NEWS · MAY 5, 2025

It was 20 years ago today

we going to hold hands and sing 'Kum-by-yah'?" Even worse, we had to talk about ourselves. The rest of the group prattled on about their great, fantastic lives. When it was my turn, I just said that I lead a very quiet and boring life. "Come on", one of the women said. "You must do something interesting?" The kid gloves came off. I gave a four-minute soliloquy about the WPA, fireworks in general, how I was going to Lake Havasu City that coming weekend for Western Winter Blast, and a very detailed description of WWB. "You win," responded one guy. "I wasn't trying to," I shot back. "Winterblast?", queried one of the women. "Isn't that a flavor of gum?"

I left Phoenix, on an endless trek thru dimly lit convenience stores and lonely truck stops in search of Winterblast (the place, not the gum). Over the horizon on Arizona 95 a white tent rose from the barren tundra (it gets cold sometimes). An eclectic assortment of figures was clustered around it, some with hard hats, and others in spirited discussion. I had found it!

I saw a few familiar faces as I signed up and received my credentials. The site was set up perfectly, nothing out of place. Since there was no sign of Major Nelson and Jeannie, I

both the SARA park site and spectator point.

The days had many fine seminars. I enjoyed the spider shell building; the instructor's explanation of black powder classifications was very informative. It was a nice tangent, and a lot of people were taking detailed notes. The other seminars were well attended, with all the participants thanking the instructors for giving their time to share their knowledge and keep the fires lit, so to speak. I don't do any manufacturing, but I still like to wander thru, it gives me a chance to meet other club members, and check out their area of expertise. It is also interesting to see how things are put together, and compare different techniques used by various people. The trade show at the aquatic center couldn't be missed, the vendors working very hard to provide pyro related items. The business meeting was packed, and congratulations to our new president Russ Laurie, and our new treasurer, Alicia Ledbetter. I always enjoy the afterglows, each year they get bigger and better. I guess next year will be the coq-au-vin and the pheasant under glass.

Oh yeah, I think we shot some fireworks, too. I always enjoy the displays. Bill Page from Silverado

was rocketing back to the Valley of the Sunstroke. My boss joked if I had all ten fingers when I returned to work. HA HA! I'm sure none of you get that one at your jobs. It was a very good WWB, and I hope to see you all at Do-It (wherever we hold it).

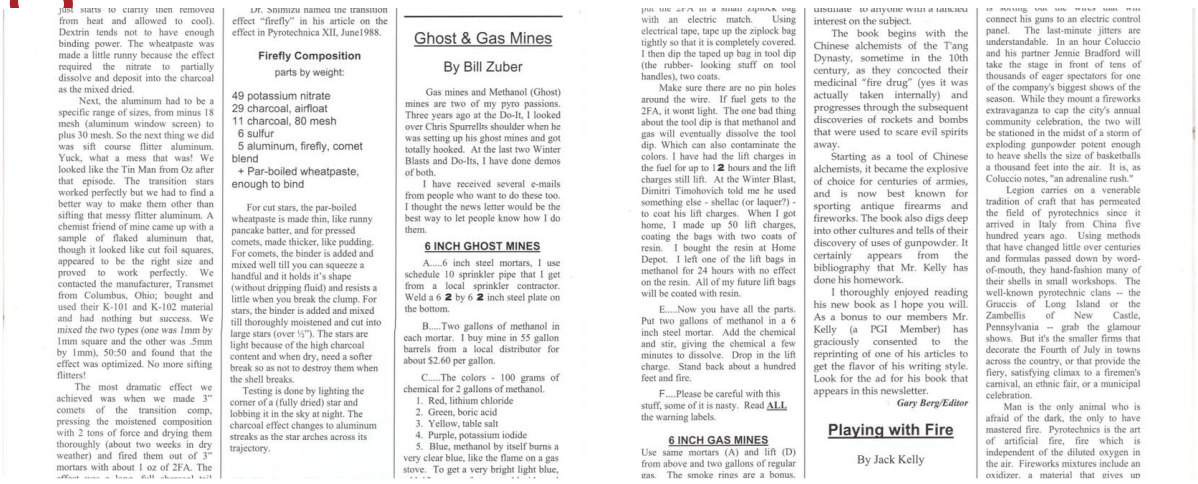
The Firefly Effect

by Steve Majdali ©2-28-04

It was either the 1986 or 1987 PGI Convention when many of us western pyros were captivated by the 'charcoal-to-aluminum-transition' stars, as they were called. A shell would lift and upon breaking a wonderful charcoal spider would develop, but before long the hanging charcoal tails would start to flicker with small white streaks which would appear randomly as the embers would drift slowly downward. Wow, what an elegant effect! We asked how it was done, but no one would tell us, other than it was Jerry Taylor's creation and they were all sworn to secrecy.

This wouldn't do, so one of us Southern California guys took the challenge and worked tirelessly with whatever clues he could get out of

gt Pepper taught the band to play



just starts to clarify then removed from heat and allowed to cool). Dextrin tends not to have enough binding power. The wheatpaste was made a little runny because the effect required the nitrate to partially dissolve and deposit into the charcoal as the mixed dried.

Next, the aluminum had to be a specific range of sizes, from minus 18 mesh (aluminum window screen) to plus 30 mesh. So the next thing we did was sift course flitter aluminum. Yuck, what a mess that was! We looked like the Tin Man from Oz after that episode. The transition stars worked perfectly but we had to find a better way to make them other than sifting that messy flitter aluminum. A chemist friend of mine came up with a sample of flaked aluminum that, though it looked like cut foil squares, appeared to be the right size and proved to work perfectly. We contacted the manufacturer, Transmet from Columbus, Ohio; bought and used their K-101 and K-102 material and had nothing but success. We *mixed the two types (one was 1mm by* 1mm square and the other was .5mm by 1mm), 50:50 and found that the effect was optimized. No more sifting flitters!

The most dramatic effect we achieved was when we made 3" comets of the transition comp, pressing the moistened composition with 2 tons of force and drying them thoroughly (about two weeks in dry weather) and fired them out of 3" mortars with about 1 oz of 2FA. The

Dr. Shimizu named the transition effect "firefly" in his article on the effect in Pyrotechnica XII, June1988.

Firefly Composition

parts by weight:

49 potassium nitrate
29 charcoal, airfloat
11 charcoal, 80 mesh
6 sulfur
5 aluminum, firefly, comet blend
+ Par-boiled wheatpaste, enough to bind

For cut stars, the par-boiled wheatpaste is made thin, like runny pancake batter, and for pressed comets, made thicker, like pudding. For comets, the binder is added and mixed well till you can squeeze a handful and it holds it's shape (without dripping fluid) and resists a little when you break the clump. For stars, the binder is added and mixed till thoroughly moistened and cut into large stars (over ½"). The stars are light because of the high charcoal content and when dry, need a softer break so as not to destroy them when the shell breaks.

Testing is done by lighting the corner of a (fully dried) star and lobbing it in the sky at night. The charcoal effect changes to aluminum streaks as the star arches across its trajectory.

Ghost & Gas Mines

By Bill Zuber

Gas mines and Methanol (Ghost) mines are two of my pyro passions. Three years ago at the Do-It, I looked over Chris Spurrells shoulder when he was setting up his ghost mines and got totally hooked. At the last two Winter Blasts and Do-Its, I have done demos of both.

I have received several e-mails from people who want to do these too. I thought the news letter would be the best way to let people know how I do them.

6 INCH GHOST MINES

A....6 inch steel mortars, I use schedule 10 sprinkler pipe that I get from a local sprinkler contractor. Weld a 6 **2** by 6 **2** inch steel plate on the bottom.

B....Two gallons of methanol in each mortar. I buy mine in 55 gallon barrels from a local distributor for about $2.60 per gallon.

C....The colors - 100 grams of chemical for 2 gallons of methanol.

1. Red, lithium chloride
2. Green, boric acid
3. Yellow, table salt
4. Purple, potassium iodide
5. Blue, methanol by itself burns a very clear blue, like the flame on a gas stove. To get a very bright light blue,

put the 2FA in a small ziplock bag with an electric match. Using electrical tape, tape up the ziplock bag tightly so that it is completely covered. I then dip the taped up bag in tool dip (the rubber- looking stuff on tool handles), two coats.

Make sure there are no pin holes around the wire. If fuel gets to the 2FA, it wont light. The one bad thing about the tool dip is that methanol and gas will eventually dissolve the tool dip. Which can also contaminate the colors. I have had the lift charges in the fuel for up to 1**2** hours and the lift charges still lift. At the Winter Blast, Dimitri Timohovich told me he used something else - shellac (or laquer?) - to coat his lift charges. When I got home, I made up 50 lift charges, coating the bags with two coats of resin. I bought the resin at Home Depot. I left one of the lift bags in methanol for 24 hours with no effect on the resin. All of my future lift bags will be coated with resin.

E....Now you have all the parts. Put two gallons of methanol in a 6 inch steel mortar. Add the chemical and stir, giving the chemical a few minutes to dissolve. Drop in the lift charge. Stand back about a hundred feet and fire.

F....Please be careful with this stuff, some of it is nasty. Read **ALL** the warning labels.

6 INCH GAS MINES

Use same mortars (A) and lift (D) from above and two gallons of regular gas. The smoke rings are a bonus.

distillate to anyone with a fancied interest on the subject.

The book begins with the Chinese alchemists of the T'ang Dynasty, sometime in the 10th century, as they concocted their medicinal "fire drug" (yes it was actually taken internally) and progresses through the subsequent discoveries of rockets and bombs that were used to scare evil spirits away.

Starting as a tool of Chinese alchemists, it became the explosive of choice for centuries of armies, and is now best known for sporting antique firearms and fireworks. The book also digs deep into other cultures and tells of their discovery of uses of gunpowder. It certainly appears from the bibliography that Mr. Kelly has done his homework.

I thoroughly enjoyed reading his new book as I hope you will. As a bonus to our members Mr. Kelly (a PGI Member) has graciously consented to the reprinting of one of his articles to get the flavor of his writing style. Look for the ad for his book that appears in this newsletter.

Gary Berg/Editor

Playing with Fire

By Jack Kelly

connect his guns to an electric control panel. The last-minute jitters are understandable. In an hour Coluccio and his partner Jennie Bradford will take the stage in front of tens of thousands of eager spectators for one of the company's biggest shows of the season. While they mount a fireworks extravaganza to cap the city's annual community celebration, the two will be stationed in the midst of a storm of exploding gunpowder potent enough to heave shells the size of basketballs a thousand feet into the air. It is, as Coluccio notes, "an adrenaline rush."

Legion carries on a venerable tradition of craft that has permeated the field of pyrotechnics since it arrived in Italy from China five hundred years ago. Using methods that have changed little over centuries and formulas passed down by word-of-mouth, they hand-fashion many of their shells in small workshops. The well-known pyrotechnic clans -- the Gruccis of Long Island or the Zambellis of New Castle, Pennsylvania -- grab the glamour shows. But it's the smaller firms that decorate the Fourth of July in towns across the country, or that provide the fiery, satisfying climax to a firemen's carnival, an ethnic fair, or a municipal celebration.

Man is the only animal who is afraid of the dark, the only to have mastered fire. Pyrotechnics is the art of artificial fire, fire which is independent of the diluted oxygen in the air. Fireworks mixtures include an oxidizer, a material that gives up

UNCATEGORIZED

Read it online

With the videos and comments: https://www.westernpyro.org/blog/it-was-20-years-ago-today