Connecticut Flitzer Werke

The Baron and Baroness toast the Christmas painting of the Flitzer's tail in the colors of Kazakov, the Russian ace alongside whom Morrisov fought the Bolsheviks.

Lieber Spät Als Gar Nicht!

No, the schedule hasn't slipped," says Baron Ivan Morrisov. "Here at the Connecticut Flitzer Werke we continue to project first flight within a year.

"Every week we revise the schedule so that first flight is always within the next 12 months. That way we don't get discouraged. It's common practice.

"We've been consistent in this timetable, and we're sticking to that."

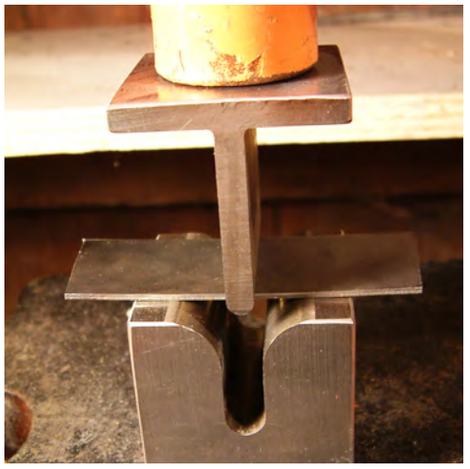
The influence of the Flitzer-style bullet nose is evident on this Focke-Wulf A.16A airliner, powered by a 100 hp Mercedes D.1. The date: Spring 1925, and Morrisov embarks four passengers in c/n 12, D-804.

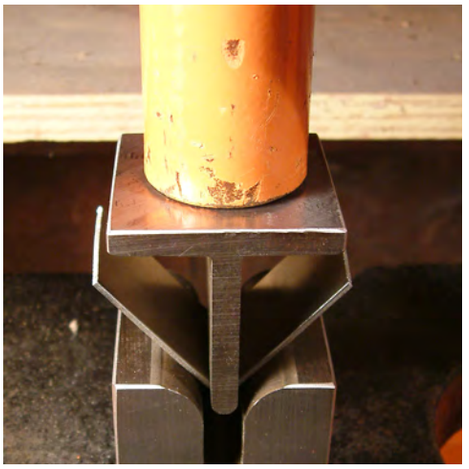
Flitzer: the Link with the Past

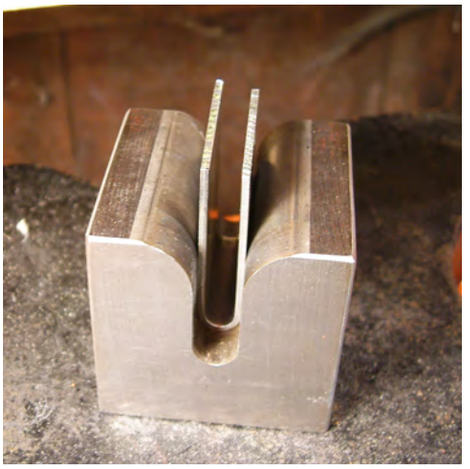
The post-war world of aviation in Germany—indeed, Europe—was quite small, and skilled pilots were in demand for start-up airlines, many of which had only a brief existence.

Baron Ivan Morrisov, fresh from his mercenary career fighting Red Russians for several years after the end of WWI, took various flying jobs before becoming a senior flight instructor at the *Sportflug GmbH fur Mittelfranken und Oberpfalz* at Furth, near Nuremberg, in the late 1920s and early '30s (where he was known for flying the blue-diamond painted Flitzer Z-21).

One of the airlines he flew for was Luftverkehr Osnabrück GmbH, with its small fleet of Focke-Wulf A.16A aircraft.

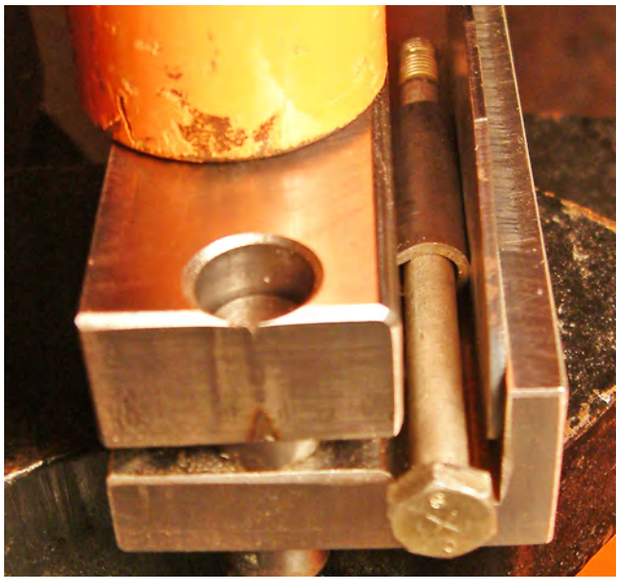






The roughly sized 4130 sheet steel is first of all bent into a deep U shape under the hydraulic press. There are other ways to do it but this is probably the quickest and simplest.

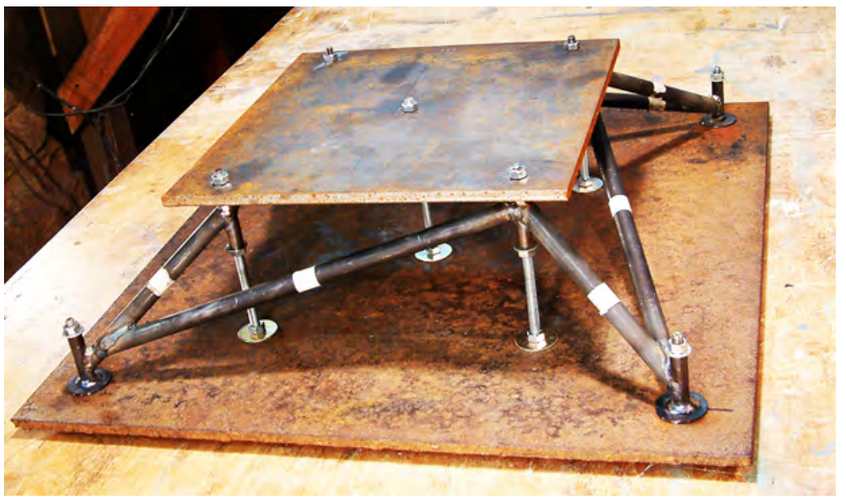
Making Flying Wire Shackles



It's hard to get excited about flying wire shackles but they do, after all, provide the attachment for the load carrying wires between the wings and fuselage. Making them is a project in itself involving bending, shaping and welding 4130 steel. The Connecticut Flitzer Werke borrowed the tooling from von Schneer, and used it in the 20-ton hydraulic press the Baroness uses for squeezing oil from garlic cloves.

The U-shaped piece of metal is next formed around a bolt. When satisfactory, the bent metal is shaped, welded along the sides, and drilled.

The Engine Mount



The engine mount was made of 4130 steel, and jigged for welding between sheets of 1/4-inch steel plate to ensure alignment. The top diagonal was added to reduce vibrations experienced on earlier AeroVee installations.

The mount is 5-1/2 inches from firewall to front face. Mounted on a firewall that is 2-1/2 inches further aft than on the plans, this should permit the GG to fall within range.

The engine backplate is reversed and the starter mounted on the right hand side. It clears the firewall by 3/4 of an inch.

The engine for the Morrisov machine was built up on the engine mount, itself mounted to an exact replica firewall attached to a 360-degree rotating stand. It is so much easier to rotate the engine into a convenient working position than to lay under it, flat on one's back, trying to get exhausts and plumbing to fit. The mount will be painted later.

Building an Engine 1

Some assembly required, it said on the box, and it wasn't kidding.

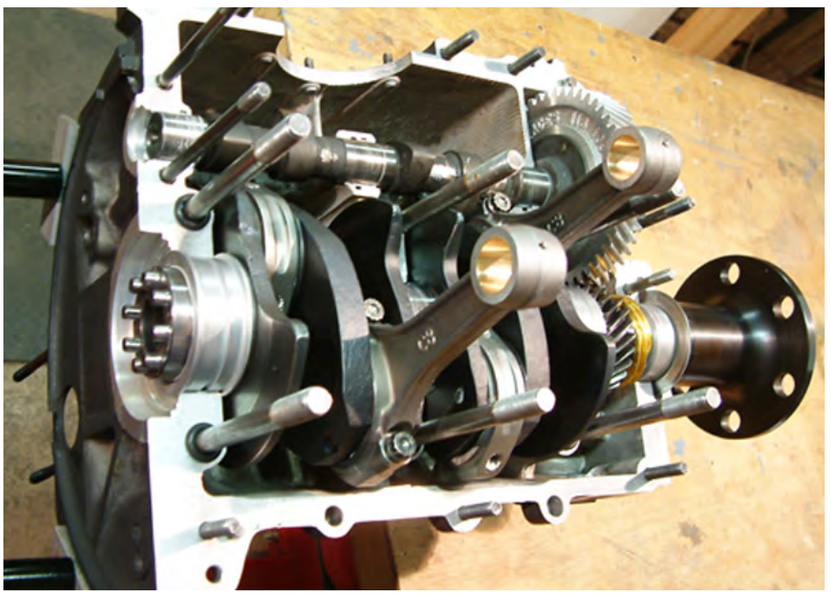
The Baroness asked why the skilled craftsmen of the Flitzer Werke were commandeering the kitchen, the cooking stove and the freezer, and the Baron explained the principles of interference fit and how shrinking one part and expanding another allowed all the parts to fit together properly.

The Baroness was not impressed by the clouds of acrid smoke from the burning grease, and was even less impressed when the Baron admitted all was in vain and the crankshaft, front bearing and propeller hub were going back to AeroVee to be fitted together in the professional oven.

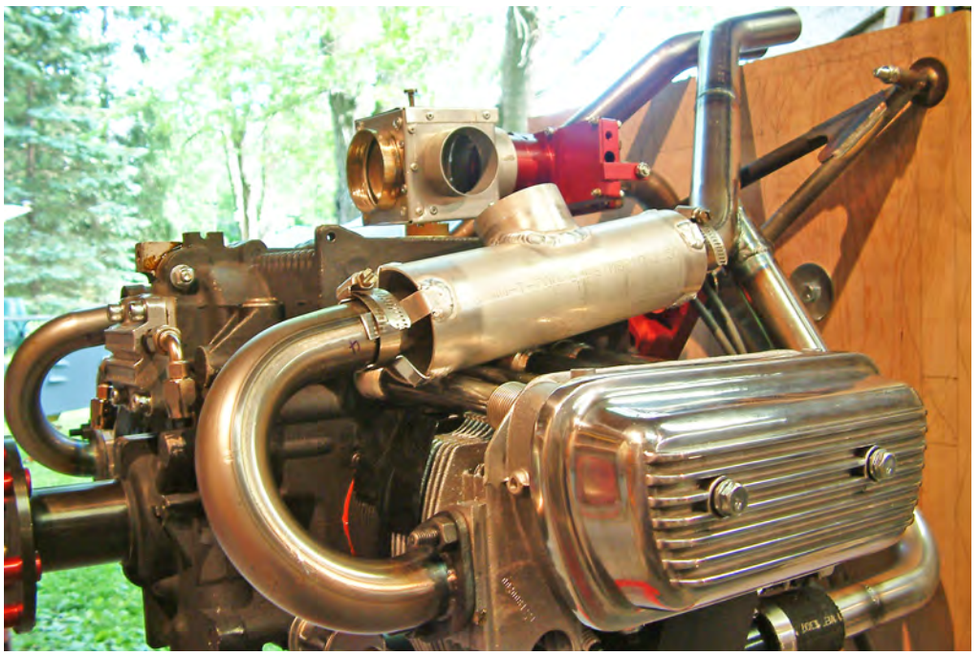
Assembly of an AeroVee is not a difficult task when one follows the instructions. One should watch the video first, arm the workshop with some good torque wrenches that go down to some quite small inch-pound measurements, and buy some of the VW special tools from the racing parts catalogs.

One should also make special tools from lumber to bolt to the flywheel or prop hub to prevent the crank turning when tightening crankshaft bolts to specified torque values.

Having said all that, building an AeroVee is quite a pleasant experience, especially compared to re-assembling a Triumph 650 under a lamp post. But then one hopes the AeroVee is never under a lamp post....



Engine 2



Upside down on the dummy firewall, access to the engine was easy. Note the Wasey-style carb heat muff.

The basic engine goes together very well indeed. Excellent instructions, and very little left to one's own discretion (thank goodness, because the Baron knows his own mind and he is best not consulted on some things, especially when he believes he knows all the answers).

Once assembled, and attached to the rotating dummy firewall and engine mount, the engine lends itself to being worked upon from any angle. This makes it so much easier for accessories and control runs.

Indeed, the Morrisov machine's dummy firewall will be drilled with all the necessary holes and be used as a pattern for drilling holes on the real thing. Saves so much time and aggravation.

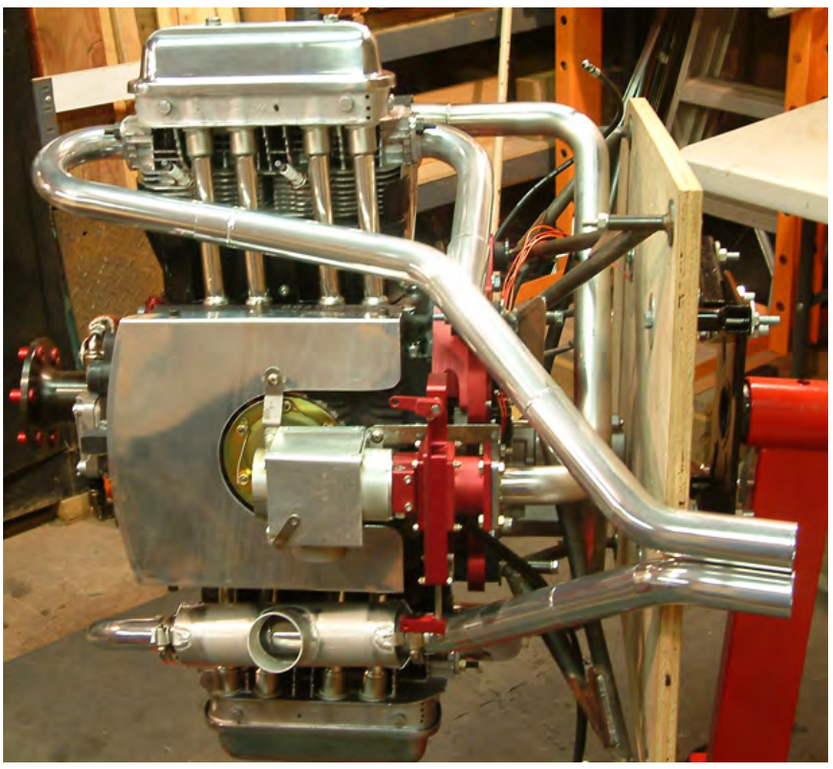
The exhaust system on the Morrisov machine is made from pipe sections obtained from Great Plains Aero. You have to mix and match, make it all fit, and then, of course jig it and get it welded. Not an easy task, but perseverance pays off.

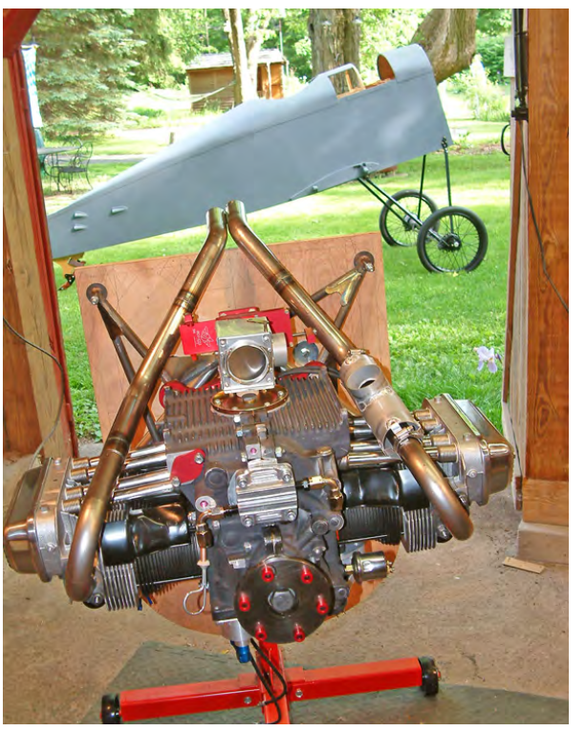
The exhaust pipes for the Morrisov machine were subsequently ceramic coated in aluminium finish by Jet Hot, who guarantee a drop in cylinder head temperatures of at least 10 degrees, though may people see much more. Every bit helps on an AeroVee. Another plus is that the coated mild steel pipes won't rust.

The Connecticut Flitzer Werke also added a Vasey-style carb heat muff, working on the assumption that no matter what AeroVee says about not needing such a system, there will not be any carb ice as long as the Wasey muff is in place.

Belt and braces? Maybe. Want to test it without one?

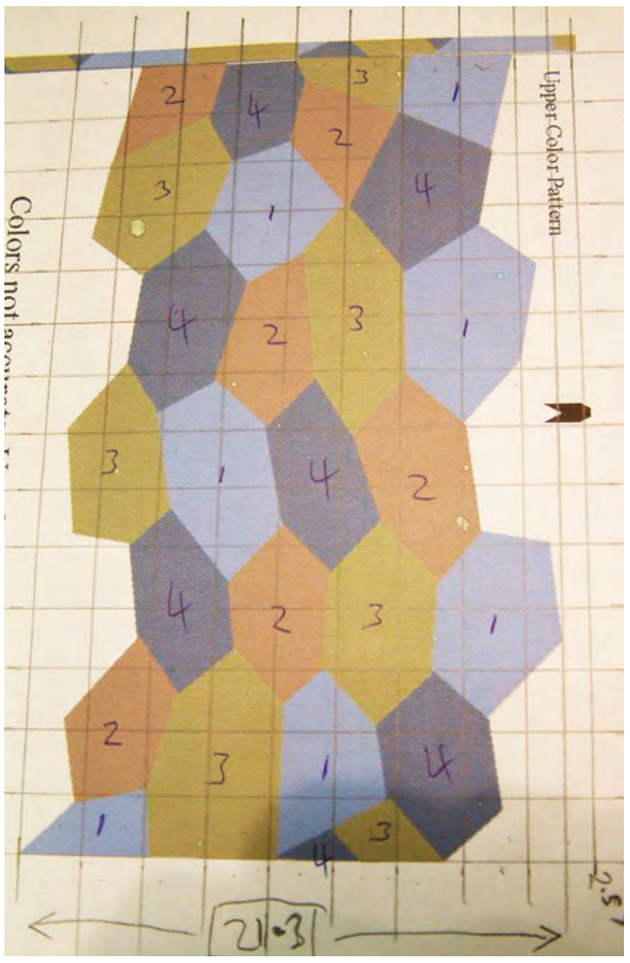
"The engine is finished. There is only one part left over, but Germans over-engineer everything. It will be OK."

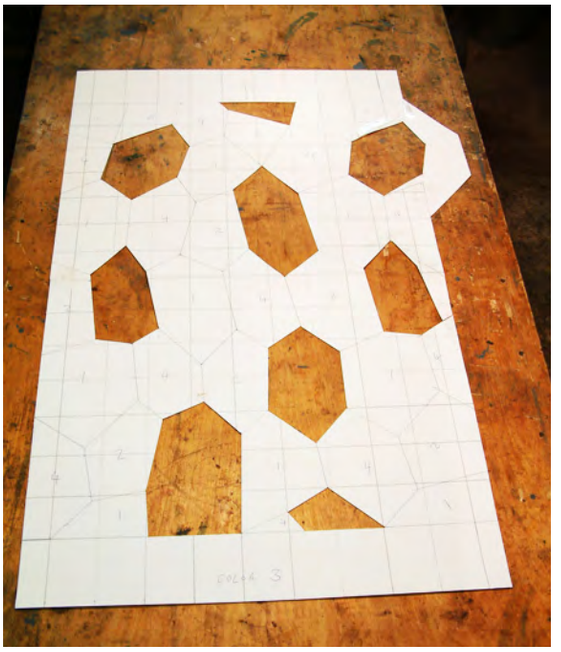


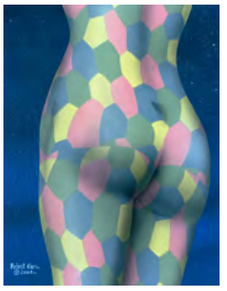


The exhausts show off their sparkling and heat reducing ceramic coating (left).

Painting Lozenges 1







Practice.

Earlier Flitzers were covered with surplus WW1 fabric that was delivered already printed with camouflage lozenges. The Morrisov machine replicates this effect with the four-color lozenge scheme for a Fokker D VII, scaled down to fit the narrower chord of the Flitzer wing.

First the lozenge pattern was drawn, and cardboard templates made for three of the four colors (the fourth, black, would be the default). The wings were sprayed black, the templates laid on, and lozenges of one color marked and masked. Lozenges were sprayed one color at a time. It took three hours to mask each color, half an hour to paint, and another hour to remove paper and tape and clean up. That's 4-1/2 hours - times 24!

"He's always in the Flitzer Werke—thank goodness, because he never wants to sleep anyway."
—Baroness Morrisova.

Painting Lozenges 2

How many lozenges on a Flitzer? It's at least 1,000. Just count the wing surface on the left, multiply it by eight, and there you are. Except you can't do it, because the lozenges do exactly what they are meant to do—they fuzz up your focus and make it difficult to home in on anything.

They have another quality: they change color with the light, selectively absorbing or reflecting the tones of their environment, imparting a Teutonic moodiness to the Morrisov machine.

The lozenges did the same to the Baron and his loyal staff as they painted away. Some workers are just emerging from treatment; the Baron's recovery may take longer.

"Herr Chest" routinely evaluated propellers at Staaken Flugplatz in the 1920s by comparing the thrust of various aircraft at takeoff power.

Here he takes on a pair of the popular Raab-Katzenstein RK-IIa biplane trainers; the one on the right was owned by the *Fliegerschule Bornemann* at Staaken and flown by aviatrix Marga von Etzdorf.

Note the Zeppelin hangar at Staaken, in the corner of which Staaken Flugzeugbau built the very first Flitzers.

Choosing a Propeller

Ask ten pilots what they consider to be the best propeller and you will get 10 opinions. It's not just diameter and pitch; blade shape and thickness make a difference, too. Most propeller manufacturers will size a prop for you based on maximum power, maximum revs and max cruise speed—but most people fall into the trap of saying how fast they think they're going to cruise, a number usually somewhat above what the aeroplane will actually do. The result: The plane is overpropped. It's like driving around in fifth gear.

The resurrected Morrisov machine will use a Prince Aviation propeller with rounded tips. The prop is sized to give 85 mph at the top of the AeroVee's torque curve (65 hp continuous at 3,100 rpm) rather than at max power of 80 hp at 3,400 rpm. The maximum possible prop diameter at 3,100 rpm while keeping the tips under the critical 80% speed of sound is 63 inches. Pitch is 31 inches. So the prop will be 63 x 31.

Interestingly enough a 63 inch prop moves 10% more volume of air than a 60 inch prop (you can do the math) so here's proof that size, rather than pitch, really does matter. At least, we think it does!

Wot a Weisswurst!

The Baroness greatly admires his weisswurst as they take a break from the Connecticut Flitzer Werke to share a traditional Bavarian *frühstück*.

After breakfast they will summon the workers from their cabins on the estate and begin another gruelling day at the benches where, it seems, there is much activity but little progress.

The resurrected Morrisov machine is now 90% complete but only halfway there. Those statistics seem to change little despite an increasing effort.

The Baron is considering depriving the workers of weisswurst and weissbier until they cut the mustard and achieve the next significant milestone. That will teach them.

The Mystery Year

Deranged by painting lozenges, Baron Ivan Morrisov was considered mad enough to attract the attention of Germany's security service. With his extensive knowledge of overseas politics, secret military flight training and manufacturing of the latest lead-in fighters in the Udet and Staaken works, he was solicited to work in various areas of interest around the world. So began a year in which the Baron promoted German aviation overseas while reporting back with the latest military developments in the countries he was visiting, all the while working to pull them into political and military alignment in the fight against Bolshevism.

Among the places he is recorded to have operated in the Levant and the Orient were:

• Japan: Revered as Morrisov-san, the Baron trained many pilots including Hiroyoshi Nishizawa (the son of a sake brewer and later to become Japan's leading ace) on the latest Western tactics in Imperial Japan's license-built Kawasaki Ki-21 Flitzers.

• The Middle East: In clandestine meetings, Morrisov helped develop market interest in Flitzer designer Ernst Kessler's Mantis counter insurgency aircraft. He also offered air support to Wilfred Thesiger's exploration of the Arabian desert's Empty Quarter, which turned out to be - empty!

• China: Befriending the eccentric English scientist and China expert Joseph Needham, who was also the accordion player for Thaxted Morris Men, Morrisov learned the traditional men's fertility dance to gain his trust. The Baron utilized Needham's extensive knowledge to infiltrate the Forbidden Kingdom.

From the Morrisov Collection

Ernst Udet liked to keep them in line. He is pictured here (ubiquitous cigarette in hand) with his happy band of fashion conscious test pilots. From these he chose who would fly the U-12 Flamingoes on test flights in Munich and who would join the cast at the Berlin film studios at the former Zeppelin works in Staaken where he made many films and contracted to provide aviators for many movies.

Udet insisted that his pilots dress ready to go straight from the cockpit to the caviar; to entertain at the dinner table of any budding starlet or dignitary. Pilots were not allowed to wear oil- or beer-stained overalls, even in the cockpit.

The sartorial Baron Ivan Morrisov is third from left.

Workers celebrate Labour Day, May 1—and also the beginning of their sixth year at the Connecticut Flitzer Werke.

"Always praise the workers, even when they haven't done anything; it costs nothing and they feel they have to work harder to deserve it."