

## UNITED STATES PATENT MODELS\*

by Thomas J. McHugh

It was in 1925, just 30 years ago, that Congress decided to dispose of its "little white elephants." These were the working models of everything imaginable which hopeful inventors had submitted to the Patent Office and which, for a number of years, the Government had kept in storage in an old livery stable at a cost of \$200,000. A while back, I had the good fortune to acquire a small collection of some of the firearms models in this group and my fascination with them eventually prompted me to delve into their background. In the course of my research, the subject of the Patent System proved to be an interesting tangent and as a preface to my findings on the models, let's take a look at what has been termed "one of the strongest bulwarks of democratic government today" - the American Patent System.

As early as 1623, England enacted patent legislation and, naturally enough, similar laws found their way into the administration of the American Colonies. The first patent on this continent was issued by the Massachusetts General Court to Samuel Winslow in 1641 for a novel method of making salt. Later the framers of the Constitution considered the problem of giving protection to inventors and thereby effectual encouragement to the exertion of skill and genius in producing new and useful inventions. From their deliberations came the provision in the Constitution which enabled Congress to enact the first patent law on April 10, 1790, from which the modern Patent System has evolved.

The purpose of a patent, as envisaged by our lawmakers, was to grant a reward for the invention or discovery of something to be added to the sum total of human knowledge. In the larger sense, a patent is of greater benefit to society than to the individual inventor; once a patent has been granted and recorded, the world in general becomes informed of the discovery or improvement. Doubtless some of the ancient civilizations, such as those of Egypt, Assyria and China, produced many useful inventions, capable of higher development and wider adaptation but they were lost to those people and remain unknown to us because there was no patent system for perpetuating the discoveries of each succeeding generation.

It is a well-known fact that the Confederate States government established a patent office early in its career. Not so well known, and perhaps a surprise to many Texans, is the fact that the Constitution of the Republic of Texas gave its Congress power to grant patents and copyrights. The official act was signed into law by President Lamar on January 28, 1839. Within six months of its passage, six patents were granted - exactly twice as many as were issued by our own United States Patent Office in the year 1790, the first year of its existence. Some months after Texas joined the Union, an effort was made to validate the Texas patents but no action appears to have been taken.

The modern American Patent System is today a model for other nations. It is the best, most workable method yet devised for protecting inventions, fostering industrial and mechanical progress and ultimately giving to the world the benefits of the individual inventor's genius. The fundamentals of the system are simple: any person who has invented any new and useful process, machine, manufacture or composition of matter, or any improvement thereof, may obtain a patent. An application must be filed with the Commissioner of Patents,

\* THIS IS AN ENLARGEMENT OF A TALK GIVEN BY THE WRITER AT THE CINCINNATI MEETING OF THE A.S. OF A.C. ON MAY 21, 1955.

accompanied by a drawing and necessary papers describing the invention, also a fee to cover the cost of examination which consists of searching prior patents and publications to determine whether the application presents something patentable. The patent gives the inventor the right to exclude all others from making, using or selling his invention for 17 years. In contrast with some foreign governments, the United States does not tax patents.

The Patent Office is one of the most unusual branches of our Government. It has an examining staff of over 700, which is trained in all branches of science and examines every application to determine whether a patent may be granted - a task involving the most extensive research. Many an idea is patentable but nevertheless ludicrous. Even so, the patent examiners have no right to turn down an invention just because they privately think it is funny. A classic patent was issued some decades ago to a man who invented a way to prevent dogs from committing a nuisance against buildings. His idea was to electrify a strip of metal around the building's base; when a dog stopped to relieve himself, an electric current would pass up the stream, shock the dog and dissuade him from repeating his act. There was no question of the novelty of that patent! Needless to say, this is not representative of the vast number of inventions for which patents are granted - inventions which have made our nation the greatest industrial power on earth.

An important milestone in the story of the American Patent System is the Act of July 4, 1836, which set forth principles upon which present day patent laws, in broader outline, are based. Among other provisions, it called for a system of numbering patents consecutively; 9957 patents had been issued previously but they were not numbered. Very few of the patents granted during this early period can generally be recalled today but arms collectors are familiar with two of them - Colt's original patent of February 25, 1836, and the Darling pepperbox patent issued April 13, 1836. Neither was numbered originally.

Another requirement of this Act was that, in addition to specifications and drawings, models had to accompany all applications. While the Act of 1790 called for drawings and specifications, it did not make the supplying of models mandatory. A further provision was for the arrangement and classification of models in galleries where they were to be displayed to the public. For a great many years, this exhibit was one of the biggest tourist attractions in Washington.

It might be interesting to note here that when the British burned Washington in 1814, the Superintendent of Patents pleaded with the British Commander not to "burn what would be useful to all mankind" and thus saved the Patent Office from destruction. Fires, however, eventually did take their toll. The great fire of December 15, 1836, completely destroyed the Patent Office. The loss was staggering as it included all records of patent specifications, drawings and an estimated 7000 models. Congress appropriated \$100,000. in an effort to replace the records but it was only partially successful. Sadder but wiser, the Office set about guarding against possible future disasters of this kind and a system of duplicate records was installed. In 1840, the Patent Office moved into new quarters and the building, to which wings were added in 1852, 1856, and 1867, became the home of the Office for the next 92 years.

On September 24, 1877, fire again broke out in a part of the Patent Office and the section destroyed included 50% of the model rooms containing 163 display cases. In addition, there were several thousand models belonging

to pending patents. It was first believed that all models in the north and west wings were lost but after the debris had been removed and the ashes carefully sifted, a more optimistic view was taken. The final estimate was that close to 10,000 could be restored and saved, and Congress appropriated \$45,000. for this work. There are several models in the Henry M. Stewart Collection whose tags indicate they were restored by the Patent Office following this fire.

By 1870, in the opinion of some governmental officials, patent models were approaching the end of their useful existence as a requirement for filing. Due to greater technical progress, drawings and specifications alone were believed to be sufficient in most cases and an Act passed by Congress on July 8 ruled that models were to be furnished only when required by the Commissioner. This change was received with mixed feelings. Inventors welcomed it because model makers were highly skilled mechanics and their services were costly. The patent authorities, on the other hand, considered the models indispensable and, clinging to the old procedure, simply "required" that models accompany most of the applications. After 1880, however, with storage becoming more and more of a problem, the spirit of the Act of 1870 was followed and working models were sought only in a very small percentage of cases. But it was not until around 1900 that they were dispensed with entirely. Congress further ordered, in January of 1871, the discontinuance of the old Patent Office Reports and directed the Commissioner to have copies of all patents on file printed and made available to the public at a nominal charge. These so-called "soft copies" of patents can still be obtained from the Patent Office and are a valuable source of information for the arms student.

Although unforeseen at the time, it is an interesting corollary that this new availability of printed patent specifications led subsequently to the storage of the patent models. The usual practice was to print 100 extra copies of each new patent and place them in stock against future demand. By 1890, the yearly output of patents had risen to 26,000 - about twice what it was in 1870. Quite understandably, the number of employees also increased during this period - fully 50%, and the lack of space for both storage and personnel became critical indeed. The Patent Office building was one of the largest in Washington but unfortunately a good portion of the space was given over to several other Government agencies. Their removal would have solved the Commissioner's dilemma but an apathetic Congress turned a deaf ear to any such suggestion. With the waning importance of the models, very likely Congress had the spacious model galleries in mind and felt the Patent Office had ample room if only they would utilize it sensibly. The Commissioner's stand on the matter is best shown by the following quotation from his Annual Report for the year 1890:

"The models contained in the Model Halls are not only of great interest to the public, who daily visit them in great numbers, they are almost of inestimable advantage to the examiners by enabling them to conduct investigations expeditiously. A considerable percentage of the applications for patents received from day to day are found to be met and anticipated by the contents of the model cases. I regard it as nothing less than a public calamity that the Office was compelled several years ago to suspend the reception of models for want of space in which to store and exhibit them. I venture to express the hope that the time will come when models will again be required with all applications and an effort will also be put forth to obtain specimens of the more important inventions which have been patented during the intervening period."

But Congress was much too engrossed at the time with really serious problems of national scope (the brewing Panic of 1893) to concern itself with the difficulties of the Patent Office.

Without Congressional assistance, it became clear that relief would have to come at the expense of the models. Consequently, in July 1893, they were removed from their galleries and set up in the privately owned Union Building on nearby G Street. Still accessible to the examiners, this arrangement lasted for at least 10 years. But the sands had about run out for the patent models - just when the decision was made to place them in storage is not recorded. We do learn from the Commissioner's Annual Report for the year 1908 that the models were then stored in boxes in the basement in the Patent Office building. That they remained there for a lengthy period is improbable as the permeating dampness of the lower reaches of the 70 year old building fairly invited destruction. While suitable storage facilities were being sought on the outside, the Smithsonian authorities selected a reported 500 of the most historic models for permanent exhibition. The rest of the huge collection, no less than 2700 boxes containing some 150,000 pieces, was carted off eventually. The destination -- an old livery stable which had been renovated to provide adequate storage.

"Out of sight, out of mind" - this was the status quo of the models for more than a decade. Then, in 1925, Congress appropriated \$10,000. and delegated a committee of three to ferret them out and effect disposition by one means or another. The Smithsonian was given a second opportunity to select those whose historical value had grown more important in the intervening years. Next, the models were offered to the individual inventors and their families. This provision enabled Colt, Smith and Wesson, Remington, Winchester and other manufacturers still in business to acquire their own models and explains why the more famous patents are rarely found in private model collections today.

The great bulk, however, was finally disposed of at public sale. The buyer was a civic-minded English gentleman named Sir Henry Wellcome, whose intention it was to present the vast collection to the American people as a museum. Unfortunately, plans to raise money for a suitable building to house them were curtailed by the depression of the 30's and, at his death, Sir Henry's widow sold the entire lot to a New York syndicate which vainly attempted to attract financial interest in the original project. In an effort to defray storage expenses, a sales room was set up in Rockefeller Center in 1940, operating as Patent Models, Inc. And it is at this point that we encounter the first specific reference to the firearms models. A number of serious arms students were alert to this opening of a fresh, new field in collecting and among the buyers were William Ball, Major James E. Hicks, our fellow member Henry M. Stewart and the late Philip J. Medicus. Models tagged with the names of famous arms inventors were eagerly sought and were probably the first to be sold, but the obscure inventor whose brainchild was a weird revolving mechanism or a complicated magazine rifle was not overlooked either. Sales of the firearms models are believed to have been quite good - indeed, if interest in all fields had been commensurate, the venture might have been a success. But the mousetraps, buggy-whip sockets, burglar alarms and apple parers attracted few buyers and Patent Models, Inc., closed its doors after a few months.

The remaining models were purchased by O. Rundle Gilbert, who conducted a sale of 2,000 lots at his auction rooms in April of 1943. Firearms items in this instance, however, were conspicuous by their absence. The owner tried to maintain active interest in the models by stating in the foreword of his

sales catalog that models not included in the sale could be purchased privately and inviting inquiries, but replies were not encouraging and the models remained in their crates, for the most part unopened, in a warehouse in Garrison, New York.

In June, 1950, the New York Times carried a full-page advertisement, "Gimbels loves inventors and inventions - Gimbels is nuts over patents." The ad went on to say that 5,000 original United States Patent Office models would be placed on sale at prices ranging from \$1.00 to \$1,000. It was their biggest stunt since they had handled the William Randolph Hearst Art Collection in 1941. Just how many firearms models were offered by Gimbels cannot be determined but two were mentioned specifically by a popular news magazine - the Gatling gun model and that of a plowshare with a built-in cannon "for shooting Indians." Incidentally, the patent drawing of this latter piece of intriguing ordnance is reproduced in Lewis Winant's excellent work "Firearms Curiosa." Just how successful this sale was is anybody's guess - certainly the patent models proved to be a splendid gimmick for getting customers into the store, which no doubt is what Gimbels was primarily interested in anyway. It is doubtful that they ever had 5,000 models on hand during the entire sale. When it was all over, the remaining ones went back to O. Rundle Gilbert's warehouse in Garrison, for the sale had been handled on a consignment basis.

Subsequently, fire again destroyed a large number of the models when the Garrison warehouse burned and suffered extensive damage. Gilbert salvaged as many as he could and moved them to his home in New England, where they are today. At the risk of being sentimental, one might say it seems quite fitting that they have come to rest in the section of the Country which is so rich in memorabilia of our great nation's beginnings.

How rare are the patent models? This study would hardly be complete if it failed to examine this factor, which is of prime importance to the collector. While it is impossible to quote an exact figure on the firearms models, a fair estimate can be made. We know that perhaps 2,800,000 patents have been issued to date. Of these, 7,000 or slightly less have been for firearms. The other known quantity is, of course, the 150,000 models sold in 1925. By using the proportion  $7,000 : 2,800,000 :: X : 150,000$  and solving for X, we arrive at a rough figure of 400, the number of firearms models included in the 150,000 which came out of storage. We must remember, however, that the Smithsonian claimed some of these and others went to the inventors or their families. So the number of firearms models actually sold is very small - probably not more than 300 at the outside.

As was demonstrated at the Cincinnati meeting of the Society, patent models are usually not complete firearms as the inventor was only required to demonstrate the workability of those features he desired to protect by Letters Patent. Consequently, some models are merely components of weapons while others have the appearance of a complete arm, although some of the more obvious parts may be represented in dummy form. Both types are included among those chosen for illustration and description on the following pages. Worthy of note, too, is the fact that patent drawings always copy the models very closely as to contours and general proportions of the various parts. This is necessarily true because the patent drawing is made from the actual model by patent draughtsmen who specialize in this work.

#### ACKNOWLEDGMENTS

The writer is grateful to the following collectors whose suggestions and pertinent information were invaluable in completing this study: Robert Abels, Herman P. Dean, Philip J. Medicus, Henry M. Stewart, Lewis Winant. Thanks are also due to G. Charter Harrison, Jr., who photographed specimens from the writer's collection.

# UNITED STATES PATENT OFFICE.

BENJAMIN C. GOUGH, OF CANTON, MISSISSIPPI.

## IMPROVEMENT IN MAGAZINE FIRE-ARMS.

Specification forming part of Letters Patent No. **214,123**, dated April 8, 1879; application filed July 18, 1878.

*To all whom it may concern:*

Be it known that I, BENJAMIN C. GOUGH, a resident of the city of Canton, county of Madison, and State of Mississippi, have invented a certain new and useful Improvement in Fire-Arms; and I do hereby declare the following to be a full, clear, and correct description of the same, reference being had to the annexed drawings, making a part of this specification.

This invention relates to fire-arms in which successive cartridges are moved forward by the action of the lock in exploding.

The nature of said invention consists in the construction and combination hereinafter particularly described.

My invention will be readily understood by referring to the accompanying drawings, whereon—

Figure 1 represents a longitudinal section of a pistol constructed after my improved plan. Fig. 2 is a cross-section of the nipple, with its supporting-springs; and Fig. 3, views of the cartridges and the manner in which they are joined together.

A is a rifled barrel, which is provided with a hollow handle or stock, B, for containing the lock and cartridge tube or chamber C, the latter curved to conform to the upper edge of the stock, and preferably made in sections, thus forming a telescopic tube, that may extend beyond the end of the stock, as shown in dotted lines, and consequently contain a greater number of charges.

The sides of the tube or of the section thereof, except a part which will presently be mentioned, are constructed with outwardly-projecting ribs *d*, the interior of which form grooves for the passage of the guides *e* of the cartridge-shells F.

Between the breech and hammer open grooves *x* are cut on the prolongation of the aforesaid ribs, so as to cause an outward projection of the guides *e*, the same to be engaged by the side spring-levers G, and thereby pressed forward into position.

The lock is self-acting, the pulling back of the trigger H moving forward the dog I, and thereby raising the hammer K until the heel *l* of the former raises the hook *m* of the dog I clear of the same, when the said dog is sprung back by the action of the spring O, which causes the hammer to descend upon the nipple or anvil P, and thus explode the lead-

ing cartridge, while at the same time it cuts it off from those in the rear.

The nipple and striker are both made in one piece, and also serve as a movable breech-block, as shown at P, Fig. 2. This striker has two side arms, *q q*, which rest upon springs *r r*. After the blow of the hammer K drives down the striker, these springs carry the latter back into position for admitting another cartridge.

The lower ends of the spring-levers G are secured to the front edge of the trigger, as shown at *s*, and are drawn back by the dog during the falling of the hammer, so as to be in position to forward other cartridges as rapidly as they may be required.

To charge the tube after a number of cartridges have been exploded, it is only necessary to raise the hammer, when the few remaining cartridges will fall back to the end of the tube. Others can then be linked thereto, and the whole moved forward into position. The hammer is next lowered, thereby causing a spur, *t*, that is constructed on its lower side, to enter a slot in the upper portions of the tube, and thus prevent the chain from slipping backward.

By a slight change in the position of the spring-levers G, they may be made to push forward the first instead of the second cartridge.

The trigger is furnished with a draw-pin, 1, for engaging in a notch, 2, by which means it is held snugly against the weapon when not in actual use.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In combination with hammer K and barrel A, the striker P, having arms *q' q'*, and springs *r r*, said striker serving also as a breech-block.

2. The combination of the hammer K, dog I, spring O, trigger H, and spring-levers G, whereby the cartridges are successively moved forward and exploded, substantially as specified.

In testimony whereof I have hereunto signed my name.

B. C. GOUGH.

In presence of—

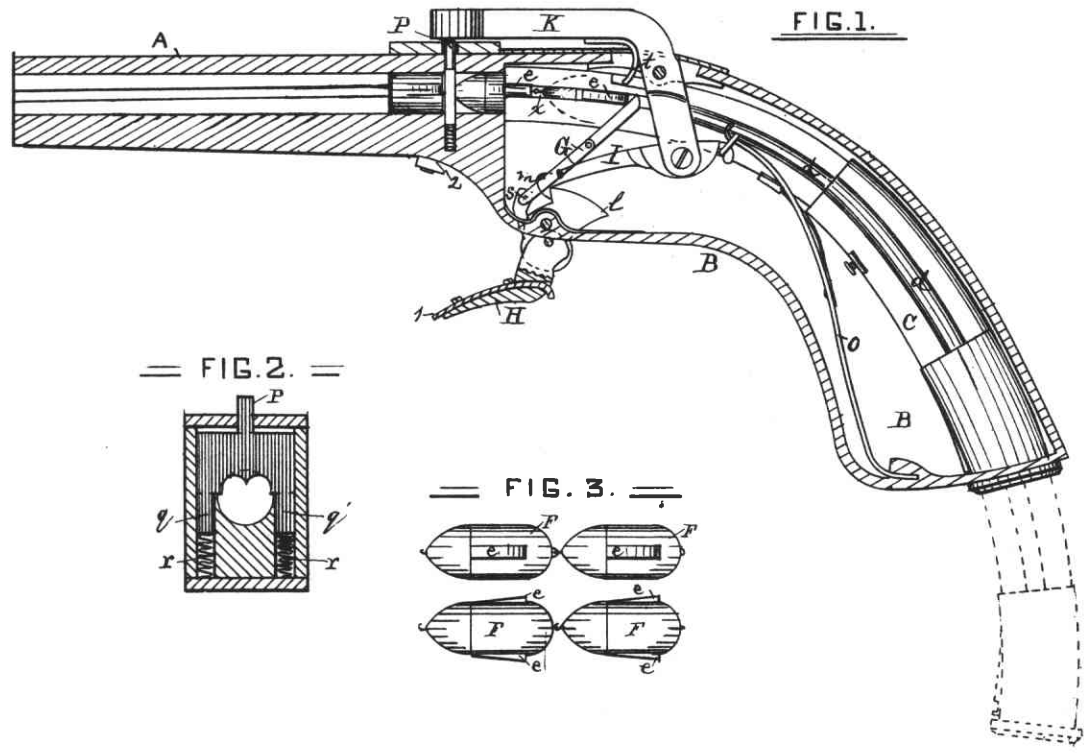
J. C. HUBBELL,  
P. J. FINNEY.



B. C. GOUGH.  
Magazine Fire-Arm.

No. 214,123.

Patented April 8, 1879.



WITNESSES.  
*J. C. Hubbell*  
*Hugh Person*

INVENTOR.  
*B. C. Gough*  
 BY *H. N. Jenkins*  
 ATTORNEY.



## BENJAMIN C. GOUGH - Patent #214,123 dated April 8, 1879

This patent probably excited more interest at the Cincinnati Meeting than it did when the inventor vainly sought capital to put it on the market. Consequently, the original specifications have been reproduced here and no attempt will be made to describe the action. By rare good fortune, the original specimen cartridge which accompanied the model was found jammed in the magazine tube. This unique copper-cased cartridge (see Plate 1) is identical with the one shown in the patent drawing (Fig. 3) except that it does not have the rounded base. Note the hook and eye arrangement permitting cartridges to be linked together. Much speculation centered about the fact that the inventor failed to explain how he got rid of the fired cases. There seems to be only one possible answer - down the bore, closely followed by the bullet of the succeeding discharge. The patent drawing shows a fire case in front of the breech-block together with a spiralling groove of proper width and relationship to the fin to permit this.

Explaining the priming of these cartridges is much more difficult. Note that the fired case in Fig. 1 is flat-bottomed and shorter as compared to the rounded-base cartridges in Fig. 3. Also note the similarity of the specimen cartridge in Plate 1 to the fired case. Apparently the bulbous base contained the priming compound but the chances of its being drawn integral with the rest of the copper case are remote. Any deformation in setting off the priming would seriously interfere with subsequent passage through the bore. Inclosing the priming in a firm but combustible material and cementing it to the flat base might be a possible solution. The problem is intriguing and the writer would welcome any suggestions our members care to offer.

The model itself is most unusual in that the major parts - barrel, entire frame and sideplate (removed) - are made of pewter. The German silver plate just beneath the hammer nose in the photo is engraved "GOUGH - INVENTOR."

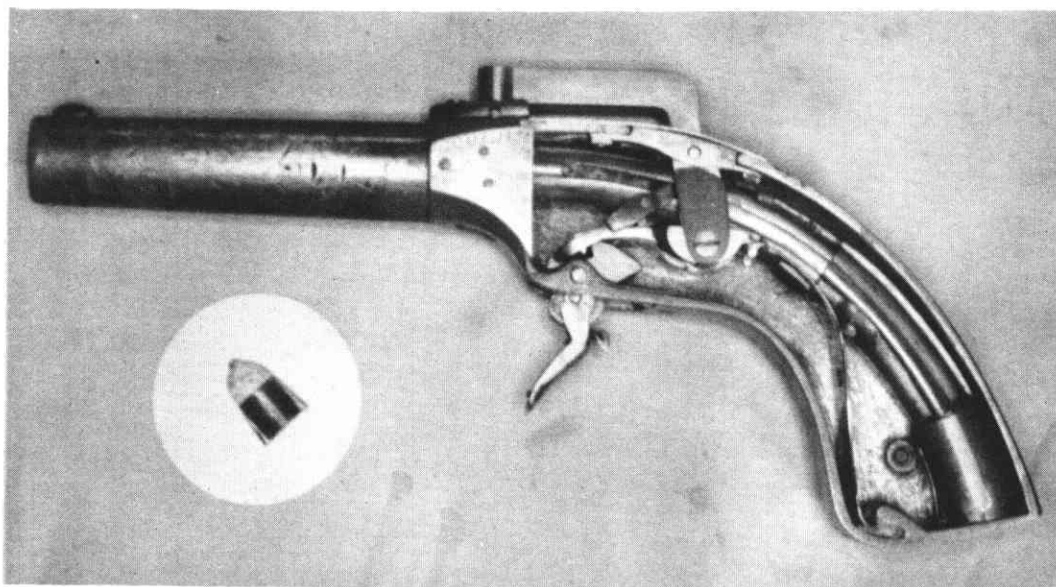


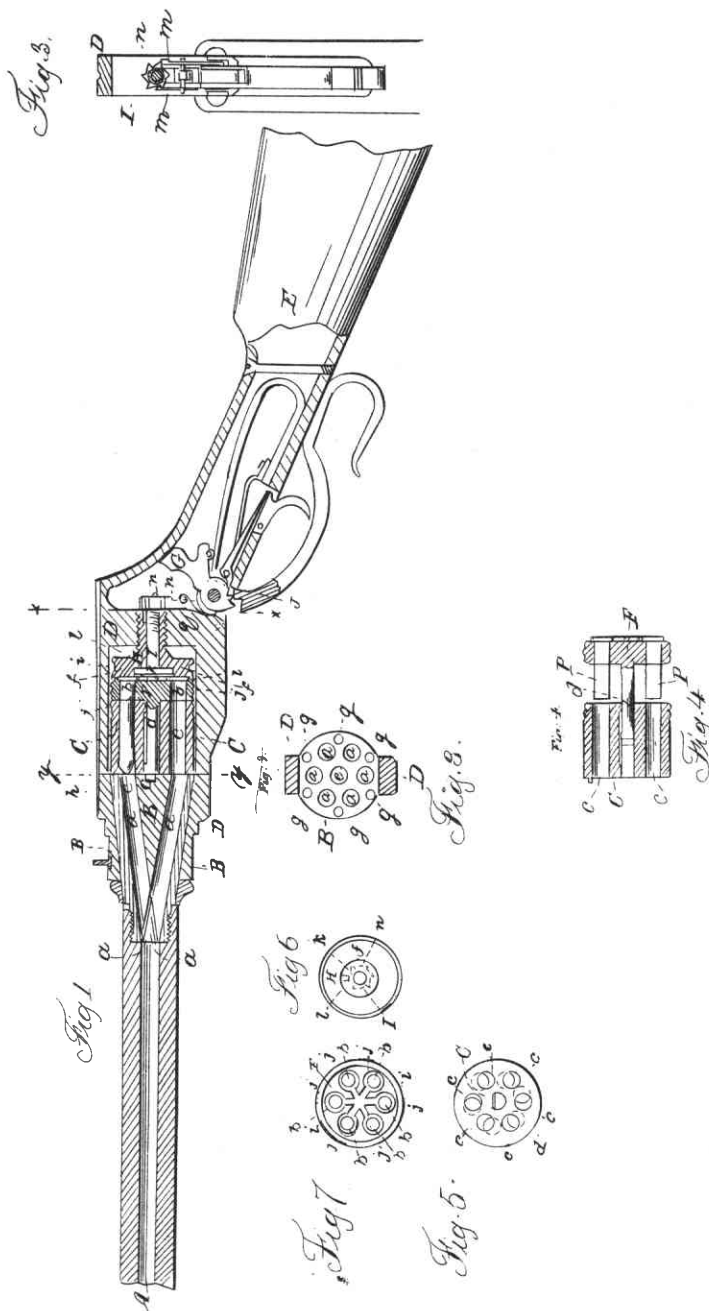
PLATE 1

# MORRIS & BROWN.

## Revolver.

No. 26,919.

Patented Jan. 24, 1860



Witnesses.  
*J. M. ...*  
*E. ...*

Inventors.  
*William Hopkins Morris*  
*Chas. Lester Brown*

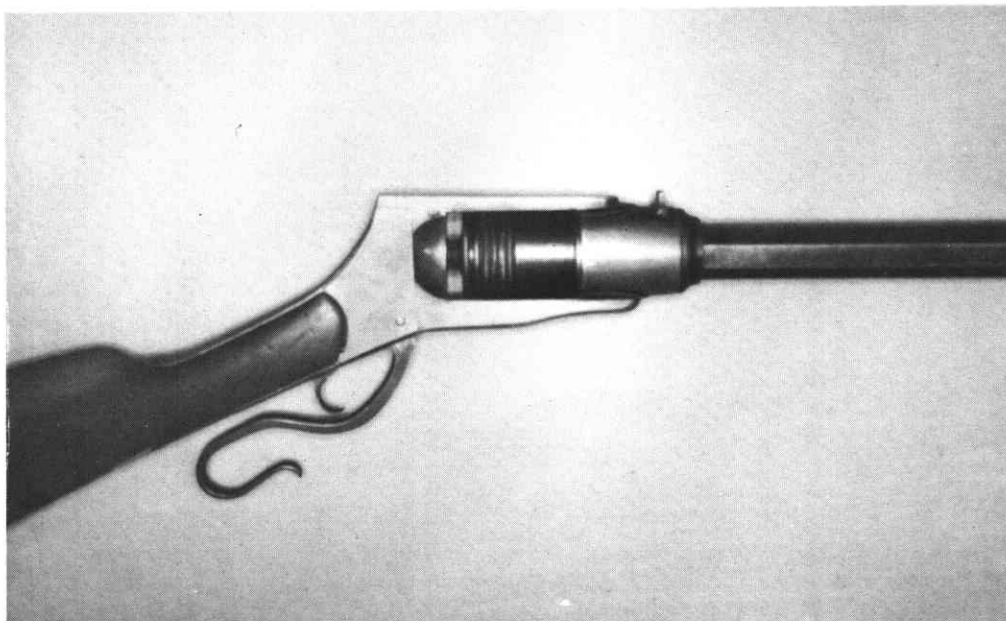
## MORRIS & BROWN - Patent #26,919 dated January 24, 1860

This patent might well present the query, "When is a revolver not a revolver?" Although it is so classified, the cylinder - which accommodates six rimfire cartridges - does not rotate. Operation of the trigger-guard lever cocks the concealed hammer and indexes the firing pin, which is driven forward by the hammer blow. But the astonishing feature of the patent lies in the fact that the barrel and cylinder are on the same axis! The extension in front of the cylinder contains six converging channels leading to the barrel proper. Thus a bullet follows a slight zigzag course to get into the barrel. Unscrewing the pressure plate behind the cylinder permits its removal for loading and ejection of the fired cartridges.

One of the claims made by the patentees definitely involves the principal of boring the cylinder through from end to end and the writer cannot help wondering why the examiners permitted it to stand. It will be remembered that the original application of Smith & Wesson involving this same feature was denied and they were forced to purchase the Rollin White patent.

Only one specimen, believed to have been from the Hugh Smiley Collection, is known. It was sold by Walpole Galleries in 1921 and is illustrated on page 49 of their sales catalog #206 (Ball's Checklist #57). This piece differs from the patent model but is marked with the patent date and "Conical Repeater."

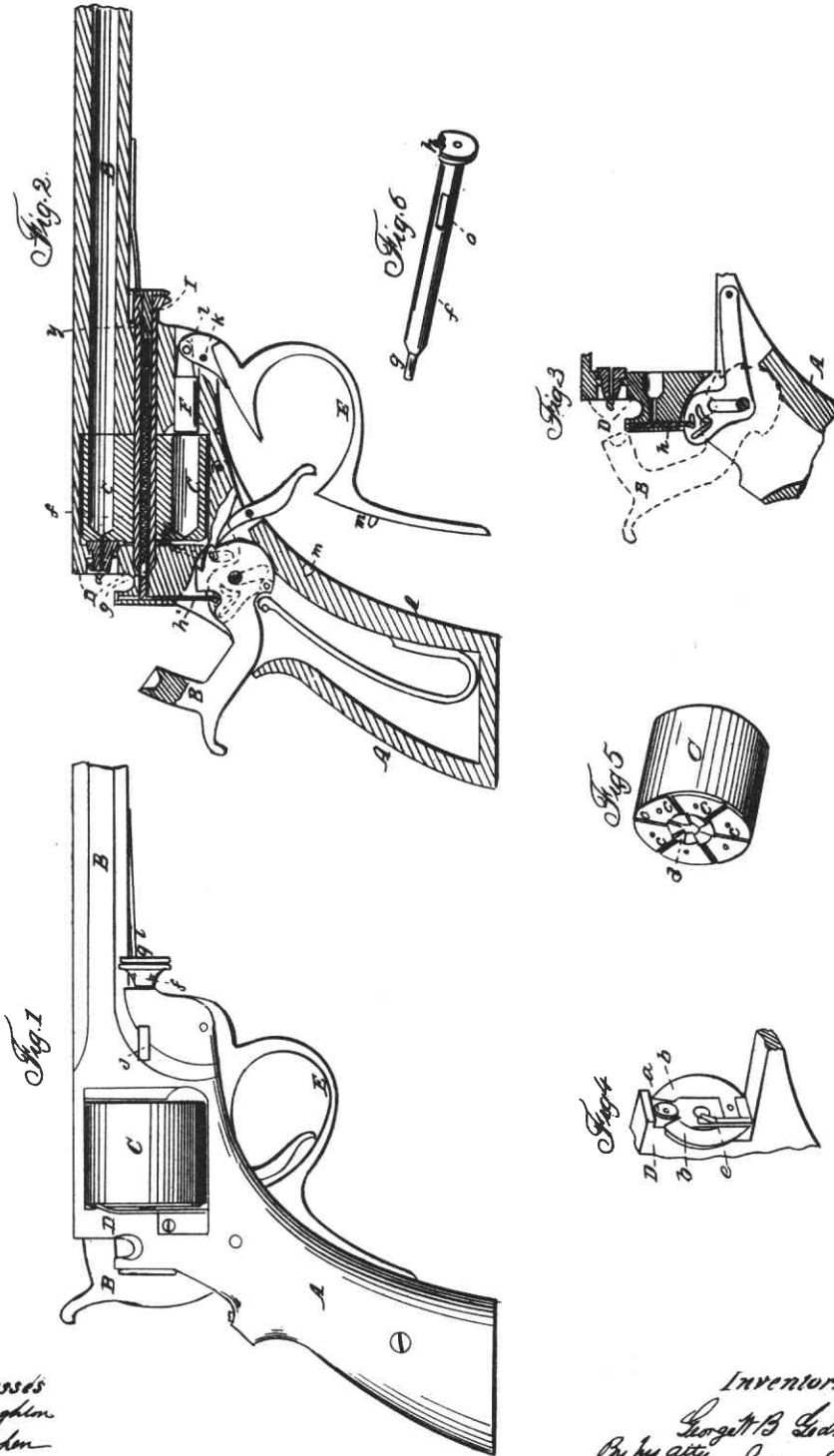
This model is actually a complete firearm and is capable of being fired.



G. W. B. GEDNEY.  
Revolver.

No. 35,999.

Patented July 29, 1862.



Witnesses  
A. B. Stroughton  
& Gordon

Inventor:  
George B. Gedney  
By his atty Robert Taylor

### G. W. B. GEDNEY - Patent #35,999 dated July 29, 1862

This interesting patent contains several unusual features - the most notable of which is an attempt at self-priming. The priming magazine shown in Plate 3 is inserted into the hollow cylinder pin carrying the "stick of priming material" rearward. A carrier actuated by the fall of the hammer sheared off a slice of primer and raised it to a point where it was caught by the hammer nose and brought against the cone. Gedney's idea was to use a single "floating" cone which served all charges through touch holes in the base of the chambers. The ingenious U-shaped spring designated as 'b' in Fig. 4 of the patent drawing served no less than four purposes -

- (1) to thrust cylinder forward against the rear end of the barrel
- (2) to protect charges in the adjacent chambers from accidental discharge
- (3) to scrape off any residue which might deposit on rear of cylinder
- (4) the sharply curved ends entered radial grooves (marked 'c' in Fig. 5 of patent drawing) in rear face of the cylinder to control its revolution.

The trigger-guard loading lever shown in the drawing was not allowed in the patent claim because of the earlier Allen patent of January 13, 1857.

No evidence of manufacture is known. Gedney is remembered for his self-priming hammer which was used to limited extent in converting the Model 1836 flintlock martial pistol. See Plate 5 of the Gluckman "Bible", "United States Martial Pistols and Revolvers."

The model illustrated below is made of mahogany and shows fine workmanship.

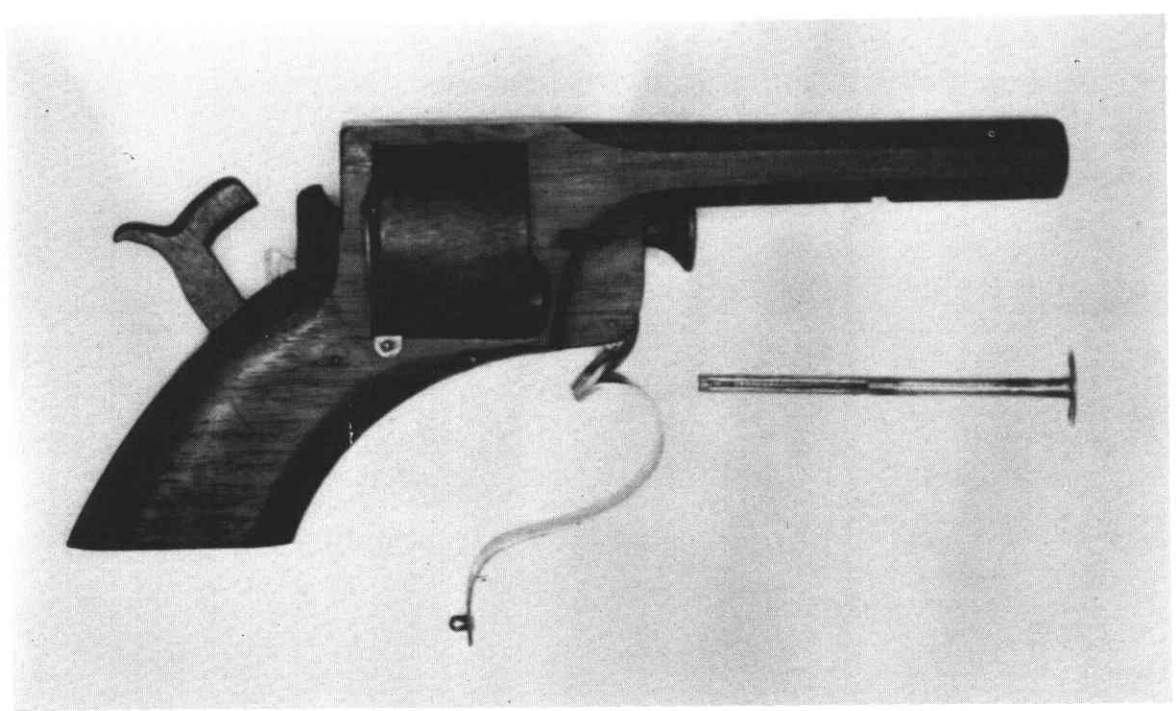
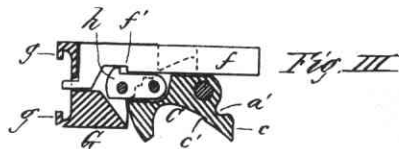
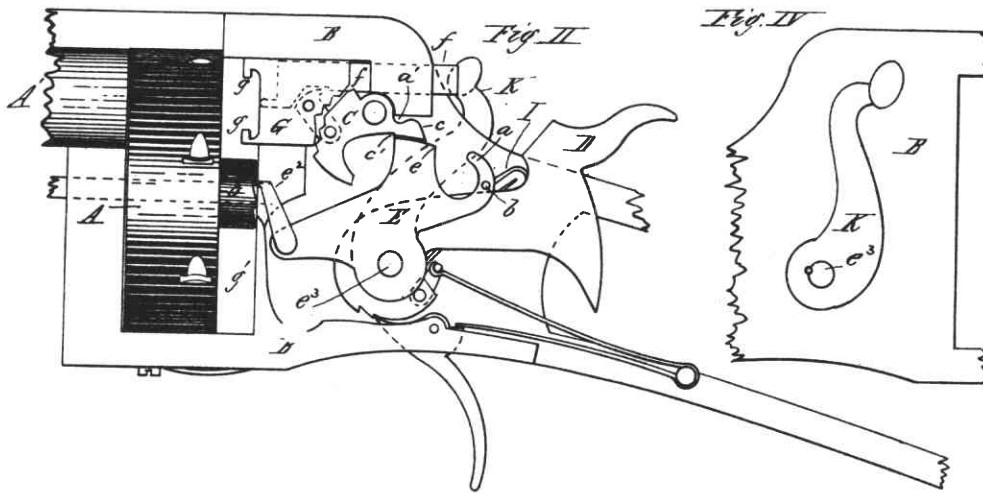
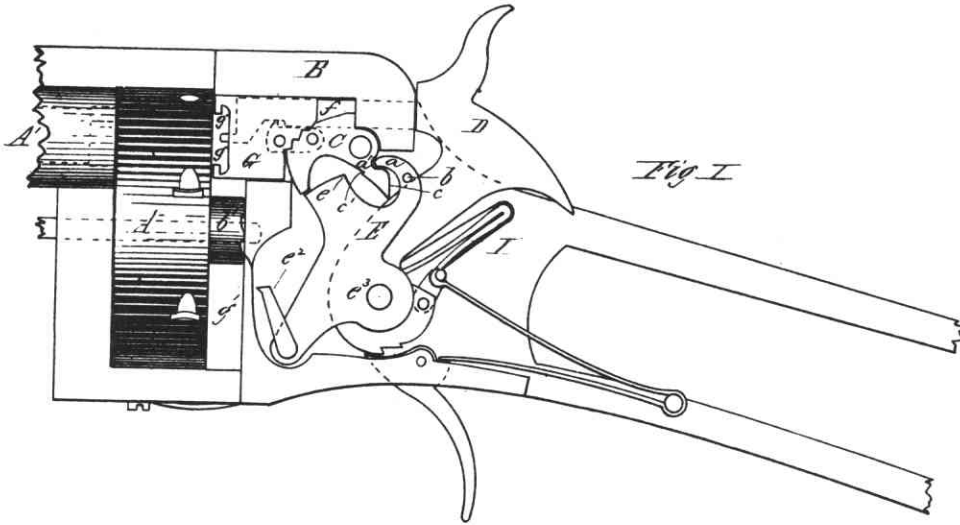


PLATE 3

D. B. WESSON.  
Revolving Fire-Arm.

No. 222,167.

Patented Dec. 2, 1879.



Witnesses.  
George B. Rathbun  
J. Gilbert Wilson

Inventor:  
Daniel B. Wesson.  
By J. A. Curtis,  
his atty.

## DANIEL B. WESSON - Patent #222,167 dated December 2, 1879

This patent was issued in Wesson's name alone since Horace Smith withdrew from the firm in 1870. Even though the patent had no known influence on production models, it shows that efforts were still being made to overcome the gas leakage problem common to all revolving cylinder arms.

Wesson's idea was to use a rimless C.F. cartridge with an annular groove at its base in a cylinder which was about 25% shorter than the cartridge. The cylinder is loaded so that the cartridges are flush with its forward face and protruding at the rear.

The gap between barrel and cylinder is bridged by the cartridge case itself. Each cartridge brought into firing position is pushed into the barrel and withdrawn after discharge by the fore and aft movement of breech-piece 'G'. The mechanism is basically that of a single action revolver except that operation is by means of the thumb lever 'K' on the right side of the frame (see Fig. IV).

The model is complete with a dummy cartridge. In Plate 4, the cartridge has been engaged by the breech-piece 'G' and is in position to be pushed forward into the barrel.

This model differs from the others in this study in that its form is simple and direct, with no trimmings added. The precise workmanship indicates that it was made in the Smith & Wesson plant.

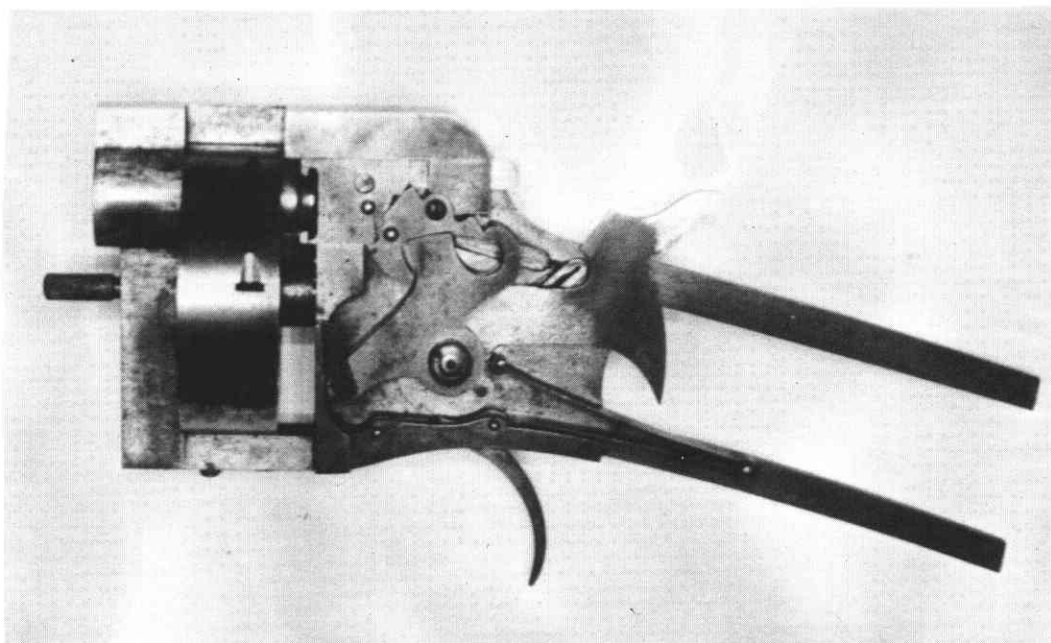


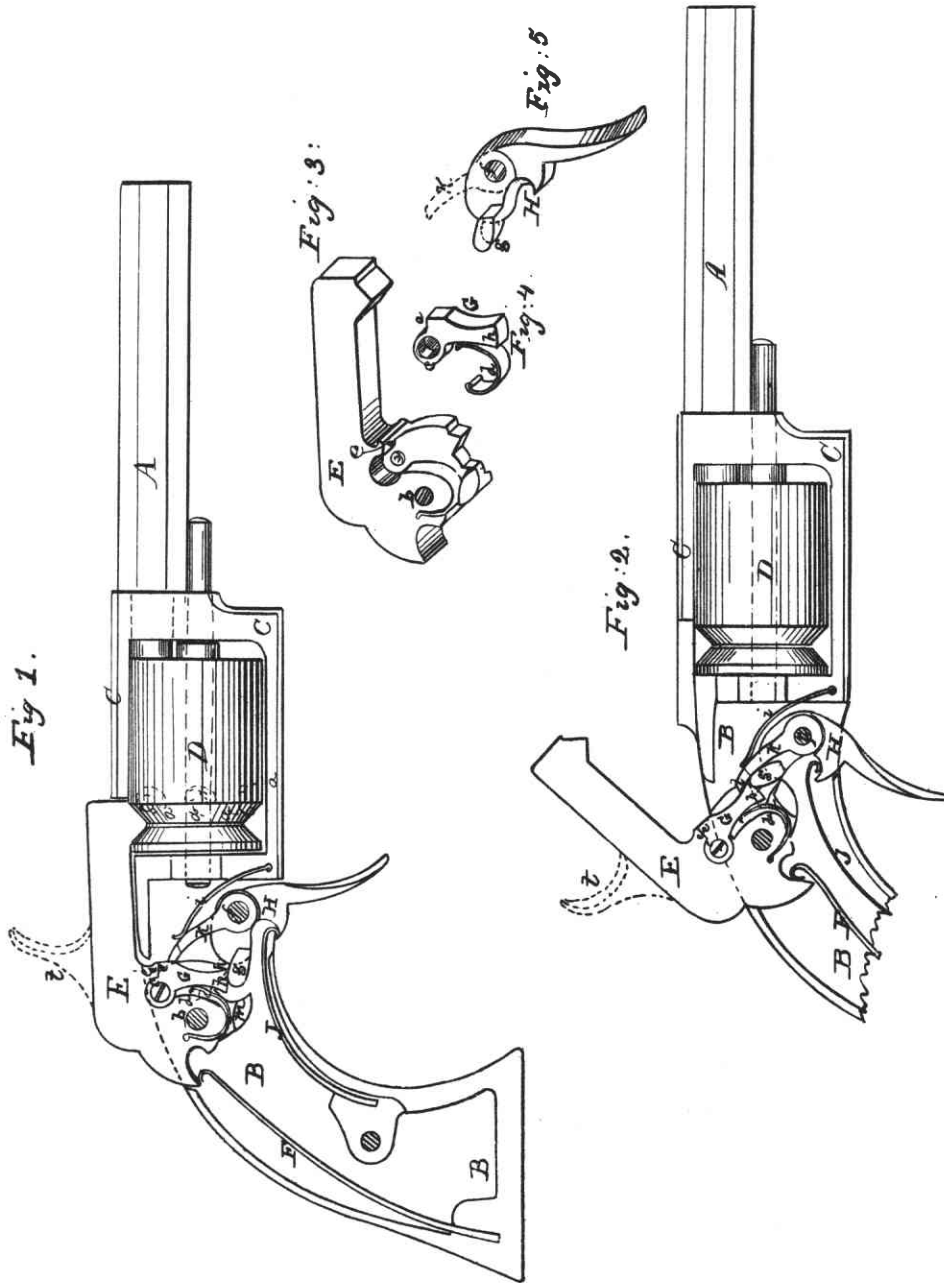
PLATE 4



# BRETTELL & FRISBIE. Revolver.

No. 16,575.

Patented Feb. 10, 1857.



**BRETTELL & FRISBIE - Patent #16,575 dated February 10, 1857**

The patentees described this invention as a "new and useful improvement in Self Cocking Firearms." Very likely the patent was intended for application to the Eells patent percussion revolver which operated double-action only. Note the close similarity between the model and the Eells .31 cal. revolver in Plate 5. Pressure on the trigger brought the bar hammer to full cock where it remained while deliberate aim was taken. Further trigger pressure dropped the hammer and discharged the piece. Thus the arm could be operated either single or double action at the will of the shooter.

There has been some conjecture about the patentees being employed at the Eells factory. Allegheny (or Allegheny City) at that time was only a short distance from Pittsburgh - it is now within city limits - where the Eells revolvers were made. The application of this mechanism to the Eells or any similar revolver is not known to the writer.

This model is finely made and is in perfect working order. It has a brass frame, walnut grips and dummy barrel and cylinder of mahogany. The bar hammer is stamped "F. S. BRETTELL" on the right side - "J. B. FRISBIE" on the left and "ALLEGHENNY (sic) PA." across the top.

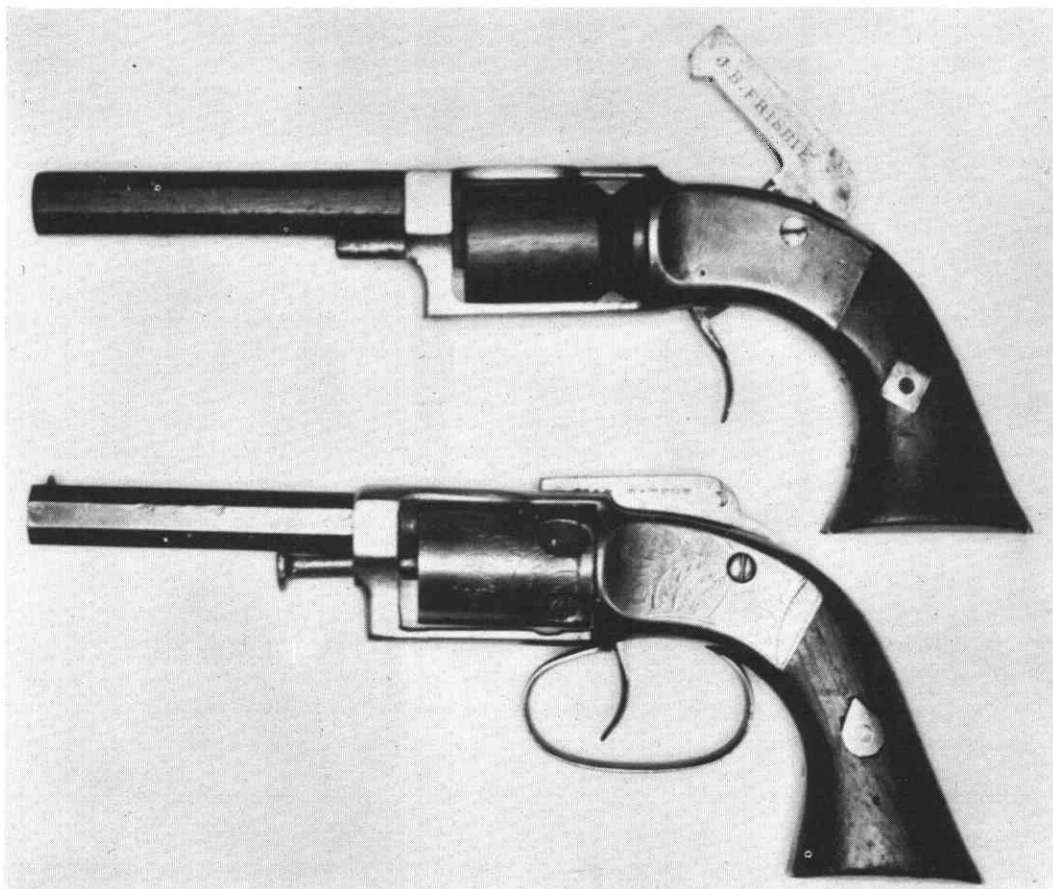


PLATE 5

C. A. KING.  
Revolving Fire-Arm.

No. 94,003.

Patented Aug. 24, 1869.

Fig. 1.

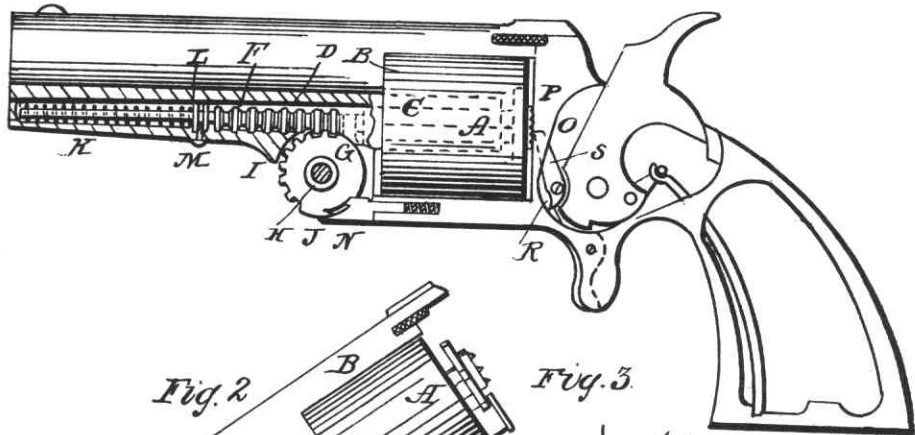


Fig. 2.

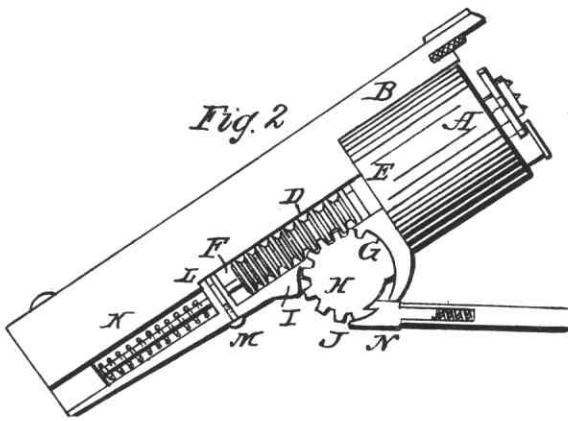
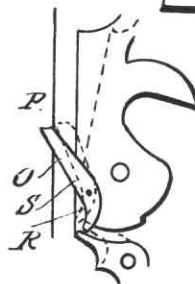


Fig. 3.



Witnesses  
Chas. P. Deane  
B. F. Wells

Inventor  
Charles A. King  
per Gardiner & Hyde  
Attys

**CHARLES A. KING - Patent #94,003 dated August 24, 1869**

This is the basic patent covering the simultaneous ejection of cartridges so familiar to collectors. Purchased by Smith & Wesson in 1869, it enabled them to introduce their famous line of top-break cartridge revolvers beginning with the .44 cal. American Model.

The inventor employed the rack and pinion principal, as is clearly shown in the patent drawings. Ejection is accomplished by swinging the barrel forward and when the projection 'I' strikes the tip of the pawl 'N', the pinion is freed. The extractor snaps back to its normal position and the piece is ready for reloading.

The model illustrated in Plate 6 is massively made of brass and even with its short 3-3/4" barrel weighs 2-1/2 pounds.

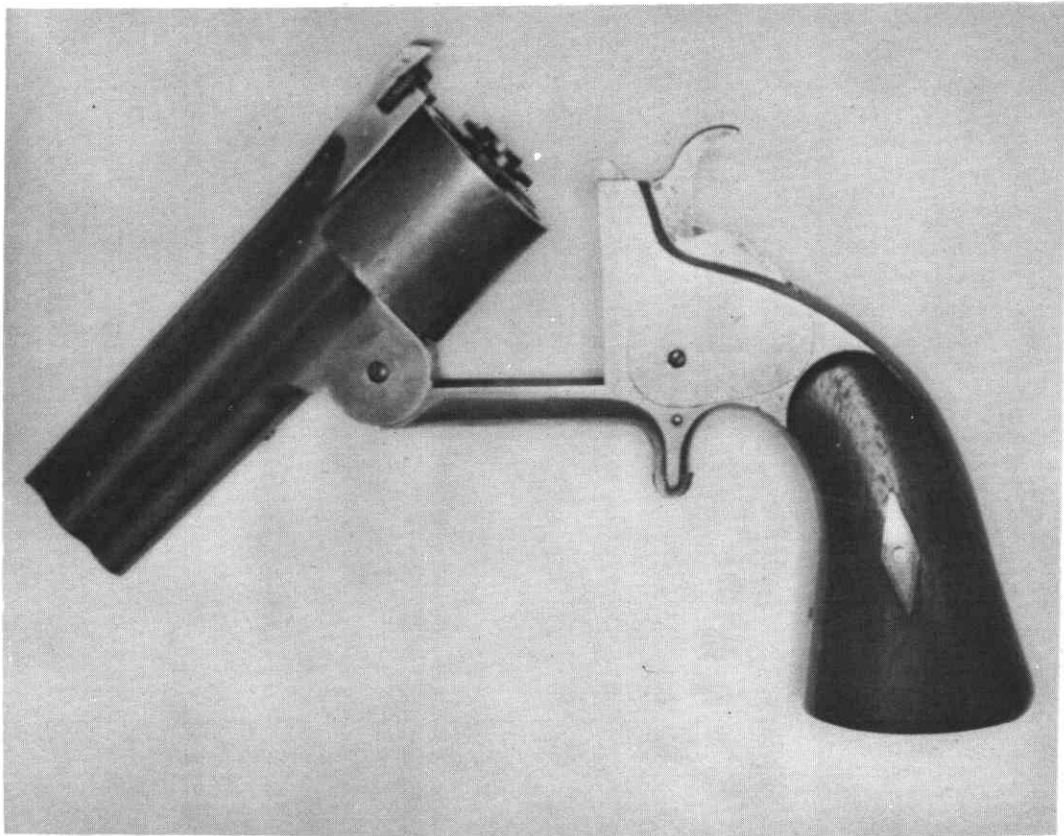


PLATE 6