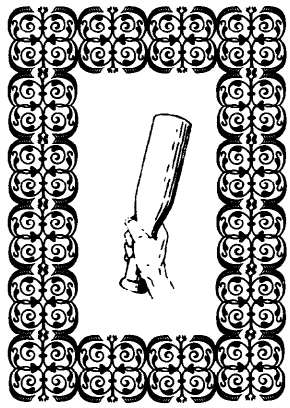


THE BEST OF

# The Cafe - Former

*Official Organ of The Society for the Defenſe of Tradition in Pyrotechny*

I.·. O.·. O.·. J.·.

"Magna eſt Veritas et prævalebit." – I. *Eſdras*, iij: 41.

SPECIAL EDITION

## A PRECAUTIONARY PREAMBLE

For the first time since *The Case Former* began publication, a collection of stories, articles, and other entertainments has been extracted from it and placed before the general public. It is our sincere hope that you, the reader, will find them enjoyable and amusing.

Some account of the founding of the Society for the Defense of Tradition in Pyrotechny (I.·.O.·.O.·.J.·.) and the conception of *The Case Former* may be found in the article "Fama et Confessio Fraternitatis," which is reprinted in this collection. Suffice it to say that while specific players may have changed since then (and, in some cases, they have not), similar factors are still at work in our small bailiwick of pyrotechny. The need for our Order, and for *The Case Former*, continues unabated.

As a quick perusal of these pages will reveal, living persons are very rarely mentioned by name in *The Case Former.* However, we can only repeat the words of the late, great, Robert Ruark, who wrote at the start of *Grenadine Etching*, his "very historical novel":

> *Anybody reckless enough to recognize himself as a character in this book might very well be right!*

V. MULCIBER

## FAMA ET CONFESSIO FRATERNITATIS

*Die Strählen der Sonnen*
*vertreiben die Nacht,*
*zernichten der Heuchlers*
*erschlichene Macht.*
–E. SCHICKANEDER

Last July, at the apex of that frenzied time of the season when the Fourth, Lower Hay Lake and preparations for the convention all seem to run together into some congealed mass of pyrotechnic overkill, something arrived in my mailbox that I actually noticed. It was just a foldover mailing, innocent enough for all appearances, but it bore a LaCrosse postmark, and it had been sent by the "Friends of the PGI," so it deserved a better fate than simply to be cast onto the ever growing pile of ads, bills and other crap that accumulates on my coffee table every summer until after Labor Day.

Now we all received one of these pieces of propaganda, so I don't have to elaborate on its contents, and we all recall who sent it, so I needn't name any names. I know that I wasn't alone in my feelings of shock, disgust and outrage upon perusal of this prime example of a horse turd. It was not so much the mailing itself, but more that it seemed to be the culmination of a wave of strange goings-on within the PGI–political meddlings, attacks on fireworks tradition, goofy safety restrictions and myriad other gusts of some ill wind that had been blowing for the last couple of years.

The usual pre-convention excitement was dampened by anxiety and fear, and I soon discovered that I was not the only Guild member with some awful questions looming in my mind:

- What would happen if the bogus straw poll presented by the "Friends" obtained the results they were looking for?
- Were there more of them than there were of us?
- Did this mean the end of *Pyrotechnica* and the death of the autonomy of our local clubs?
- Was our beloved Guild undergoing some horrible metamorphosis into a society of politically ambitious addlepates, safety fakers, fuse lighters, UFO chasers and dipshits who value their own egos more than fireworks?
- Where would we fit into such an organization?
- Would the convention become a gathering of self aggrandizing sandal wearers in approved safety goggles and flak jackets lighting cheap class C for an entire week?

Thank God, our fears were unfounded. The convention saw the Guild's elected officers steer us out of harm's way and proved that the general membership possessed great confidence in their abilities. But the question remained, how long would this stable situation last?

Out of the summer's mælstrom of anxiety and confusion, the seed of an idea was born - partly out of the necessity for a contingency plan should the PGI suffer the fate of old paste and go sour, partly out of mischievous sense of adventure fueled by countless bottles of the fine product of the August Schell Brewing Company. Those of us who banded together for fellowship, unity and the display of true skill in Pyrotechny needed somewhere to turn, some sort of loosely structured organization without dues, without serious rules, without political aspirations, and open only to those who could get along together for the purpose of furthering the cause of pyrotechny, out of a demonstrated love of fireworks, freedom and all that it could represent. Thus was conceived the "Society for the Defense of Tradition in Pyrotechny," better known to its members as the I.O.O.J. The Auburn convention saw the first manifestation of its existence, and the initiation of its first members.

It is a unique honor to be inducted into our number. You have been chosen for membership because you represent what is best in the world of fireworks, and because your opinions, ideas and companionship are valuable to others of a like mind. While we implicitly trust your judgement and do not intend to impose restrictions on your behavior, please use common sense to guide your conduct.

The I.O.O.J. is certainly not for everyone, and there is no need to even mention its existence to anyone who is not a member. Please stand by your fellow adherents to our obligation and always work to defend the traditional principles of pyrotechny.

The future looks quite rosy for our order – membership has been growing steadily since the convention, and a number of activities are in the offing for the 1991 convention in LaCrosse. Count on target practice and probably a party on Saturday after the convention proper is over. The Public Display for 1991 promises to be phenomenal, with many contributions from our members. I am confident that I speak for all of us when I say that I look forward to gathering in LaCrosse. May Vulcan smile down on us all!

BIANCO GASOLINI

## ON THE FORCED DRYING OF PYROTECHNIC DEVICES

*Felix qui potuit rerum cognoscere causas.*
–VIRGIL

No truly accomplished pyrotechnist is without patience. Indeed, the masters I have observed at work are patient and meticulous almost beyond reason – ramming countless spolettes, stringing and pasting innumerable pupadelles, all to be consumed in a few brilliant moments. To this, add the fact that all stars and components of artifices which are pasted need to dry thoroughly, and it is apparent that pyrotechny is hardly an endeavor of instant gratification.

The drying process may be speeded somewhat, of course, by an increase in heat, decrease in humidity, and increase of circulation of the surrounding air. Yet there are limits to the degree to which these conditions may be safely enhanced, as I discovered one June day over twenty years ago.

On that day, my lifelong friend and colleague, Stephano Flowarti and I were engaged in the construction of about a dozen marvelous yet lamentably obsolete devices known as cherrybombs. At that time, a company named Caseco sold the cardboard casing halves, along with the chemicals for flashpowder, 3/32" underwater fuse, and booklets for the construction of cherrybombs and myriad other infernal devices. All by mail, all without questions or need of a license – a blast from the past.

Ideally, the casing halves would be filled with the surprisingly virulent flashpowder we concocted by using three parts potassium perchlorate, two parts bright aluminum (600 mesh), and one part sulfur – measured by volume, usually with the kitchen's measuring cups and spoons. To assure intimacy of mixture, we ground the flash powder in a porcelain mortar and pestle; a practice I eventually came to grief from, but that's another story. Once filled and glued together, a hole was punched in the sphere and a length of 3/32" Visco type fuse was inserted. The cherrybomb was then dipped in Elmer's glue, dunked in a mixture of Elmer's and sawdust, and allowed to dry. To make them æsthetically complete, we spray-painted them red.

Fine and well, except that they took their sweet time drying, and didn't work optimally otherwise. Unfortunately, (and many I.O.O.J. members will surely sympathize) sometimes the uplifting of the spirit and brightening of the day that can only be brought about by a neighborhood-rocking explosion simply cannot wait for drying time.

On that day in June, our prescription for the doldrums was a batch of cherrybombs. The immediacy of our need to blow something up led to our fateful decision to dry our wares in Mrs. Flowarti's oven. We reasoned that on a "warm" setting, we could increase temperature. So into the oven, atop a cookie

sheet, went roughly a baker's dozen of cherrybombs. We looked in on them through the window often, anxiously at first, but after a time, (half an hour, an hour, who knows) we gained confidence that our reasoning and method was sound, brushing aside our concerns over the observations that those fuses certainly seemed a much darker green and had lost their shininess.

After ignoring the cherrybombs for a time, comfortable with their quiescence, Stephano warned that his mother would soon be home, and while Mrs. Flowarti was and is a kind and tolerant lady, we saw no reason to test those fine qualities. It just wouldn't have done to have had her glance into the oven to see our work like that. She was already becoming annoyed with the way seemingly everything in the house, especially the kitchen utensils, were turning silver, and with our noisy experiments in general, not to mention the attentions of Officer Maccini due to them.

And so, as Mrs. Flowarti drove into the driveway, we opened the oven door. In retrospect, we should have known we were doomed as we entered the kitchen, with its smell of scorched paper, but as it was, we watched with ghastly astonishment as all the fuses lit in unison. We glanced at each other with mirrored expressions of pop-eyed, gape-jawed, disbelieving terror, in the the best traditions of Wiley Coyote. Stephano slammed the oven door and we sprinted for the back porch door. As we cleared it, which was just about the time Mrs. Flowarti approached the front door, the oven blew. It was a colossal roar that came from the kitchen. It wasn't the usual joyous concussion, but the bellow of big, big trouble, followed by the crashing dismemberment of the oven door. We ran through the back yard and into the tall woods atop the rocky hill behind Stephano's house, chests heaving.

Moments later, we heard Mrs. Flowarti shrieking Stephano's name, along with several highly uncharacteristic expletives. We understood that we were hopelessly, irrevocably, abysmally screwed, and so we shambled out of the woods, shoulders hunched, heads low, only to see Mrs. Flowarti emerge from the roiling cloud of white smoke that billowed from the porch door and kitchen windows.

It could have been worse; no police or fire department, and thanks to the warm day and open windows, no broken glass. But then again, no more oven, thus no more allowance. The oven looked more like a pillow than the flat-walled box it had been, and its splintered wooden framework required much attention. It never really looked the same.

Mrs. Flowarti was never the same either. Two decades later, as we recounted misadventurous tales from our upbringings with her, we still couldn't raise more than a bitter ghost of a smile from her on that one.

Stephano and I have speculated endlessly over the mysterious physical and chemical mechanics of the incident. It seems evident that the lacquer-covered fuses, their ends somewhat frayed, had reached a kindling temperature lower than that of their black powder cores, requiring only the oxygen provided by the door opening to bring them to life.

Another puzzle is the mass-detonation of our cherrybombs. Although we have no way of confirming this, save the chilling prospect of repeating the experiment, it sounded as though there was but a single blast. There should have been a brief staccato of smaller explosions, since we cut our fuses with scissors, measured by eyeball. One possible explanation is that explosive and pyrotechnic compositions increase in sensitivity as their temperatures approach their reaction thresholds, and thusly we may have baked our cherrybombs to a horrifyingly high value of sensitivity, the first to explode detonating the batch in full.

As for us, Stephano and I have continued to exhibit all the symptoms of terminal pyrotosis. Yes, they took our chemicals and supplies away, but we acquired more. And yes, I blew myself up and spent two weeks in the hospital, but we all know that after being thrown from the horse, the best remedy is to get right back on...and so I did. Our knowledge grew as we did, likewise the magnitudes of our explosions. Newspaper articles, along with investigations of our efforts at some frightening levels, have reduced our activities considerably, though not entirely.

Still, all these years later, the stark nightmare image of all those fuses lighting simultaneously remains forever, indelibly scored upon my memory. No doubt my arrival at the Gates of Hell will be saluted by the apparition of an oven full of cherrybombs.

EDUARDO TELLERINI

## FLAMING JUSTICE

*Jus est ars boni et æqui.*
–JUSTINIAN

*My purpose all-sublime,*
*I shall achieve in time,*
*is to make the punishment fit the crime,*
*the punishment fit the crime.*
–W. S. GILBERT

The recent emphasis on the "War on Drugs" prompts my recollection of an incident a few years

ago, illustrating the possible application of pyrotechnics to this social crusade. I recount it here with great hope that it might inspire others to take similar action.

A close friend of mine was, at the time, a security guard in an apartment complex in a rather run-down section of one of the mid-South's rather run-down major cities. For the purpose of this story, we'll call him Mike (his real name). There lived in this complex a negress of mammoth proportion. Being white, and somewhat of an authority figure, Mike was a natural target for the constant verbal abuse of the obese she-gorilla. After several weeks of continuous harassment, Mike took note that the aroma of marijuana was one of the more prominent smells always emanating from "Aunt Jemima."

Being a man of good humor, and possessing a knowledge of the practical aspects of pyrotechnic materials, it occurred to Mike that he could extract a bit of revenge and at the same time strike a blow against drug abuse. With a broad smile and the drive of a man possessed, Mike simply fashioned a bogus joint out of two strands of heavy, dusted, black match, and a common cigarette paper. The loaded "joint" was then left where his tormentor was sure to find it. She soon did find it, and thinking it was heaven-sent, returned back into the squalor of her own creation to enjoy her new-found good fortune. POOF! – flaming justice – with the result that madame went on such a murderous, screaming tirade that Mike was called in to investigate and fill out a report. This he did while fighting a losing battle not to appear amused!

In his own words, "you wouldn't think those big old liver lips could get any fatter, but they did!" It took several weeks for the severe second and third-degree burns to heal – very quiet, pleasant weeks for Mike. Eventually the verbal assault resumed, but Mike would just politely smile and walk away, knowing he truly had enjoyed the last laugh.

SBIRRO DA PULIZIA

## CHLORATES AND SULPHUR – MENACE OR BUGBEAR?

Conservative, *n. A statesman who is enamoured of existing evils, as opposed to the Liberal, who wishes to replace them with others.*

–AMBROSE BIERCE

*And the Gods of the Copybook Headings said,*
Stick to the devil you know.

–RUDYARD KIPLING

The instability of mixtures of chlorates with sulphur, sulphides, or sulphates is widely feared by pyrotechnists. The experience giving rise to this fear commenced almost immediately after the first synthesis of potassium chlorate by Comte Claude-Louis Berthollet in 1786. The vigorous oxidizing capability of this compound was quickly discovered, and by 1788 the attempt had been made to substitute it for saltpetre in the manufacture of gunpowder. Experiments showed the chlorate gunpowder (variously reported to contain four, six, or seven parts of potassium chlorate to one part each of sulphur and charcoal) had superior explosive and propellant characteristics compared to conventional black powder. It was in that year that an horrendous accident took place at the French government powder mill at Essonne, taking six lives including those of the mill superintendent and his daughter. The powder was being prepared by stamp milling, then in use for all powder in France. What is remarkable about this occurrence, in view of current pronouncements upon chlorate/sulphur mixtures, is that the accident did not happen at once as stamping began. Several previous batches had been made without incident, and on the day of the explosion, milling had started before breakfast; the observers had left the site to take their meal, and returned to the mill, whereupon it exploded. Recognizing the demonstrable sensitivity of chlorate/sulphur mixtures to friction and shock, it is a point necessary to bear in mind that eighteenth-century stamp mills often exploded whilst preparing ordinary black powder.

The Essonne disaster is said by Brock and others to have dampened, for a time, the interest in potassium chlorate as an oxidizer in pyrotechnic compositions. However, the sensitivity to shock and friction of such mixtures was first exploited by Alexander Forsyth (1807) for the percussion priming of firearms, followed by variations on the theme such as those of Manton, Westley Richards, and Pauly. John Walker (1826) produced the first strike-anywhere matches. The first chlorate color formulæ were published by Ure (1821), showing sulphur as the principal fuel. As the use of such mixtures spread, accidents began to happen.

Nineteenth-century records are replete with accounts of spontaneous combustion of chlorate/sulphur mixtures. F.M. Chertier, in his first book published in 1836, recounts the spontaneous combustion of a mixture of barium chlorate and sulphur in 1834, which nearly destroyed his house, and did destroy his notes and records, compelling him to repeat much of his research. Chertier strongly encouraged the substitution of fuels such as shellac for sulphur, in his subsequent works published in 1843 and 1854. While Websky introduced lactose, and Tessier suggested rosin and even such unusual substances as pine pollen and powdered dried beef blood, these suffered, as did shellac, the defect of high price, and the use of sulphur as a general-purpose fuel

in colored flame compositions continued through the late nineteenth century. Brock describes numerous factory explosions during that period, the consequences of which were aggravated by the typical location of the factories in multi-story buildings situated in densely-populated industrial districts. It was in response to such devastating and tragic events that the British government first passed the Explosives Act of 1875, which incorporated the first "tables of distances," now a feature of explosives regulations in most countries; and then promulgated the famous order-in-council of 1894, which has stood since that time, prohibiting the admixture of chlorates with sulphur or with certain sulphur compounds in fireworks.

The British regulation takes the extreme step of forbidding not only the described combinations, but also chlorate/sulphur "contacts" such as occur when a chlorate star is primed with a sulphur-containing meal powder, or when a Japanese-style round star contains adjacent layers of a chlorate color and a sulphur-containing streamer composition. In other countries, the regulations are different or non-existent; in the United States, chlorates are banned from any but a few sharply restricted uses in Class "C" (shop goods), but largely permitted in Class "B" (display fireworks). Even where formal restriction is absent, as in the latter case, there is a general reluctance to combine chlorates with sulphur or its compounds except in certain very specialized applications.

An informed caution is not, however, the same as an irrational fear, a "taboo," or a bugbear. Many people, especially those who are ill-informed, display the latter rather than the former, not only with respect to chlorate/sulphur mixtures but with respect to any use of chlorates whatsoever. One of the present writer's friends was solemnly warned by a college chemistry instructor against spilling any potassium chlorate upon his clothing, which he was assured would spontaneously burst into flame were he so to do. Regrettably, strident and overblown warnings, not far different from this one, have been heard from persons, heavily bedecked with formal credentials, posing as authorities on pyrotechny. As for mixing chlorates with sulphur, this is heresy and witchcraft, directly related to a quick-term contract with the devil.

My purpose in this short essay is to explore *why* chlorate/sulphur mixtures have caused accidents, and how the informed pyrotechnist may, short of complete avoidance of their use, work safely. Three reasons for caution in approaching chlorate/sulphur combinations may be identified: sensitivity to shock, sensitivity to friction, and potential for spontaneous combustion. The two former may be objectively established and quantified, as indeed has been done by Shimizu. The last-named is more problematical, and deserves further examination.

Undoubtedly, spontaneous combustion, being unpredictable and hard to understand, was the hazard most feared in the late nineteenth century when the British order-in-council was promulgated, and when, if the historical record may be presumed accurate, the widespread use of chlorates with sulphur began to be abandoned in other countries even without the pressure of regulation. Pyrotechic compositions do not explode from friction or shock when undisturbed in storage, nor even when gently handled by skilled workers. If, however, they spontaneously ignite, they can create great damage. Well before 1894, it was thought that such occurrences were traceable to acidic sulphur, and therefore, stress was laid upon avoiding the use of "flowers of sulphur," prepared by sublimation and having impurities of sulphur oxides that, in the presence of dampness, formed sulphurous and sulphuric acids. "Washed sulphur" was advocated by many nineteenth-century writers for use with chlorates. According to Domenico Antoni:

> "...even sulphur in rolls or loaves can contain traces of acid, and to eliminate this totally, it is subjected, once pulverized, to a thorough washing with boiling water in which is dissolved 1% of potassium carbonate. Once cooled, this is decanted, and the sulphur washed twice with cold water. At last, the sulphur is emptied into a large cloth sack and hung up to drain and dry in the sun, or by artificial heat."

In retrospect, it is evident that the use of washed sulphur was not adequate to eliminate all problems, since ultimately the use of sulphur with chlorates was largely abandoned. Why problems with instability persisted then became a moot point as far as most pyrotechnists were concerned. It is a question that deserves attention, especially in view of the good safety record of the match industry, which routinely uses chlorate/sulphur mixtures in specifically friction-sensitive applications, and in quite large quantities. Undoubtedly the match industry is a comparatively sophisticated field as contrasted with fireworks, and its safety must in part be attributable to this. The fact remains that it is using materials deemed *inherently unsafe* by many authorities, whose judgment has been enshrined in legislation governing the fireworks industry.

Shimizu indicates that potassium chlorate by itself "does not react with nitric acid, but if there is potassium chloride present in the potassium chlorate, it causes a violent reaction with the generation of

chlorine dioxide. Accordingly, the amount of potassium chloride as an impurity is significant." In addition, some years ago a correspondent brought to the attention of the writer that the British Home Office seemed to think that calcium chlorate might be especially prone to spontaneous combustion, and had therefore ruled that hard water should not be used to damp star compositions because of the possibility that this compound might be formed by metathetical reaction between the potassium chlorate of the composition and the calcium salts in the water. These two observations lead to a review of the processes by which potassium chlorate was historically manufactured, with the thought that these might have had an effect.

Berthollet's first process for producing potassium chlorate involved passing chlorine gas through a solution of potassium carbonate. Later a solution of potassium hydroxide was used. The result was a mixture of potassium chloride, hypochlorite, and chlorate in water; these were separated by crystallization, the chlorate being the least soluble in water. Yields of chlorate were poor. Justus von Liebig introduced a process whereby calcium chlorate was produced by passing chlorine through hydrated lime (calcium hydroxide). Other chlorates were prepared by reacting the calcium chlorate, *e.g.*, with potassium chloride to produce calcium chloride and potassium chlorate, and separating the resultants by crystallization. The Berthollet and Liebig processes would likely have led to the presence of either some potassium chloride, some calcium chlorate, or both, in the final product, depending upon the process used and the level of quality control.

Electrolytic production of chlorates was introduced in Europe in the 1880's. The National Electrochemical Co. of Niagara Falls, started its production based upon processes used in England by its parent company, Allbright & Wilson, Ltd. North American Chemical Co. of Bay City, Michigan, undertook manufacture of sodium and potassium chlorates under processes licensed from United Alkali Company of England. Nearly all chlorates used in the United States prior to World War I were domestically manufactured. All perchlorates, on the other hand, were imported prior to 1910; in that year, Oldbury began domestic production. Imports increased after World War I. Between 1926 and 1933, all potassium chlorate was imported. In 1933 domestic production resumed, and by 1940, two plants satisfied the domestic market. Today, domestic production of potassium chlorate appears to have ceased, and Spanish, Swiss, and Swedish products have been imported at various times to fill the demand.

Sources of sulphur also changed in the late nineteeth century. Until the development of the Frasch process, which made possible the extraction of deep sulphur deposits through liquation with superheated steam and subsequent pressurized pumping to the surface, all sulphur came from superficial deposits found in association with volcanic activity. Sicily was a great source. Volcanic sulphur, unlike Frasch sulphur, is typically associated with metallic sulphides (including those of antimony and arsenic), and these are difficult to remove either by liquation or by sublimation. In contrast, Frasch process sulphur is frequently pure enough to be usable without further refinement. The present writer, while travelling across Canada, has seen huge piles of it, by appearance quite pure, awaiting loading rail cars.

Does it not, then, suggest itself that firework accidents might be correlated with the use of chlorates and/or sulphur as produced by specific manufacturing processes? The availability of these materials has varied, but at least at some periods must have been limited to a traceable source (i.e., all foreign or all domestic). It might be harder to tabulate firework manufacturing accidents, as accounts of these would not have been very widely circulated before the rise of the wire services and the ascendancy of the "newsghoul." Certainly, however, the heyday of spontaneous combustion accidents, which was also the heyday of chlorate/sulphur compositions, was the middle nineteenth century, when electrolytic chlorates were not available and the Liebig process was perhaps most widely used. Additionally, volcanic sulphur containing many impurities (e.g., arsenic, antimony, and iron sulphides) unremovable even by washing was mixed with these probably impure and unstable chlorates.

The nature of nineteenth-century chlorate/sulphur compositions also deserves consideration. Most of them were star compositions in which sulphur formed a considerable proportion – between ten and twenty percent. They were dampened to make cut or pumped stars, often using a soured solution of gum arabic! The potential for reaction in the dampened state must have been considerable.

The present writer has had opportunity to examine a substantial number of unpublished manuscript documents containing firework formulæ and production notes. Those prepared in the middle nineteenth century include chlorate/sulphur colored star compositions quite similar to those in contemporary firework books. Information from the period just prior to World War I and following cites star compositions much like those still in use today, without sulphur. The only instances in which chlorate/sulphur admixture occurs at this period is in flash or dark report compositions. A key element in the conversion, although its exact date is unknown to me, appears to have been the introduction of red gum (accroides resin), an inexpensive substitute for shellac. Since the potential for spontaneous combustion is increased in a situation where the composition is dampened, chlorate/sulphur combinations in star compositions

posed more threat of spontaneous combustion than did such combinations in compositions used in a dry condition, such as flash powder. This, and the use of unreactive "varnish" grades of aluminum in early flash powders, explains the retention of sulphur in such applications at a time when it had been eliminated from star compositions.

Recapitulating and concluding:

1) Spontaneous combustion arising from the use of chlorates and sulphur was a greater fear, and a greater real hazard, in the nineteenth century, than was sensitivity either to shock or to friction. Spontaneous combustion occurred largely with star compositions that were dampened, permitting reactions to take place in solution that would not have taken place in a dry condition.
2) Acidity of sulphur owing to adsorbed sulphur oxides was not the sole cause of spontaneous combustion accidents. Impurities in the chlorates used – principally potassium chloride and calcium chlorate – also added to the instability, as did the presence of arsenic and antimony sulphides in the sulphur. These impurities were present because of the sources or processes from which the chlorates and sulphur were derived.
3) Today's electrolytic chlorates and Frasch process sulphur contain very little impurity compared to nineteeth-century chemicals. It is probable that the susceptibility of mixtures of modern chlorates and sulphur to spontaneous combustion is thus much reduced in comparison with comparable mixtures in the late nineteeth century.
4) The sensitivity of chlorate/sulphur compositions to shock and to friction is well-established, and should be borne in mind if such mixtures are to be made.
5) Dampening of chlorate/sulphur should be avoided, and hard (calcium-containing) water should be avoided in dampening any chlorate-containing mixture.
6) Flash powder and dark report compositions containing potassium chlorate may be used if handled carefully – and are sometimes essential in certain applications. Effort should be made to confine them to such essential applications.
7) Contacts between chlorate-containing star compositions and sulphur-containing meal powder primes do not appear to pose the hazard that straightforward mixtures of chlorates and sulphur do. However, any stars so primed should be dried as quickly as possible, by techniques well-known to the craft, *viz.*, spreading in thin layers on paper-lined, screen-bottomed trays, well-exposed to an atmosphere of moderate temperature (70°–80° Fahrenheit), well-dehumidified and maintained in constant circulation. Care should be taken in sifting excess meal from the dried stars.

Chlorate-containing mixtures, including a few chlorate/sulphur combinations, retain an appropriate place in fireworks. Chlorate stars using resinous fuels are particularly useful by virtue of their simplicity of preparation, ease of ignition, excellence of color, large flame envelope, and vigorous, speedy combustion that renders them unlikely to be blown blind ("high critical wind velocity").

Many of the anti-chlorate pronouncements the writer has heard are sweeping and uncritical. They more resemble the tub-thumping of an itinerant evangelist on the sawdust trail, than they do either the measured and sceptical analysis of the dispassionate scientist, or the seasoned advice of the experienced craftsman. It is ironic that many such declarations come from persons who, equally uncritically, embrace ammonium perchlorate compositions, often featuring metal fuels, and rejecting dichromate buffering ("too toxic") although dichromate buffering is the only sure way to avoid spontaneous combustion! The as yet undiscovered hazards of such compositions brings to mind the difference illustrated by Ambrose Bierce in the epigraph to this essay.

ERNST PFANTODT

*EDITOR'S NOTE: Class "C" fireworks were clearly meant to be used with a certain sort of carefree abandon; recent PGI conventions have, unfortunately, eliminated much of this element, and Class "C" shooting has become a regimented activity. Certain individuals have even converted the burgeoning concern for safety into an opportunity for entrepreneurship by first contriving, for example, to institute rules requiring the use of safety paraphernalia, and then setting up to sell the same. The writer thinks the rot set in six or eight years ago, and has steadily progressed. He recalls his first serious run-in was at Ithaca in 1985, when he had been given a few pieces of the Japanese "senko hanabi" to try. Upon walking through the gate to the track he decided to try one, but within a few seconds of lighting the tiny firework he was accosted by an orange-vested wannabe commissar, who descended upon him shrieking "YOU CAN'T DO THAT HERE! CAN'T YOU SEE HOW CLOSE THE MAGAZINE IS?" (it was about 100 yards away).*

*The following article presents a proper view of the use of class "C" fireworks, which is in stark contrast to current attitudes within the Guild. Those of us who have actually witnessed an exemplification of the recommeded technique can attest to its effectiveness.*

## Alcohol, Tobacco, and Class "C"

*Omne tulit punctum, qui miscuit utile dulci.*
–Horace

Do you yearn for a good Class "C" shoot reminiscent of some of the early PGI conventions? Do you despise the wimpy, no-account, candy-ass bullshit regulations infesting more recent attempts at Class "C" shooting? Well, all aboard then, folks, because here we go!

Fired in the proper manner, Class "C" fireworks can be fun, stimulating, and even worthwhile. The most important steps are these easy-to-understand points:

A. Quantity of Class "C" devices.
B. Methods of priming devices.
C. Type of Class "C" devices.
D. The correct frame of mind in which to view a Class "C" display properly.

I would consider 200 lbs. of Class "C" as a resonable minimum for a Class "C" display. The optimal scenario would be a dumptruck full of Class "C" dumped on a bonfire – maybe a whole bargeload all primed up!

The decent methods of priming include commercial powders (2F, 4F, meal, etc.) with nitrocellulose lacquer, gasoline, and campfires. In fact, when properly primed, the cases of Class "C" don't even have to be opened.

The types of Class "C" devices are also important. Since you can't make too much noise with them, try to get items that throw things as far as possible and make lots of sparks and light. Candles, birthday-cake items, and spinning fireworks such as New Sound Colorful Birds are preferred. Whistling items can also work nicely to accentuate the obnoxious factor. If you can simultaneously light and launch into the air large quantities of Class "C", so much the better (*e.g.* the now celebrated Dusterwinkle Candle Mine).

The final and perhaps most important point is the proper frame of mind for viewing a Class "C" shoot. For this, whether or not your safety glasses have been Officially Approved, you will need a quart of Jack Daniels, a good cigar or a good chew, and a supply of powdered-sugar doughnuts. Of course, the CPSC and others have so limited the type and amount of composition in every Class "C" device that we can be assured that all of these activities are perfectly safe.

Good luck, and happy shooting!

Imbibo N. Bourbonini

## LaCrosse Gastronomique, &c

*Lasciate ogni speranza, voi ch'entrate.*
–Dante

Oh, hell, it's that time of year again... hot, muggy, and worst of all, ungodly busy. Because this year's PGII Convention is being held in a location most familiar to me, for this issue of *The Case Former,* I feel it best to digress from my usual editorial capacity and attempt to provide some vital information about LaCrosse and environs. So, good folks, here it is – the I.O.O.J. companion's guide to LaCrosse and vicinity.

*FOOD:* People sure like to eat in this part of the world, as evidenced by the sheer number of restaurants. Some are obviously better than others, so I offer here a few of the better ones.

1) *House of China* – Copeland Avenue and Monitor Street, LaCrosse. A Chinese joint with a salad bar? Sounds goofy, until you realize that almost *every* dining establishment in Wisconsin has a salad bar. Excellent Szechuan and Hunan cuisine, large portions and reasonable prices. A sure, safe bet for lunch or dinner.
2) *Hunan Chinese Restaurant* – Fourth and King Streets, LaCrosse. Good standard Chinese fare, generous portions. No salad bar though.
3) *Disccascio's* – Southeast of LaCrosse on U.S. 14-61 in Coon Valley. A real treat. Fine pasta and veal, attentive service. Make sure to say "Hi" to Lou, the owner. He's a good guy and he loves fireworks.
4) *The Windmill Inn* – Also in Coon Valley. Top choice for breakfast. Huge volumes of food and coffee, reasonable prices. Order toast – it's made from homemade bread. Lunch is also available.
5) *Sabatino's Diner* – On Twilite Street, off U.S. 14-61 between LaCrosse and LaCrescent. Typical greasy spoon, open all night. Good food, reasonable.

*DRINK:* LaCrosse's entire reputation and economy are based upon the consumption of alcohol. You can't swing a cat but you don't hit a bar in downtown LaCrosse. These are the best I have found:

6) *The Casino* – Pearl Street between Third and Fourth, LaCrosse. Over 150 imported beers!! Ask to see "the list." If you have trouble deciding, ask Don – he knows. These people really know beer and how to serve it. Official I.O.O.J. convention headquarters.
7) *The Bluffside* – 2712 Main Street, LaCrosse. Nice place, but specializes in those real

sweet, fruity, candy-ass drinks that give you horrendous hangovers. Watch out – some of these go down like Kool-Aid and hit you like a ton of bricks.

8) *Shady Rest Inn* – On State Trunk Highway 162 in Chaseburg. Owners Jock and LaVonne Hastings love us. In fact, they love us so much that if you give them the due guard and sign of the I.O.O.J., you get a free shot of Jack Daniels. Need I say more? A must stop.
9) *Fjord Bar* – U.S. 14-61, Coon Valley. A real Wisconsin small-town bar. Cheap, potent drinks.
10) *Duty's* – State Trunk Highway 33, St. Joseph. Another one, complete with deer heads on the walls.

*MISCELLANEOUS:*

11) *Snell's Liquor* – Two locations, Fifth and Main downtown on U.S. 14-61 south side. Don't bring booze from home; Snell's has what you need, and real cheap, too.
12) *St. Francis Hospital De-tox Unit* – Tenth and Market, LaCrosse. Excellent, well-trained staff, good food, decent service.

Hope this all helps. The I.O.O.J. will be holding a party on Saturday, August 10. Bring guns and ammo for target and trap shooting, and plenty of Class "C". Imbibo Bourbonini will be demonstrating proper Class "C" display methods. Music will be provided by the Bishops and by the Skeletons, of Springfield, Missouri. This promises to be a real blow-out. However it is a *private* event. If you are not a I.O.O.J.er, a candidate for induction, or a special guest, you ain't coming – PERIOD. Someone will inform you as to location at the convention, if we want you there.

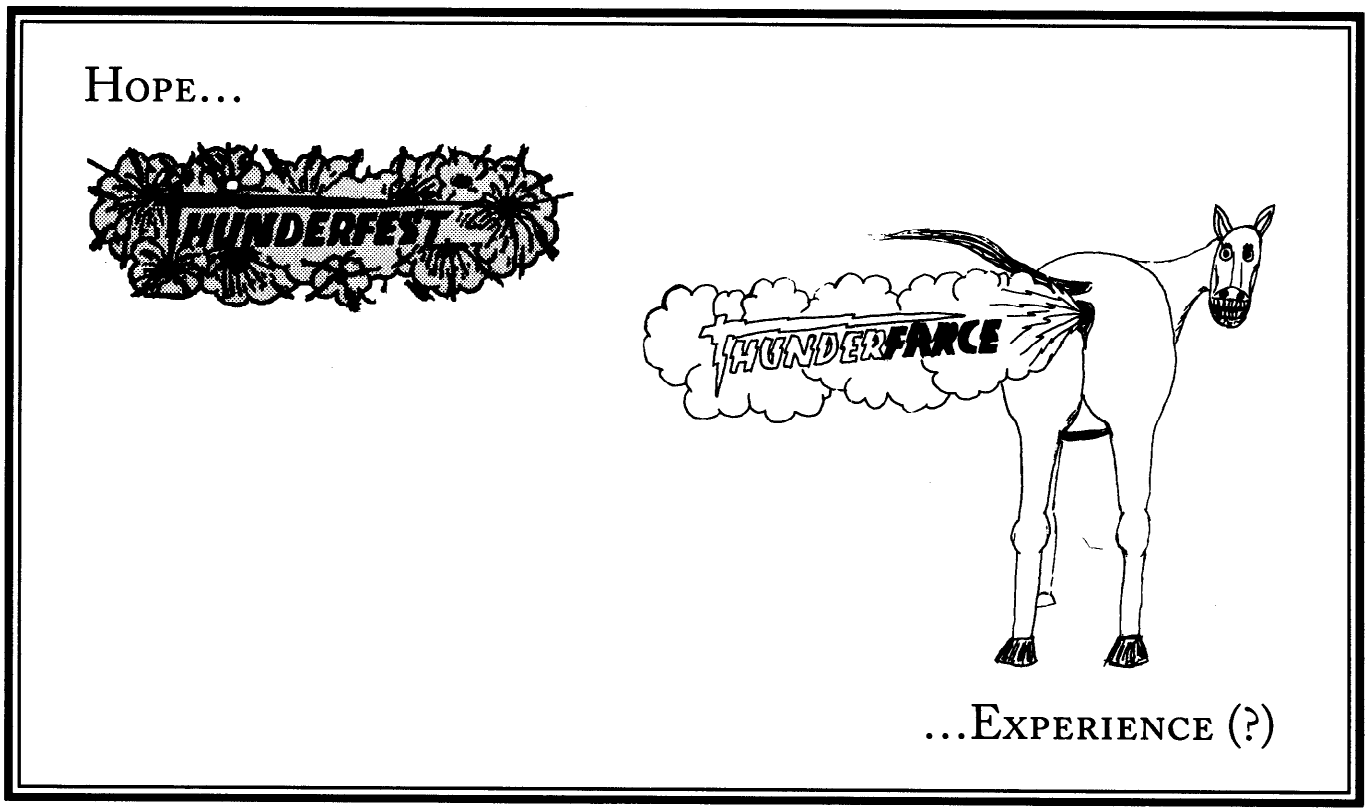
I look forward to seeing you at the convention, hope you all arrive safely, and that your stay is comfortable and enjoyable. May Vulcan smile down on us all!

BIANCO GASOLINI

## JUNGLE FEVER

*Animus meminisse horret.*
–VIRGIL

*"MELÉE AT FIREWORKS DISPLAY." "4 SHOT AT JUNETEENTH FESTIVAL AS PARTY TURNS VIOLENT,"* read the headlines of the daily papers of a large Texas city the morning after. "Juneteenth" refers, in standard English, to June 19, 1865, the day the blacks were emancipated in Texas. (You don't read about it in your school textbooks, but the Civil War continued after Appomattox in Texas, and the Yanks were soundly defeated in the last



battle!) The "Juneteenth fireworks display" in our city brings smirks or grimaces to those knowledgeable in the local trade. It has a history of being cancelled at the last minute because the organizers don't come up with the funding. When it *does* come off, it is always a challenge to find a willing operator to shoot the show – let's be candid – the unruly liquored-and-cracked-up crowds require that the operator have a police back-up to avoid a life-threatening situation!

Let's say that the Juneteenth show is not one that we go across town to see. It's at a park across the street from where my son is bused to junior high, over next to "Jamburgers" which is the "drugstore *cum* hamburger joint" for the schoolchildren. I could hear the show from my side of town as distant muffled thumps; little did I realize that enterprising young gunmen were using the WHOOMP! of the mortars to drown out the pings and pops of their handgun warfare, "triggering a melée in which four were shot, numerous others were beaten, and others still were trampled when the panicked crowd fled the violence."

I was reminded of the now infamous "C***/D*** Letters" exchanged before the PGI Convention held at Gary, Indiana in 1988, in which D*** related the story of his own Gary, IN display:

> Back in the mid-70s *** asked me to crew the Gary city fireworks show for the Fourth. Anyhow the Feds were checking me and my magazine and inventory almost monthly. Rumor had it that 1976 was "national takeover day" and they were checking to see that all explosives were intact. I sent my best crew up to Gary with my trailer full of 'works *and* my M1 Garand *and* my stainless .357 combat magnum. A couple hundred rounds for each and orders: "If it starts, kick the mortars down – aim at the stands, lay the finale down and shoot you way out and try to get home!!" The guns were at arm's reach everytime the loaders went to the trailer for a new box!

I don't know who shot this year's Juneteenth show but the paper tells us it was a "hot 95° summer night" and "the crowd was restless" when the fireworks began a bit after 9 p.m. "Youths" were standing on the park stage watching the fireworks when they heard the pop-pop of gunfire. Police moved in to aid the wounded, but "numerous fights flashed throughout the thick crowd and more shots were fired." Operators from the past Juneteenth shows have told me of having bricks and bottles thrown at them, racist taunts like "MF honky!," "Yo whitey!," etc.; also "taking cover" and "hitting the dirt" not because of a low break or dud but because of errant gunfire!

It would seem that shows in such "neighborhoods" would provide a unique opportunity to train the novice shooter. Anything he-or-she is likely to encounter *and more* will be experienced in such an environment. This is one high-stress place where the PGI-certified shootperson can put his-or-her safety goggles, headphone ear protection, and flak jacket (preferably bulletproof vest) to good use. However, he-or-she should not wear his-or-her Birkenstocks – wear combat boots and flame-retardant clothing!

I would dearly love to see certain naïve white folks in the PGI (or APA for that matter) shoot one of our Juneteenth shows down South. For example, those PGI'ers who have on occasion written to me bemoaning that we have no "black people on the guild," or criticizing "the men's-club-railroad car-cigar-smoking-brandy-sniffing-elitist-sexist-atmosphere" that certain of us have been accused of fostering. I can think on one particular loudmouth flack and self-promoter I'd *really* love to see shoot a Juneteenth show. *God knows* what would become of this person's shiny happy HDPE mortars! (They might make good industrial-sized crack pipes!)

"Womyn-in-the-Guild" who are excited about the prospects of combat duty in the army could also volunteer for Juneteenth show detail. Perhaps some of the tough sisters of our local chapter of "Queer Nation" (no kidding) could offer to be bodyguards for our brave "Thelma and Louise" who volunteer to shoot way over in MLK, Jr. Park. I'd also like to see some of our eminent intellectual panjandrums shoot (and dodge the shooting) on Juneteenth for the happy-go-lucky crowd of 10,000 who created mayhem yesterday. Let them try to enforce NFPA safety and distance guidelines and maintain crowd control in the "fallout zone" while dodging .22 and .38 bullets! Maybe they could pull it off if they had the aid of the 35 police and the SWAT teams used to quell yesterday's riot!

Oh well. Some would say it's not too bright even to have a show in such a place. Others would counter that such reservations are "racist." But we are rapidly arriving at a time in this country where worrying about trivial matters like NFPA1123 at firework shows is going to be forgotten in the day-to-day struggle to survive drive-by shootings, gang warfare, muggings, robberies, and what-have-you. Perhaps it was said best in the "C/D" letters previously mentioned: "I wouldn't subject *my* wife to Gary, Indiana!"

SEBASTIANO SBRUFFI

# The Effects of Confinement on Explosives and Explosive Gasses

*Indocti discant et ament meminisse periti.*
–Hensault

The physical laws which govern the mechanics of an explosion are well known to many I.O.O.J. members.

Boyle's Law states that the volume of a gas is inversely proportional to its pressure, and gives us mathematical means for predicting the effect of a change in pressure on a gas at constant temperature. It may be expressed as $V \approx {}^{1}/_{P}$, where V is volume and P is pressure.

Charles' law states that the volume of a gas is directly proportional to its absolute temperature, expressed by the equation $V \approx T$, where V is volume and T is temperature.

From these two equations, a third is derived, $V \approx {}^{T}/_{P}$, from which the calculations of the behavior of explosive gasses may be made.

Obviously, any increase in temperature increases the pressure of a gas. Increasing temperature also vastly increases the rate at which chemical reactions occur, such as those that produce explosive gasses.

Containing such reactions in strong vessels serves to not only contain the heat necessary to propagate the chemical reaction more quickly, but also to provide the confinement necessary to boost gas pressures to highly explosive values.

Thus it may be said that confinement is a crucial factor governing the performance of many explosives, particularly those of the non-detonating variety, such as black powder, and to an arguable extent, flashpowder.

The importance of confining an explosive charge was intuitively apparent to me from the earliest beginnings of my experiments. A well-dried cherry-bomb worked much better than a soft or weak one; the stronger the casing, the better.

In the absence of a proper cardboard casing, necessity one day prodded Stephano and myself to fill an empty Testors model airplane paint bottle with flashpowder, fused with Visco through a hole in the screw-on cap. Much impressed by the resulting section of collapsed stone wall that bordered Stephano's driveway, not to mention his toppled cinderblock cookout so rendered by a similar device later that week, the principle of confinement was thoroughly established to us. Soon the pill vials, perfume bottles, salt shakers, spice bottles and baby-food jars had all but vanished from our houses. And if glass was strong, steel was stronger.

With this in mind, the next logical question was: what is designed specifically to contain gasses under pressure? Well, a $CO_2$ cartridge is, for one thing. We obtained one and brought it to my basement laboratory, painstakingly filling it with flashpowder and fusing it with Visco. Stephano touched it off in front of my house. Standing not more than 35 ft. from it, the blast was most noteworthy, as was the divot in the sidewalk. An outstanding success, except for the sharp, jagged piece of twisted steel that it took a pair of vice-grips and all my scrawny might to pull from the clapboard side of my house next to the kitchen window. We'd have to watch that flying steel and glass problem. The $CO_2$ cartridge grenade become our standard device for neighborhood torment, terror, vandalism and fishing. Yet it was not without problems. Getting the fuses to stay firmly in place, yet watertight, was a surprisingly vexing challenge. Epoxy wasn't yet invented, Elmer's didn't stick to steel, and friction tape sometimes leaked.

"Solder 'em in, boys," was Mr. Stouk's advice, when Roberto Stenello and I ran the problem past him. "It doesn't get that hot," he said before we could reply, no doubt well-reading our exchange of askance glances, which harbored images of littered fingers and hospital rooms. Well, Mr. Stouk was a grown-up, wasn't he? Sure he was – he could fix our go-kart engines, and he swilled countless Carling Black Labels, so he should know best, right? With a loaded grenade in the vice, the soldering iron warmed up, came the moment of truth, and that was where the image of a finger-strewn basement won out; we unplugged the iron and muddled by with friction tape.

What else confines explosive gasses? Internal combustion engines, for another, and there was one of those on Stephano's brother's mini-bike. I took the cylinder head off the old Briggs and Stratton, placed the piston at the bottom of its stroke, and upon that placed a film canister full of flashpowder, replacing the head and running our last, *FAR TOO SHORT*, piece of Visco through the spark plug hole.

It was a quiet Saturday, and this morning's target was the peaceful picnic grounds and tennis court area near Kelly Pond. With the infernal engine in tow, we headed into the woods which sheltered the picnic tables. I agreed to light the damned thing, but my heart wasn't in it. This fuse was *SHORT*, gang, and everyone else was under cover when I tore out of those woods. I'll never forget the hissing screech that accompanied the blast from that baby, as all those pieces of cooling fin and head and cylinder ripped through air, branches and foliage. Autumn fell early in the park that morning, severed leaves and limbs raining down even as we walked back up the hill to ground zero to inspect our work. It seemed like minutes before the pieces of metal stopped dropping through the trees' canopy. This explosion was one of our finer efforts, and

we surveyed the scene with awe; nothing remained at all of the engine where it had been, save a splotch of oil and fragments of the boot plate. A dozen trees surrounding the site bled sap from shrapnel wounds.

The explosion seemed sure to bring Officer Maccini, but fetched only a pair of ashen-faced tennis players whose game we'd rent asunder. All in all, it was a great success, yet I was greatly troubled by all those bleeding trees. It was a miracle that I hadn't joined them. It was obvious that, while ideal for mayhem and destruction, steel-cased devices were ill-suited to recreational explosions. After all, the whole idea was to *watch* the explosion, and if you risked gathering a beanful of steel to do so, something was wrong.

Tommy DeChecco, my colleague from across town, reported much the same thing. His devices, known simply as DeChecco bombs, were frightening concoctions produced by:

1) Pounding one end shut on a length of galvanized or thin steel pipe.
2) Bend this end over in a vice and pound flat.
3) Pack pipe with home-made gunpowder.
4) Pound other end shut, double over in vice, and pound flat.
5) Drill 3/32" hole in middle of bomb.
6) Insert Visco and solder into place.

Tommy got away with making quite a number of these devises, which hissed furiously and spit gouts of flame before exploding, and retired from bomb-making with life and limb somehow intact.

Stephano and I were already considering the abandonment of steel and glass as casings when the last straw arrived.

Stephano set off an 8 inch firecracker, made of 1½ inch gaspipe with threaded endcaps, on his sidewalk. One endcap drove deep into the side of Stephano's already battle-weary house, leaving a ghastly wound when we'd pried it out.

And so it was that we returned to our origins and our paper tubes. They're not as strong as steel, so massively constructed casings, reinforced with fiberglass, had to be built. Half inch think walled cardboard tubes of three inch inside diameter, plugged with one inch thick oak endcaps, doweled and heavily glued into place, became our standard firecracker. A sixteen inch long firecracker so constructed could hold over two pounds of flashpowder, which was usually enough for our purposes; namely the humiliation and torment of the authority and citizenry of Boston's western suburbs. In a state where all fun is illegal, particularly fireworks, and where we had been stopped, interrogated, searched, chased and endlessly bedeviled by the police for a little harmless fun since childhood, we had developed a fine palate for revenge, and now it was ours to serve up, our recipes having been perfected to a high degree.

With these purposes and goals clearly in mind, Stephano and I embarked upon a methodical program of pyrotechnic retribution. Armed with a series of large, cardboard-walled firecrackers of various sizes, we began creating horrific explosions, close enough to populated areas to jam the police switchboards with irate complaints and frantic inquiries, yet without causing any damage whatever. We arranged things so that it was difficult to determine exactly where the explosion had originated, often hanging the devices from twine in tall tree tops, so that they created enormous air blast and little else.

Although we have no way of knowing exactly how much official consternation our efforts might have wrought, we are satisfied that we doled out sufficient misery to certain individuals with badges to at least partially even the score. We ceased operations when we learned of the involvement of the State Fire Marshal's office in the resulting investigation.

Several of our nights' work were rewarded by written recognition in the next days' newspapers, the following example appearing on the front page of *The Middlesex News,* not all that many years ago.

## *Explosion a mystery*

NATICK — A mysterious explosion Tuesday night sent authorities scurrying around town looking unsuccessfully for its cause.

Police said they received several calls reporting the explosion just after 11 p.m. but no one could find any damage or other problems associated with the explosion.

A caller to *The Middlesex News* who lives on Chestnut Street right near Lake Cochituate, said he saw a flash of light in the sky in the general direction of Natick Labs followed by a "very big explosion. It was definitely something big."

Calls to the Federal Aviation Administration and the National Weather Service added no clues as to the origin of the explosion.

Police said the explosion may have been a sonic boom caused by a jet.

Of course, once I got that job quarry blasting and learned the wonders of high explosives, the role of confinement in recreational explosions was minimal, the sticks of dynamite detonating completely without confinement. It became effortless to produce colossal explosive yields which frightened even Stephano and myself at first.

And yet, with that limitless power of ANFO and pentolite within easy grasp, something was lost. Stephano and I spent many pleasant evenings mixing powder, building bombs, designing ever bigger and better ones, and then gloating over our creations, all the while tossing down innumerable beers.

I miss that. Just for old times sake I'd like to... let's see, I've got 10 pounds of perchlorate in the basement, plus a few of alumo, and a three inch cardboard mortar, some fuse... I wonder what Stephano's up to tonight?

EDUARDO TELLERINI

## LINGUINI TELLERINI

> *Garlicke then hath pow'r to save from death,*
> *Bear with it, though it make unsavoury breath,*
> *And scorne not garlicke, like to some that thinke*
> *It only makes men winke and drinke and stinke.*
>
> —REGIMEN SANITATIS SALERNITANUM*

In keeping with the spirit of this publication, I'd like to pass on a recipe for linguini that is actually a synthesis of several preparations that I've encountered and combined. When completed, this recipe yields a linguini in rich, thick, creamy white sauce, heavily accented with garlic and seafood.

First, sauté ⅔ lb. small to medium shrimp, and the same weight of scallops, in butter and garlic. With a slotted spoon, drain and remove the seafood from the resulting liquid. Do not over-cook the seafood, as this toughens it. Note: Use not a dab, but a *generous dollop* of crushed garlic for the sauté. You can buy the garlic crushed, or crush it yourself with a garlic press. Some people peel the cloves and liquefy them in a blender, but I like to crunch 'em up in my trusty mortar and pestle. It comes out silver that way for some reason, but tastes great.

Next, with the seafood set aside, add a tablespoon of olive oil, and at least another rounded tablespoon of crushed garlic, to the shrimp/scallop/butter broth. In this, sauté ½ cup minced green onions, ½ cup finely broken up cooked bacon, and ½ cup fresh mushrooms. Sauté, stirring constantly, until onions are done. Note: That wasn't a misprint, and I'm not joking – use at least a *rounded tablespoon* of garlic, which is the soul of this recipe, for the second sauté.

Now, take an empty pickle jar, or something with a secure lid, and in it mix three heaping tablespoons of white flour with six or eight ounces of milk or half-and-half. Shake very thoroughly and set aside.

Next, flood sauté pan with one pint half-and-half and ⅓ cup white wine, and stir in thoroughly.

Bring to medium high and pour in flour/milk mix, a little at a time, stirring constantly until thick. A blend of parmesan and romano cheeses may now be added and stirred in. Not, much, about ¼ cup.

Now, add seafood back to sauce and let warm briefly on medium heat, and ladle finished sauce over cooked linguini.

**For this citation the Editor is indebted to the learned S. Dulcamara, M.D., – Chirurgeon-General of our Order.*

The linguini is best cooked *al dente*, or firm and pleasing to the teeth, in relatively heavily salted water with a splash of olive oil in it. Drain thoroughly. About one pound of linguini, perhaps a bit more, will do for the sauce quantity described. Bon appetit!

Warning: At this point, you have just assembled and ingested a critical mass of garlic, which will yield predictable results; you will stink to high heaven for a day or so, emitting unimaginable stenches from all quarters. In the name of decency, don't circulate among those that'll notice, or if you must, offend someone that needs offending. Share a gutter and a bottle of Ripple with a dying wino, or go have a long lunch across a short table with your local B.A.T.F. agent.

Ciao!

– EDUARDO

## BARTS

*Cælo tonantem credidimus Jovem regnare.*

– HORACE, *Od.* III, v, 1.

Remember a backyard game of the '70s called "Jarts," which was short for Javelin Darts? "Barts" are very similar in appearance. Like all fun games, Jarts were eventually banned because the Safety Fakers' Board (SFB could stand for something else) spoke the famous words (all together now) "You *can't* do that, it's too DANGEROUS!" The nanny state triumphed again. However, the game can still be played safely using a little common sense, and is even more amusing with an added pyrotechnic twist.

Since I didn't want the reputation of being a mere fuse-lighter, the Bomb Dart (or "bart" for short) was a perfect solution – a few household items (at least in a pyrotechnist's household), easily assembled, brought it to realization. Needed are a ¾" inside diameter paper tube, a spent 20-bore cartridge, a battery cup primer, the pyrotechnic composition of your choice, chipboard, paper, wood for plugs, and adhesives. The 20-bore cartridge is decapped and the new primer pressed into place. The plastic or paper portion of the cartridge is cut down to the edge of the brass. The resultant primed brass portion is seated in one end of the paper tube, the rim of the cartridge firmly abutting the edge of the tube. Should it not fit snugly enough, the brass may be built up with a strip of paper. The tube, thus closed on one end, is filled with flash powder – or whatever – and closed on the other end with a wooden or paper plug. Three stabilizing fins are made of chipboard and glued on this, the solidly plugged end of the tube.

Another wooden plug, the size of the tube's outside diameter, is cut for the primed end of the tube, and a hole drilled through the center of it to accommodate a nail that fits snugly in the hole and is a little longer than the plug. This plug is affixed to the end of the tube, using a strip of pasted paper, so that the hole is aligned with the shotshell primer. The "bart" is completed by tying or taping the nail to its side (so it can be safely handled until the moment before "showtime," when it is inserted in the hole of the plug).

When I had completed my first "bart," I carefully put the nail in place and proceeded with its delivery. As the "bart" sailed through the air, gracefully arcing toward the pavement, I said "I think I have become death." BOOM!!! The evidence was gone, and I didn't hang around too long either. No more matches, no more lighter, and no need to cuss about the wind. Although I will not go into any jiggery-pokery details, I will say that it is not a good idea to build one any bigger than the limitations of a safe distance at which it can be thrown. A barricade of some kind is recommended, since we don't know which way the brass case head or the nail ends up going. The barricades I have used so far include a log, a tree stump, a Volvo, a ditch (big enough for a Volvo), and a German Shepherd named Lucky. *Chacun à son goût.*

Other things to try in similar configuration are whistling chasers, smoke bombs, delay stink bombs, thermite, or "H.E." Have fun with "barts" at your next party. In the immortal words: "This was tested, it is effective."

PAUL VERONNE

## POLITICALLY INCORRECT FIREWORKS

It is official. *The Case Former* has, as you have read on this issue's front page, been censured for *political incorrectness* in publishing the article "Flaming Justice." Mr. Mountbank Witless leads the politically-correct brigade within the P.G.I.

Political correctness, for those yet blissfully ignorant of it, is one of the more baneful cultural phenomena of the late twentieth century. It is based upon the theory that the civilized world (the politically correct would say, " 'so called' civilized world") has been evilly dominated by a white, Eu-

rocentric, "phallocentric" (yes, that's the word they use) racist, sexist, conspiracy to victimize everyone who does not belong to its ranks.

The "P.C." brigade now has a considerable following, being essentially comprised of the folk who were burning flags, breaking the windows of R.O.T.C. buildings, and defecating in the filing cabinets of deans' offices back in the 'sixties. These people have come, twenty-some years later, into positions of considerable influence in the word-manipulating professions of academia, journalism, and government.

Now, America has, within most living memory, been a place pretty callous and case-hardened about general insult. This is attributable to the disappearance of such old-time institutions as the duel, tarring-and-feathering, riding out of town on a rail, and the common practice of decent people (as opposed to criminals) going about armed. These were powerful influences in favor of civility. But – while you can feel free to insult anyone not a member of a Certified Victim Group, your speech and writing will be thoroughly vetted, these days, by the "P.C." enforcers; and whatever smidgen of offense a Victim of Society could possibly take, they assure *will* be taken, be it only from an inadvertency, a passing remark, or a glance askance. You will then know such misery as one might have endured upon being accused of heresy in sixteenth-century Madrid or Geneva, or perhaps today if one opened up a pork chop stand in downtown Riyadh.

The writer recalls a celebrated sports broadcaster of his youth who used to exclaim "Holy Moses!" when, during the course of his commentary, something particularly exciting (like a home run or a double play) took place. This continued until a number of Jewish listeners complained to the radio station that this was an inappropriate use of their great prophet's name. Obligingly, the sportscaster began to exclaim "Holy cow!" in its place. Were the poor man still alive and working today, how long do you suppose it would be before he was upbraided for being offensive to the Hindus? It will not be long, I predict, before polite persons will have to say that their visit to the bathing beach resulted in an infestation of *chegroes* (or perhaps *parasites of color*).

But let us not grow weary in well-doing! Remember that the American Revolution was a fairly politically incorrect occasion. It was fomented, after all, by country gentlemen (many of whom owned slaves) against a bureaucratic central power that sought to impose higher taxes and more stringent regulations. The Party of Nicey-Nice, good socialists all, might probably have held their noses at an alliance with a monarch like George III, but the promise of higher taxes and more stringent regulations ultimately would have won them over to his side.

So, for your delectation, and the inspiration of our Class "C" importer members, we offer the following proposed firework brand names with which you can celebrate the Fourth in a politically-incorrect manner:

1. Drunken Nigger brand
2. Max Orgasm roman candles
3. D-Cup double cone fountains
4. A Fool and His Money firecrackers
5. Thunderfarce Jackass brand
6. NO P.C. brand
7. Hazardous Waste brand
8. Hiroshima multi-tube display (by the people who brought you Pearl Harbor)
9. Civil Servant firecrackers – they won't work and you can't fire 'em.
10. P.G.I. crackers – twice the price of anything else.
11. Girl of the Month crackers
12. Liberal fireworks – they don't whistle, they just whine a lot and emit a weak pink flame.
13. Burnt Lips cigarette loads
14. P.G.I. Safety Committee crackers – guaranteed *not* to work
15. Radioactive Brand
16. LaCrosse Convention Host crackers – who knows when they will go off – you just keep paying for them.
17. Ma Pimentel's cookies – old favorites we haven't seen in years
18. Chappaquiddick water fireworks – "swimmingly good"

Devising more of these names is easy and good fun. Feel free to submit your suggestions for publication in a future *Case Former.*

Just as I was agonizing over what America was coming to, and why the whiners and the "proctoliberals" (as an eminent physician of my acquaintance calls them) now dictate public opinion; what happened to brilliance, eloquence, and witty invective in public speaking; what happened to common sense; even what happened to the good, old-fashioned dirty joke; along came a breath of fresh air. The above list, I hasten to assure you, is strictly a theoretical one, and Mr. Mountebank Witless can put it in his pipe and smoke it for aught I care. However, in real, living, glossy, four-color printing someone handed me a catalogue of fireworks sold by a Finnish merchant. They were mostly "C" although on one page there was a picture of a fellow dressed like a *mafioso,* with slicked down hair and dark glasses, holding two cylinder shells complete with decorative wrap. But it was on the page next to the items for children's birthday parties that I saw my new favorite item.

It was entitled the *Lust Bombe.* Now, I don't know what this sucker does, but on the outside was a

beautiful, scantily-clad Finnish girl in black stockings, black garter belt, and high heels, smiling whimsically at your humble scribe, as if to say, "come buy me, shoot me, use me, big boy. I'm yours, put me on your desk and piss off all those old bitches you work with. I'll really put out for you, erupting again and again..."

There is yet hope for pyrotechny. Just the thing for a little kid's birthday party. I think I'll order a couple of cases today.

PAOLO DA GIRO

## A MATTER OF PRINCIPAL

*Ars longa, vita brevis.*

—HIPPOCRATES

Adolescence has historically been a troubled time for young people, particularly in the latter part of this century. Trouble is an apt word to use in describing the high school careers of Stephano and myself, for we lived it and breathed it in every waking moment of our early adult lives, which some might say continue on to this day.

Trouble comes in many forms; some choose fistfights, fast cars, fast girls, and chemical abuse to satisfy these insurrective needs. Such endeavors are all well and good, and certainly were not neglected by us, but they are all rather trite, don't you think? Stephano and I chose to lean heavily on pyrotechnics as a vehicle directed toward the outrage, humiliation, and free-floating anxiety of our elders and community as a whole. As any citizen of Beirut or Dublin will tell you, the occasional random blast leaves deep psychological furrows, if not outright voids, and with this intuitive knowledge in hand, we set about our work.

Back in the early 70's (and for all I know, to this day), fireworks were sold openly to anyone with the cash to buy them, entirely illegally of course, in Boston's Haymarket Square. Haymarket is a section of Boston's North End which is heavily Italian, there being row upon row of gaudy, colorful, and fragrant open-air markets and fruit vendors' carts along the northern end of the Southeast Expressway, a notorious traffic horror. In this neighborhood, where Italian is still the language of choice, one can tour block after maze-like block of ancient homes, apartments, and shops, where the best language, save Italian, is a genuine, accepting smile, and the worst sin an air of arrogance or condescenscion.

Into this morass Stephano and I waded, through the foreign, confusing neighborhoods, until we got to the playground. The playground is a section of basketball courts and jungle-gyms, graffiti ablaze from its ancient walls, where the Old Man sits. He is a grizzled, pot-bellied, morose fellow, clad always in a dirty white T-shirt, chewing perpetually on what he must believe to be a cigar. Sometimes it really emits smoke, but mostly he just sort of gnaws it, a vile brown foam about his lips.

We would stammer out our fireworks orders to the Old Man, and he would snap his fingers once our cash was in his hand. Then an urchin would appear, a brief conversation in Italian ensuing, and the kid would vanish into the labyrinth of alleys and tenements. Although Stephano and I tried mightily to pry some morsel of comradeship from the Old Man, he would rarely discuss even the weather with us, his conversation confined to a few terse grunts.

In a few minutes the kid would reappear with the trademark of our business; two grocery bags inverted upon one another, which was enough to conceal our 12 oz. rockets and roman candles. It was funny how many people on the subway train back to the 'burbs cradled such packages. Knowing smiles were exchanged with these pilgrims, but rarely conversation.

During those days, M-80's were sold for $14.00/gross through Haymarket. They were very capable devices, made by professionals, and they packed a horrendous punch. Quarter sticks, roughly three times an M-80's power, were also sold occasionally, and on one fine day Stephano and I acquired a couple dozen.

Our high school was a perfect target for such mischief. There were crowds of kids milling around endlessly, smoking cigarettes between each class, and before and after school. It was pitifully easy to light a Marlboro, tear off the filter, and impale the cigarette upon the fuse of a quarter stick or M-80, then amble away after placing the thing in, say, a dumpster, trash can, hallway locker, lavatory, or best yet, in the courtyard, where the racket was merciless, and eloquent when timed to explode during morning announcements. Terrorism was ours far before the I.R.A. and Hezbolla made it fashionable.

Life was good that spring, when girls, booze, dope, and fireworks were all plentiful. Yet I knew things were headed for a fall, since I hadn't been to class for a couple of weeks, having found higher pursuits in the aforementioned areas.

The expected fall came one morning just before home room, as Stephano and I, intent upon testing the structural strength of the school's plumbing, headed up to the third floor boys' lavatory

with a quarter stick. We were curious as to how far such a device, flushed down a toilet, might travel before exploding. We were imbued with a deep sense of purpose, having had for breakfast a handful of percodans and a couple of quarts of Ballantine Ale.... Breakfast of Champions.

As we rounded the corridor corner, I ran directly into Richard (known to us as Rico) Carbone, the school principal. I heard a shuffle behind me and realized that Stephano had seen Rico first and split. Before I knew it, a meaty hand had me by the shoulder.

I understood that this was curtains; almost certain expulsion. It was not wholly unexpected, however. With my buzz and integrity intact, I marched down the hall, head high, as Robespierre might have, to meet my end. Once in his office, Rico sat me down in a straightbacked, armless chair, where so many students had poured sweat before him. It suited me fine; I expected no mercy.

Rico's desk faced me from the front of the building, ground level. His back was toward the window, as only a clod like him might arrange things. I faced the window, and looked out over his shoulder at the cul-de-sac of Rice Street, where the school busses loaded and unloaded, and beyond it, the soccer field.

"Mr. Tellerini," he began, "It's so good that we've found this opportunity to speak this morning."

A hint of a smile curled one lip. I returned it with as arrogant a gallows sneer as I could muster.

Mrs. Coughlin walked in, handing Rico the summary of my missed classes, outright truancies, and other myriad transgressions. He mused through it for a moment, and said, "Eduardo, it's obvious that you have no intention at all of pursuing your education to any meaningful end."

I sighed, shrugged, and glared at him, which was when I saw the smoke. A thin column of smoke drifted lazily up from the outer windowsill behind Rico's back. For a moment I pondered this, wondering who the hell smokes cigarettes just outside the principal's office window, and I came up empty. This troubled me vaguely.

"In view of your blatant attitudinal problems, Mr. Tellerini, I have no choice but to...

From there Rico's words were lost, fading away, for far away, far across the cul-de-sac, far across Rice Street, and even across the soccer field, a flash of movement caught my attention. I refocussed my eyes and saw a form, curly long blond hair flying, leather fringe coat flailing, dancing and capering at the edge of the lush green woods that led to the soccer field. The figure had a green quart bottle in its hand, and I watched while it began to offload a bladderfull of used beer, and then I understood.

In one nauseating, dizzying, moment of spinning horror I understood everything. I knew that I was seeing Stephano out there, and I knew what the smoke meant. It meant that there was a quarter stick, with a cigarette fuse attached to it, sitting quietly on Rico's windowsill, just beyond my view. I stretched a bit in my chair and my heart sank. I saw the tip of a cigarette ash, and wondered vaguely if Robespierre had felt like *this.*

I glanced back as Rico, and saw him smiling. I couldn't think of why he might do that, and then I considered myself. I was sitting bolt upright in terror, leaning forward slightly, eyes bulging, jaws grinding, fists clenched, and looking like a man locked in mortal combat with terrible constipation.

Rico was enjoying this. He obviously thought he had scared me into near panic with his threat of expulsion. A moment later the miserable truth of the situation dawned on me; Carbone was going to keep me here as long as he wished, just to watch me squirm. And sooner or later, those Marlboro minutes would run out. If I was still around at that time, I'd be picking glass out of my face.

With Herculean effort I loosened my jaws, relaxed my fists, and leaned back as far as one could in that damned chair. A lock of shoulder-length hair flopped over one eye, and I worked fiercely to crank out that go-to-hell sneer that I had so often fixed upon Rico. It was the only way to end his fun and get out before the place blew. It occurred to me for a moment to tell Rico that we were about to eat some glass, but I just couldn't. Despite the grave situation that Stephano had placed us in, it was still rather funny.

Finally, I offered, "Mr. C., I'll be on my way, and withdraw from school rather than get expelled, just like last year, if that's OK with you."

I waited a split second, without reply, and said, "Great. Thanks, Mr. C., see ya 'round."

As I arose from my chair to leave, further motion from outside caught my eye. This time it was a more intense plume of smoke, and as I hurried through the door to Mrs. Coughlin's office, I knew that the two inches of Visco-type fuse had ignited, and I had scant seconds to get clear of the blast zone.

I saw Rico begin to rise from his desk just as I closed his office door. Perhaps he had more to say to me, I really don't know. As I made eye contact with Mrs. Coughlin, the school secretary, I saw the flash. It was a gray, overcast day to begin with, and the cloud cover made the most of what was truly an impressive explosion. Three out a perhaps a dozen of Mrs. Coughlin's windows cracked or shattered, and even I was concerned about Rico.

Not to fear, though. Rico lurched through the door a moment later, white smoke pouring after him, looking for all the world as though he'd tried

to shave half his face with a straight-razor and a raging case of the D.T.'s. Blood rivulets ran from several small wounds, and his mirthless grin and strangely dark eyes told me that he was dancing along the edge of homicide, hysteria, or perhaps both. His suitcoat and hair were sequined with sparkling shards of broken glass, and he glared at me like a lunatic Liberace. I excused myself very quickly and went to find Stephano, who, having had second thoughts about his idea, had returned to try to disarm his invention. Not in time, though.

After a few more percodans and beers, it all seemed to fall into perspective, as things so often do when viewed thusly, and we laughed until we cried and damned near peed our pants.

Still, I wonder whatever possessed Stephano to blow up the high school office.

"It was, after all, a matter of principal," Stephano answered.

EDUARDO TELLERINI

## THE LITERARY FRONT

*Habent sua fata libelli.*

—TERENTIANUS MAURUS

A Review of *Fire, Flash and Fury: The Greatest Explosions of History.* By Ragnar Benson. (published by Paladin Press, P.O. Box 1307, Boulder, Colorado 80306).

Ragnar Benson's works are less well known in the circles of serious pyrotechnists than those of mad bombers and rogue chemists, yet since our ranks are well represented in this constituency, it would be remiss of this writer to omit mention of a very fine book in a series of fine books, by an author that is obviously a kindred spirit. Excerpts from his preface say it all:

> "There are those among us to whom the smell of powder and the feel of the blast have become an addiction. The sense of elation in a high-explosive situation is difficult for most people to articulate. On close questioning, most addicts will admit that this attraction to an earth-rending explosion is completely irrational . . . "
>
> "Most regular people don't understand – much less appreciate – us addicts. Some folks can't even imagine what we're high on. The ultimate high occurred almost twenty years ago, on December 23rd, 1969, in a little village called Moscow, Idaho, where I was visiting my daughter. Some dear soul managed to touch off twenty thousand pounds of ammonium nitrate all in one shot. I was walking down Main Street when the concussion cracked all the west-facing windows. It was truly wonderful."

Benson's book describes in loving detail the most cataclysmic blasts he could chronicle throughout history, from the Krakatoa volcanic blast of 1883, through Chiang Mai, Thailand, 1984, and all the points between. Beautifully pictorialized with vast rubble and carnage, this book is an absolute must for the true aficionado of apocalyptic explosions.

Some of the events covered are:

Krakatoa, estimated conservatively at a yield of ten thousand megatons. Benson describes recorded observations and global effects.

Oppau, Germany, where in 1921, some genius decided to loosen up two thousand tons of ammonium nitrate, caked through deliquescence, with charges of dynamite.

Texas City, Texas, 1947, where and when a freighter loaded with ammonium nitrate fertilizer caught fire and detonated, with 3.2 million pounds aboard.

Novaya Zemlya Islands, U.S.S.R., 1961. The Soviet Union, in one of the more artistic moments of the cold war, detonated a 57 megaton thermonuclear open-air blast.

In all Benson describes twenty monstrous blasts, with the kind wit and intimate care of one that is hopelessly in love with vast megatonnage. His style of writing is dryly amusing throughout, and his attitude toward his subject matter an inspiration to his fellow addicts.

EDUARDO TELLERINI

## THE MALEVOLENT ARTIFICER

Ah – summer, July, and fireworks. One of the parts of any midwestern summer (especially at firework display sites) is the woodtick. These repulsive bloodsuckers remind me of the average liberal politician.

Our new shell this time is the "Wellstone," or woodtick shell. Making the shell itself is the easy part; roll up the case with a liner, fill and finish with light spiking and pasting as in a daylight parachute shell. The hard part is getting the ticks.

Ticks prefer tall grass for a domicile, where they can lay in wait until a host walks by, and hitch a ride. Now, you could strip down to your nylon bikini undies and walk through the grass, then pick. Not exactly my cup of tea. The method I recommend is to pick up a dog, preferably a poodle,

from the pound. Shave it bare, except for the puff of hair on his tail. Spraypaint this puff of hair blaze orange, so as to assist in keeping track of the dog. Bring the dog, a ball, a bedsheet, a container, and a paint-stirring stick to tick country. Throw the ball into the tall grass for the dog to retrieve. After you have done this for a bit you will find enough ticks have accumulated on the dog that you can scrape them off him, using the paint-stirrer, onto the bedsheet; collect them in the container. When you have several thousand you can fill a four-inch shell.

These shells are best fired upwind of the audience at Juneteenth celebrations, or riots, whichever term you prefer. It is so nice to have all the parasites (urban or rural, that is) in one spot.

So that's it for now – keep thinking!

MILANO GIANSLAVI

## THE YOUNG PYROS VS. JOHN LAW

*Never tell a copper nuttin'.*

—MILANO

One summer evening in June, the young pyro of the house says, "Milano, can my friends and I make some noise?"

"Sure, boys, but not too much," Milano answered.

A short time later, over the gentle reports of cracker bombs, the war department arrives, and says, "I suppose you gave those boys permission to shoot off all those fireworks! What if the police show up?"

"Well, dear" I said, "they are clever boys. They only need a little advice from old Milano to get along quite well."

A few minutes later, Milano's open-air university is holding class in police science. "Boys, you have to learn how to handle Officer Unfriendly. It's part of growing up. The first rule is, Never tell a copper nuttin'. Next rule, Always split your stash; last rule, Cook up a story beforehand."

Following my advice, the boys split the goods into four lunch bags and hid three of them about the garage. Then they returned to pyro fun. Milano went back to his Michelob. After a short while, the war department arrives, irritated. "The police are in the alley with the boys – now what are you going to do?!"

"Nothing," said I; "I taught those boys what they need to know – be quiet and watch." Well, the boys handled things quite well. They politely told John Law they were only shooting off last year's leftover fireworks, brought back from vacation in the Dakotas.

"Get me a bucket of water now!" John Law said, pulling up his shirt sleeve. About ten bottle rockets took the plunge, followed by a pinch of jumping jacks and a small handful of cracker bombs the lads had unwrapped for some reason. Round and round he stirred, and when the long arm of the law withdrew, the black, gooey mixture of the partly-dissolved cracker bombs was running out between his fingers. The boys snickered and John Law retreated, shaking his paw, which he wiped on his pants before driving off in his squad car.

"Well boys, how did it go?" I asked.

"Great!" they answered. Then they spent several minutes filling me in on all the details. We all better hope John Law washes his hand before heading for the doughnut shop – lots of lead in those cracker bombs.

MILANO GIANSLAVI

*(with inspiration from ANTONIO GIANSLAVI)*

## IMPROVED ARCHERY PROJECTILES

The bow and arrow is as old as time. Even the famed "Ice Man", discovered recently in the Italian Alps, had one, and he is estimated to be several thousand years old.

Today the bow benefits from fiberglass and boron-epoxy construction, as well as the applied methods of mechanical advantage of the cammed compound bow. The wooden arrow has been replaced by hollow aluminum shafts with razor-sharp bear tips; a fearsome and murderous concoction. Yet I felt that pyrotechny had never been properly applied to this device, so I set about bringing the two into union. Primitive efforts have been made to do so in the past, most notable by Cochise and Geronimo with their flaming arrows, and more recently by my brother Eduardo, with a quarter-stick taped to an arrow's tip. (I warned him it wouldn't fly very far or very well, but he just had to try it. Instead of landing in the open field it was intended for, it traced a low, lazy, wobbling arc, skewering the Driscolls' roof. We watched in miserable horror as it sat there, quivering and spitting smoke, until it finally erased several shingles and a small section of plywood. The Driscolls didn't like that, but at least Eduardo learned how to fix roofing, a skill to come in handy later, during our rocketry days.)

A more modern approach is to utilize the arrow's internal capacity, to be filled with the compound of your choice. After borrowing a yard or so of 50 gr/ft det-cord, a couple #6 fuse blasting caps, and a cup of flash-mix from Eduardo, I got to work. I'll relate a couple of my designs here.

Take a length of det-cord, and stuff it down to the bottom of the hollow arrow, after removing the tip. Then cut the det-cord 1-1/2" short of being flush with the top of the arrow, allowing room for the blasting cap. Next, mate cap with end of det-cord longitudinally, (see diagram) with tape. Into the cap's fuse end, epoxy a shotgun shell primer, and onto the primer's striking surface, epoxy a BB, which acts as a firing pin. Fill in around the det-cord with Bullseye powder, flash-mix, whatever, if there's room. Now CAREFULLY crimp the aluminum body of the arrow around the primer (see Fig. 1). If this is too exciting for you, as it was for me, an alternate priming method is to epoxy your blasting cap into the exact center of a primed .38 special cartridge, and while the epoxy is still malleable, press fit the primed cartridge onto the arrow, *before* epoxying the BB onto the primer. If you don't have access to caps and det-cord, simply fill the arrow with flash-mix, cram on a .38 cartridge, glue on the BB (see Fig. 2), and let 'er rip.

Be warned, however, that the addition of the weight of your payload will substantially reduce the arrow's speed and range. Aim high. Our initial tests bear this out. In our first test, Eduardo and I went down to the tracks and waited for a train, and I launched our first arrow, of the det-cord variety, at a freight car as it passed. That was a sweet little bang. Our second experiment was conducted by our parking behind a copse of trees and lofting a flash-mix arrow into the parking lot of a hardware store. We really should have waited until after business hours, but we were drunk and just couldn't. We beat a hasty retreat after we heard the sirens, and we've always wondered whether they found a scorched empennage of an arrow, and if they did, what did they make of it?

But hey, it's a big world, with plenty of worthy targets to choose from (I doubt that even Eduardo's dumb enough to let me try the old apple on the head routine). So go to it and have a blast!

WILLIAM TELLERINI

*Footnote: My brother, William, is an accomplished and skilled archer, as well as a hopeless powderhead (it runs in the family). When he brought over this turbo-charged version of the venerable bow and arrow, I was so impressed with his marvelous infernal machine that I prevailed upon him to share it with you. Hope you like it.*

*—EDUARDO*

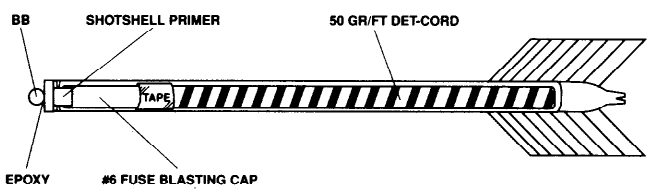



*Figure 1. Shotshell Primer, #6 Cap, Det-cord*

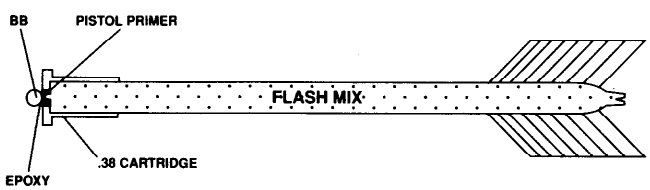



*Figure 2. .38 Cartridge, Flashmix*

# Ask Eduardo

*De omni re scibili, et quibusdam aliis.*

—VOLTAIRE

Dear Eduardo,

We were recently greatly disappointed by our bombing of the World Trade Center. We are in deep depression over the fact that our van-bomb blew down, through parking garages, of all the useless things, instead of up, through the lobby and restaurant, as we had intended. What did we do wrong? We feel like such failures. *Please help!*

MOHAMMED SALAMI
MAHMOUD BULIMIA

Dear Fellows,

Take it easy and don't get so down on yourselves. I can see that you are sensitive perfectionists about your work, but don't be over-critical.

Please realize that yours was a fine first effort, bringing Manhattan to its knees. Give yourselves credit for this, and minimize whatever minor flaws developed, but learn from them.

Remember, rapidly expanding gasses produced by explosives choose the path of least resistance for

that expansion and in your case, the garages provided that. If I may make a suggestion, mext time try a strategic target which can use the principles of confinement to your advantage. (See *Case Former,* No. 2)

As long as you're in town, perhaps the Holland or Lincoln tunnels would be a useful exercise to enhance your self-esteem.

Remember, no tracable explosives, (ammonium nitrate/fuel oil is my favorite) and simple timers, power transistors, and components from Radio Shack. Above all, *avoid visco fuse!*

Take heart, chin up, get in there and keep on plugging.

EDUARDO

## THE DAY THE PIGEONS SHOT BACK

> *And I promise you* shootinge, *by my iudgement, is the most honeste pastime of all, and suche one, I am sure, of all other, that hindereth learninge litel or nothinge at all, whatsoever you and some other saye.*
>
> —ROGER ASCHAM, 1544.

Our readers are no doubt familiar with exploding targets, designed for use with rifles and handguns. These devices are relatively simple to construct and need not be dangerously sensitive; in fact one version is commercially available.

Several years ago the author was having tea with Mr. Bertram Q. Whitworth, an enthusiastic shotgunner and a key member of the local trap club. In the course of conversation the possibility of an exploding clay pigeon was raised. Obviously this was a far different proposition than the stationary targets with their chlorate or perchlorate flash powders. A pellet of #7½ or #8 shot carries much less energy than a .22 caliber bullet or even a fast-moving air rifle projectile. Furthermore, a fractured clay bird offers no anvil surface comparable to the earthen backstops used for rifle shooting. The obvious question was whether a mixture sensitive enough to function reliably would be stable enough to withstand the powerful thrust of the throwing machine – or to be carried in one's bare hands! Nonetheless, Mr. Whitworth felt such a target would be the ideal way to enliven summer practice, and we decided to proceed with the project.

The preliminary experiments involved targets loaded with priming compound only. Each mixture was made into a thin paste with water and dextrin, then generous beads of this slurry were placed around the insides of target domes and allowed to dry. Top secret testing at Whitworth's personal trap-house quickly narrowed our range of choices. Mixtures of chlorate and sulphides, even with catalysts like black oxide of manganese, would not ignite when the targets were hit. Perchlorate of potash with red phosphorus was also tried, with equally disappointing results. It was evident that of the "normal" pyrotechnic compositions, only the dreaded Armstrong's mixture would suffice.

Clay targets conform to narrow size restrictions but vary in contour; the ones in use had a pronounced step or lip at roughly the middle of their height. Thus it was a simple matter to glue a cardboard disc on this ridge, creating a sealed chamber in the dome of the target. To our delight we found that this modification did not spoil the ærodynamic properties of the saucers.* The flight of our "birds" showed no detectable difference from that of the factory product. Some of these targets were charged with a mixture of chlorate of potassa, nitrate of baryta and an excess of bright aluminum. Others received salutes, whistles or bright magnesium stars along with a bit of black powder, while a few were simply filled with feathers for the sake of variety. Finally all were carefully stacked in a box, with rags or paper toweling between to prevent these pigeons from quarrelling in their dovecote.

In order to make our invention more memorable its debut was unannounced. The club is a rather

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*ED. NOTE.: *The following gloss on the above passage is contributed by Dr. S. Dulcamara, Chirurgeon-General of our Order, who occasionally reviews articles submitted to* The Case Former:

*"The peculiar felicity of Brimstone's selection of words is nowhere more evident than in this pregnant phrase. Is not the choice of 'saucers' suggestive? We are aware that there are those on the lunatic fringe* (Anticyram navigant!) *who allege a connection between fireworks and unidentified flying objects, presumably occupied by little green men with pointed ears. Yet the concept of luminous, burning, or otherwise pyrotechnically charged* targets, *the simple product of human artifice, is much more logical as an explanation for such phenomena, than is extraterrestrial phantasmagoria...*

*"We know that the best training for fighter pilots or anti-aircraft gunners is 'shooting flying,' and that the principle of leading or swinging through a flying target is the same whether the target be a clay pigeon, a bird, or an enemy plane... all the great aces, from von Richthofen to Yeager, have been devotees of the scattergun. Is it not entirely probable that purported 'UFOs' are no more than giant 'flaming clays' launched to teach military personnel how to shoot; and in fact, what the government secretly constructs and suppresses publicity about is in fact* fireworks, *rather than science-fiction creatures as some fabulously suppose?"*

informal one, where members take turns pulling or even setting targets when trap boys are scarce. Thus it attracted no attention when the author and Mr. Whitworth ambled down to the traphouse with an odd lot of targets. There was some trepidation on the part of the perpetrators: what would happen if the box were dropped, or if a hasty pull tripped the arm before the loaders were clear? Also to be considered were irate shooters. Trap is a conservative sport where concentration is at a premium and any breach of protocol can be very disruptive. Mr. Syms, a visiting hotshot, was friendly enough but took his trapshooting very seriously. One of the regulars, a Mr. Blunt, was gruff and short-tempered, but fortunately was a close friend of the author's partner in mischief.

The first choice among victims was clearly O. J. MacNaughton. This affable gentleman was still shooting well, despite being in his 70's, and he was easy-going with a fine sense of humor. He grew up in the 1930's, and between this factor and his ancestry was cautious with his money – some would say tight. Despite his considerable wealth, he scrounged lead to make his own shot, and he used any and all reloading components left over from his chain of sporting-goods stores. In particular he was known for using heavy hunting loads at trap practice, so that shooters three stations away were never safe from his ejected hulls. For variety he might load a few light shot charges over slow AL-7 or AL-8 powder, resulting in "bloopers" or squib loads. In short, fellow shooters never knew what to expect, but could count on something unusual. We determined that MacNaughton had signed up for the fourth station, then chose a flash powder pigeon from our box of surprises.

After the customary sample target, which is not shot, we began counting. Each shooter, including our unsuspecting victim, was allowed one normal bird to establish rhythm. Six – seven – eight – the ninth bird settled very gently on the moving arm, then took flight. O. J. MacNaughton obligingly centered the target, which disappeared with a brilliant flash and a mushroom cloud of gray smoke. This was followed by silence – no cries of "pull", no shooting, no sounds at all except from the surrogate trap boys, who were gasping for breath and trying not to roll on the floor.

After a few suspenseful moments the shooting resumed. A second "special", also intended for MacNaughton, was missed; it sailed lazily over the hill, where its salute exploded with a muffled boom. This time, even from our concrete sanctuary, we could hear muttering. It is highly irregular, and probably against A.T.A. rules, for the targets to return fire!

For the remainder of the round, we loaded our unorthodox pigeons at random. One exploded on the machine but caused no harm; its inertia carried the burning stars safely out of the traphouse. Those containing feathers produced a subtle, dreamy effect by comparison with their violent cousins, offering a foretaste of the bird seasons ahead. Perhaps the best, rivalled only by the flash charges, contained several whistling bottle rockets without the sticks.

Upon emerging from the traphouse we were greeted by a mixture of amusement and incredulity. Blunt and Syms were silent at first, but eventually even they managed a smile. Most of the shooters enjoyed the spectacle; in fact they were more curious than indignant. Of all the practical jokes the author has tried this was the best; in fact it exceeded our expectations.

When Mr. MacNaughton blasted the first bird, neither he nor any of the observers had the slightest idea what had happened! There is a special type of 12-bore ammunition, sold for wildlife control, which is nothing more than a small ærial salute. It did not occur to anyone that the explosive might have been in the target; instead it was decided that one of these "cracker shells" had found its way into MacNaughton's shooting bag and that, against all odds, he had managed to hit the target with the exotic projectile! Poor old MacNaughton doubted this theory but, shaken by the flash and lacking any other explanation, he found himself accepting it. The second surprise, with its miss and delayed report, only served to reinforce the shooters' erroneous assumption. It was not until the pigeons began whistling and dropping feathers that their creators were recognized. In fact if we had quit after the second bird we might have left people guessing for years, but we had no way of knowing this at the time. The author was later questioned by a constable, not about explosives law but about technical details. It seems the officer had tried gluing primacord and commercial "Bullz-I" targets inside clay pigeons, naturally without success.

Anyone wishing to duplicate this stunt must remember that Armstrong's mixture is extremely sensitive. There is a strong temptation to use powerful explosive fillings, but this could be disastrous if the target cracked on the throwing machine. Even with the milder payloads, gloves and safety glasses are advisable. Also, these targets must be loaded singly by hand; they are obviously not suitable for automated machines which have a "magazine" of clay birds. If the author ever tries the trick again, fillings will include black smoke stars, dragon eggs and colored smoke puffs. At any rate, nobody who saw it will ever forget the day the pigeons shot back.

T. BABINGTON BRIMSTONE

## BBQ Chicken – I.O.O.J. Style

Ingredients:

- Used grease barrel – cut in half
- Large bonfire (old tires make best fuel)
- Large caliber pistol (.45 is preferred, but 9mm will also do)
- 2 bags of charcoal
- a gallon of gasoline (lighter fluid can be substituted, but gas is preferred)
- 10,000 candlepower road flare
- two steel grill racks (square ones work best)
- Asst. pieces cut chicken
- BBQ sauce (home brewed is preferred, but store bought will suffice)

Start by cutting the grease barrel in half. As most places do not clean their grease barrels before throwing them away, there will be grease left in it. This can be easily remedied by putting the barrels on top of the bonfire to burn the grease off. After the grease has burnt clean off, remove the barrels and allow them to cool (open end up). As every fireworks man knows, there are two things a fire needs to burn: fuel and air. Since grease barrels are intended to keep grease in, there are no holes that permit air to feed the fire. This creates a large problem that can easily be fixed with your .45 (or 9mm). The holes should be evenly spaced around the bottom of the barrel to allow even air flow. A good sized barrel will need ten to fourteen holes. Next, dump charcoal into the barrel until you have a good sized pile. Douse with plenty of gasoline, stand back, and throw lit road flare in to get the coals going. Now it is time to wait awhile and let the coals burn until all of the coals have turned white and there is a good source of heat coming off the grill. When the coals are done, put steel grate onto the top of the barrel and get the chicken. Cook the chicken to your preference, adding BBQ sauce during the last five minutes of cooking. Sit back, grab a beer and some potato salad and enjoy.

Antonio Gianslavi

*Important Announcements from*

# CHARLATAN WHEEZE ENTERPRISES, INC.

### *Publications Department*

We regret to announce that the *Journal of Pyrotechnic Farts and Sausages* will not be published until the Greek Kalends, or Hell freezes over, whichever comes later. This project has been taken over by the Canadian Authority for Testing Selected Highly Improbable Technologies, under the able direction of Prof. Traditore Detestabile, Ph.D., of Montréal. The new publication will be entitled *Revue d'escroquerie et friponnerie pyrobolique* and will carry articles from international contributors. Lead article in the upcoming issue: "Arschleckerei und Feuerwerkerei: Wegweisern nach einem Karriere" by the noted expert witness Dr. Blasius Rauchmantl.

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