

# There Are NO Boxer Primers! Boxer NEVER Patented A Primer!

Most collectors do not pay much attention to Primers. You have the early Berdan and the Boxer. Pretty boring! I thought the same. You can't really see the darn things when they are in a cartridge. Primer tins are around at shows, but everyone is running around looking for other things. Maybe you notice a pretty tin and take it home for display. They look good, along with rifles and tools, when taking pictures.

**GUESS WHAT!      THERE IS NO SUCH THING AS A  
BOXER PRIMER!**

I got a surprise when Ed Curtis sent me a copy of the "Remington Society Journal", 3rd quarter of 2000. A lot of what we think we know, is simply not true. Lou Behling cleared up a lot for me when I read his article. "Berdan versus Boxer, The True Primer Story." I can't reproduce it here, because I need permission. If you do not have a copy of this Journal, you are up a creek! The Article is not available to the public. (Like this FREE online book!)

Search Berdan vs. Boxer on the internet. You will find a MESS of wrong information. "Boxer Primer" is repeated over and over. Lou Behling makes it clear this is not true. His statement is clear, but almost completely unknown!

"The Renewable primer we use today was invented here in the United States." "It was invented by many people and companies, all at the same time".

An Englishman named Boxer had nothing to do with it. Boxer did patent a Reloadable Centerfire Cartridge June 29, 1869. His patent is shown below. It is basically a piece of JUNK! He used a percussion cap with a piece of metal inserted part way in. It is strangely similar to one of these earlier drawings I list here. (Benet, 1866)

In the description of a Patent, you have to say what it is for! Never Once was there mention of a patent for a primer in the patent papers! Boxer knew he would be challenged in Court! His Patent was All About The Cartridge!

Benet made a drawing of the first Excellent American Centerfire Primer in 1866. It was a darn Good Design. The Drawing was filed Away in a drawer. A patent was filed. It was not Granted. The people at the Patent Office and his bosses at the Arsenal were clueless!

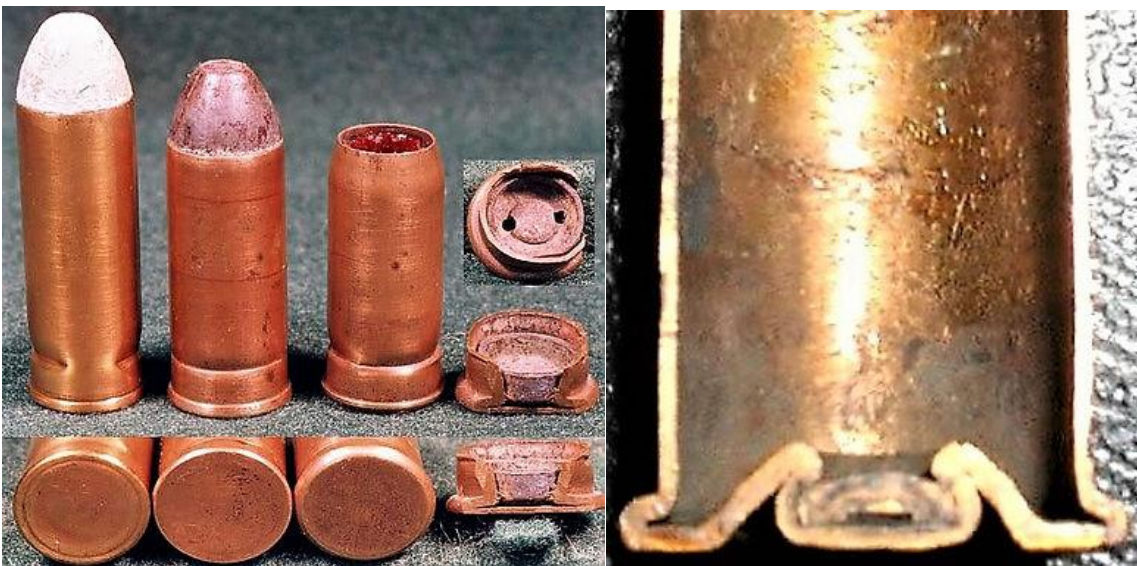
There were many primer designs. Frankford Arsenal used the Benet, Internal Primed cartridges for many years. There was also a Martin Internal type primer. You find them around Old Forts in 58 Musket, 50-70, 50 carbine, 50 Remington Pistol, 45-55-405 carbine (45-70 carbine), 45-70-500 (45-70 Rifle), 45 Schofield, 45 Colt and 44 Old Model Colt. The Benet Internal Primed 45-55 carbine and the Benet Internal Primed 45 Colt cartridges were used at the Little Big Horn in the summer of 1876. They worked OK????, but were eventually dropped for better, reloadable cartridges, with better AMERICAN primers.

## Non- Reloadable Centerfire Cartridges The Benet Internal Primer

This little section is important. You should read this! Just last weekend I had a conversation with a fellow that collects Trapdoor Springfield Rifles. I mentioned Frankford Arsenal Internal Primed Cartridges. He had no clue what I was talking about. I showed him cartridges. He said, "Those are rimfire!"

He Did Not Know What Cartridges His Rifles Fired! I hear this Over and Over!

I don't think I ever convinced him you could put a centerfire primer INSIDE a cartridge. He did not believe a Center Fire firing pin could hit the cartridge and detonate it. Sad story, but true.



Above left you see the 45 Colt and 45 Schofield Internal Primed Cartridges made by Frankford Arsenal.

These are the cartridges the U.S. Military was using at The Little Big Horn in 1876. There ain't no external primer there Boy's and Girl's! The priming fulminate is in the little cup crimped inside the cartridge. You can see the 2 flash holes inside the cup. These were made in 58, 50, 45 and 44 caliber centerfire rifle and pistol cartridges. The Rifle cartridges were used for many years in the Trapdoor Springfield Rifles. They Are All Centerfire!

Above right is the Martin Internal Primed Cartridge. It looks like it has an external primer. It Does Not! The priming fulminate and anvil are crimped in place on the inside.

Buy some books or at least get on the internet. Learn what cartridges they used in the Rifles you collect.

You can not reload these cartridges. Reloadable Cartridges were much better.

Many Buffalo were shot and many battles were fought, with these cartridges. They are part of our shooting history and you will find these scattered all over the West!

## Reloadable Centerfire Primers

I will try to make some sense of this mess and keep it as simple as possible.

Frankford Arsenal experimented a lot with different primers. They wanted their own designs. The Government did not like paying royalties. They did like spending money on ideas that were not that great, like The Benet Internal Primed Cartridges. If they had a great idea, they did not have the ability to recognize it. Just Like Today!

Private individuals did most of the work of developing primers. They filed for patents. Every once in a while they came up with a good idea and were able to sell their patents. Some of their hard work was patenting other peoples ideas, if they Knew it or Not. As you look through these patents, keep this in mind.

Every cartridge manufacturing company needed primers. Some companies like Winchester went through several designs before they got it right.

In the end, we have what many people call the Boxer??? primer. That is not true. The story is interesting. An American product emerged. NOT A DESIGN BY BOXER!

## An Early Primer With No Patent, 1866

This drawing may be the first evidence of a cup shaped primer with an Anvil inserted inside. The drawing is not totally clear. If you have a good eye, you can see what they were drawing here. The design has all the qualities of a modern American primer.

The biggest puzzle of all? Why was there no Patent on this design? If you look over the later Patents, You will see the similarities between this drawing and other Patent Applications. Most were granted Patents! What a Mistake!

A cup shaped primer. (Literally a Percussion Cap.)

An anvil standing on two legs that allows the firing pin to crush the fulminate between cap and anvil then shoot the flame around the legs of the anvil.

A central flash hole. (This allows easy removal of the primer.)

A large flat bottomed primer pocket in the cartridge case, to hold the primer and support the anvil.

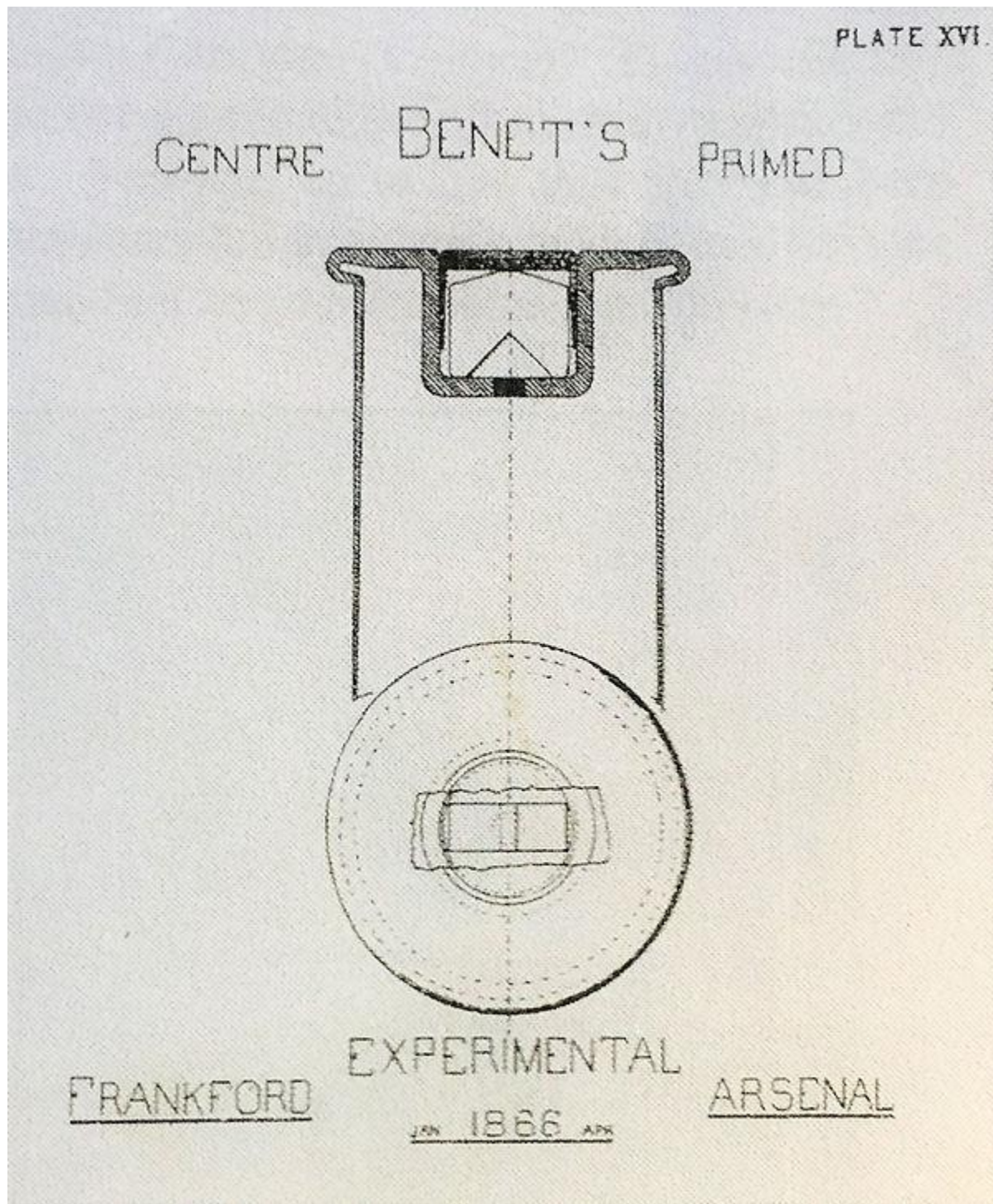
## All of this by Benet in 1866!

This drawing is in the U. S. Government records. Only Lou Behling took the time to say Hey! look at this! Then, do further research.

Forming Cartridge Cases like this, from a Metal Disc, had been done since the Civil War. They were Rim-fire cartridges first, centerfire later.

Pressing in a primer pocket like this drawing, would have been easy in 1866. I wonder if experimental cartridges were made?

This drawing Predates the Boxer Patent Reloadable Cartridge by Three Years and Three Months! If a patent had been filed and granted, it would have saved everyone a lot of trouble and confusion.



## What the Heck Really Happened Here?

Lou Behling Had it right in his American Primer Story. His Article stands up to the test of time.

Thanks to Fellow Collector Bryan Austin, we have some new information! The following two pages came from Bryan Austin. Stephen V. Benet DID try to patent his Cartridge, Primer and Anvil Idea. Government Bureaucrats at the patent office refused to patent his idea.

In a classic show of ignorance, the Patent office could not tell the difference between a flat bottomed cup, a hole and a dish shaped depression.

STEPHEN V. BENÉT.

MARCH 3, 1879.—Laid on the table and ordered to be printed.

MR. WILLIAM E. SMITH, from the Committee on Patents, submitted the following

REPORT:

[To accompany bill S. 187.]

*The Committee on Patents, to whom was referred the bill (S. 187) for the relief of Stephen V. Benét, having considered the same, beg leave to make the following report:*

The bill provides that the Commissioner of Patents shall be authorized to revive the application of said Benét for an improved cartridge, dated April, 1866, and to hear and decide the same as if two years had not elapsed since the last action of the office thereon, and to grant a patent if in all other respects said Benét appears entitled thereto. The bill further provides for the protection of manufacturers, venders, and others who may have made, sold, or used said cartridges prior to the date of issuing the patent. The bill also provides that the government shall have the free use of the cartridge, notwithstanding the grant of such letters patent.

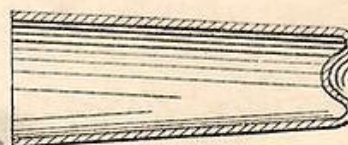
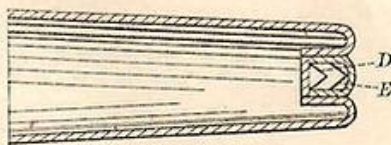
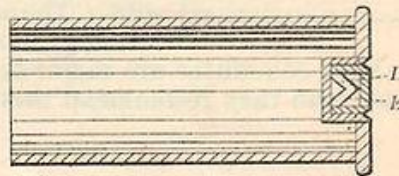
It appears from statements and evidence submitted to us that Benét made application for a patent for a metallic cartridge, dated April, 1866, in which application he claimed to have invented—

1st. Forming or drawing or in any proper manner producing a depression in the head or top of a metallic cartridge from the metal composing such head.

2d. In combination with the above, he also claimed the metal block D, and fulminate-cap E, when arranged together.

3d. He was understood, too, as claiming originality in drawing the entire cartridge from one piece of metal. This last ground of his claim does not appear in his official application. The annexed cut represents Benét's cartridge.

It appears that the application was rejected for the want of novelty, or because it contained nothing new. The patent of J. H. Selwyn showed identically the same thing, as will appear by the following illustration.



The drawing by Benet clearly shows a modern rimmed Cartridge Case. He clearly states it was formed in one piece. He shows a flat bottomed cup pressed into the base of the cartridge. All of this is Formed from One Piece of Metal. There is also an arrow shaped Anvil. Then a shortened Percussion Cap. ( Just like the later Berdan Patent Primer!)

The image bottom left shows a tapered cartridge much like the Colt Thuer Cartridge or the Burnside Cartridge of the Civil War. This is a formed tube with a HOLE Straight Through It! The primer is self contained like a modern shotgun primer.

The image bottom right shows a tapered tube with a dish shaped depression in the base. This is much like the Burnside Cartridge which used a percussion Cap on a Nipple to ignite the powder charge through a hole in that depression.

It is clear that the Patent Office Officials could not see the difference!

Subsequent to said rejection, Benét amended his application, and the amended application was rejected. The letter of the examiner shows this:

“U. S. PATENT OFFICE, *March 14, 1867.*

“SIR: Your application for improvement in priming cartridges has been re-examined on your amended claims filed the 7th instant. Your three claims appear to be merely tautologous restatements of the same essential feature. It has been shown that the insertion of a cap within the base of a cartridge *is not new; nor is the insertion of a loose anvil within the base of a cartridge new.* See the rejected application of E. P. Fowler, filed May 25, 1864, and E. Mounier, filed July 9, 1866, and the patent of J. H. Selwyn, August 14, 1866. The shape of the anvil is a mere matter of discretion. Finding no essential novelty in your device, the office must refuse your application a second time.

“Respectfully, &c.,

“W. T. B., *Examiner.*

“S. V. BENÉT,

“Care of Munn & Co., Washington, D. C.”

The patent law of 1870 provided that any application which lay two years without action on it should be regarded as abandoned. Benét not only did not move in his application within two years, but remained passive for nine years, and when he did move, it was in Congress to pass substantially the present bill.

Your committee conclude, 1st, That if the bill should pass and become law, Benét would derive no benefit from it; the record of his own case shows that he is not entitled to a patent. 2d. That no sufficient reason has been submitted why he and his attorneys should have neglected entering an appeal if they had any confidence in the claim for a patent.

Your committee disagree with Mr. Benét as to the novelty of his claim for the process of drawing a metallic cartridge from one piece of metal. The records of the Patent Office show that as early as 1826-'27, Galay Cazalat showed and described in his French patent a metallic cartridge-case made, as he says, “throughout of one piece of metal.”

Berringer, in his French patent of August 14, 1840, shows and describes this invention fully, made of copper and German silver, and he says that “to obtain the elasticity of the tube it must not be cast, but it is proper to *draw it in a tube-drawing machine* instead of *drawing it* by hammering, in order that the metal may not split. The accompanying illustration shows Cazalat's cartridge metal case.

Your committee are therefore of the opinion that the bill should not pass, and they recommend that the same be laid on the table.



Ultimately, the Patent Office denied Benet his April, 1866 patent application. They did not understand that the United States Government was on the Cutting Edge of Cartridge Development. This is astounding in two ways.

First; he asked for No Money For Himself. He wanted Ownership of the Patent to go to The United States Government.

Second; The Patent Office went on to grant one patent after another to later designers.

This all seems to lead to the appearance of corruption.

At no time was Boxer ever mentioned!

# Berdan Patents of 1866 and 1868

This is the Colonel Hiram Berdan of Civil War Sharpshooter fame. He was on track as early as 1866 to bring out a reliable, reloadable cartridge. By September of 1868 he had succeeded!

No. 53,388.

PATENTED MAR. 20, 1866.

H. BERDAN.  
PRIMING METALLIC CARTRIDGES.

Fig. 2.

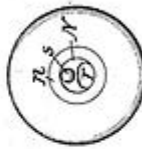
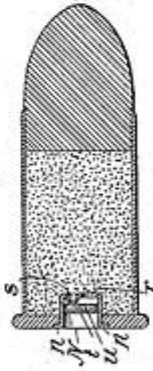


Fig. 1.



Witnesses:

*J. W. Combs*  
*Henry J. Brown*

Inventor:

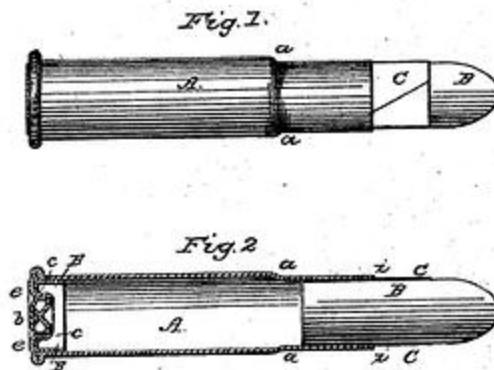
*H. Berdan*



H. BERDAN.  
Metallic Cartridge.

No. 82,587.

Patented Sept. 29, 1868.



Witnesses  
A. S. Lillard  
H. Spink

Inventor;  
H. Berdan  
Per Brundage

The patent upper left is dated March 20, 1866. Note that the title says BERDAN, not Boxer! This is an early patent. I have never seen a cartridge like this. I think it might be a cartridge collectors dream to have one in his collection. IF, you could tell what it was!

(1) This is a Flat disc of metal with fulminate underneath. The fulminate rests on an anvil formed in the removable primer pocket.

(2) This patent by Berdan pre-dates the Reloadable Boxer Cartridge Patent by 3 years and three Months! It is also a very workable design.

(3) Firearms designers were probably very familiar with Benet's 1866 Design. They were all back East and watched everything that was happening! They tried for something different, but did not succeed. Later, they literally patented Benet's 1866 design, with a few little changes.

From what I see in the top drawing, the anvil is on the left. (Marked S) The flash hole is on the right side of the primer pocket. (Marked T) The flash hole is the oval shape in the primer pocket. Zoom in on the image and you can see it better. This seems to be a very workable idea.

The lower image shows a cut away view of the primer. There seems to be a metal disk sitting on priming fulminate. The firing pin hits the disk, detonating the fulminate. Then it travels through the single flash hole. The whole primer assembly looks like it could be pushed out of the cartridge. Then a new primer could be pushed in. This primer might be hard to make and more expensive than manufacturers would like. But, I bet it worked!

The patent upper right was a Home Run. The cartridge in the drawing might be like the 42 Berdan cartridge. It could also be a 43 Spanish, 43 Egyptian, or 44-77 Sharps or Remington, that was very popular for years.

When people talk about Berdan Primers and Cartridges, this is what they mean. These were used around the world by Military, Hunters, Target Shooters and my favorite Buffalo Rifles by Sharps and Remington.

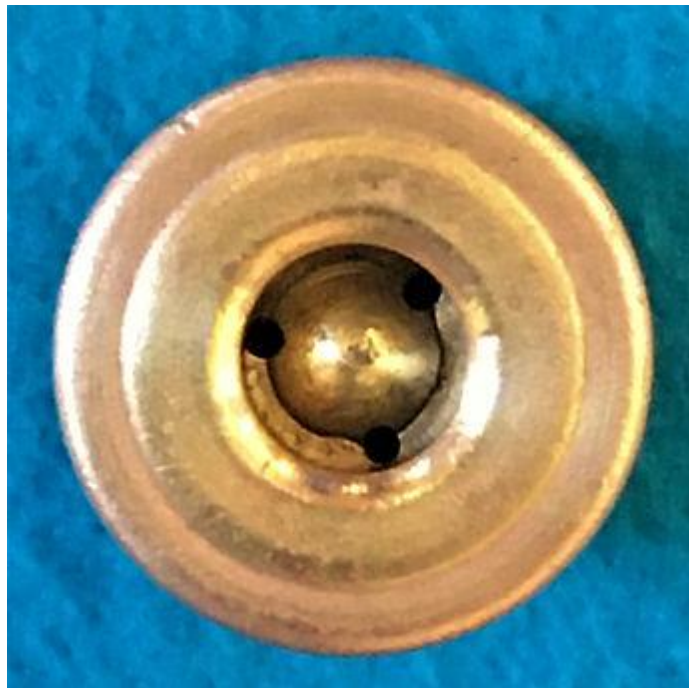
U.M.C. made thousands of these cartridges. Sharps bought primed brass from them, then loaded their own Ammunition in their early Hartford days. Maynard Used these in their thick head 1873 cartridges. Many other types of American Primers were introduced and sold, but Riflemen were still buying the Berdan primers for Years. Remington used these until they got a more conventional modern patent.

This was still just a big, flat percussion cap with the Anvil built into the cartridge case. Lou Behling points out the obvious in his article.

(1), Big firing pins and hammers could deform the anvil over time. This would limit the life of the cartridge case.

(2), You had to pry the cap out with an awl, or special tool with a chisel. There were either two or three flash holes around the anvil. No hole in the center to push the primer out.

Riflemen loved these cartridges. They were capable of great accuracy. Their use slowly faded away as new American primer designs came along.





Check out the image above left. This is a 50-70 cartridge I picked up out in the desert. It is probably a U.M.C. cartridge case. I put it in CLR cleaner and shined it up with steel wool. When I poked the primer with an awl, it crumbled. It may have been copper like material. The brass seems great. Notice the three flash holes in the primer pocket. The Bump in the center of the primer pocket is the Anvil.

Above right is a primer tin from U.M.C. This is a later tin with the painted top. Early tins had a glued on paper label. These Berdan primers are basically a Wide, Flat percussion cap. (.250 diameter vs. .210 diameter for modern American primers.) There is no Anvil in these primers.

On early primer tins these were sometimes called "Percussion Caps for Centerfire Fire Cartridges." In the end, these were called primers. Probably to avoid confusion.

These primers were very popular with Long Range Target Shooters. They were also offered in Shotgun Cartridges. ( Check out my Remington Capping Tool Page.)

## The Boxer Mistake, June 29, 1869

Lou Behling thinks some early gun writer did not do his homework. I wish I could reproduce his Article here. I can show you what the patent drawings look like.

This is a patent for a Metallic Cartridge by E.M. Boxer. It is not a very good design at all. Zoom in and look at all the parts and pieces. It is basically a mess.

Rimfire Cartridges were made all through the Civil War. They were all formed of one piece of metal. This design was way behind the times.

There is only one big difference between The Benet drawing of 1866 and Figure 1 below. A shoulder on the Anvil (A) to keep it from touching the fulminate in the percussion cap.

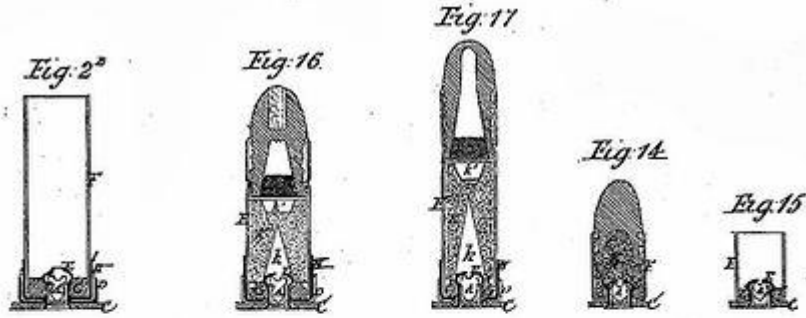
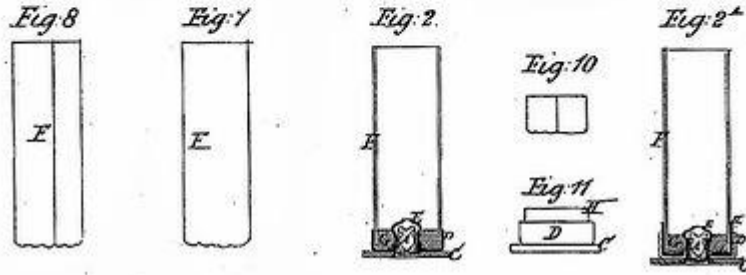
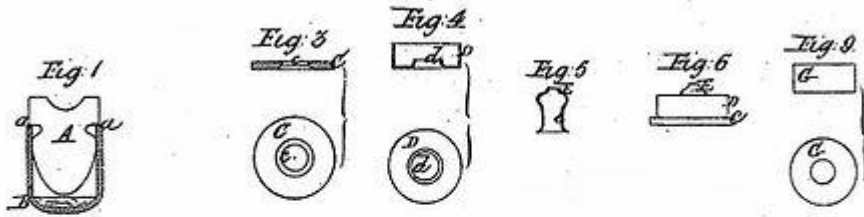
Boxer does not claim a primer patent here. Just a Reloadable cartridge. You must make a Claim about a primer! There is none in this patent.

This drawing in Figure (1) is never mentioned in later litigation and patent applications because no Primer patent was applied for.

E. M. BOXER.  
METALLIC CARTRIDGE.

No. 91,818.

Patented June 29, 1869.



Witnesses

*W. H. Kel*  
*W. Taylor*

*E. M. Boxer*

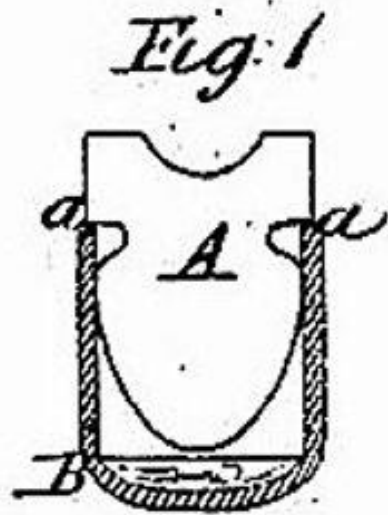


Fig. 16.

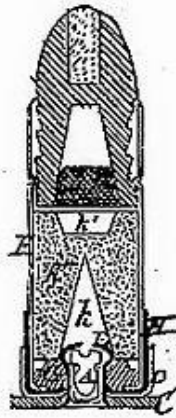
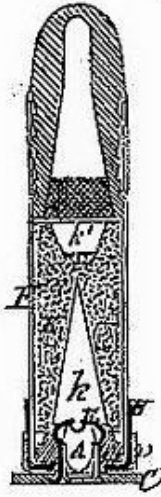
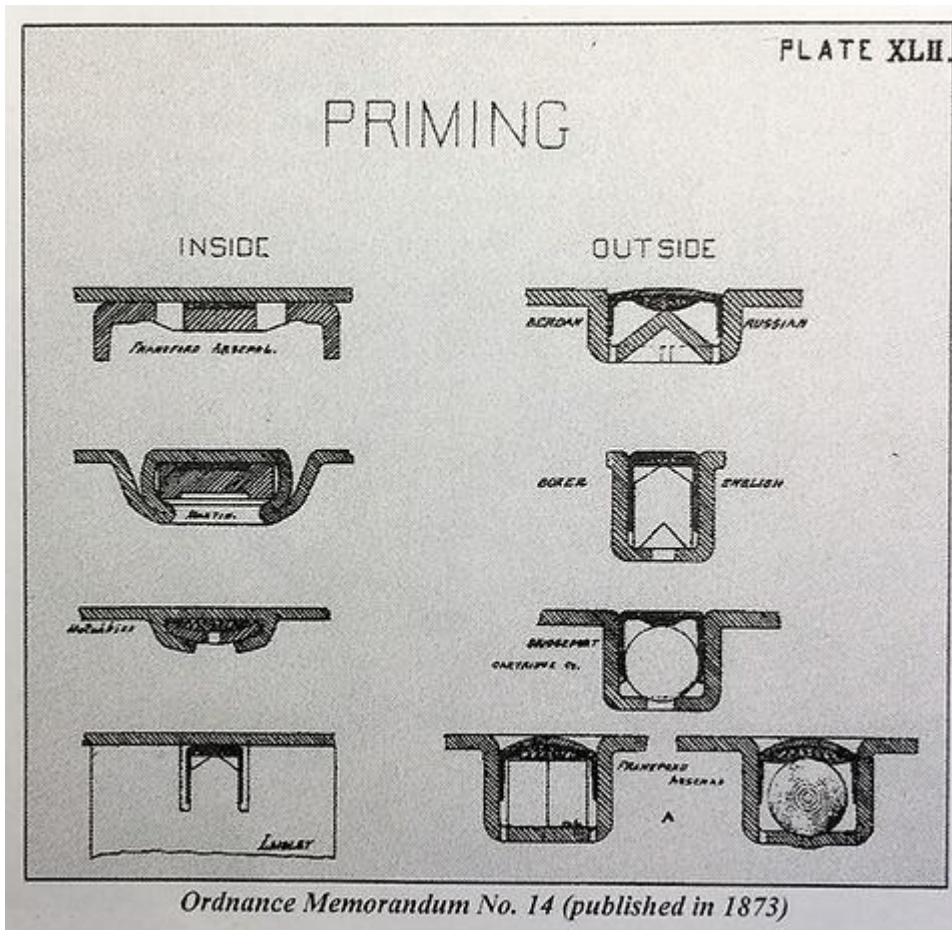
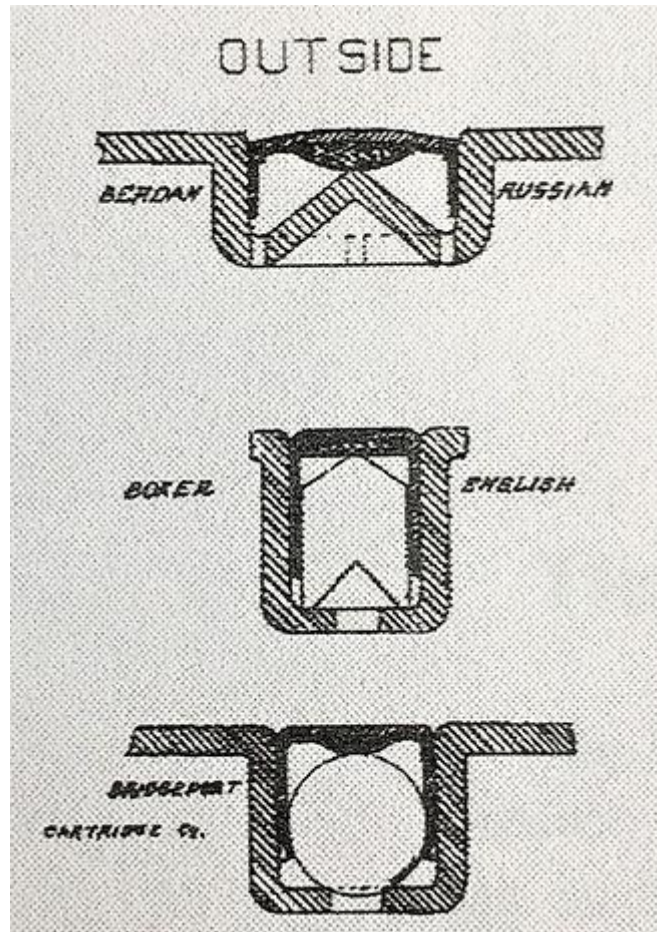


Fig. 17.



A mistake of this magnitude has to have a logical explanation. Lou Behling found it! Someone at Frankford Arsenal messed up labeling a drawing! Gun writers never did any more research. They just looked at a draftsman's mistake and carried on! Check out the drawings below.





This is an 1873 drawing of a variety of primers by a U.S. government draftsman. Most of the drawings are OK, but there are two images that are puzzling at best! In the enlarged image upper right, Two primers are mislabeled.

The primer top right is labeled Berdan, Russian. Berdan was an American and designed a rifle for the Russians, using his American Patent Berdan Primer. He was "Assisted" ( Ha! Ha!) by a Russian named Gorlov, then the Rifles and Cartridges, with the American Berdan Patent Primer, were manufactured in Russia. An American Rifle, Cartridge and Patented Primer made in Russia!

The primer drawing in the center is labeled "Boxer" and "English". This is clearly Benet's 1866 primer idea from our U.S. records. A draftsman's Mistake! Look at the Benet 1866 image, above, on this web page.

This is a Whopper of a mistake from 1873! Every Gun writer since has repeated this 150 year old Mistake!

- (1). Benet draws a primer idea in 1866 at Frankford Arsenal. ( Never Patented)
- (2). A U.S. Arsenal draftsman illustrates Benet's primer idea and mislabels it. (Boxer-English)
- (3). For 150 years, Boxer is credited with inventing the first practical primer with a central flash hole and an anvil that fits in the cap.

Lou Behling discovered this years ago but it was never published in a place where most people could see it.

Online, you will see "Berdan vs. Boxer" in an endless parade of articles.  
We should say, Berdan vs. Benet to give credit where it is due!

## It is time to Call These American Primers!

In a way, this is pretty much the End of the Big Mistake Story! However, this early confusion continued on for Years! Every Cartridge Manufacturer had to fight through Lawyers and Courts, to patent Improvements for Primers. Check out the following Patents and you will see the Mess our Firearms Companies had to deal with. All because some Idiot Government Official did not file a Patent for Benet's design in 1866! Apparently, it is the job of Government officials to Spend and Lose Money, even in 1866. No Way! could they file for a patent and make money for the American People!

## B. B. Hotchkiss, 1869 Patent

Benjamin B. Hotchkiss was a Ordinance Engineer during the American Civil War. He was most noted for designing Shells for Rifled Artillery. In 1867 he moved to France and built a munitions factory. He designed a Revolving cannon there, that looks a lot like a Gatling Gun. After his death in 1885 his company designed the Hotchkiss machine gun that was used in World War 1.

Note the date he moved. 1867. He must have been around U.S. Ordinance Designers until he left. He may have seen or heard of that early 1866 primer idea by Benet. He may also have been aware there was no patent on Benet's design.

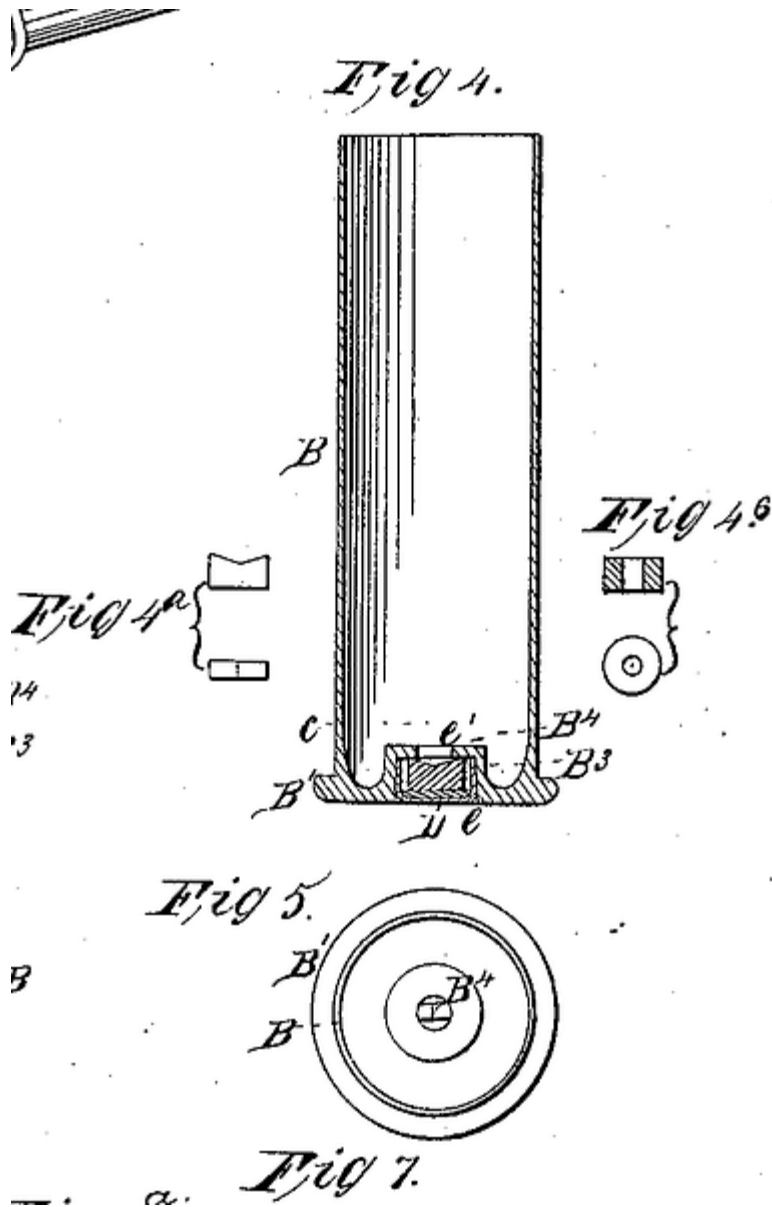
He probably patented these ideas in Europe first, then in the United States.

The most important part of these patents, is the method of forming Solid Head Cartridges. Before this, cartridges had a folded head, like a Rimfire Cartridge. Solid Head, one piece cartridges, were an important advance in Cartridge Development.

One primer drawing included in this first patent, is strangely similar to Benet's 1866 ideas.







The main purpose of this patent is the forming of a Solid Head Cartridge. Hotchkiss mentions using pure copper. It may not have been possible to form brass at this time. That came later.

The first four images show part of the process of forming a disk into a series of cup shapes. (Figures 8, 9, 10, 11) The result is a Solid Head Cartridge, with what looks like a percussion nipple formed in a primer pocket. (Figure 2) This is not a patentable idea because nipples and percussion caps had been around for years.

Figure 4 shows a Solid Head Cartridge with a conventional primer pocket like we see today. Hotchkiss describes both of these as Percussion Caps made in the conventional way. In figure 4 Hotchkiss is illustrating an Anvil similar to Benet's 1866 drawing.

Notice that this is a Cartridge patent. That is his purpose. No primer patent is claimed.

Hotchkiss does illustrate different ways of firing this Cartridge with a percussion cap. He may have missed a chance here. Or, he may have thought these were not patentable ideas.

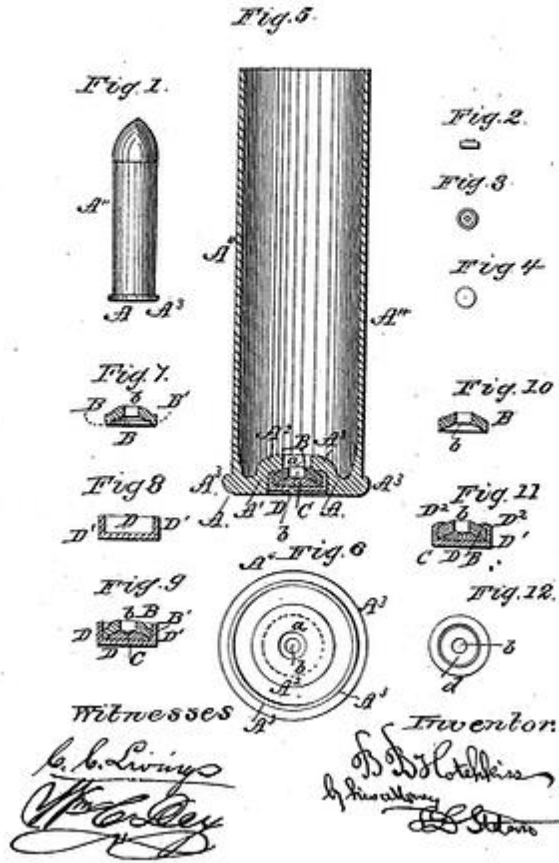
## B. B. Hotchkiss, 1870 PATENT

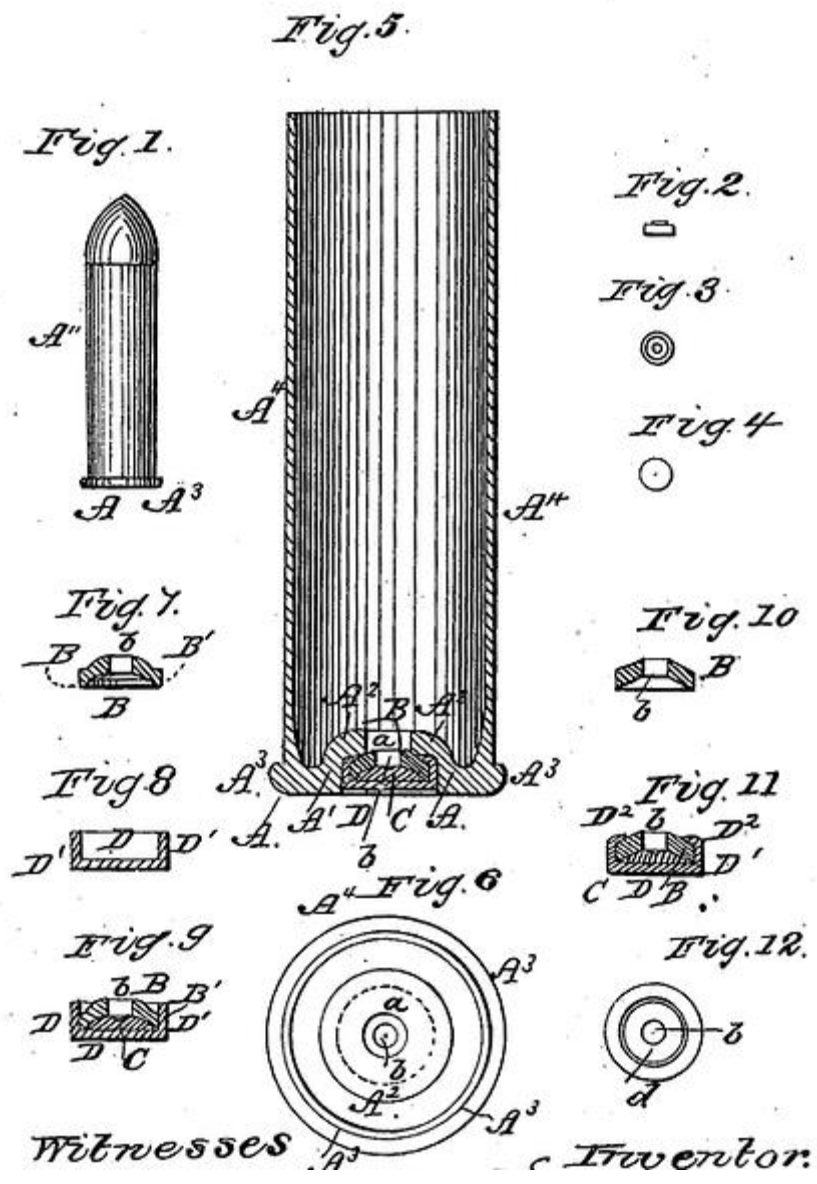
This patent is for a Primer and Cartridge. The most important point is still the Solid Head Cartridge. Hotchkiss must have thought he needed a Primer Patent to go with this cartridge. The 1869 patent was Not covering a Primer Idea he could claim as his own.

B. B. HOTCHKISS.  
Primer and Cartridge.

No. 99,899.

Patented Feb. 15, 1870.





At first glance, this seems like a great idea. There is a solid head case with a central flash hole. There is an anvil in a large, flat, percussion cap. The primer could be pushed out for reloading.

Lou Behling pointed out the flaw. The Anvil is a flat disk with a hole in it. ( Figures 4, 10 and 11)

Firing pins in 1870 were very large. ( 1/8 inch diameter in the Sharps.) They were driven forward by a big, heavy hammer. When driven forward, they were held in place by the hammer and strong mainspring.

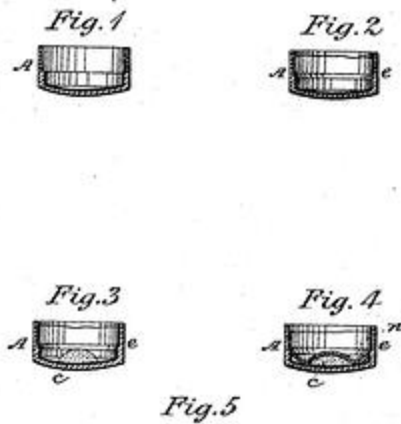
The fulminate might ignite, then be blocked off by those big firing pins. Mr. Behling thought this might be a bad idea and I agree. If these were used, it was probably not for long.

## A. C. Hobbs Patent, Sept 14, 1869

This particular Hobbs patent was for a Berdan type percussion primer or percussion cap. The only difference was a shoulder on the inside of the primer cup. There was no other mention of anything. No anvil was illustrated. I am not sure why it was granted.

The Primer was thicker on the back. Perhaps that prevented rupture of the primer. It might also have been easier to extract with an awl.

A. C. HOBBS.  
Percussion Cap.  
No. 94,743. Patented Sept. 14, 1869.



The patent drawing above just shows a simple shoulder inside the primer. Look close at the primers on the two U.M.C. tins above. You can see this shoulder.

Both the early and late tins have the Hobbs, Sept. 14, 1869 patent date on top.

The whole idea is odd. Why issue such a patent? Why buy the rights to this patent? Why print the date on the primer tins for years?

This must have improved the Berdan Primer, but did not contribute to modern primers.

## Milbank Primer, May, 1870

I. M. MILBANK.

Cartridge Primer.

No. 103,641.

Patented May 31, 1870.

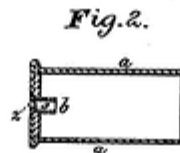
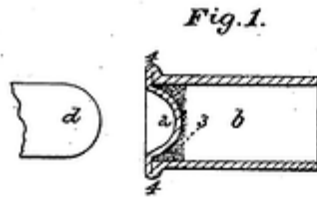


Figure (1) is the complete primer. It looks like a small 22 rim-fire with a dent in the base. If you spot one of these at a gun show, you might think it is a cartridge that misfired.

These are easy to identify because they are much smaller than most primers. They also have that funny dent in the center.

You could say this is a center-fire primer that works like a rim-fire. Funny but true!

Notice the firing pin tip labeled (d). The firing pin is actually larger than the dimple or dent in the primer. When the firing pin first strikes, it is forcing the dent outward. Kind of like a outward striking rim-fire?

Figure (2) illustrates a cartridge case with the primer installed.

This primer probably did not work well. Most primers and percussion caps have a piece of foil inside that holds a thick dimple of fulminate. Lots of fulminate insures strong ignition.

In this primer there is very little fulminate around the edges. It is concentrated further in.

This primer was not around very long. It would probably not work for high pressure cartridges and ignition was probably not consistent.

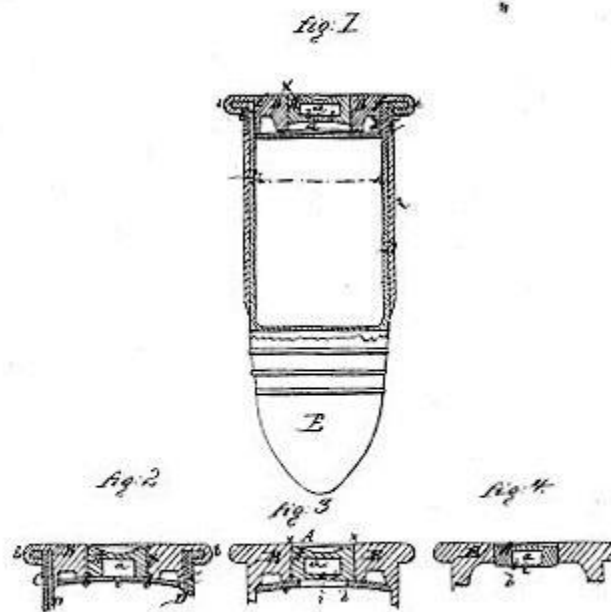
Many early Winchester cartridges used this primer until July of 1874.  
To the left you can see 1 regular primer and two Milbank primers. These are Unfired!  
There is also a depression around the primer in the cartridge base to protect the primer.

## Rollin White, Jan 10, 1871

R. WHITE.  
METALLIC CARTRIDGE.

No. 110,881.

Patented Jan. 10, 1871.



This is a mess of a cartridge. It looks a lot like the Boxer Reloadable Cartridge.

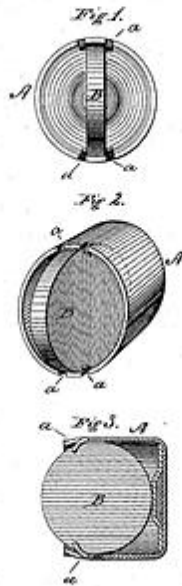
Rollin White was a big deal in the firearms world. He patented the bored through revolver cylinder. This gave Revolver Manufacturers a lot of trouble for years.

No Revolver could have a bored straight through cylinder unless they paid Rollin White royalties. No one ever found a good way around his patent. It finally ran out and Modern Revolvers were developed.

The folded rim of this cartridge and the multiple parts were obsolete when this patent was granted.

You can see that White was thinking of a reloadable cartridge and a replaceable Primer. There were better ideas around already.

## Hobbs and Orcutt Patent, Oct. 24, 1871



This is a nice clear patent drawing. The primer has a lot of good qualities. A percussion cap with a foil liner. Fulminate is concentrated in the center right under the center-fire firing pin.

The anvil is held in place with little tabs of metal so it "should" stay in place.

I am guessing that Hobbs and Orcutt were not aware of Benet's 1866 drawing of an Anvil with a (V) shape in the bottom. The V shape would leave the centered flash hole clear.

This round anvil would poke right into the middle of a Central flash hole. The flame from ignition would be restricted to some extent.

For ease of reloading, you need that central flash hole to push out a spent primer.

For accuracy, you need consistent ignition.

Hobbs kept working on these ideas and filed later patents.

## Farrington Primer, Dec. 17, 1872

This primer design moves a little closer to our modern American Primers. Lou Behling says; "This was the primer of the U.S. Cartridge company for many years," in his Remington Journal article from 2000.

The first thing you may notice is the concave shape of the rear of the primer. This is a feature of the earliest examples of this primer type. The indentation was dropped later.

In the Oldammo.com website you can see some of these Farrington primers in 50-70 cartridges. Later primers have what he calls a blister, or small flat bump, sticking out of a rounded primer. Even later, they are rounded on top like all other primers.

This is basically a wide, flat percussion cap with a smaller cup crimped inside. The fulminate is sandwiched in between. Figure 8 shows the bottom of the small cup. There are two holes which allow the flame to go to the central flash hole. The flame had to go around the metal blocking the flash hole.

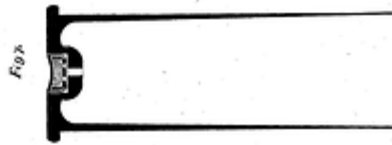
There was a lot of fulminate and the smaller cup was lifted up just a little from the bottom of the primer pocket. That probably helped.

These seem to have worked fairly well. They were not like our modern primers.

De W. C. FARRINGTON.  
Primers for Cartridges.

No. 133,929.

Patented Dec. 17, 1872.



Witnesses  
*Walter H. Daniels*  
*Willis Farrington*

Inventor.  
*De Witt Clinton Farrington*

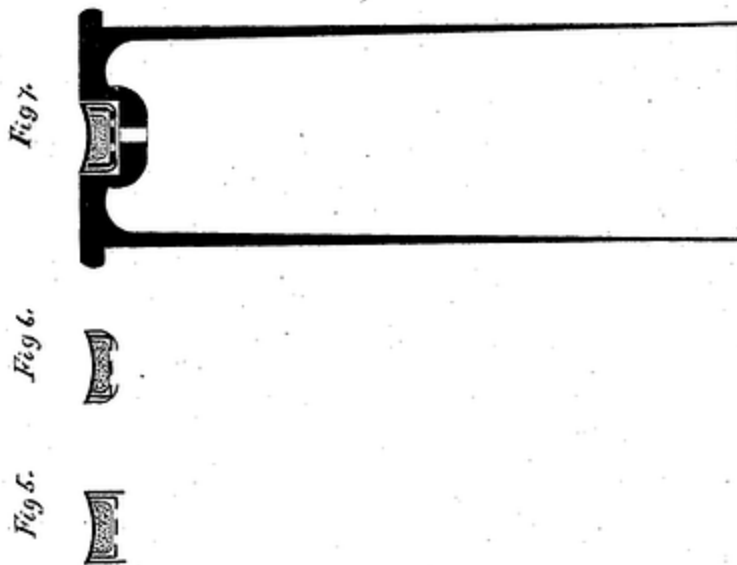


De W. C. FARRINGTON.

Primers for Cartridges.

No. 133,929.

Patented Dec. 17, 1872.



## A. C. Hobbs. March 10, 1874

Notice that these drawing are starting to use one piece cartridge cases. Hobbs is illustrating a cartridge case with a deep primer pocket and a centrally located flash hole.

He is still illustrating a percussion cap with a flat anvil. You would think these were not worth patenting. He started with a disc shaped anvil in 1871. Now he is patenting a hexagon and octagon shape.

The octagon shape seems to leave a little clearance for the flame to go through the flash hole. The Hexagon shape seems to block the central flash hole.

The patent office kept granting these patents. There was no challenge from boxer at all. If Boxer had owned a patent, he would have said something. The patents would have been disputed or not granted.

The straight sides of these anvils did not need a crimp like the earlier patent. Their shape on the sides held them in place.

A. C. HOBBS.  
Primers for Cartridges.

No. 148,366.

Patented March 10, 1874.

Fig. 1.

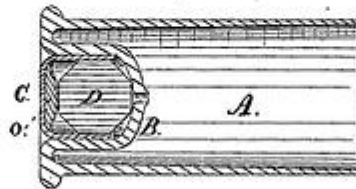


Fig. 3.



Fig. 2.

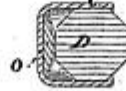
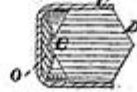


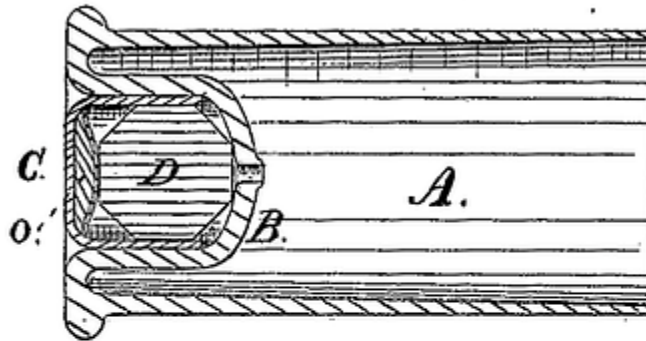
Fig. 5.



Fig. 4.



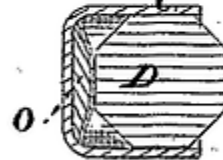
*Fig: 1.*



*Fig: 3.*



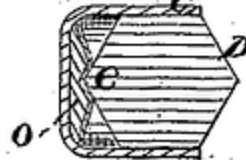
*Fig: 2.*



*Fig: 3.*



*Fig: 4.*



## Oliver F. Winchester, July 14, 1874

This is one of those patents that does not show up on the internet. Most of them just pop right up. If anyone has a clear photo of this Patent please send it along. It is an important patent.

There are rumors of the early 44-40 cartridges with Milbank and Berdan primers. Some collectors mention seeing them. They were really early and did not last long when reloading. They must be a scarce, early, Winchester 44-40 cartridge.

Many earlier patents had been filed by other people.

Oliver Winchester had to try half a dozen times to get this patent granted. He finally got it July 14, 1874.

His patent covered a three leg and four leg Anvil. The cartridge case was formed a little inside. The central flash hole is pushed in a little so there is room for the flame to travel around the Anvil easily.

This anvil looks Flat, but that is not entirely clear from this bad image. The Anvil was probably changed and improved over time. A domed shape with the center toward the fulminate would have been better. The domed shape did not have to reach all the way to the fulminate. That would make it easier to press in safely. The domed shape would have left the flash hole clear for the flame to travel through.

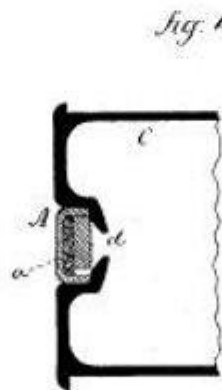
Most early 1873 and 1876 Winchester cartridges we have left today, probably used this primer or some variation of it.

Again, Boxer is never mentioned in any claims. He had nothing to do with our primers.

**O. F. WINCHESTER.**  
**Primers for Cartridge.**

No. 152,936.

Patented July 14, 1874.



Witness  
*W. S. Smoot*  
*A. J. Tibbitts*

*O. F. Winchester*  
Inventor  
By *Atty*  
*John East*

**W. S. Smoot Primer, Dec. 7, 1875**

Smoot was the Superintendent of the Remington factory and a really noted firearms designer. This is a really important primer design. Remington probably used Berdan primers up to this point. That required paying royalties. Every manufacturer wanted their own patents to save money. These Smoot Patent Primers were used in a Cartridge Case with a central flash hole. It was easier to push out the spent primer.

Ask yourself WHY this patent was granted?

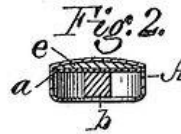
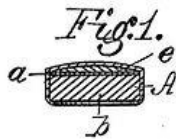
If Boxer had patented a primer, this would be an infringement of his patent.

All of these patents illustrate how silly it is to think there was a Boxer primer patent. Every manufacturer was struggling to get their own patents. All their ideas led to the primers we use today.

W. S. SMOOT.  
PRIMERS FOR CARTRIDGES.

No. 170,780.

Patented Dec. 7, 1875.



Witnesses:  
Will. H. Dodge.  
Thos. Houghton.

Inventor:  
W. S. Smoot  
by Dodge & Son  
Atty

# Conclusion?

If you looked through these last patents, you can see the American Primer Story was a Mess!  
Most of these patents should Never have been granted.

Boxer did one thing right. He probably knew Benet and was most likely aware of all the Benet designs and ideas. These guys were all in the same business and were aware of what the other guys were doing. America was a much smaller Country in 1866.

Benet drew a Percussion Cap with an Anvil inserted in it in 1866. Benet then made drawings of a Cartridge Case with a modern style primer pocket. ( Percussion Cap and Anvil clearly illustrated.)

Boxer had good sense. He did not try to patent Benet's idea. What would have happened if he did try for a patent? He may have become an outcast in his profession. No matter what year it is, You do not steal another persons ideas!

The Total Absence of the Boxer Name should be carefully noted by any History or Shooting Enthusiast.

Benet came up with some great designs. He beat everyone from the beginning, but has never gotten credit!

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