

# Goldsmith

The Pyrenees Heritage Preservation  
Magazine

No138 October 2016

Lake Goldsmith Steam Preservation Association Inc

Registration No:- A0032895

Rally Grounds:-

1234 Lake Goldsmith-Carngham Road  
Lake Goldsmith Vic.



Next Rally

**GOLDSMITH SPRING RALLY No 108**

**October 29 & 30 2016**

**Rally Theme:- Military Vehicles and Equipment**



With a Military Equipment Theme, the forthcoming 108<sup>th</sup> Rally at Lake Goldsmith is open to a wide range of equipment from many countries. Whilst mechanised transport and gear is expected to form the largest contingent, anything else may cross our horizon. The change in military transport in the 100 or so years since the above photo of an 18 pound field Gun, Limber and crew of 6 horses and the gun crew on the move in France was taken is enormous. 6 Horsepower is a bit below current needs.



**British Guns at Mt Scopus Jerusalem WW1**

### **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](http://www.lakegoldsmithsteamrally.org.au)**

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## Editors Overview

Writing so early before a rally it is not possible to anticipate what visiting exhibits will be on show. As an alternative to describing any specific exhibits, this edition of Goldsmith will highlight a range of vehicles and equipment that have been used at some time by our military or our allies. On the grounds that it is difficult to have planes or boats on show at Lake Goldsmith, most exhibits are expected to have an army heritage.

The vehicles and gear featured can be seen at parades and rallies held by Military Collector clubs, Museums, War Memorials and parks around the country and overseas. A lot of equipment used by the military is not military specific, so that many domestic machines find their way to war, and hence become eligible to participate in this rally.

Military Equipment seems deeply entrenched in our DNA. The means to defend ourselves has always inspired military leaders to produce superior equipment in sufficient quantities to deter or defeat potential aggressors. Indirectly this need has led to the invention of the skills of Artisans and Armourers and the machine tools that are an essential part of our modern lives.

These military demands have led to the mass manufacture of antibiotic's, and provided the basic hardware to get us to the moon and back.

We all have our favourites, so hopefully yours will be on show and join our great array of steam, petrol and diesel, farm and industrial machinery. For those who enjoy variety, there is certain to be something in the 60 member sheds that provide the unique experience of a Lake Goldsmith Rally.

The President, Committee and Members hope that our visitors enjoy the day.

### So what might be seen at a Military Equipment Rally.

The collection of gear that follows has been collected from a variety of sources. Much has been found on the net, the Australian War Memorial site, and its British counterpart have been a great source. The range of information available is enormous and many early photos are in the public domain which makes them an appealing source for Newsletters such as this.

Wikipedia has also been a source of photos and information that has been added. There are many other sources, and many organisations have web sites and Galleries, and some sites seem to have pictures of nearly everything that was ever made.

Books, magazines, gate guardians past rallies and relics on show in public parks have all had look in.

So let's make a start!

One exhibit that is a popular site at our steam rallies is the Furphy Water Cart. These horse drawn carts were used by farmers and contractors alike, and when we became involved in WW1 these water carts went with us to Gallipoli, the Middle East and Europe.



The advertisement picture on the left compares with the scene on this picture from the NSW state Library Collection. Driver comfort and large Artillery wheels are obvious differences. The water cart was a great place to swap yarns, and tall tales soon became known as Furphy's, a name that survives.



Horse draw equipment was common in WW1 and after, and Artillery was no exception. The 18 pounder was introduced in 1903 to replace the Recoil absorbing German designed 15 pounder that had been trialled in 1901.

Submissions were called for, which eventuated in a composite design using Vickers Hydraulics for the recoil absorber, Armstrong for the wire bound barrel and gun, and the sight and elevation control developed by the Royal Ordnance Factory. The wire wound barrel followed Royal Navy practice who used wire bound barrels when cordite was introduced about 1890 to replace the lower pressure powders used previously. The earlier cast barrels had a potential risk factor. It was also cheaper to produce and lighter, which was relevant when horses were doing the work. The high tensile wire was tightly wrapped around the barrel and a steel tube was shrunk over the wire. (If I recall it correctly, Stanley Bros. used a boiler bound in piano wire for their record breaking steam car, and Winchester trialled a fibreglass wrapped barrel on a shotgun around the 1960's).



18 pound field gun and Limber (on left) with a fixed round and open breach on view.

It seems that the 18 pounder was a good performer, it was used by all Commonwealth forces in all theatres of the WW1 and later some were in use during WW2. The solid armour piercing round weighed 18.5 pound, and the bore was 3.3"(83.8mm). The muzzle velocity was 1615 fps and the effective range was 6525 yards for the Mk1 and 2 and 9300 yards for the later high elevation models.

The sustained rate of fire was 4 rounds per minute with a max of 20.

The projectile and case were fixed so that charge and projectile were loaded together.

The 18 pounder went through five models. The barrel was relocated above recoil buffer on later models, and other upgrades were made through to 1940.

All up over 10000 were produced.

From 1938 a new barrel liner with a bore of 3.45"(87.6mm) was trialled and the 25 pounder had arrived. Mk 4 & 5 18 pounders were converted to 25 pounders.



25 Pdr at Jerilderie NSW

The intended roll of the early 18 pdrs was defence suppression, and the main ammunition was the shrapnel shell which was timed to fire 374 “bullets” forward in a cone from the exploding shell towards the defenders or barbed wire. HE shells were also used. This action was typically line of sight aiming so high trajectory and variable charges were not needed and fixed ammunition could be used.

Circumstances changed and high elevations and variable charges were needed to drop charges behind defences. The 25 pdr ammunition used a separate projectile which was rammed home and followed up by the cartridge case which carried the explosive charge. This arrangement had the advantage of the variable charge Howitzer, but eliminated the bagged charges.

All this seems to have provided a Field Gun and Quick Fire Light Howitzer in the one Gun, which by this time could be towed by some form of Gun tractor which eliminated the necessity for a Limber which was essential to make the assembly a towable 4 wheel unit as the gun did not have shafts.

Ammunition trailers could be used between the gun and tractor, and frequently a second tractor towed 2 trailers.

The firing rate dropped to about 3 rounds per minute for normal fire with up to 8.

The muzzle velocity varied from 650 to 1750 ft/s and the range went out to 13400 yards ( 12.25Km)

In 1942 the characteristic Muzzle Brake was introduced, and this allowed an extra super charge to be used for use with a high velocity 20pound solid Armour piercing round.

Another characteristic of the 25 pdr is the firing platform that is carried under the trail, and dropped under the wheels when the gun is in action. This platform provided a stable base to anchor the gun during recoil rather than rely on the spade at the end of the trailing frame. It also made direction changes a lot faster.



The 25 Pdr was recognised as an excellent piece of artillery. It survived in service into the 1960's and in training units until the 1980's. It was used by all Commonwealth countries and ammunition is still produced in Pakistan. This Field gun still has a ceremonial roll. This is an incredible lifespan for a gun that evolved from a 1903 design.



In 1947 a self-propelled gun, the “ Yerramba” was developed in Australia by combining a 25 Pdr, gun with an M3 Grant tank Chassis. Only 14 were built and they remained in service until more modern equipment was available in the late 1950's.

This was a practical combination at the time as the Grant was still in use, as was the 25 pdr which provide good parts availability.

Britain and Canada had developed similar combinations.

These machines did not see active service, although they were popular with their crews. They were powered by 2 GM 6/71 engines, and could get along at 25 MPH.

Gun tractors had been used during WW1, in particular the Holt 75 which was covered in an earlier edition (129). The first gun tractor produced locally was the FORD Marmon Herrington which was produced at Geelong. Ford adapted the Herrington 4 wheel drive system to their 3 Ton Truck and added a 6 seat crew cab and twin spare wheel rack.



Production started at Geelong in 1941 and continued until 1942 when the Canadian Blitz became available. About 1400 of these trucks were built, some with a winch. These were used by the AMF in Australia throughout WW2, and the rest (about half) went to the Middle East, Malaya and New Guinea.

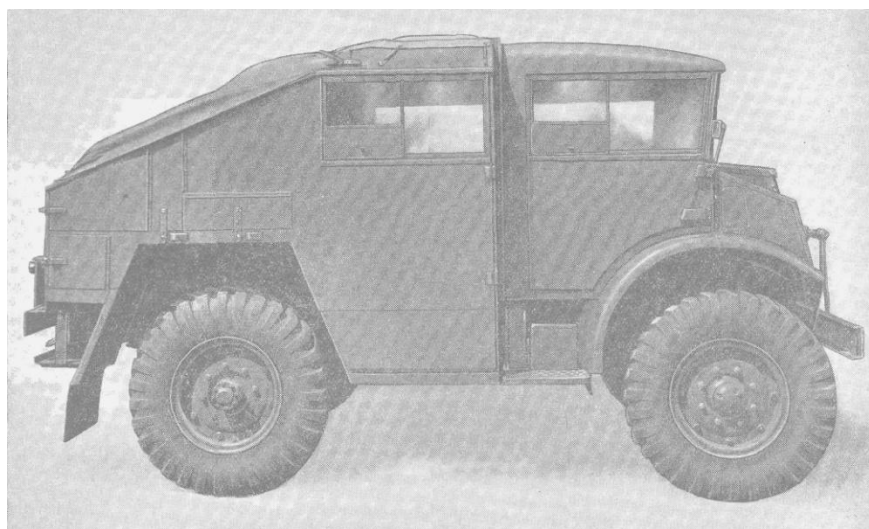


AUSTRALIAN WAR MEMORIAL

REL29220

The Ford Marmon Herrington above can be seen at the Australian War Memorial in Canberra

The most numerous Gun Tractor here was the Canadian Military Pattern (CMP) Field Artillery Tractor shown on the left.



This scan was taken from the General Motors of Canada Maintenance Manual. These tractors were built on a 101" wheel base and were fitted with a winch which was driven off the 2 speed transfer case which was driven by a shaft behind the 4 speed crash gearbox.

Ford and General Motors produced similar vehicles to comply with the CMP specification.

The "Chev"(GM) tractors were powered by a 6 cylinder 85HP OHV 216 CI motor and were fitted with

"Banjo" style pressed axle housings.

Ford used the 24 stud 239 CI side valve 85HP V8 engine and flanged centre 2 piece housings making them easy to identify. The Canadian Ford and GM subsidiaries had a good working arrangement with



each other and the Military which led to the development of many common components. Both companies had modern factories with reserve capacity as a result of the Great Depression.

These gun tractors were designed primarily to tow the 25 pdr field gun and the 2 and 6 pound Antitank guns.

Blitz buggies appeared in many forms and configurations. They appeared with two cabin types, 11 & 13, the latter is the most common. Their origins were from joint British and Canadian military requirements and Ford and GM in Canada who ultimately produced over 500 000 of them ( plus over 300 000 other military vehicles). These were assembled as complete vehicles in Canada, or parts were forwarded to other countries for assembly and use in special vehicles. Australia, New Zealand, and South Africa were all involved.

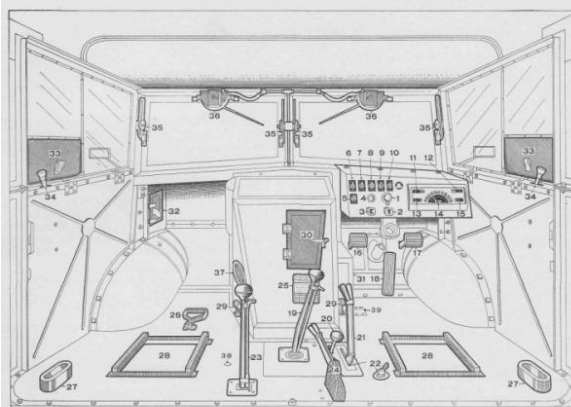
After the war these vehicles found a ready market in various industries from timber to construction sites where they were a popular for mobile cranes.

Along with Jeeps these trucks are popular with Military Heritage Organisations where they provide a popular display for members and visitors alike. Many have appeared at Lake Goldsmith Rallies in the past and we hope they reappear for the 108<sup>th</sup> Rally this month.



This type11 pattern cab has worn its 50 years well, and the Type13 is ready for another 50 years duty.

DRIVER'S INSTRUCTIONS—B - 2



- |                                     |                                      |
|-------------------------------------|--------------------------------------|
| 1. Ignition Switch.                 | 21. Hand Brake Lever.                |
| 2. Throttle Button.                 | 22. Fuel Tank Control Valve.         |
| 3. Choke Button.                    | 23. Transfer Case Shift Lever.       |
| 4. Inspection Lamp Socket.          | 24. Winch Hand Brake Lever.          |
| 5. Fuel Gauge Switch.               | 25. Gear Shifting Instruction Plate. |
| 6. Instrument Cluster Light Switch. | 26. Hold-Down Handle.                |
| 7. Stop Light Switch.               | 27. Rifle Holder.                    |
| 8. Tail Light Switch.               | 28. Seat Hold-Down Supports.         |
| 9. Front Side Light Switch.         | 29. Engine Cover Hold-Down Clips.    |
| 10. Head Lamp Switch.               | 30. Rear Engine Cover Door.          |
| 11. Temperature Gauge.              | 31. Engine Cover Door—Right Side.    |
| 12. Ammeter.                        | 32. Cowl Ventilator—Right and Left.  |
| 13. Fuel Tank Gauge.                | 33. Door Side Curtain Flap.          |
| 14. Speedometer and Odometer.       | 34. Door Handle.                     |
| 15. Oil Pressure Gauge.             | 35. Windshield Adjustable Bracket.   |
| 16. Clutch Pedal.                   | 36. Windshield Wiper Switch.         |
| 17. Brake Pedal.                    | 37. Engine Cover Door—Left Side.     |
| 18. Accelerator Pedal.              | 38. Tire Pump Cover.                 |
| 19. Transmission Gearshift Lever.   | 39. Brake Master Cylinder Cover.     |
| 20. Starter Lever.                  |                                      |

Fig. 1 illustrates the location of the controls and instruments; in the following paragraphs, we will refer to this illustration by the key number of the control or instrument being discussed, so that the reader may easily follow the instructions.

On the left is the outline of a Chev Blitz cabin interior

Below is an Australian designed Scout car built by Ford using a Marmon Herrington 4 wheel drive and 30 cwt truck chassis fitted with a body built by the Victorian Railways. 245 were built in 1942 until other units were available. This one was on display at an Australian War Memorial show day. They were all sold off in 1945





Scout cars are always popular. The Daimler Dingo was developed just prior to WW2 by BSA and manufactured by Daimler. These vehicles were in service until the early 1950's when they were replaced by the Ferret Scout Car which inherited many of the Dingo's excellent features.



The Daimler Dingo was produced in England and about 6500 were made before production priorities changed. The Ford Lynx was produced in Canada to maintain a supply. Some of the Dingo's advantages were lost, including the low profile made possible by the "H" drive where a drive shaft and bevel gears were used up each side and the 5 speeds in forward and reverse. The Lynx was more powerful and higher, about 3500 were produced.

The Ferret was produced by BSA/Daimler after WW2 and retained many of the Dingo's characteristics as can be seen in the attached cutaway shown in the picture below.





Always a favourite is the Bren Gun Carrier. These tracked carriers had many uses including scouting. They were based on Ford truck components. The V8 motor and Rear axle were the major truck parts. Steering was a dual system, initial steering for small direction changes used track warping to lead the carrier in the new direction, beyond that, one brake on the drive axle was engaged to slow the track and increase the rate of turn.



These carriers were produced in various commonwealth countries, including Australia, and all up over 100 000 were produced.



The Staghound was a larger scout vehicle, and was powered by 2 GM motors. It had the appearance of a light tyred tank. The machine on the right can be seen at the Army Tank Museum at Puckapunyal in Victoria. A Dodge Weapon Carrier, Studebaker 6WD and Land rover are below







**This Diamond T tank transporter took on the heavy hauling. Many of these trucks ended up in the Northern Territory and after the War they were the basis of many road trains that opened the area to road transport.**

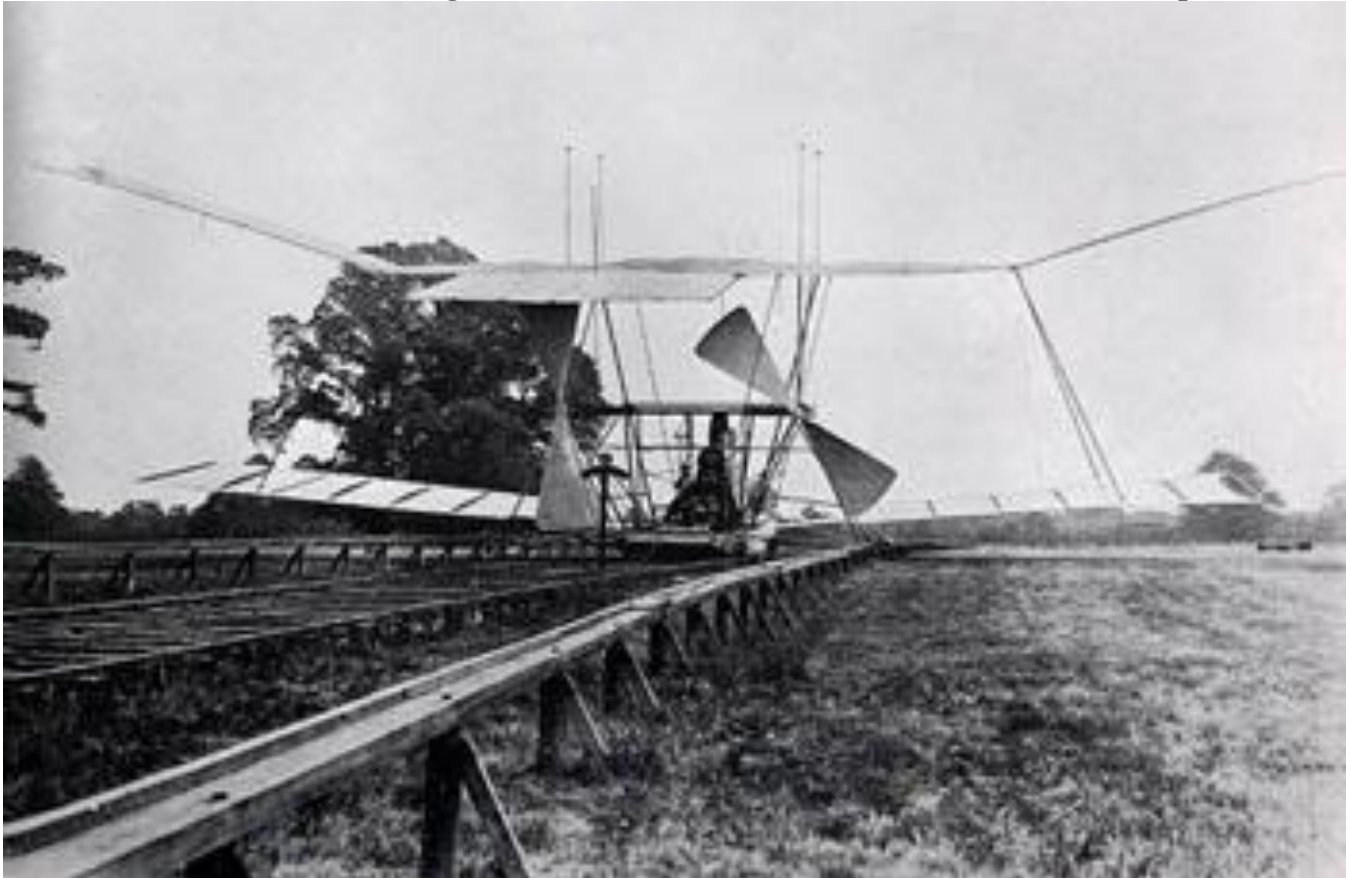


**The Jeep on the left and Hummer on the right were at an earlier Lake Goldsmith Rally.**

**The variety of equipment used by the military in various rolls seems unlimited, and we hope to see some surprises at the 108<sup>th</sup> Rally. The small range above does not include Tanks, Landing craft or any of the support equipment that keeps the military rolling. We will see what the Rally brings.**



For all that the rally theme is military, our heart and Soul is Steam. It is not often that the military uses steam for more than cooking, but there is on Inventor that had a foot in both camps.



## BEXLEY COTTAGE HOSPITAL.

Exhibition of Mr. Maxim's

## FLYING MACHINE & GUNS

At HALDWYN'S PARK, BEXLEY.

On SATURDAY, NOVEMBER the 3rd, 1894.

### PROGRAMME.

- 2 o'clock.—The Workshop open for inspection.  
Copies of the Photographs exhibited will be supplied (price 1/- each), upon application, by letter, enclosing remittance and the numbers of the Photographs required, to the Secretary as below.
- 3 o'clock.—Mr. Maxim will address the Visitors from the platform of the Flying Machine if the weather permit; otherwise in the Workshop.
- 3.15.—The Flying Machine will make its first trip on the Track, which is 1800 feet in length.  
Mr. Maxim has kindly consented to convey a limited number of passengers on the Machine, the weather and other conditions being favourable.  
"A ride that for excitement and exhilaration beats even the famous Water Chute!"—*Pall Mall Gazette*.  
"One of the sensations of my life!"—*Lord Rayleigh*.  
Tickets for this unique experience, 5/- per journey each person.
- 4 o'clock.—Mr. Maxim will explain and superintend the firing of his
- ### WORLD-RENOUNDED AUTOMATIC MACHINE GUNS.

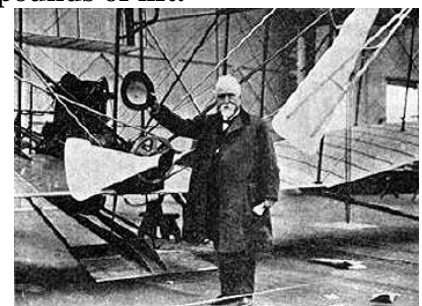
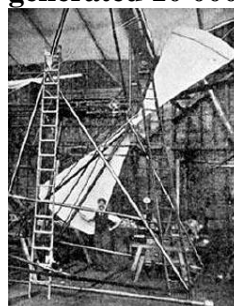
The inventor of the Maxim machine gun, Hiram Maxim, had an interest in flying, as the program on the left sets out, demonstrations of a potential aeroplane design would be demonstrated in November 1894, long before the Wright Bros became the first to master powered flight.

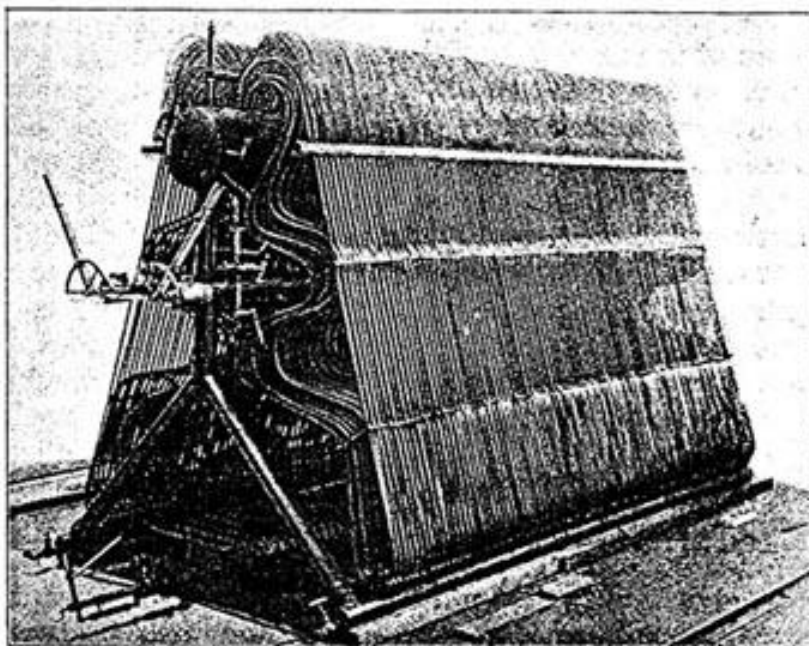
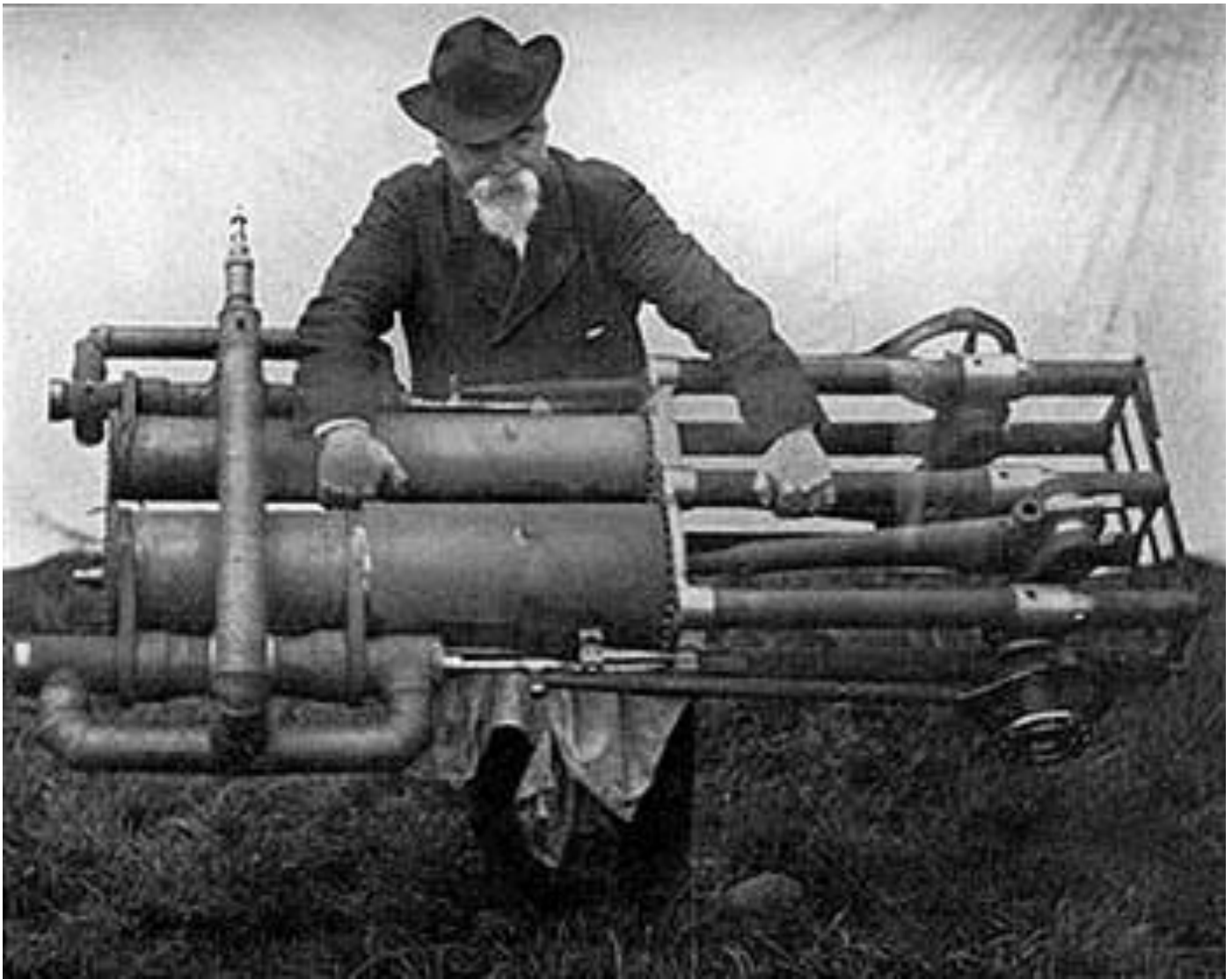
To demonstrate the potential, the plane was built and tested on a track 1800' long. These rails guided the plane and restrained it from lifting.

Of more interest to us was that this plane was powered by steam, and had its own light weight boiler and twin cylinder double acting compound engine.

During testing the plane developed so much lift that it broke the restraining rail and came to grief.

From calculation, it was determined that it had generated 10 000 pounds of lift.





10.—THE BOILER AND FEED-WATER HEATER.

The products of combustion first pass through the steam-generating tubes, and then part with the greater portion of what caloric remains by coming in contact with the small tubes immediately above, which form the feed-water heater.

There are not many 180HP engines that can rest on your knees. This a pretty incredible effort in the 1890's when light weight alloys were not the norm.

Similarly the boiler is an impressive, if complicated way to generate high pressure steam in a light weight boiler which included a waste heat recovery preheater.

There is a lot of information on this experimental plane in books and on the net.

The 108<sup>th</sup> Rally is nearly with us, and it promises to generate a lot interest. The President, Committee and members hope that all visitors and visiting exhibitors enjoy the day.  
Ed.