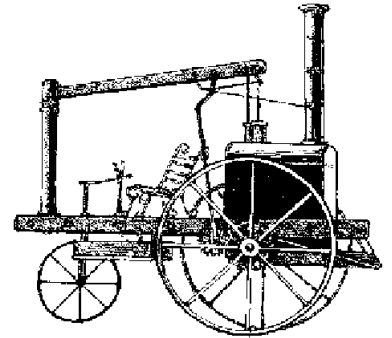


# *The Murdoch Flyer Project*

## NEWSLETTER

Issue Number 20

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[www.murdochflyer.org](http://www.murdochflyer.org)

10<sup>th</sup> YEAR - SPECIAL EDITION

## THE MURDOCH FLYER PROJECT 10<sup>th</sup> ANNIVERSARY

**FREE DVD FOR EVERY "FRIEND OF THE FLYER" \***

**This special edition newsletter celebrates our 10<sup>th</sup> anniversary and looks back at what our project members have achieved. Our principal aim has been to inform people about the inventions and achievements of William Murdoch by mounting displays and constructing the full size working replica of his steam carriage. We have promoted the town of Redruth and acknowledged Murdoch's significant contribution to its heritage.**



The Murdoch Flyer Project was formed at a public meeting held in The Chambers, Redruth on 22<sup>nd</sup> March 2000. Our first committee meeting was held on 29<sup>th</sup> March when John Baughan was elected chairman, the project team was established, the constitution of the project was drafted and plans were discussed for the construction of a large non-working replica locomotive partly financed by Redruth in Bloom.

The pictures above and right show our large static replica of Murdoch's steam carriage on the roundabout in Redruth.

\* Our vice-chairman, Keith Dinham, has produced a DVD entitled "The Murdoch Flyer – Ten Years Work" which is being sent free of charge to all current Friends of the Flyer.



## Construction of the large static Flyer.

Under the leadership of our engineer Nigel Eden, the construction team set to work designing and building a large static replica locomotive which formed part of the research and design for a full-size steam driven replica. Our extensive research included visits to the Boulton & Watt Library in Birmingham. Funds for construction of the locomotive were partly provided by Redruth in Bloom. Some materials were purchased from local companies which agreed to supply timber and steel at discounted prices. Profile cutting of steel plate was carried out for us by Teagle Machinery Ltd. Mr Andy Barrington-Smith, the owner of Sara's Foundry, Redruth, allowed us to use his workshop facilities in which to construct the locomotive.



The static replica on the roundabout

We exhibited the completed replica in Redruth town centre on Murdoch Day in June 2000 and in Victoria Park during Redruth Fun Day on 6<sup>th</sup> August. We were given a prominent display at the West of England Steam Rally held at St Agnes from 18<sup>th</sup> – 20<sup>th</sup> August. Our first year ended with the display of the replica at the mammoth 500-acre showground of the Great Dorset Steam Fair, the steam rally generally regarded as the greatest show of its kind in the world.

To gain maximum publicity, the static replica was ceremoniously lifted into position on the new Redruth roundabout near Tesco's using a large crane sponsored by Macsalvors. This was undoubtedly the high point of the year for the new locomotive! The static replica quickly became a landmark at the main entrance to Redruth town and a photograph of it appeared in a new book "Cornish Inventors" by Carolyn Martin published in 2001 by Tor Mark Press, Redruth.

In 2003, Redruth in Bloom was disbanded and the Flyer project received £250 from the group's assets and acquired full ownership of the static replica.

## Fund Raising

In addition to raising money to construct the replica steam carriages, we had to raise funds to cover our running expenses, public displays etc. We organized many events in order to do this including raffles, competitions, sales stands and social evenings. We sold key rings, fridge magnets, notelets, pastille burners, tee-shirts, caps and we had postcards printed of the static flyer which we also sold. A project website designed for us by the Redruth Community Association Open Access Centre considerably enhanced publicity for the project. We received excellent support from the public in and around Redruth and soon this spread to many parts of the UK and also abroad. In October 2000, we launched a scheme whereby members of the public could become a "Friend of the Flyer" and support the project financially by paying an annual subscription of £5.00 and giving us other voluntary donations. This was an immediate success, not only in the Redruth area, but also throughout the UK and abroad. Viv Burt has been our project treasurer since March 2000 and has kept close control of our bank account. Too many people have donated money to this project for us to acknowledge them all here.

## Sponsored Boiler Suits

To enable the public to identify our project members at displays, early in 2001 Cornish Linen Services of Pool, near Redruth, sponsored smart black boiler suits for us to wear. Sewn on to them were attractive woven black and gold Murdoch Flyer badges specially designed and made for us by Frans Stapert, a Friend of the Flyer in Holland. These boiler suits have become our project uniform and they are still worn at our public displays.

## **Limited Edition Prints**

A specially commissioned painting by local artist Paul Francis was issued in 2001. The painting shows William Murdoch demonstrating his model steam carriage in his home in Redruth to the young Richard Trevithick and his friend Andrew Vivian. We are very grateful to Paul who donated his original painting to the project and gave us permission to produce limited edition prints from it. The original painting and signed prints sold well raising funds for the project. A few unframed prints are still available for sale.

## **Design of the Working Steam Carriage**

£500 was awarded to us by Kerrier District Council to carry out a feasibility study needed to support applications made by the project team for funding for the project. We received a grant of £500 from Redruth Town Forum to enable further research to be carried out. Work by members of the project team continued on the design of a full size steam driven replica of Murdoch's steam carriage. We obtained help from local consultant engineer Ivor Corkell who subsequently joined the Flyer project team. Our aim was to ensure the steam carriage would be as authentic as possible whilst complying with present day safety and insurance requirements.

## **Redruth Time Capsule**

In 2002, items related to the Murdoch Flyer project were placed in the Redruth time capsule which is destined to remain sealed for the next 100 years. The items included copies of our project newsletters, a Flyer postcard and a Flyer key ring. None of us expect to be around when the time capsule is opened but the community of Redruth around 2102 will be informed about this project and who knows, our working replica steam carriage might still be on display in the town. We will have helped to perpetuate the name and achievements of William Murdoch!

## **CD – “The Ballad of William Murdoch”**

A compact disc, “The Ballad of William Murdoch”, written, performed and professionally produced for the Flyer project by Ed Hamilton was launched by Paul Wills on BBC Radio Cornwall on Saturday 2<sup>nd</sup> November 2002. The sleeve features pictures of the Flyer replica, contains a brief biography of William Murdoch and gives information about the Flyer project. The CD was initially available from various retail outlets in Redruth and from the Cornwall Centre and the proceeds were donated to the fund raising efforts of the project team.

Ed Hamilton was elected an Honorary Member of the Flyer project in recognition of his valued support. There are still a few copies of the CD available for sale.

## **Workshop Facilities**

When construction of the large static replica was completed, we had to vacate our temporary workshop premises at Sara's Foundry. Through the generosity of Redruth Councillors Mr and Mrs Dinham, who were Friends of the Flyer, the project team was offered the use of a workshop at their home. We looked at the building and found the facilities ideal for our needs. The project team moved into the workshop during December 2001 and we have been working there ever since. This workshop has been exceptionally valuable to the project team. Keith subsequently became our vice-chairman and Sallie is one of our most valued project members. The team acquired a considerable amount of equipment and machine tools, including lathes, drilling machines, a mechanical saw, welding equipment, a quantity of hand tools, steel stocks and other materials. Most of our construction work has been carried out in this workshop.

## **Flyer Construction Fund**

Early in 2003 we launched an appeal to raise £40,000 which we estimated we would need to build and display the full size steam driven replica locomotive and a support coal and water wagon. A sum of £5,800 previously raised by team members was used to start the fund. We have raised more than £44,700 to date of which over £42,500 has been spent on locomotive and wagon construction and display costs. We incur maintenance, insurance and display costs each year and this fund is still in use to raise the money necessary to keep the project viable.

## 1/3 Scale Test Boilers Constructed



The project team built two 1/3 full size boilers of different designs for test purposes and fitted each one to a 1/3 scale locomotive chassis. After carrying out performance trials using both compressed air and steam, decisions were made and one of the boilers was tested and insured for live steam public demonstrations. We displayed this 1/3 size carriage in steam on the streets of Redruth on Murdoch Day 2003. In 2004, our Murdoch Day display was held in Alma Place where we presented a miniature steam festival and our replica was joined by a number of miniature steam locomotives

Left: the 1/3 scale steam carriage under test.

## The Princess Royal Visited the Murdoch Flyer

We were delighted to welcome The Princess Royal to our stand in the Cornish Heritage Marquee at the Royal Cornwall Show on 5<sup>th</sup> June 2003. The princess spent about five minutes on our stand and asked questions about our replica locomotives. John Baughan and Ivor Corkell, who were on the stand at the time, told her about William Murdoch's achievements, explained to her that his carriage was the first steam road locomotive and that its design was unique. She showed considerable interest in the project and the progress being made.

## Father Christmas Helped The Flyer!

During 2003 Mr Greg Woods, the owner of Hobby Club in Camborne, offered the project team the opportunity to raise funds by running Santa's Grotto in his store. We accepted and purchased and wrapped hundreds of presents. Members of the project team and a few friends underwent the required investigations for working with children and filled the role of Santa. We recruited some of our wives to help as Santa's assistants. The children were happy, Greg was happy and our funds increased significantly from his generous offer.

## Flyer Project Featured in Leading Magazines.

The publicity of this project has been greatly helped by features appearing in the press and leading magazines. The August 2001 issue of the UK's best selling heritage magazine "Old Glory" published a three-page article about the Flyer project. This magazine is also distributed in the United States and many other countries and it was very helpful to us in the early stages of the project. The Flyer featured again in this magazine in June 2004. On Murdoch Day 2007 their photographer, Roger Hamlin, came to Redruth again to photograph the full size replica running under steam and this resulted in a further two-page feature in August 2007. These articles have helped to give the project worldwide publicity.

Features have also appeared in a number of leading Cornish magazines and journals including Cornish World (Summer 2003); Cornwall Today (June 2004); Heritage Focus Magazine (July 2005); Camborne & Redruth Trading Pages (December 2005) as well as the local papers.

## Murdoch's Wooden Horse

As a boy, William Murdoch helped his father to build a form of tricycle on which he and his brothers are thought to have ridden to school. Project team members constructed a replica of this vehicle and it has appeared in the Redruth carnival. It has been taken to local schools for the children to learn about Murdoch's achievements and has also been ridden around Victoria Park on Redruth Fun Day, as shown in the photograph on the right with Sallie Dinham steering whilst Keith Dinham and Nigel Eden provide the motive power.



## The Flyer Project Celebrated Murdoch`s 250<sup>th</sup> Anniversary

William Murdoch was born on 21<sup>st</sup> August 1754. Members of this project arranged a well attended seminar entitled "William Murdoch – the forgotten engineer" at the Kew Bridge Steam Museum in London on Thursday 15<sup>th</sup> July 2004. The seminar was chaired by the scientist Professor Heinz Wolff, known for his television series "The Great Egg Race". Speakers included Janet Thomson, a Friend of the Flyer and author of Murdoch`s biography "The Scot Who Lit The World"; Peter Glass, an Honorary Member of the Flyer project and a descendant of William Murdoch; John R Taylor, a Friend of the Flyer and holder of the Sugg Heritage Award for his 1988 paper "William Murdoch – Mechanician, Maverick and Medallist" who has toured the UK and Australia giving talks on William Murdoch; George Demidowicz who led the Conservation and Archaeology Team at Coventry City Council which carried out archaeological work at the Boulton & Watt Soho Foundry in Birmingham; Ivor Corkell (our consultant engineer) and John Baughan, our project chairman. Following the seminar, the delegates attended the official opening by Peter Glass of an exhibition entitled



"William Murdoch – Mr Watt`s Right Hand Man" which was open to the public from 16<sup>th</sup> July until 26<sup>th</sup> September. A display included two scale replicas of Murdoch`s 1784 steam locomotive loaned by Nigel Eden and a replica of Murdoch`s oscillating engine loaned by Donald Nicholson of Penzance. This exhibition informed thousands of visitors to the Kew Bridge museum about the outstanding contributions to the world made by William Murdoch. We were very grateful to Leslie Bossine, at that time the director of the museum, and her staff for their co-operation.

On 21<sup>st</sup> August 2004, the actual day of Murdoch`s 250<sup>th</sup> anniversary, our chairman John Baughan visited his birthplace, Bellow Mill in Lugar, Ayrshire and signed the visitors book on behalf of all members of the Murdoch Flyer project.

## Our Steam Carriages on Television

Members of The Murdoch Flyer Project took part in filming a 30-minute programme about William Murdoch which was shown on Sky Television`s Discovery channel in October 2005. Nigel Eden, with other project members, steamed a replica of Murdoch`s model locomotive for the cameras at the Pool engine house, Redruth and our one-third full size locomotive was also featured. The programme was one of a series presented by Mark Williams.

## Construction of the Full Size Locomotive

American Ash timber for the chassis was cut to size and shape, glued and fastened together with tie-bolts, then planed, sanded and stained. We obtained an old cast steel front wheel and fabricated the two rear wheels from steel. Heat was applied to forge a rear axle to a "U" shape to accommodate the firebox. Timber for the column was cut to size and glued and laminated under pressure. We didn`t have a suitable lathe on which to turn it so Nigel and other members built one in the workshop and the column was turned to its correct shape. Drawings of our specially designed boiler were approved by Lloyds Register and the boiler was made by Bell Boilers of Gloucester. Lloyds Register examined every aspect during the boiler construction and in July 2005 the completed shell was delivered to Redruth. Riveted steel cladding plates, the firegrate, cylinder support frame, chimney, insulation and boiler mountings were made by our members in the workshop. The boiler was lifted on to the locomotive chassis early in May 2006 and it fitted perfectly!



The photo on the left shows Julia Goldsworthy, our local Member of Parliament, visiting our workshop on 19<sup>th</sup> May to see the progress made. Thousands of hours of work by project members had already been needed to design and build the locomotive and it still took us almost another year to complete it.

## Building the Coal & Water Wagon



The project team made a decision to build a coal and water wagon to support the full size replica Flyer locomotive. We obtained four old cast steel wheels which were sandblasted, fitted with bronze bushes and painted. Two axles were fabricated in our workshop. American ash timber to match the locomotive was purchased from Devon Hardwoods Ltd for the wagon body. Due to our own heavy workload, the chassis was built to our design by Woodcraft Joinery of Scorrier, Redruth. We placed the construction of the body and assembly of the wagon with Nigel Watts of Penponds,

near Camborne. Some other components were made in our workshop. The wheels, axles and other metal parts were painted in the Redruth town colour of burgundy to match the locomotive wheels. The finished wagon looked superb and was ready for display with the locomotive.

## Major Sponsors

We decided to acknowledge major sponsors of this project who donated £500 or more in cash or materials by affixing specially designed brass plaques to the support wagon. The 6" x 4" plaques carry the Flyer logo and the name of the sponsor. Sponsors who qualify to date are Charville Estates; The Cory Environmental Trust; Redruth Town Council; the Family of Alexander and Margaret Murdoch; Mr Ron Hodge; Transco plc; Atkins & Cripps Ltd; The Redruth Charity Trust; Redruth Town Forum; Redruth in Bloom; Kerrier District Council; Hobby Club, Camborne; Keith & Sallie Dinham; Nigel Eden; Ivor Corkell and Donald Trounson O.A.M.

## New Steam Locomotive gets a Great Reception

Our new locomotive was steamed publicly for the first time in Redruth on Murdoch Day 2006. A tremendous effort had been made by our dedicated project members to get the locomotive ready in time. Although the drive was incomplete and it was therefore only a static exhibit, just seeing the haze of smoke coming from the chimney, feeling the heat from the firebox and hearing the sound of the steam from the safety valve brought it to life. Work on the locomotive continued and by spring 2007, it was ready for commissioning trials. The locomotive boiler passed its annual insurance inspection on 10<sup>th</sup> May. Members of the project team commissioned the locomotive on Sunday 20<sup>th</sup> May. As Nigel Eden opened the throttle, the locomotive moved smoothly away from its starting point to cheers from watching team members. At the end of a short run he brought it quickly to a standstill. He opened the throttle once more and was off again, steering a figure of eight course, finally coming unscathed to a stop. The power available had to be adequate to drive the carriage under varying conditions, the braking and steering were assessed and overall the design proved to be satisfactory. Some temporary cast iron gears in the drive needed to be checked for size and suitability and were tested to destruction. It was a time for congratulations all round and especially to Nigel who had led the design and construction of the locomotive from the start of the project. On our return to the workshop, the team members celebrated in style and toasted our success with champagne.



**Here's to our success!**

Replacement gears to the agreed specification were ordered, delivered and fitted ready for our first full demonstration of the locomotive under steam on Murdoch Day 2007.

## The Project Team Delivers

On Saturday 16<sup>th</sup> June 2007, Murdoch Day, the completed full size replica was shown to the public for the first time in our display arena at the Royal British Legion car park in Redruth. By 11.30am steam had been raised and at 12.00noon our first public run was carried out for the assembled crowd and the waiting press photographers. Big cheers went up as Nigel started the locomotive for the first time



and there was even louder applause when he brought it to a controlled stop at the far end of our display enclosure. Further runs were carried out throughout the day. It had taken us seven years to fulfill this project objective but this was the day the project team delivered! It was a great occasion.

We demonstrated the locomotive running under steam again in the Royal British Legion car park on Murdoch Day in 2008 and 2009. The public came in large numbers to see our displays at these

events and the reception we received from them was superb.

## Murdoch Flyer Ale

To mark the completion of the full size replica Murdoch locomotive, Skinners Brewery of Truro agreed to produce a specially brewed beer "Murdoch Flyer Ale". A pump clip was designed and produced for the 3.8% ABV ale which was on sale at the Royal Cornwall Show in June 2007. We displayed the new locomotive as a static exhibit on the frontage of Skinners stand. It was ideally situated near the main ring and adjacent to the media centre. A bar serving real ales always attracts lots of people. The project derived considerable publicity from being in this location, including a ¾ page feature in the August 2007 Royal Cornwall Agricultural Association magazine. Further supplies of this special ale were on sale in selected Redruth bars on Murdoch Day 2007.



## Our Plans for the Future

We thank all our dedicated members who have raised the money, designed and built the locomotives and contributed to the success of this project. Our aim is to inform as many people as possible about William Murdoch's achievements and to continue to promote the town of Redruth and its heritage. We will display our static and working replicas of Murdoch's steam carriage, which was the first self-powered road vehicle in the world. We acknowledge the significance of his invention of gas lighting and the effect this had on the world but in the main we leave Murdoch House, his home in Redruth where he first installed it, to tell this story.

## Public Displays

Our aim is to continue to maintain the large static replica on the roundabout in Redruth to a high standard and to keep it on permanent public display. The full size working replica steam carriage will be insured, well maintained and will undergo its annual boiler inspection and steam test so that we can continue to give public displays of the locomotive under steam. Our plans for 2010 include a live steam display in Redruth on Murdoch Day in June and we again hope to have the locomotive in steam at the popular Boconnoc Steam Fair near Liskeard from 23<sup>rd</sup> to 25<sup>th</sup> July. At most other times during the year, we aim to have the locomotive and wagon on static public display in Redruth town centre.

## Market Way

In 2008 agreement was reached for the Flyer locomotive and wagon to be placed on permanent public display near Redruth town centre. Following the evaluation of a number of locations Charville Estates, who own Market Way, agreed to us using their premises. Their proposal enabled us to overcome our concerns about security and vandalism. The agreed site inside the market is covered by security cameras, is secure after closing time and under the eye of market staff during opening hours. We gratefully accepted their offer and the locomotive and wagon were placed on display during April 2008. We received a grant from Redruth Town Council to purchase a stainless steel barrier comprising three sections, each section carrying a specially designed and printed Murdoch Flyer display on a burgundy coloured background. Wall lights in the display area were fitted with flame-effect bulbs to represent William Murdoch's invention of piped gas lighting. An advertising board for the Flyer display was designed and purchased with the help of sponsorship from Redruth Town Council. During market opening hours the sign stands outside the entrance to Market Way. Three specially designed sign posts directing the public to our display were purchased and added to existing signs in the town centre. These double sided signs were cast to our design and finished in the town colour of burgundy. Our display was further enhanced early in 2009 with the provision of a computerised touch-screen display, supplied by Tell Systems Ltd of Plymouth, which was purchased by the project team with the help of a grant from Kerrier District Council.



## Project Website



Our website [www.murdochflyer.org](http://www.murdochflyer.org) has received many favourable comments and we thank Mrs Pat Parry, of Cornish Computing, for her valuable help in its design and keeping it updated. Pat has recently been made

an Honorary Member of the Murdoch Flyer project.

## Friends of the Flyer

We wish to thank everybody who has supported this project. We are grateful to all Friends of the Flyer who have sent us their subscription for 2010 and those who have sent us donations to our funds in addition. We hope you enjoy the free DVD which is being sent with this newsletter to all our current Friends. Most of the DVD's are PAL format but for those Friends in parts of the world where NTSC format is the norm, we have had some of these produced also. We hope you will be able to play the copy we have sent to you on your DVD player. If you have not yet paid your 2010 subscription, we look forward to receiving it. In order to distribute the DVD, this special edition of the newsletter is being sent out by post. Friends who normally have email copies will receive them again from the next edition.

We incur considerable costs for displays and transportation, annual boiler examinations, insurance, maintenance work, admin costs etc and we must raise more funds. Your financial support is vital to us if we are to continue live steam locomotive displays.

**We urgently need new members to come and join us.** We welcome new members to help us with locomotive displays and fund raising activities. We all have limitations and younger people would be a great help to us, especially with some of the heavier manual work that is necessary from time to time. Displaying the replica locomotive becomes more demanding for our older members each year and we need to train more locomotive drivers.

Anyone wishing to become involved with this project, to join our project team or support us by way of sponsorship or donation please contact us at:

The Murdoch Flyer Project, 94 Albany Road, Redruth, Cornwall TR15 2HZ. Tel 01209 212971 or through our website: [www.murdochflyer.org](http://www.murdochflyer.org)