to allow the axe to be used to drive wedges.

Competition improves the breed and axes were no exception

Plumb, introduced their popular Tasmanian Pattern axe for sale in Australia in the early $20^{\rm th}$ century. This axe was designed by Tom Petit who was a champion Australian Axeman, and an agent for Plumb.



In 1911 wood chopping was introduced as a sport at the Victorian Agricultural Show and other States soon followed.

George Craft, a blacksmith from NSW is credited with making the first racing axe with a profile similar to the modern axes. This took place a Gosford NSW in 1914 when he introduced the "First Australian Axe", although this was not a production model.

Kelly introduced the popular "Dandenong



Kelly" in the 1920's, and this was later made under licence by Cyclone in Australia. They were making a large variety of axes for their home market and it appears that they were making 18000 axes and tools a day in the 20's

World War 2 saw a reduction in imported axes and a demand that needed local production to fill. Keech Castings in NSW took up the challenge and developed a cast steel that could be used to cast edged tools and "KEESTEEL" axes were the result.

ACI and BHP developed a steel that could be used to dropforge axes in 1944 and the HYTEST axe was on the market. Both Australian companies initially produced axes to current patterns established by overseas manufacturers. After the war when imports resumed both companies studied designs that would improve performance and appeal.

Clive McIntosh had Keech cast some axes to his design in the late 1950's, which he then ground to be racing axes of varying patterns to suit the range of hardwoods found in different areas of Australia.

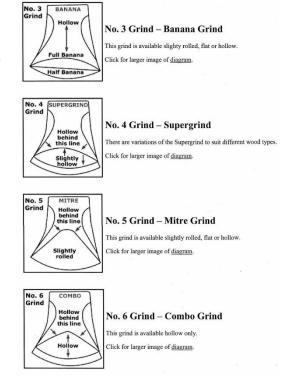
Hytest followed in the mid 1970's with axes designed for competition.. By the mid 1980's the combined inputs of all involved in the sport produced a style of racing axe that was popular world wide. These axes were Australian designed and built from high grade Australian Steel and well suited to Australian speed wood chopping competitions.

New Zealand company, Tuatahi Racing Axes and Saws developed their own successful racing axes hand forged from Tool Steel and machined to various profiles to suit different timbers. Their website at www.tuatahiaxes.com/racingaxes.html

provides descriptive information on a variety of racing grind profiles, some of which are shown below.



These axes are exported to 30 countries



No. 1 Grind

No. 1 Grind

No. 1 Grind

This grind is available slightly rolled, flat or hollow.

Click for larger image of diagram.

A lot of these grinds will cut soft or hard woods, the variation between soft and hard woods is how the edge is done for example a hard wood axe will have a rolled edge. Tuatahi can also Double Grind.



Other manufacturers of Australian Racing axe are Brute Forge who can be found at: www.facebook.com/BruteForge and Osborne Axes at www.osborneaxes.com.au

In competitions Axes from Keech, Btute Forge, Aussie Speed, Jack O'toole, Tuatahi, Proaxe, Kelly Plumb and Hytest may be seen.

There is a lot of literature on axes and axmen available and much can be gleaned from the net. Enjoy a search and catch up with the part the timber industry played in our history.

The WIMMERA AXEMAN'S ASSOCIATION started out as the Beaufort Axeman's Association in 1957. They are a small club, but they have past and present champions on their team..

The logs they use are Manna Gum from the Mt Cole Forest to the North of Beaufort . These logs are felled and trimmed by licenced members on working bees.

The Teams events are governed by the Victorian and Australian Axeman's Associations and their committee runs their events and organise the events at the Beaufort and Ballarat Agricultural Shows each year. Their members typically come from the Western District and compete in events around Victoria and Interstate.

The competitions cover 7 events:-

Underhand, Standing Block, Butchers Block, Hard Hitting, Double Handed Cross Sawing, Single Sawing and Tree Climbing, which is the most spectacular with the axemen on high boards.

Logs for the chopping events vary from 250mm(10") to 300mm(12") diameter and the double handed saw is around 500mm(20") diameter.











Thanks to Georgie Jenkins of the Wimmera Axemans Association for the above pictures taken at previous events and for the background story on their group. The Rally will give our members and visitors a chance to see these events in a local setting with other timbers industry displays. All up it will be an exciting day, although not all competitions may be held at this first Goldsmith Axemans display. The following pictures show some of the more extreme events that are part of regular Woodchopping events.





Tree climbing events represent a page of history when skill, stamina and confidence were required.



For the new age hot chainsaw are a spectacle of power speed and skill to please any crowd. Look forward to the June edition of Goldsmith for an update on the woodchop Rally action.

While we are in Beaufort, Shirley Boyle from the Beaufort Historical Society has dropped in a copy of their Jan Feb Newsletter with some extracts from the Riponshire Advocate, (forerunner of the Pyrenees Advocate) from 100 years ago in 1916.

On January 1, Quo Vadis was being screened at the Societies Hall by the Beaufort Picture Co.

Picnics were held at Mount Cole, Lake Burrumbeet and Beaufort Park. And a "sparrow match" in Beaufort had been held on Christmas day

- On January 5 A great recruiting Rally was held and the Patriotic Band and about 30 local recruits assembled at the Band Rotunda and marched to the Station to meet the Military Band from Ballarat.
- On January 8 Ladies of the Red Cross Society decided that Four or Five would each day provide afternoon tea for the men at the Beaufort Training camp.
- On February 2 Beaufort had a special train of 20 trucks of crossbreeds and Merinos from the North East auctioned to local buyers, which was somewhat unusual for Beaufort
- On February 19 The Chief Officer of the country Fire Brigades Board, Major Marsh, inspected the Beaufort Brigade and appliances.

Wheat crops were heavy, yielding 8-10 bags to the acre. Carting was in full swing and the goods platform at the railway station was full. A new wheat stack was started in the Eastern Wood yard.

Photos of the Beaufort recruits entraining for Ballarat, taken by Miss Holdsworth were sold, with part of the proceeds going to the local Patriotic Band.

A Sparrow Match is a shotgun competition. The matchs were held at what is now the Beaufort Gun Club on the Lexton Road. The training camp was at the Beaufort Lakeside Oval. Interestingly, these records give some idea of the effect that the Great War had on local citizens, and how in some way, so many worked behind the scenes to support the voluntary recruits.



horseworks, baler, Seed drill, Dump and side delivery hay rakes, bag lifters as well as a range of ploughs. The Falla Bag Jumper (top left next page) was made in Donald by P. Falla C 1900. It appears to be hand lifter and transporter for open

Shirley had another event recently when the collection of model farm equipment made by her late husband David was handed over to Scienceworks, who had secured the donation of this collection at an earlier time. The collection consisted of 59 models and included windmills manufactured by 6 different local manufactures, a range of Sunshine farm gates,







grain bags. David made 4 of these, 2 went to the Falla family in Donald, and 1 to the Donald Museum.. The Dump rake on the right was made in England by Ruston C1880. The operator controlled the horse and controls while walking behind. Later models had the operator on a seat with

accessible control levers.



The Sunshine seed drill above is complete an operable, as is the hay bailer and collection of ploughs rakes and towed mower on the shelves to the right. This is only a small sample of the range of David's work, most of which was done in his workshop. Where special equipment was required to make some components, outside services made parts to order.



Fortunately David had a niece who was able to do the

intricate sign writing that made these models genuine replicas of the original machines.

This Award winning valuable collection is unique and covers a lot of Australian, and in particular Western Victorian rural history from the horse drawn and early tractor period. All up David made 96 miniature working machines, many of which have already been





Hopefully this collection of working minaturea will be on permanent display for all to see, and we hope that from time to time they will be on show in the area from which they came.

David's workshop and collection of 300 or so cast nameplates and signs are destined to move to Warracknabeal where they will be accommodated in a museum.

Thank you Shirley for the chance to photograph these models before they headed for Melbourne, and use them in this edition of Goldsmith.

Geelong Vintage Machinery held there Rally in January













Perfect weather and a good turnout of visitors made for a great Rally. This year there was a good variety of trucks on show. The International Harvester Club of Australia clubrooms are on the same grounds so that there is always a good flash of red at these events. The pictures following show the club rooms and the tractors lined up on the approach road to the club house. Inside there is a fine display of International products including a domestic refrigerator. There is also a lot of advertising on display boards.













There was a lot on display at this Rally in the sheds and outside, plenty for a good day out.

STEAMFEST 2016 at the Melbourne Steam Centre







For 2016 the weather, exhibits and crowd made this the best ever STEAMFEST RALLY at Scoresby.









The Boat tailed 1923 Alvis 12 50 and the 1930's Riley Kestral Saloon made a fine sight to car lovers.









It is not often that you see 3 Buffalo Pitts at the same Rally. Top left is the clubs twin high gate guardian. Top right is Craig Jacksons very early portable, and above is Ross & Jo Lloyd's recently restored portable powering a rock crusher.







For those who did a circuit on the train there was a hidden display of future projects









Rob Jones 1919 Ford TT, a Werner Ammonia pump, Pelican Loader & the Sparks Family miniatures









A display of Clydesdale horse ploughing and general work including the sledge is always popular.





. This Replica of an 1896 roper Steam powered Motor Bike was an attention getter with its external piston and valve gear







A McDonald footpath Roller, a collection of Crystal sets and the Navy Steam Clubs Foden Wagon.



Letting off Steam on The Grand Parade, makes a sight to behold and a sound unique to steam.





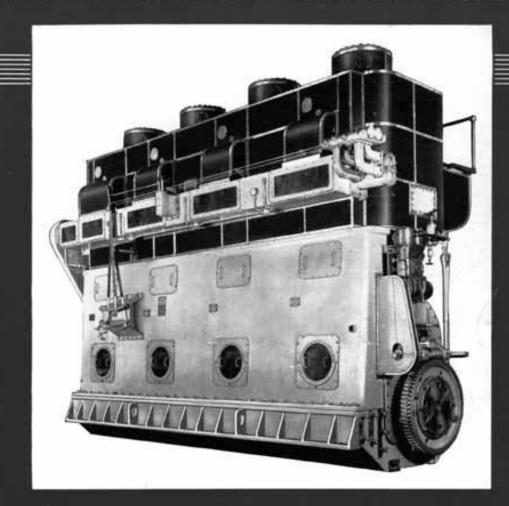
The inside displays cover a wide range of gear from the Lyttleton Steam tug to a Vampire Jet engine.





All up Steamfest was an excellent 3 days with something to please everyone. Ed.

SKINNER COMPOUND UNAFLOW



MARINE STEAM ENGINES

SKINNER ENGINE COMPANY, ERIE, PENNSYLVANIA

THE SKINNEY COMPOUND UNAFLOW MARINE STEAM ENGINE

As a result of developments in the vertical stationary steam engine field, the Skinner Marine Unaflow Steam Engine was introduced to the maritime world in 1929 and received immediate acceptance. The performance of this type of engine was so outstanding in economy, reliability, maneuverability and low maintenance, that within its range of capacity it became the logical selection for the main engines in vessels of various classes. Proof of this superior performance is the fact that more than 1,250,000 horsepower of Skinner Marine Unaflow Steam Engines has been produced during the last ten years alone.

When the trend toward higher steam pressures and temperatures became apparent, the advantages of the unaflow cycle and the steamtight poppet valve were extended to the development of the Skinner Compound Unaflow Marine Steam Engine, which has become the natural choice where the proper steam conditions are available. This complement to the unaflow design is the latest advent in steamdriven reciprocating machinery for ship propulsion by the largest company in the United States devoted exclusively to the building of steam engines. Although based on the parent unaflow, the new type is of the steeple-compound unaflow single-acting Woolf cycle (no receiver) design. The Woolf cycle is not new to marine practice, as it has been employed by builders both here and abroad. However, Skinner Engine Company has introduced many design features which result in significant improvements and also in the elimination of some objectionable elements considered inherent in the steeple-compound design.

As the name implies (refer to transverse section, page 6), two cylinders are arranged on each crank in steeple formation, with the high-pressure cylinder above and the low-pressure cylinder below. A single cylinder head serves both cylinders, and contains three Skinner expansion-compensating steam-tight poppet valves mounted in steel cages. The combination of both cylinders on a single crank results in a double-acting cycle which is equivalent to the original vertical unaflow. Therefore, the steeple-compound can be built with any number of cranks, all cranks having equal reciprocating weights and optimum balance of the inertia forces.

As the steeple-compound was designed spe-

The innormhum described herein are covered by patents assigned to Skinner Engine Coresony, freenty-three claims having been allowed to date

cifically to utilize high pressures and temperatures. LP steam is used to cool the critical parts. This is one of the purposes of the annular space around the outside of the HP liner, the LP steam reducing the liner wall temperature to a point where lubrication is readily accomplished. The heat extracted from the liner in this manner is not wasted, however, as it is recovered in the LP cylinder. The piston rod steam packing in the cylinder head is also surrounded by an annular chamber filled with LP steam which cools the packing rings and prevents carbonization of lubricating oil. Freedom from carbon formation is further assured, since the steam packing is never exposed to air and consequent oxidation of the lubricant.

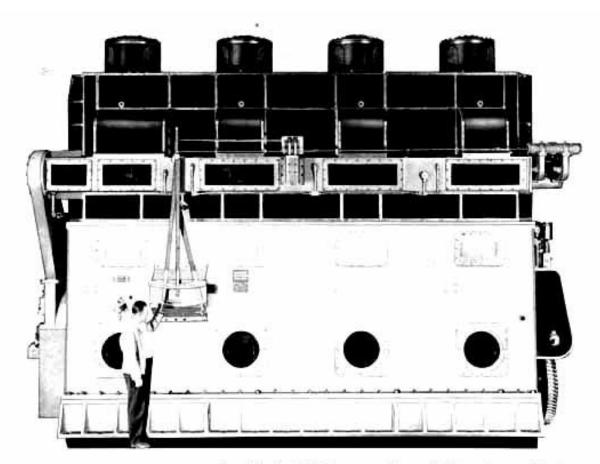
Cylinder lubrication is accomplished in the usual manner by atomization of suitable oil into the steam flow at the throttle valve. This is augmented by direct injection at two points in the HP liner to prevent waste of oil by vaporization at high temperatures. The small amount of oil thus used in the HP cylinder is sufficient to lubricate the valves and LP cylinder as the steam continues its path through the engine. After serving its purpose in preventing wear of the rubbing surfaces, the cylinder oil may be removed from the condensate by suitable filters, which provide a perfectly clear feed for the boilers.

One of the major faults of the usual steeplecompound design is lack of accessibility at the LP cylinder. This disadvantage has been overcome in the Skinner design by making the LP parts accessible from the interior of the crankcase, after removal of the bottom cover which is split and made light in weight for that purpose. With this construction, the LP piston rings may be replaced from below without disturbing the piston or any of the superstructure.

It will also be noticed, from the view of the transverse section, that the vacuum packing and the wiper packing are readily accessible from the crankcase. After removing the top cylinder cover, the HP piston may be pulled from the rod, making the steam packing case accessible from above. On the other hand, dismantling for examination of the piston rings, cylinder lubrication and cylinder wall condition, is made unnecessary by incorporation of inspection openings in the HP cylinder liner and the LP cylinder barrel.

With the basic principle of a steeplecompound steam engine in mind, it will not be difficult to trace the cycle of events shown in the following illustrations:

Near the bottom dead center, the steam valve is opened to admit full steam pressure under the HP piston, which then begins its power stroke upward. Before this stroke is half completed, the steam valve closes and cuts off the pressure, allowing expansion to continue to the top of the stroke. In that position, the piston uncovers ports in the HP cylinder liner, and the expanded steam is bypassed around the HP piston to its top side and into the annular space that surrounds the liner.

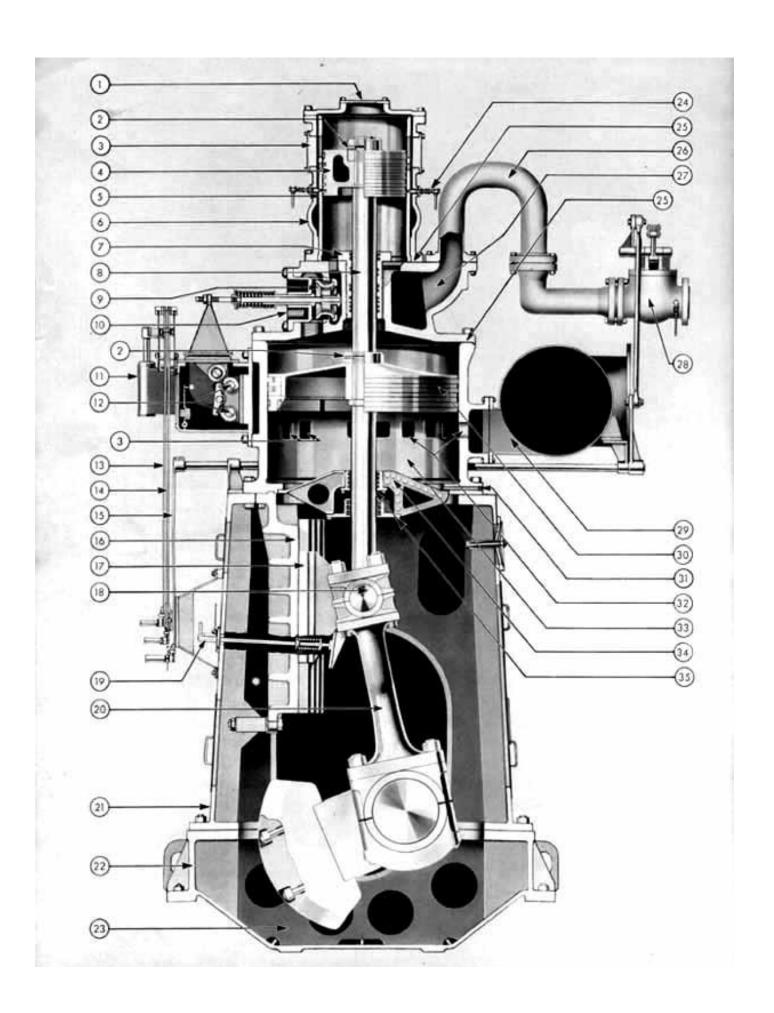


One of the four 3000-horsepower four-crank Skinner Compaund Unaflow Marine Steam Engines propelling the twin-screw Chesapeake & Ohio Railway Company's freight car ferries, "PM-21" and "PM-22"

It is at this point in the cycle that the transfer valve opens, and the steam from the HP cylinder passes through the cylinder head to the top of the LP piston, expanding on the down stroke from the HP to the LP cylinder. The top of the HP piston is connected to the LP cylinder by an elbow pipe and the annular space around the HP liner, thus in effect making the top of the HP piston part of the LP piston. After closure of the transfer valve, the steam continues expansion in both cylinders on the down stroke, and the steam remaining under the HP piston is compressed to the

initial pressure. Near the end of the down stroke, the LP piston uncovers the large unaflow ports, and the steam is exhausted to the condenser through the exhaust manifold.

At the beginning of the up stroke, the auxiliary exhaust valve opens to regulate the compression pressure. This valve also serves to facilitate starting and maneuvering, by venting to the condenser the steam trapped in the LP cylinder. At the time this auxiliary exhaust valve is opened, high-pressure steam is acting on the bottom of the HP piston and forcing it upward in repetition of the cycle just described.

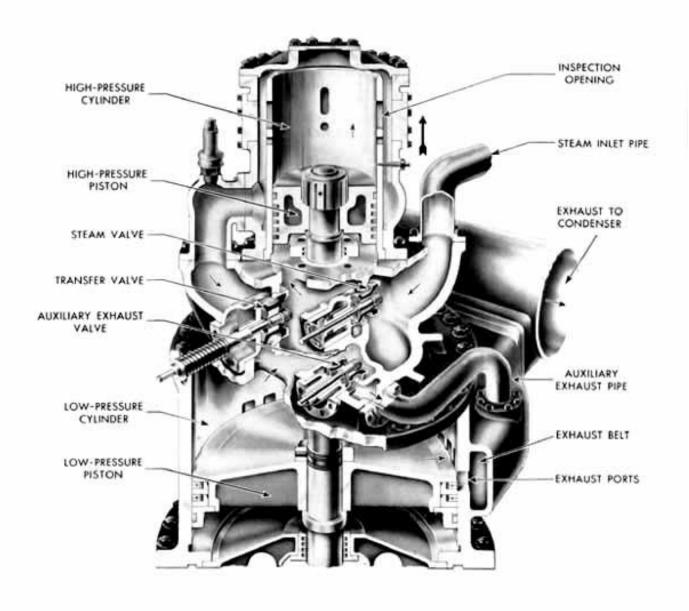


IDENTIFICATION of PARTS

TRI-DIMENSIONAL SECTION

(partially diagrammatic)

through high-pressure cylinder, main cylinder head and low-pressure cylinder, showing pistons, valves and related parts







CRANKSHAFT

The crankshaft is a single open-hearth highcarbon annealed steel forging, designed for strength and rigidity. The cranks are counterbalanced, and the shaft is drilled for pressure lubrication of crankpins and main bearing journals.

PISTONS AND RINGS

The HP piston is a close-grained alloy iron casting, with no perceptible growth at the high steam temperatures used.

The LP piston is a steel weldment, thoroughly annealed. Like the HP piston, it is kept from contacting the cylinder wall through the use of copper-lead bands projecting beyond the surface of the piston. Piston rings of the sectional type prevent blow-by, reduce cylinder and ring wear, and operate with a minimum of lubrication.

The forged alloy steel piston rod is packed with three metallic packings, the vacuum and wiper packings being accessible from the crankcase. The steam packing is accessible from above after removing the HP piston.

CONNECTING ROD

The single-piece connecting rod forging is bored throughout its entire length for carrying oil under pressure to the crosshead bearings, guide and shoe. The phosphor-bronze crosshead boxes and cast-steel crank boxes with babbitt lining duplicate the construction used in all Skinner Marine Unaflow Steam Engines. The dependability of this design is time-proven by many years of successful application.



The selection of pages (from page 16 to 23) of the Skinner Vertical Tandem Compound engine have been taken from a catalogue downloaded from the net. These came up on the Steam tec forum, and never having heard of them I could not resist a look. For anyone interested in these engines this is just an appetite wetter as there is a lot more data and explanation available.

Compound Traction engines generally used an offset double throw crank with 2 cylinders of different diameter which gave an option to run the both as a twin high pressure to get that extra load started uphill.

There are not a lot of hills at sea, and these are multi cylinder engines so the tandem cylinder arrangement is ideal, and it saves a lot of space and makes for a pretty neat looking engine.

I have no idea if there are any of these engines on display here, if there are any let me know some details. I always have a soft spot for engines with a catwalk. Ed.

Vintage and Classic Car Club of Ballarat had a Road Run at Beaufort Goods Shed



This "Naked Radiator Run" was one or the regular events organised by Jan and Frank Tamis for the VCCC. Jan and Frank are well known as the occupants of shed No 1 at Lake Goldsmith.

This run was from Ballarat along the Carngham-Beaufort Road to the Goods Shed, with the return run along the Western Highway through Trawalla and past Lake Burrumbeet.

Ron and Linda Harris had the display and kitchen in the Goods shed open for all, and the cars were on show for 3 hours or so. The Beaufort Goods Shed is an ideal setting for these events, with its undercover display, toilet facilities, kitchen and a large assembly and show area outside.



On the day the weather was perfect, ideal for an outside picnic.



This brings us to the end of another "Goldsmith", the last before the Autumn Rally on April 30 and May 1 2016 The theme is Forest Timber Industry and that covers a lot of gear from Axes, Mauls & Wedges to saws, drag saw, swing saws chain saws and portable on site mills,

It also covers transport from Bullocks, and horses to timber Jinkers of all types from the early twenties to the B Doubles of today, If you have any of this gear bring it along, a lot will be interested.

The Committee Association members and exhibitors hope that you found something of interest and hope to see you at the Logging. Forestry and Sawmilling Rally, on the weekend of April 30. Ed.