History of the Hammond Safety Explosives Box

J. Roger Mitchell

With the advance of permissible blasting in the form of dynamite sticks and the use of electric detonation, the miner became faced with a new dilemna; how to carry his dynamite safely. He was no longer able to transport his blasting supplies in convenient tin containers or small kegs. In the bituminous mining region of western Pennsylvania, miners overcame this problem by using a small wooden carrier which would hold the daily allotment of permissible explosive safely and conveniently.

Typical Hammond Safety Explosive Boxes. Photo by R. Pearle.

Above ground, the dynamite cartridges were stored by the case away from the mine in buildings called "magazines." These were built at a distance, or with some natural obstruction such as a hill between the magazine and the mine, so that an accidental explosion would not damage the mining town or the surface equipment. Near the mine was a smaller magazine called the "powder house" to which the day's supply of dynamite was taken from the main magazine, and where it was handed out to the miners individually.

At some mines, the men purchased in advance several dollars worth of powder checks or scrip which were exchanged at the powder house for explosives or other blasting supplies. A miner's daily supply of permissible explosive was not to exceed five pounds, as dictated by Pennsylvania Law. Upon receiving his dynamite, the miner would place it in his wooden carrier and descend into the mine for the work shift.

The reason the hand-held wooden dynamite carrier was so popular in western PA, and common throughout the northeastern coal regions, was simple. They were invented, patented, and produced commercially by the Hammond family located in Spangler, Cambria County, Pennsylvania, just north of Altoona. Not much is known about the origins of the business, but it was started by George Washington Hammond, (born 1827, died 1897) who was associated with the lumber industry.

The business was passed on to a son, Laurence Vincent Hammond (1866—1934), who operated a carriage repair business and lumber company around the turn of the century. Having a wood working facility at his disposal, Laurence produced a number of products for the local mines including large quantities of conveyor rollers made from gumwood, pick handles, trolley poles, and tamping poles.

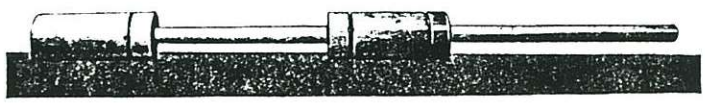
WOOD TAMPING POLES

For tamping explosive shots: Poles are round and made of hardwoods. Sizes to 10 ft. long.

1" diameter	7c per lineal foot.
1 1/4" diameter	10c " " "
1 1/2" diameter	12c " " "
1 3/4" diameter	14c " " "
2" diameter	16c " " "
2 1/4" diameter	24c " " "
2" diameter	30c " " "

Special diameters and lengths can be furnished . . . write for prices.
These poles meet the requirements of the New Federal Mine Safety Code.

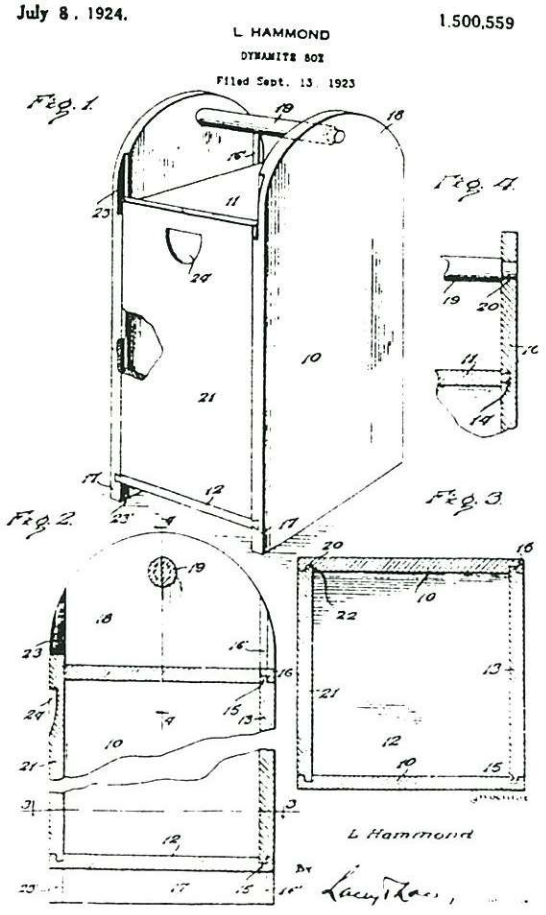
SECTIONAL TAMPING POLES



These poles are made of straight grained wood and are coupled together with removable wood pins held in place in recessed grooves by a rubber band and can be quickly connected to make any desired length.

Head Blocks can be furnished in 5, 6 and 7 inch diameters.

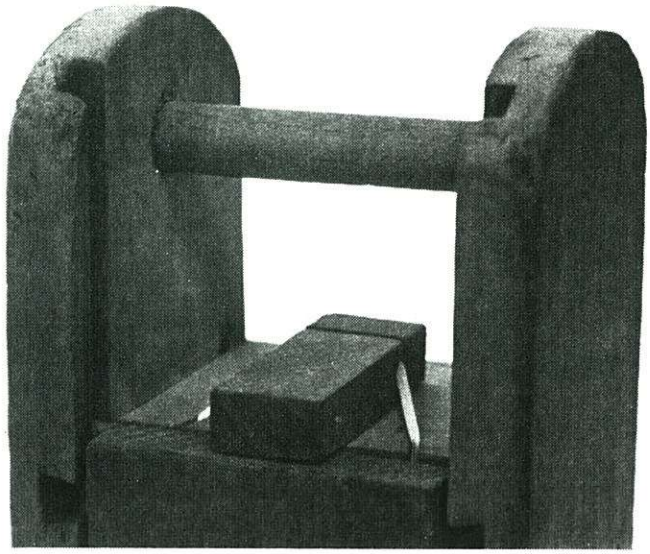
When the first dynamite carrying boxes were produced is uncertain, but Laurence Hammond was producing them in large quantities by the early 1920's. On July 8, 1924, Laurence was granted the first known patent for the boxes. As the patent stated, "This invention relates to an improved box for carrying dynamite and which, when constructed in reduced size, may also be employed for carrying caps and fuses. The inventor seeks to provide a strong tight wooden box wherein nails or other metal parts will be absent. The inventor seeks, as a further object, to provide a box embodying interfitting joints throughout, so that moisture will be excluded." Perhaps the most unique feature was the vertically sliding door, which gravitated to a closed position. This part of the invention was mandated by mining laws which required that any dynamite box remain closed while being transported.



The Hammond Patent Dynamite Box

By the time the patent was issued, the boxes were already being distributed throughout several neighboring states. Laurence not only traveled to the mines promoting their use, but had a number of jobbers and dynamite companies distributing them for him. Among these jobbers was Jimmy Stewart from nearby Indiana, PA, father of the movie star. In some of the smaller mines, the boxes were marketed as squib carriers, although the majority of them were sold as dynamite and blasting cap carriers in various sizes.

Over the years as carriages were replaced by cars, the Hammond business evolved into solely a lumber business, that supplied a wide range of wooden mining supplies to the area's mines. The business was taken over by Laurence's son John Vincent Hammond (1903—1992) in October 1934. John would later improve on his father's invention, as seen in the patent issued on April 7, 1942.



Patented locking mechanism for the dynamite boxes. Photo by R. Pearle.

Basically the patent was identical to his father's, but sought to employ a lock to keep the door shut. As stated; "A further object of the invention is to provide a dynamite box having an improved latch for the front closure wall thereof, said latch employing a nonmetallic tensioning means" ie: a rubber band to help spring the latch forward to a locked position.

Another interesting aspect of the patent is that it was recommended that "the entire surface of my improved dynamite box be covered with a coating of paraffin or other protective substance." This may have been suggested for two reasons, the first being to shed any water encountered in the wet mines. The second may have been to prevent the absorption of nitrogylcerin that may have seeped from the dynamite sticks themselves while being stored in a vertical position within the boxes. The practice of storing dynamite vertically was not recommended for safety reasons, but made it practical for transportation.

J. V. HAMMOND

Manufacturer of

SAFETY EXPLOSIVE BOXES

Approved By Pennsylvania Department of Mines

WOOD MINE ROLLERS, TROLLEY POLES, HANDLES, INSULATION BLOCKS

JOBBER OF HARDWARE SPECIALTIES.

SPANGLER, PENNA.

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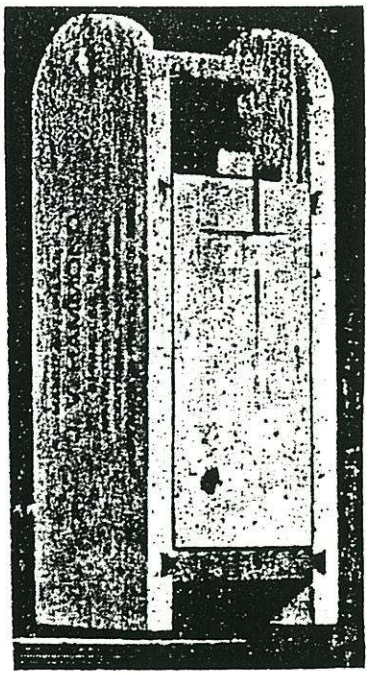


These improvements to the original design had long been realized. The first indication that a door lock was needed was pointed out to Laurence Hammond in 1929 by a jobber from the Clinchfield Coal Corporation. In their letter, it was suggested that a 1/4" dowel be used to slide through the side walls of the box and pass through the door to secure it shut while the miners rode the trip down into the mine. This idea was probably ignored at the time to keep costs down as the Clinchfield order for boxes was small.

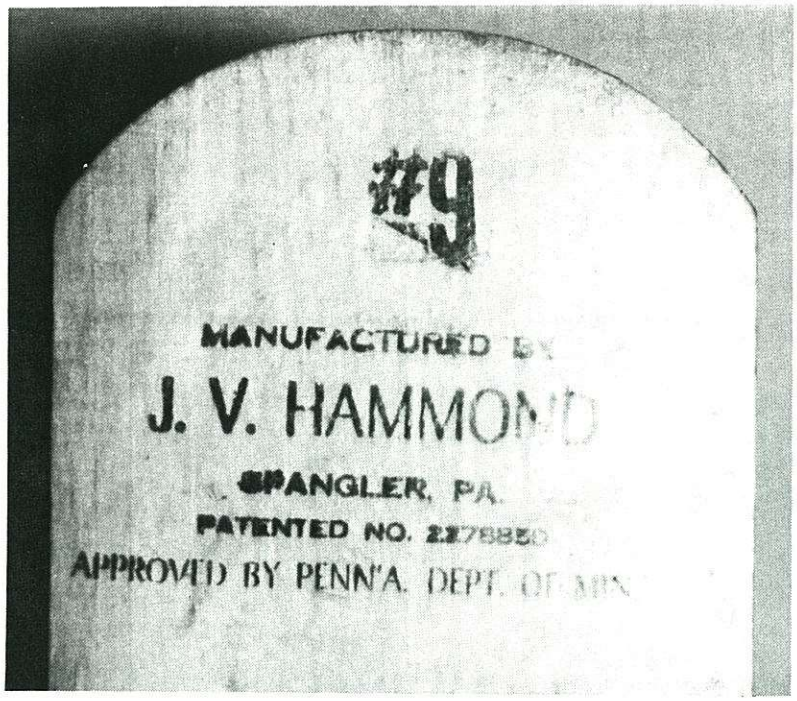
The boxes themselves were made from white pine, ash, and basswood. Judging by company receipts, most of the wood used to make the boxes was purchased in rough sizes, although advertisements stated they also purchased logs. Each box made under the improved patent was treated by dipping them in paraffin and sealing them with orange shellac. Some were also treated with General Electric glyptal insulating varnish. Several other options were considered as alternatives to this process. The United States Plywood Company was contacted and asked about a fireproof paint and a non-conductive, moisture-proof sealer. The request was obviously not fulfilled as the boxes continued to be wax coated and sealed with shellac. Initially the paraffin and shellac were purchased in small quantities from local hardware stores and later purchased in bulk from major oil companies such as Gulf Oil.

Alternative ways of fabricating the dynamite boxes were considered from time to time. In 1937, John Hammond contacted the General Electric Company asking for quotes to manufacture a similar box out of molded plastic with a hardness similar to bakelite. He also requested if he could purchase the material to mold them himself. The sketches he provided suggested that the dynamite would have been stored horizontally.

The idea of horizontally storing the dynamite was also suggested by one of John Hammond's sales agents in 1940. The agent requested that the box be modified for a client in Ohio. Obviously neither of these ideas were fruitful as no examples are known to exist. During the era of the Great Depression and the second World War, cost was always a concern. For this reason, John probably stayed with a proven product.

During the 1940's, as his father had done, J.V. Hammond aggressively marketed his dynamite and cap boxes by personally contacting numerous mines, mining agencies, and mine inspectors to buy his products on approval. He solicited sales in Maryland, Pennsylvania, Ohio, West Virginia, and Kentucky. Since their invention, thousands have been sold in many sizes, from the smallest cap carriers to boxes that would store a full case of dynamite. The number stamped on the side of the box indicated the number of sticks that it would hold.

Today, having survived three fires, the Hammond lumber business is in its fourth generation with Larry V. Hammond, John's son, as owner-operator. The author was saddened to learn that John Vincent Hammond died on July 5, 1992 at the age of 89. Many knew John as "Vince," or "J.V.," and he will surely be missed by all. The Company name J.V. Hammond has been retained and they are still located at 119 N. First St. in Spangler, PA. They still offer a full line of wood products used in everyday mining including eleven sizes of dynamite boxes and two sizes of cap boxes just like the originals.



Hammond #9 Safety Explosive Box. Photo by John Pawloski.

Collectors Note: There is one way to judge the age of these boxes: if the box does not have the door lock and is not wax coated, it was made prior to 1937. If your box look unused and fairly new, it probably is!

Sources

1. Coal Miners Handbook. 11th edition. 1916.

2. Bituminous Coal Mining Laws of Pennsylvania. 1961.

3. The Free Library of Philadelphia, Patent Collection.

4. Personal communication, Pennsylvania Department of Mines.

5. Personal communication, Bureau of Deep Mine Safety.

6. Personal communications, Mark Ballard, Lane Griffin, Bill Lorah, Cliff Lund, Andy Martin, Mike McLaughlin, John Podgurski, Chuck Young.

7. The Spangler Police Department, who started the ball rolling with my first lead.

Special thanks go to Larry Hammond. Without his help and providing the company's records this article would not have been possible. Thank you Larry!