

Mining History News

Newsletter of the Mining History Association

September 2005



Volume 16, Number 3

State of the Association

If you are addicted to bad news, maybe you would feel more comfortable going back to reading your newspaper or watching CNN, because I have nothing but good news to report on the state of The Mining History Association.

First of all, you are a member of a financially healthy organization. Membership is growing at a satisfactory rate and we are becoming more geographically diverse. The annual meeting in Pennsylvania was a big success and plans are progressing smoothly for next year's meeting in Arizona. To encourage young people to attend our annual meetings, a committee was formed to create a grant program to assist qualified students. This year, a new award was added to the three traditional awards and a committee is evaluating the need for a fifth. A new membership brochure was printed and is available for your distribution. The MHA web site was revised and updated. By-Laws have been revised and published as a supplement in the new membership directory. In addition, the quarterly *Mining History News* and the annual *Mining History Journal* continue to be published on schedule, within budget, and in a very professional manner.

Finances

You need not be concerned about a rise in the price of your membership dues. MHA dues are the same as when I joined 10 years ago and will not rise in the foreseeable future. How do we do it? First of all, Jay Fell, our long-time treasurer, is an outstanding financial officer. Second, the organization is run with slave labor. Actually, the officers, council

members, editors, committee members, program & arrangement chairs, etc. are all dedicated mining historians who receive no compensation. Fortunately, there seems to be no shortage of dedicated members willing to serve. Annual meetings are our greatest financial risk, but good planning normally results in a small profit. Of course, we have to pay for some services, such as publishing and web site maintenance, but that's about it. Also, as a nonprofit organization with lofty goals, we are not adverse to accepting grants and gifts.

By-Law Revisions and Operating Assumptions

Ron Brown, our immediate past president, was the chief architect for the By-Laws revisions, which were recently approved by the council. A specific goal of the revisions was to put the business and leadership of the association on a June-June calendar, so as to coincide with the annual meetings----- the only official meeting of officers and council members. In the past, president and council were not able to plan effectively, because much of their terms had expired before they ever met as a group at the annual conference. Now, goals and objectives can be established at the annual meeting, and the operating details for the remainder of the year are effectively carried out by email and telephone. During this transition period, the president and other elected officials, whose terms would have expired on December 31, 2005, have had their terms extended to June 6, 2006. Thereafter, officers and nominating committee members will be on a one-year schedule (June to June).

Membership

By now, you have received a 2005 membership directory, and therefore you know we have 300 U.S. members and 17 from other countries. I do not have a 2004 directory, so I will make my comparison based on the 2003 membership. There has been no change in the number of international members; however, 25 new U.S. members were added by 2005, an increase of about 9% . Those new members primarily came from six states: Colorado, Missouri, New York, Virginia, Washington and Pennsylvania. I would say those are the States where the most recent recruiting or advertising has taken place. Two of those States are where the membership chair and the president reside, and the other four are in States, or in very close proximity to States, where the last two annual meetings were held. Coincidence? I don't think so.

Some of our members have said that growing larger would not necessarily be good, and I agree. However, growing at a moderate rate, keeping ahead of normal attrition, and gaining diversity are good attributes for this small, national (or should I say international) organization.

Annual Meetings

Because the bulk of our MHA membership resides in the Western U.S., many of us were concerned that the 2005 annual meeting in Scranton, PA would not be well-attended. We need not have worried: Johnny Johnsson, as arrangement chair, did an outstanding job of advertising and promoting the event. He was ably assisted by program chair, Richard Francavigila. About 120 people registered and 46 percent of those had addresses from Eastern States.

There is already a lot of interest in the 2006 Globe/Miami meeting, and we haven't yet starting advertising outside of the association. James McBride, current vice-president of the MHA, is the arrangement chair and Robert Trennert is chair for the program committee. Call for presentations was announced in the June issue of *Mining History News* and written proposals are due to Robert Trennert, by November 30, 2005.

Duane Smith has agreed to host an annual meeting at Leadville, CO in 2007. Erik Nordberg has sug-

gested a meeting in the Mesabi Iron Range, Minnesota. I and others would like for one or more of our Alaskan members to volunteer to arrange a meeting at one of their famous historic mining districts. We need some solid commitments for future annual meeting sites. If you have a proposal, please submit it to me.

Awards

Awards are presented each year at the Awards Banquet to recognize persons who have contributed to the advancement of mining history. This year at Scranton, the prestigious Clark Spence award was presented to David Wolff for authoring the most significant, recently-published book on mining history. The John Townley Awards for articles rated most highly in the *Mining History Journal* for 2003 and 2004 were presented to Jeremy Mouat and Ronald Limbaugh, respectively. The Rodman Paul Award, that recognizes individuals who have made outstanding contributions to the field, was not back from the engraver in time for the Scranton meeting, and will be presented later by Duane Smith, possibly at the WHA, MHA breakfast in September. A newly-created award, the Cherry Hunter Award, for the preservation of mining history through art, was awarded to Cherry, posthumously, and accepted by Ed Hunter. A new award under consideration would honor MHA members who have contributed Distinguished Service to the Association. If approved by council, the first one(s) would be presented at the 2006 annual meeting. You, as an MHA member, are eligible to nominate a candidate for one of these awards. Send your nomination to me and I will see that it gets to the right committee for consideration.

How to Take Advantage of Your Benefits

Attend the annual meetings, where you can speak and learn about mining history. Do this in an environment where amateur and professional mining historians share the same podium, as well as the same banquet table. Do historical mining research or share your personal mining experiences with the rest of us. Take part in field trips to old mining camps, as well as to active mines. Submit short articles and book notes to the *Mining History News* (quarterly newsletter), or submit manuscripts for possible publication in the *Mining History Journal*. As a member,

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SEVENTEENTH ANNUAL CONFERENCE OF THE MINING HISTORY ASSOCIATION

GLOBE, ARIZONA
JUNE 1-4, 2006



The seventeenth annual conference of the Mining History Association will be held in the historic copper mining country around Globe-Miami, Arizona. The conference will take place at the Apache Gold Casino and Resort, located on the San Carlos Apache Reservation just east of town. The Globe area is in the high desert country at an elevation of 3541 feet. Nearby mining sites include Superior, Ray, and Hayden. Highlights of the meeting are expected to include an opening reception at the Globe Museum, a walking tour of downtown and a visit to the antique stores in Miami, a tour of Phelps Dodge facilities, and a trip to the Ray open pit. For inquiries contact: Jim McBride, 1223 E. Manhattan, Tempe, AZ 85282. E-mail james.mcbride@asu.edu



CALL FOR PRESENTATIONS

The program committee for the Globe meeting invites proposals for individual presentations or complete sessions (including chair) on any topic or aspect of mining history (we especially encourage presentations on mining in Arizona and the Southwest). Sessions normally include three papers of twenty minutes each. There are no temporal or geographical limits.

Proposals must include title of presentation, an abstract (not to exceed one page) for each presentation, plus biographical information about each presenter and session participant (including mailing/email address). Please note, speakers must register for the conference in order to give their presentations. Please send the written proposals to the program committee chair by **November 30, 2005**.

Bob Trennert, Program Chair
3581 W. Golden Lane
Chandler, AZ 85226
robert.trennert@asu.edu

State of the Association

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you are eligible to win one of MHA's prestigious awards for contributions to mining history. You can nominate others for awards and nominate people for officers, council or committees. Submit historic mining photos for inclusion on the web site. Share the work load by volunteering for committees, or serving as arrangement chair for an annual meeting at or near a historic mining district in your geographic area. Take part in management by submitting a short resume to the nominating committee. The nominating committee has a responsibility for maintaining balance in the organization by rotating nominees with backgrounds in private industry, government and academia.

Or, you can just kick back and do your own thing---- the only two requirements for membership are \$25 a year and an interest in mining history.

See you at Globe.

Bob Weldin
August 15, 2005

Scranton Wrap-up

I want to thank all of those who helped make the annual MHA conference in Scranton a success. My family and I were never lacking for a helping hand when we needed it, and folks were offering assistance and pitching in throughout the conference. We received strong support from past and present officers and Board members to hold such a conference in a coal mining district in the East. Moreover, the participation of MHA members who made the effort to travel some distance at no small expense helped achieve the critical mass that makes for a good conference. Please join me in thanking the Scranton Program Committee, composed of Chairman Richard Francaviglia, Jeremy Mouat, and Erik Nordberg, for compiling such a fine suite of interesting papers.

For those who were unable to stay for the post-tour, hopefully you saw the Huber Breaker Preservation

Society Exhibit at the Conference Center. If not, you can learn all about this anthracite superbreaker (1 of only 2 remaining) that dyed its coal blue for marketing differentiation, and the group's preservation efforts, at www.huberbreaker.org. For those interested in the contemporary Harper's Report on the 1869 Avondale Coal Mine Disaster site we visited, be sure to look at: www.thomasgenweb.com/avondalereport.html. Two web-sites have information on Eckley Miners Village, www.phmc.state.pa.us/bhsm/toh/eckley or www.eckleyminers.org.

Johnny Johnsson
Scranton Conference Chairman

MHA Journal

Journal editor Eric Clements seeks articles for publication, books for review, and book reviewers. Clements would also like to acquire, through purchase or donation, single copies of the 1995 and 1998 issues of the Mining History Journal, in order to have a complete set. Interested persons may contact him by e-mail at eclements@semo.edu or by mail at Department of History, MS2960; Southeast Missouri State University; Cape Girardeau, MO, 63701.

Research Grant Program

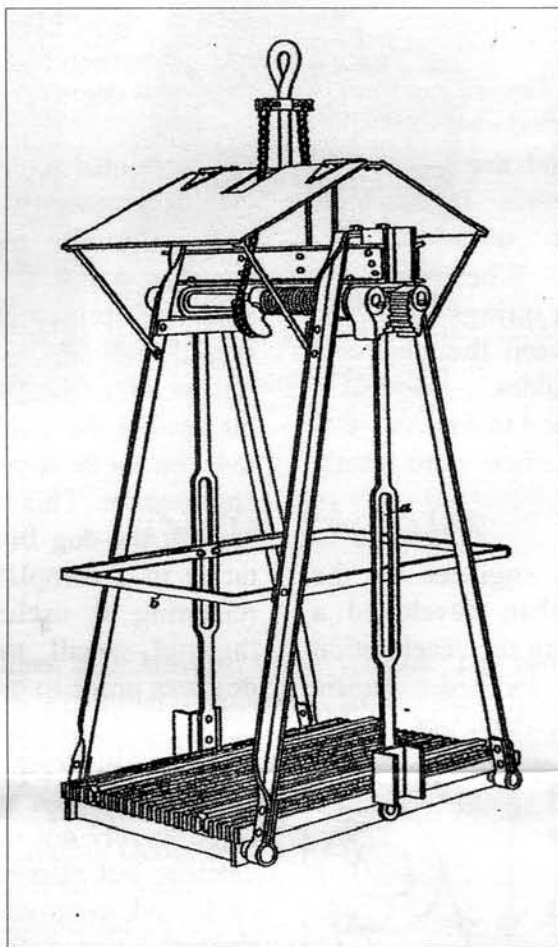
Subject to final approval by the Council, the MHA will annually offer two grants, not to exceed \$500 each, on a competitive basis. The program will be open to all who are currently engaged in or who plan to conduct mining history research, or have completed a relevant project and need funding to attend a Mining History Annual meeting in order to make a presentation on the subject of their research. Applications will be due June 1, 2006. Announcement of winners will be made as quickly as possible, so that funds may be used in preparation for the 2007 Annual meeting. More information and how to obtain an application form will be in the next newsletter.

2006 Grants Award Committee: Robert A. Trennert (chair); Dawn Bunyak; Ron Limbaugh.

Safety Dogs

Accident statistics show that mine shafts, both vertical and inclined, are one of the most dangerous areas of underground mines. Long before modern hoisting mechanisms, which consisted of a hoist and conveyances suspended by ropes or chains, were placed into operation, miners faced the ever-present danger of fatal falls down mine shafts. When access was by descending and ascending ladders, accidents caused by fatigue or broken rungs resulted in many fatal falls. Even with the introduction of the man engine, miners slipped as they stepped from one platform to the other.

With the introduction of early versions of modern hoisting mechanisms, one problem was caused by the breakage of the rope or chain by which the cage was suspended. Early hemp and wire ropes were not reliable and chains always suffered from the proverbial weak link. The breakage of the rope or chain would send the cage crashing down the shaft, as happened at the Wheal Agar mine in Cornwall on August 15, 1883. The cage was being hoisted to the surface carrying 10 miners with three miners riding on the top, even though the cage was designed for a maximum of eight men. The rope parted just as it approached the surface. One miner managed to jump off, but the remaining twelve were killed. Fortunately, not all accidents were fatal. An earlier accident at the Wheal Agar happened on September 11, 1882, when the cage plunged down the shaft and landed in 70 fathoms of water. The miner



Old style mine cage, iron safety dogs and release mechanism

was thrown out of the cage and swam and supported himself until help arrived.

Early in the 19th century, various concepts were introduced that would hold the cage in place after parting of the rope. Some of these were nothing but the wildest of imaginations. One would-be safety engineer suggested attaching a parachute mechanism to the cage. In 1843, another suggested placing the cage on a piston that would be exactly fitted to the shaft. If a rope broke and the cage started to accelerate down the shaft, the compression of the air would act as a cushion, slowly lowering the cage. In 1844, one early concept that was actually placed in operation involved a brake that engaged the shaft guides and was operated by a passenger in the cage.

To alleviate the strain placed on the rope at the start of hoisting, miners started to place heavy springs between the rope and the cage. Heavy rubber was also tried and finally leaf springs were used.

To be effective, miners realized that any safety device had to meet certain characteristics. These included (1) It must not come into action when not required. (2) It must act instantaneously. Once the cage starts to accelerate after being disconnected from the rope, the chance of stopping and holding it in place decreases. (3) The cage cannot be brought to an instant stop. Engineers in South Africa in the early 1900s calculated that bringing a cage to an instant stop from a speed of two feet per second would

cause serious injury to a man who is standing rigidly. (4) It needs to work during both descending and ascending a shaft. (5) The mechanism needs to be easily serviced and inspected. (6) Once stopped, the cage must be held in position until it is raised to the surface.

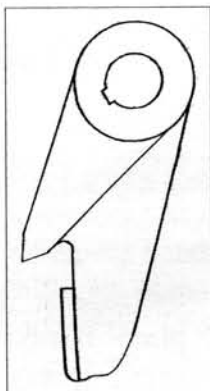
Following these requirements, the first devices similar to modern safety dogs were introduced in mining centers around the world. In 1847 a device using steel wedges was introduced by Fourdrinier. When the rope broke, strong springs forced the wedges between the cage and the shaft guides. Modifications continued to improve this method, but none were totally satisfactory.



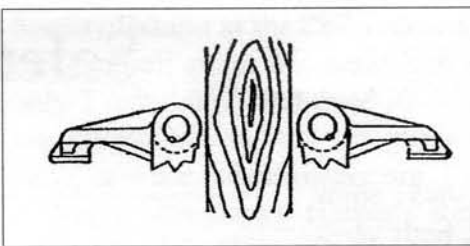
Iron safety dog with 5 teeth (old style)

In 1862, an engineer by the name of Coban developed a new idea using the acceleration of gravity after the rope broke. A toothed eccentric was used to catch the shaft guides, which was carried on a shaft attached to a spring and weight. When the descending cage approached that of a free falling body, the pressure of the weight on the spring lessened. The spring lifted the weight and the eccentrics brought into action.

Gradually, the modern safety catch or safety dogs came into use. The Wheal Agar accident could have been prevented if safety catches, that had been already invented and were in use in many California and Australian mines, had been installed on the cage.

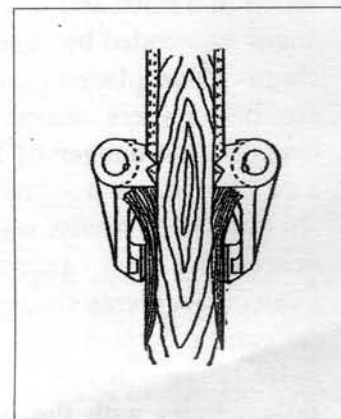


Steel safety dog with chisel tooth (current style)



Three tooth dog in normal, travel position

The safety dog in general use today, designed in Ontario, Canada, changed the old design by having only a single, large, chisel-pointed tooth made of steel as opposed to the old style, made of iron, that had several small teeth expected to bite into the wooden guides and suspend the cage in the shaft. The modern or presently used dog design also had a flat surface that would hit against the guide below the tooth at time of engagement. This would prevent the dog from rotating in a complete arc rendering it useless as the old, small toothed dog was prone to do.



Three tooth dog engaged with slack or cut hoist cable

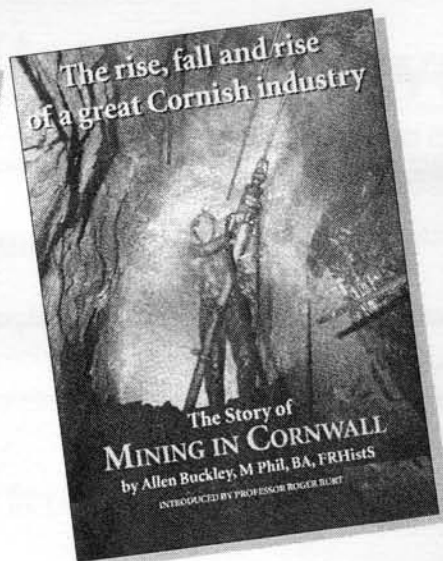
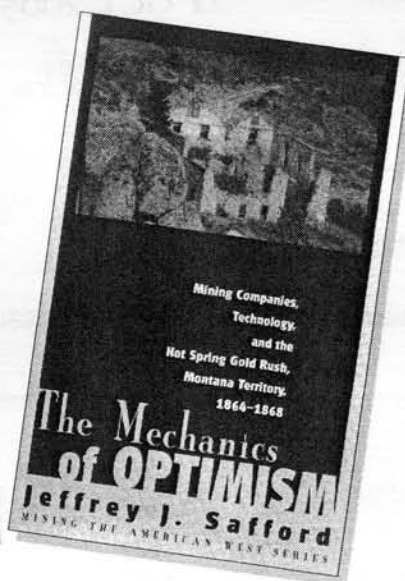
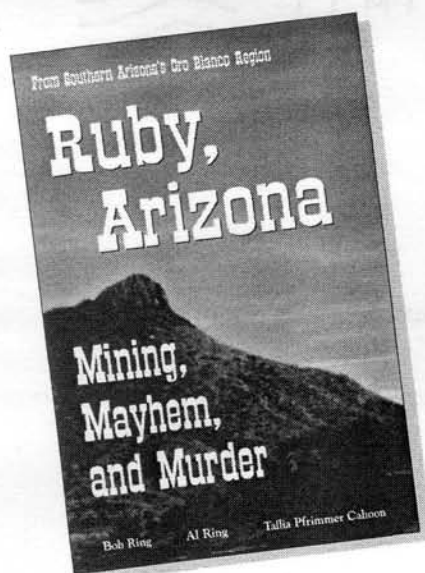
With an increased emphasis on safety, miners came to rely not only on the newly-invented safety catches, but also on careful inspection of the rope itself and improving the quality of the rope. The Federal Mine Safety and Health Act now requires safety catches to be tested at the time of installation and on a regular schedule during mining. The cage is rested on a surface and the hoist rope slackened to test for unrestricted functioning of the safety catches. Also, ropes are inspected on a daily basis and the end cut off periodically and inspected according to safety regulations.

Paul Mogensen and Ed Hunter



MHA Breakfast
WHA 45th Annual Conference
7:00 am, Friday, October 14, 2005
Marriott's Camelback Inn
Scottsdale, Arizona





New Books

Ruby, Arizona – Mining, Mayhem, and Murder, by Bob Ring, Al Ring, and Tallia Pfrimmer Cahoon (2005, U.S. Press & Graphics, 280 pages, soft-cover, \$22.95, ISBN: 0-9748059-5-5, ringal@msn.com). The first and only book on the 125-year history of the Montana mine and its Ruby mining camp, now a ghost town, in south-central Arizona. Follow both the detailed mining story and fascinating people stories with 115 remarkable photos, plus scores of historical maps, charts, and documents, many of which have never been seen or used by other researchers. The book highlights life in Ruby in the 1930s, when the Montana mine produced more lead and zinc than any other mine in Arizona, including recollections of former residents of Ruby through personal interviews and wonderful family photographs.

The Mechanics of Optimism, Mining Companies, Technology, and the Hot Spring Gold Rush, Montana Territory, by Jeffrey J. Safford (2005, University Press of Colorado, 206 pages, hardcover, \$34.95, ISBN: 0-87081-782-5, 800-627-7377, www.upcolorado.com). In *The Mechanics of Optimism*, Jeffrey J. Safford examines how gold mining ventures were developed and financed during and after the Civil War, and how men primarily Easterners with scant knowledge of mining were willing to invest large sums in gold mines that promised quick

returns. The mining frontier is littered with short-lived “sure-fired investments.” Safford explains how mining companies were organized and underwritten, and why a little-known district in southwestern Montana was chosen as a center of operations.

The Story of Mining in Cornwall, The Rise and Fall of a Great Cornish Industry, by Allen Buckley (2005, Cornwall Editions Limited, \$79.95, www.cornwalleditions.co.uk). Making metal from ore dug from the ground is a skill, a passion and a business that is fundamental to the character and identity of Cornwall. Beneath the rolling fields, buried in the cliffs, far below the crashing sea is a hidden world of strength, sorrow, triumph and struggle. Know this world and we know something of Cornwall. In *The Story of Mining in Cornwall*, Allen Buckley narrates 4,000 years of mining history with clarity, detail and a warm human sympathy. This is a new history, based on the most recent research and findings. Allen Buckley’s qualifications as a working miner and an academic historian makes him uniquely equipped to deliver this narrative, this technical understanding, this social awareness and this foresight into the future of Cornish mining. Roger Burt of Exeter University introduces the book.