

## THE FAMOUS INSULATORS YOU'VE NEVER HEARD OF

### ANOTHER GLASS "COMBINE."

**Green Bottle Factories East of the Alleghenies May Be Syndicated.**

NEW YORK, Oct. 4.—The Times says: "Negotiations for the consolidation of the green bottle glass interests of the United States east of the Allegheny mountains, which have been in progress for nearly a year, have reached a point where a decisive result is expected within a few weeks at the latest. The prevailing opinion in trade circles is that the consolidation will be effected and that about fifteen factories will pass under the control of an English syndicate with a capital of about \$6,000,000. The only local concern involved in the transaction is the Bushwick glass works, of Brooklyn, of which William Brookfield is proprietor. Beside the Bushwick works, it is said that the proposed consolidation involves all, or nearly all, of the following concerns, whose works are situated in New Jersey: Hodge Glass Works Company, Williamstown; Bridgeton Glass Manufacturing Company, Bridgeton; Cumberland Glass Manufacturing Company, Bridgeton; Cohansey Glass Manufacturing Company, Bridgeton; Elmer glass works, Elmer; Jeffries glass works, Fairton; More-Jonas Glass Company, Bridgeton; Moore Bros. Glass Company, Clayton; Parker Bros. Glass Manufacturing Company, Bridgeton; Salem glass works, Salem; S. A. Bassett Glass Company, Elmer; Whitall, Tatum & Company, Millville; Whitney glass works, Glassboro; Woodbury glass works, Woodbury."

#### Indiana Factories May Enter.

Special to the Indianapolis Journal.

ANDERSON, Ind., Oct. 4.—John Schies, president of the Pennsylvania Glass Company, Alex. McKee, of the Anderson Flint Bottle Company, and Henry Wagner, of the Flint Glass Company at Ingalls, left for New York city to-day to assist in the completion of the new association that proposes to absorb all of the flint glass factories. It is said that all the options secured will expire on Saturday, Oct. 8, and immediate action was deemed imperative. A conference of the interested parties will be held at the Waldorf-Astoria to-morrow, and every indication points to the formation of a "bottle trust."

Hello all! I hope 2023 is treating you well.

Many of you most likely recall the story of the disappearing insulator, or perhaps the insulator that never was, the Hemingray 41, CD 224.5. But what about the similar stories of "The American Insulator," or the Wagner insulator? Allow me to elaborate.

My name is Cole King, a collector from Indiana. My main focus is Hemingray, but in the last year or so, I have begun to branch out into collecting insulators from other Indiana manufacturers. When starting down the path of researching other Hoosier Insulators, I first stumbled upon Patent # 660,140. Let us begin our timeline.

#### May - September, 1889

In a federal court, a judge rules in favor of American Bell Telephone Co., against inventor Cassius Alley, of Metamora, IN, in a case of patent infringement.

#### April, 1895

Henry Wagner, formerly of the Pennsylvania Glass Company, incorporates the Wagner Glass Company (Also referred to as Wagner Glass Works) in Ingalls, Indiana.

#### September, 1897

After apparently scrapping the idea of building a new glass house in Petersburg, IN, Henry Wagner purchases the Quick City Glass Company in Frankton, Indiana, for \$10,000. The estimated value of the company is said to be \$17,000. Henry's younger brother, John Wagner, is employed as their manager.

#### October, 1898

Wagner explores the idea of syndication with other glass houses. See photo one.

Photo 1: Wagner travels to NYC to discuss syndication.  
Article from the Oct. 5<sup>th</sup> 1898 Indianapolis Journal.

January, 1900

Cassius Alley makes headlines all over the world by creating a telephone line out of barbed wire fencing; thus connecting rural homes in Ingalls, Pendleton, and Anderson. Wagner Glass Works is listed as a customer of Alley's new phone line "with offices in Anderson and factory in Ingalls." The article briefly mentions that the line is equipped with a new type of insulator, of Alley's own creation.

*Please note*, the article I gathered this information from is of too low quality to print in this format. A shorter form of the article is available on the insulator gazette, or the full article upon request to the author. It's pretty neat, you should read it!

April 9, 1900

Cassius Alley applies for a patent for his revolutionary new insulator.

June, 1900

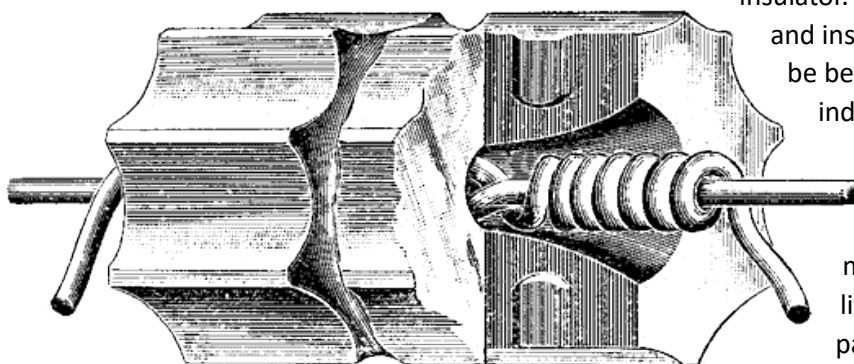
Telephone Magazine tells of an exhibit containing a new insulator design by "The American Insulator Company." (Not the one you're thinking of.)

"A new glass insulating tube, brought out by the American Insulator Company, was shown the first time. It is designed to pass thru a hole in the center of the cross-arm, which does not weaken the arm nearly as much as the pinholes. It does, of course, do away with the ordinary pin insulator."

June 9, 1900

The Western Electrician writes:

"The American Insulator company of Anderson, Ind., has applied for a patent on a new insulator and insulating system for outside line work. The insulator is composed of two parts, exactly alike, corrugated on the outer surface, with an opening lengthwise through the center for line and tie wires. This opening is elliptical in the middle portion of insulator and just large enough to admit the two wires, lying parallel and against each other, but flaring and bell-shaped at the ends and large enough to allow the tie wire to be coiled around the line wire. The lugs on the flat side of each part of the insulator fit snugly in the corresponding recesses of the other, thus holding the two parts firmly in position. The groove around the outside of the insulator in its middle portion is engaged by an ordinary wire nail in such a way as to hold the insulator in its place in the crossarm. A "pinless cross-arm" is used with this



insulator. Compared with the usual pins and insulators, this system is said to be better electrically, freer from induction and atmospheric influence on the currents, simpler and more cheaply built, more easily maintained, and of much longer life. In the cut the insulator, partly cut away, is shown complete with tie and line wires."

**Cassius Alley's "American Insulator,"  
as shown in the Western Electrician.**

October 23, 1900

Cassius Alley is granted Utility Patent No. 660,140.

1/3 of the patent is issued to Mr. Alley, 1/3 to one C. Miller, and 1/3 to H. Wagner. (You knew he'd come back in this story, didn't you!)

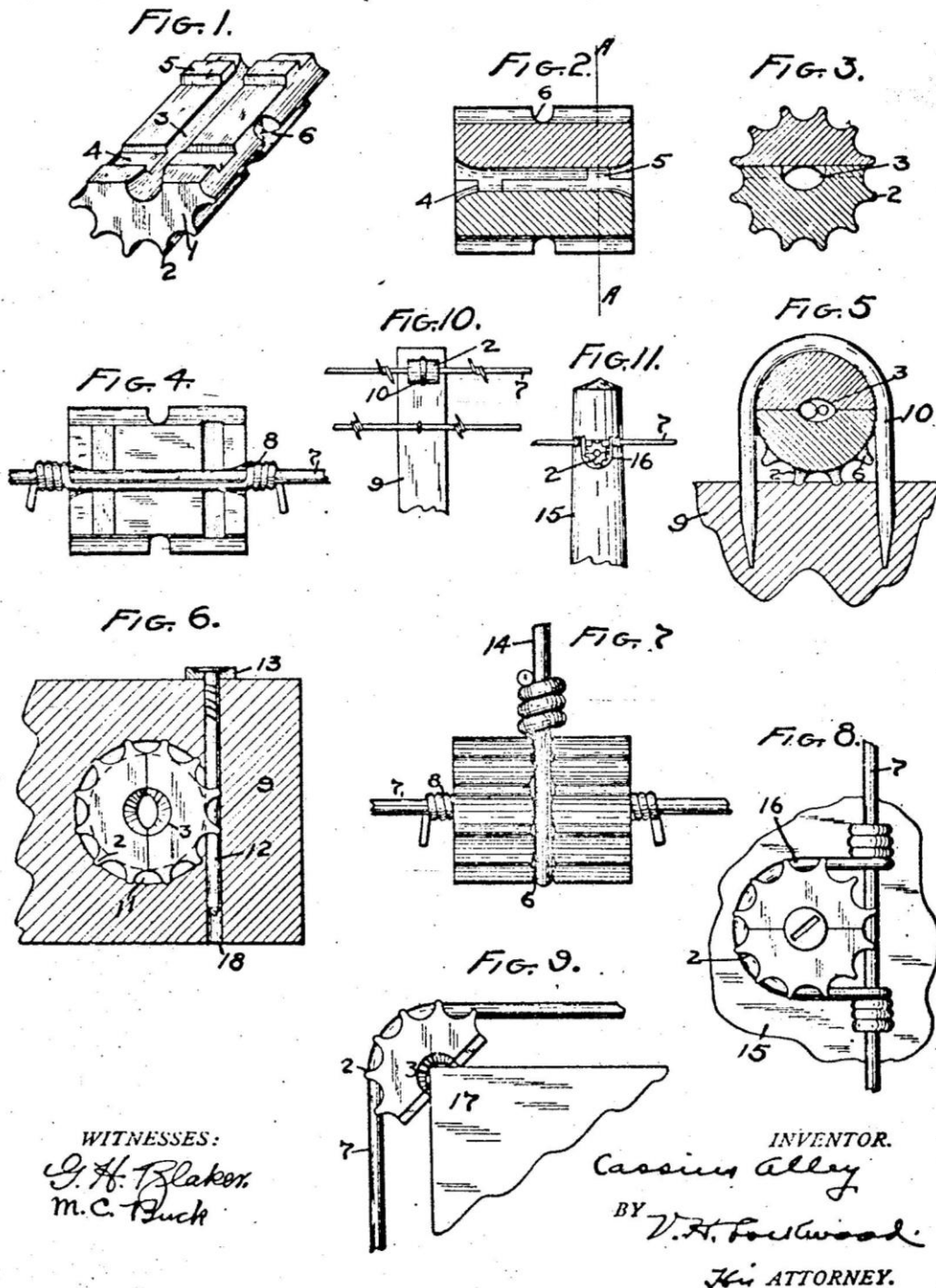
No. 660,140.

Patented Oct. 23, 1900.

C. ALLEY.  
INSULATOR.

(Application filed Apr. 9, 1900.)

(No Model.)



# UNITED STATES PATENT OFFICE.

CASSIUS ALLEY, OF PENDLETON, INDIANA, ASSIGNOR OF ONE-THIRD  
TO CHARLES HENRY MILLER AND HENRY WAGNER, OF ANDERSON,  
INDIANA.

## INSULATOR.

SPECIFICATION forming part of Letters Patent No. 660,140, dated October 23, 1900.

Application filed April 9, 1900. Serial No. 12,083. (No model.)

*To all whom it may concern:*

Be it known that I, CASSIUS ALLEY, of Pendleton, county of Madison, and State of Indiana, have invented a certain new and useful Insulator; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which like figures refer to like parts.

10 This invention relates to insulators for mounting electrical wires for telegraph, telephone, or other use.

The full nature of this invention will be understood from the accompanying drawings and the following description and claims.

15 In the drawings, Figure 1 is a perspective of one-half of said insulator. Fig. 2 is a longitudinal central section of the insulator complete. Fig. 3 is a section on the line A A of Fig. 2. Fig. 4 is a plan of one-half of the insulator with the wire mounted thereon. Fig. 5 is a central cross-section of the insulator secured in place by a staple. Fig. 6 is an end view of the insulator mounted in place and held by a nail. Fig. 7 shows the insulator suspended by a wire. Fig. 8 shows the main wire mounted on the insulator by a loop-wire instead of extending centrally through it. Fig. 9 shows the manner of applying one-half of the insulator to the corner of a building or block about which the main wire extends. Fig. 10 shows the manner of stringing a fence-wire. Fig. 11 shows the manner of stringing a wire directly to the top of a pole.

25 Referring now to the details of form and construction of said insulator and to the means and manner of mounting the same and applying it to actual use, 1 represents one of the halves of said insulator, which is made of glass, porcelain, or other insulating material. It consists of a corrugated outer surface having the recesses 2 for the purpose of obtaining greater insulation. Extending centrally and longitudinally through the inner flat face of said half of the insulator there is a semi-elliptical groove 3, flaring semicircular at its ends. Across said flat surface at the end there are recesses 4 and near the opposite end lugs 5 of such dimensions as to fit snugly in recesses of the same size as said recesses 4. Around the half of the insulator a groove

6 is placed about centrally between the two ends.

The half described in the above paragraph constitutes the article of manufacture and sale embodied in this invention. In use generally two of such parts or halves are placed with their flat faces together and with the lugs 5 on each half fitting in the corresponding grooves 4 on the other half. This holds them from independent longitudinal movement, as appears in Fig. 2. When the two halves are thus placed together, the longitudinal grooves 3 register with each other and form an elliptical passage-way centrally through the insulator as a whole, as seen in Figs. 2, 3, and 5.

In the most common method of using such insulator the two halves thereof are placed about the main wire 7, as seen in Fig. 4, and a small tie-wire 8 inserted through the hole 3 and coiled at each end about the main wire to provide stops to limit the longitudinal movement of the wire 7 through the insulator. The ends of the tie-wire are turned down to prevent the water running along the main wire through the insulator. The insulator is secured to the cross-arm 9 by providing said cross-arm with an opening 11 through it large enough to insert the insulator and then inserting a nail 12 in the hole 18 in the cross-arm, so that it will rest in the groove 6 on the side of the insulator, as appears in Fig. 6. As there shown, an insulating-washer 13 is provided for the head of the nail. The corrugations on the insulator permit their being easily driven in if they vary somewhat in dimension, as the wood will yield for the ribs of the insulator. This means or method of mounting the insulator is very rapid and cheap. No trouble is required in placing the insulator, as both halves are alike and can be instantly put in place about the wire. Furthermore, the insulator furnishes a strong and easy support for the wire, as the latter extends longitudinally and centrally through the insulator. When the insulator is mounted, as shown in Fig. 6, it is protected from destruction. Also the water will drop off the wire when arranged as shown in Figs. 4 and 7 without going in or entering the insulator. When in the po-



sition shown in Fig. 6, it leaves the cross-arm smooth for standing or sitting positions of linemen. There are other advantages, which, however, it is needless here to suggest to those skilled in the art of stringing telephone and telegraph wires.

In Fig. 7 a means for suspending the insulator from a tree or other object is shown. It consists merely of a wire 14, coiled once about the insulator, fitting in the groove 6 and attached at the other end to the means of support, whatever that may be. This illustrates a great advantage of the insulator herein shown.

In Figs. 5 and 10 a means and method is shown for stringing fence-wires for telephone use, as is quite common now. The insulator is held to the post 9 by a staple 10, that surrounds the insulator, and the barbed fence-wire 7 extends through the insulator. By making the insulator of two parts it is possible thus to string a barbed wire.

Figs. 8 and 11 show a means and method of mounting a wire directly to a pole. There the insulator is secured to the pole 15 or other support by a screw centrally through it, and the telephone-wire 7 is held horizontally in the groove 6 at one side against the insulator by a loop-wire 16, that fits about the insulator in the groove 6.

In Fig. 9 there is shown a means and method of supporting a telephone-wire from the right-angled corner of a building or block, where the wire turns the corner. It is useful also for stringing the interior of buildings. There only one-half the insulator is used. The groove 3 fits on the corner of the block 17, and the wire extends on the outside of the insulator, fitting in the groove 6.

It is obvious, therefore, from the description given of the form and uses of said insulator that it is an important advance in the art because of its cheapness, simplicity, ease of manipulation, and extensive adaptability to the various needs of persons stringing electric wires. It effects quite a saving in tie-wires. By making the passage-way 3 through the insulator elliptical in cross-section about midway between the ends of the passage-way the tie-wire cannot revolve around the main wire while the tie-wire is being coiled or at any other time. With this arrangement the tie-wire will remain always in the position in

which it is left, and the ends of the tie-wire are turned down to prevent water entering the insulator. The elliptical form of the passage-way through the insulator will retain the tie-wire in such position. Also by making the ends of the passage-way 3 flaring and preferably round the insulator can be held in the hole 11 in the cross-arm without the use of the nail 12 or other means. This is because any pull on the wire through the insulator will cause the halves of the insulator to spread somewhat and bind it all the tighter in the cross-arm. This spread is caused by the coil of the tie-wire being drawn into the flaring end of the passage-way and tending to push the halves of the insulator apart, and it is preferable to so place the insulator in the cross-arm or other wooden support that the spread of the insulator would be in line with the grain of the wood, so as to prevent splitting the wood in which the insulator is mounted, as appears in Fig. 6.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. An insulator provided with a passage-way through it, a conductor extending through said passage-way and a tie-wire extending through said passage-way with its ends coiled about the conductor near the ends of the insulator.

2. An insulator provided with a passage-way through it that is elliptical in cross-section, a conductor extending through the passage-way with its ends coiled about the conductor near the ends of the insulator whereby the tie-wire cannot revolve around the conductor.

3. An insulator provided with a passage-way through it that is elliptical in cross-section in its middle portion with its ends flaring, a conductor extending through the passage-way, and a tie-wire extending through said passage-way with its ends coiled about the conductor near the ends of the insulator and turned at their extremities.

In witness whereof I have hereunto affixed my signature in the presence of the witnesses herein named.

CASSIUS ALLEY.

Witnesses:

M. C. BUCK,  
V. H. LOCKWOOD.

By now you may be thinking, so what, Cole? Some guy from some little town designed an insulator that we will have no chance of ever finding. Well, sorry to tell you, but you're wrong! Had the American Insulator been a "dud," never making it past the patent and prototype stage, I wouldn't be writing this, and you wouldn't be reading it! Let's get back to our timeline, shall we?

#### October, 1900

The Telephone Magazine writes a four page article on the Citizen's Telephone Exchange in Terre Haute, Indiana.

"A great deal of the materials the company is using in the installation of its plant, including cables, wires, insulators, cross-arms, etc., was purchased from the Rumsey & Sikemeier Company, of St. Louis. The company has adopted a new thing in the way of cross-arms and insulators, it being the first large company to adopt what is known as the American insulator, manufactured by the Wagner Glass Company, of Anderson, Indiana. Instead of using a pin with the insulator screwed on it, as is customary, the insulator goes into the cross-arm parallel to the ground and the wires are strung thru it, making a much neater and at the same time more solid piece of work."

Read that again if you have to. This is a pretty big deal, right? We can sit around all day and speculate that Wagner Glass made the American Insulator. Yes, Wagner used Alley's barb-wire telephone. Yes, his name is on the patent. But now, we have solid, concrete evidence that Wagner Glass Works is the manufacturer of Alley's clamp type insulator. It's right there in black and white! Are you getting as excited as I am? Not only do we now know that these insulators did reach the manufacturing stage of the inventing process, but that they did indeed reach commercial level production! Our chances of finding one of these elusive insulators just got a lot better. We know who invented it, who manufactured it, who distributed it, and where it was used. Seems pretty easy! All of the puzzle pieces are right in front of us, now all we have to do is put them together.

But sadly, if that were the case, there would be a picture of me holding this new insulator on the cover of this magazine. As you can see, I'm not. So what happens now?

Well, this seems to be the end of the road for the American Insulator. I have found no evidence of its existence after the Terre Haute article.

We're able to pick up Cassius Alley's trail again in 1902. Things get blurry here, because he is listed in the Anderson City Directory as living on 4<sup>th</sup> Street. (If you recall, he lived in Pendleton in 1900.) But in July of that year, we find an article out of Washington Indiana, (a three hour drive from Anderson in 2023) stating that Central Union Manager Cassius Alley has invented a way for parishioners of the local church to dial in each Sunday and listen to their pastor over the phone. Based on his inventive mind, I have no doubt we have the same man.

In June of 1905, The International Glass Company out of New Jersey buys Wagner Glass Works, with promises of stepping up production, and keeping Wagner as a part of the management team. Unfortunately, Wagner Glass Company seems to fall off the map, officially closing their doors somewhere between 1906 and 1908.

Although this may seem like the end of the story, every good mystery has a twist.

November 2, 1905

The Wagner-Davis Glass Company, Indianapolis Ind., granted patent 864,834 for "Non-refillable bottle." The patent is renewed February 8<sup>th</sup>, 1907.

October 24, 1906

Henry Wagner, of Anderson Indiana, applies for a patent for a glass insulator mold.

November 23, 1906

Fred A. Sims' Biennial Report of the Secretary of State lists Wagner-Davis Glass Works at a capital of \$150,000.

May 27, 1907

Richmond, Indiana paper *The Evening Item* reports:

"Henry Wagner, the well known glass manufacturer of this city, has recently invented and patented a machine for making glass insulators that promises not only to revolutionize that industry but to make a large fortune for the inventor. There are but two firms manufacturing the glass insulators — one is located at Muncie and the other in New York. [presumably Hemingray and Brookfield] By the process employed by these firms but one insulator is made at a time. But by Mr. Wagner's machine six, eight or almost any number can be made at once. The machines can be built at small cost and a factory equipped with them would practically control the insulator market — which is now in the hands of two firms. Mr. Wagner has taken out patents on his machine in Germany, Belgium, France and England. He expects to organize a company and build a factory here. A number of local capitalists have expressed a willingness to put money into the enterprise."

February 25, 1908

Mr. Henry Wagner is granted Utility Patent # 880,343 for his press mold for making pin-type, screw glass insulators.

Pretty interesting, don't you think? After manufacturing the American Insulator, which if you recall, was marketed as replacing the pin-type insulator, Wagner sold his glass business, and founded a new one. This new company, Wagner-Davis, makes their own patented bottles and apparently, insulators. Unfortunately, information on Wagner-Davis seems to be very hard to come by. I have not even been able to nail down where their factory was located, as articles list them in Ingalls, Indianapolis, and possibly Richmond.

1910

Federal census lists Henry Wagner as living with his sister Mary and her husband John Drach at 1416 Wheeler Ave., in Vincennes.

1911

The Era Druggist's Directory lists "Wagner-Davis Glass Co., The — Mfrs. Bottles — Office, Indianapolis, Ind." under Ingalls, IN.

**Citizens of Shreveport**

When the Shreveport Glass and Bottle Co. was induced to locate its factories in your city, the company was assured by your citizens that homes would be built for its employees.

Within next 30 days the company will bring a part of its employees to your city, who will desire to become citizens of Shreveport. At least 150 of our men have received notice to report for duty at once. They are largely men with families. Just as soon as they obtain homes, the company will order in the employees for another department, which will employ about 200 more men.

Where are any of these families going to find homes?

We will guarantee the rent of at least 50 HOUSES in Cedar Grove if completed without delay. We will further guarantee the rent of at least 50 MORE HOUSES in Cedar Grove if completed within 90 days.

Here is an opportunity for a safe investment with rents guaranteed.

If you are interested call at 520 First National Bank Building for further particulars.

**Shreveport Glass & Bottle Co.**  
By Henry Wagner, Pres.

Sep. 24, 1912 Ad in the Shreveport Journal.  
Photo courtesy Bob Stahr.

#### January 5, 1912

The Shreveport Journal reports that Wagner has begun working to build a new glass plant in Louisiana. The Times-Sun reports on May 5 that work is coming along well, with equipment and machinists being brought in from Anderson, Ind.

#### September 15, 1912

The Times-Sun writes a nearly full page article on the new factory and the process of glassblowing. The article includes an interview with Wagner, explaining why he moved his factory to Louisiana from Indiana.

"Why this glass works was moved here from its former location in Indiana, where Henry Wagner, the president and general manager of the concern for twenty-five years, has been identified with the business, was asked. 'We will save \$25,000 a year in fuel alone,' said Mr. Wagner, first. 'Beside that, we are right in the middle of the market. For

twenty years I have sold bottles to the Texas market, and the saving on freight to my market from here, as compared with what it was from Indiana, will be enormous. Our sand, coming from the Gulf of Mexico, is brought at water rates. Our product shipped to foreign markets goes to the port at water rates. Glass blowers are a migratory lot. During certain summer months custom and the rules of the union close the factories. In the North they go to other places, and when the season opens it is sometimes difficult to secure for a time a full working force. Here, with their homes across the track, in a beautiful climate and every convenience of any Northern city, I believe many will settle down, own their homes and stay here during the summer months. There are many other advantages of our location at Shreveport that I feel will come later on, as well as many smaller benefits I have not mentioned.'"

#### July, 1918

Several sources list Henry Wagner as the President of the new Brownwood Glass Company in Brownwood, Texas, manufacturing non-refillable and non-gurgling bottles. A Dec. 31, 1916 article in the Fort Worth Star Telegram made mention of Wagner considering moving his operation from Indianapolis to Texas. I cannot explain the gap between his time in Shreveport/Caddo, Louisiana, and the start of his time in Texas. I can say that the The Shreveport Glass and Bottle Co. was not withdrawn from the register with the Louisiana Department of State until Dec. 11, 1933. The incorporation date was September 12, 1912, with a business address in Indianapolis, Indiana. Wagner's sister Mary Drach, whom he lived with in 1910, died in 1928, in Shreveport. Her husband John was listed as a glass manufacturer in the 1910 census. Perhaps John ran the Shreveport plant.

#### August 8, 1918

Henry Wagner dies from throat cancer, "Carcinoma Larynx," in Louisville, Kentucky. He was 65.



November, 1919

Jas. J. Ebbert writes in The American Flint, "Brother Henry Wagner is laid up with a severe case of quinsy. Said brother has been in hard luck for some time, as his wife is just recovering from an injury caused by a fall some time ago." This seems to be old information, as Henry, and his wife Ida Müller, both died in 1918.

No. 880,343.

PATENTED FEB. 25, 1908.

H. WAGNER.

PRESS MOLD FOR MAKING INSULATORS.

APPLICATION FILED OCT. 24, 1906. RENEWED JAN. 9, 1908.

2 SHEETS—SHEET 1.

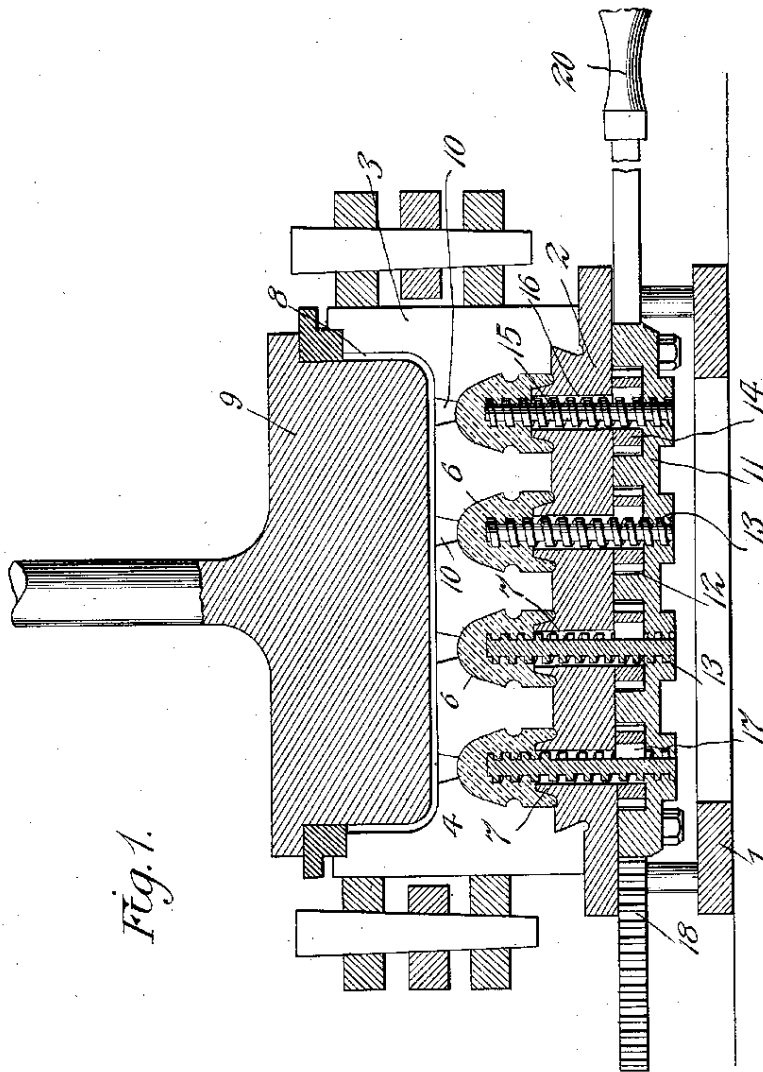


Fig. 1.

Inventor

Henry Wagner

Witnesses

Ed. Schenck  
C. C. Hines

By

Victor J. Evans

Attorney

No. 880,343.

PATENTED FEB. 25, 1908.

H. WAGNER.

PRESS MOLD FOR MAKING INSULATORS.

APPLICATION FILED OCT. 24, 1906. RENEWED JAN. 8, 1908.

2 SHEETS—SHEET 2.

Fig. 2.

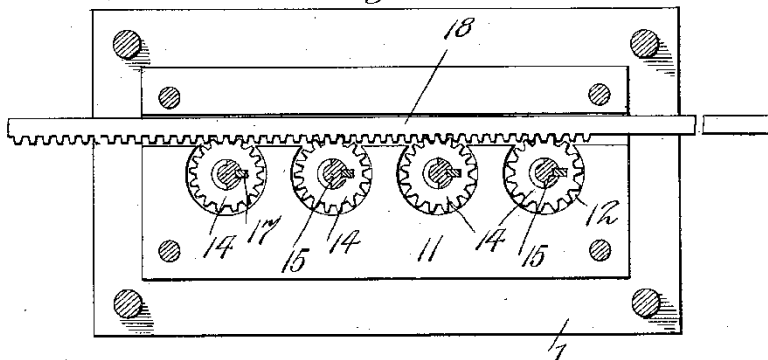
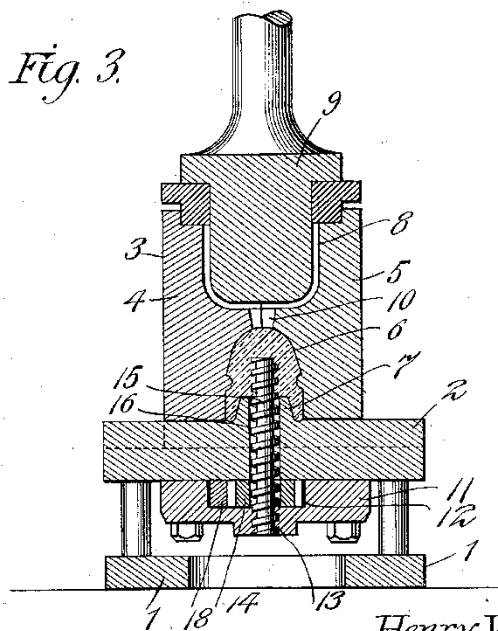


Fig. 3.



Inventor

Henry Wagner

By

Victor J. Evans

Attorney

Witnesses

Geo. Ackman Jr

C. C. Hines.

# UNITED STATES PATENT OFFICE.

HENRY WAGNER, OF ANDERSON, INDIANA.

## PRESS-MOLD FOR MAKING INSULATORS.

No. 880,343.

Specification of Letters Patent.

Patented Feb. 25, 1908.

Application filed October 24, 1906, Serial No. 340,393. Renewed January 9, 1908. Serial No. 410,010.

*To all whom it may concern:*

Be it known that I, HENRY WAGNER, a citizen of the United States of America, residing at Anderson, in the county of Madison and State of Indiana, have invented new and useful Improvements in Press-Molds for Making Insulators, of which the following is a specification.

This invention relates to a press-mold especially designed for making glass insulators of that kind having internal screw-threaded sockets, and such as are used on telegraphic lines, although the press may be used for making other articles.

The objects of the invention are, first, to provide a press-mold whereby a series of insulators may be made at a single operation; second, to provide an improved construction and arrangement of the parts of the mold whereby a stronger mold is produced and a stronger and denser insulator may be made; third, to provide simple and efficient means for simultaneously projecting and retracting the socket-forming elements; and, finally to generally simplify and improve the construction and increase the practical efficiency of press-molds of this type.

In the accompanying drawings,—Figure 1 is a vertical longitudinal section through a press-mold embodying my invention. Fig. 2 is a horizontal section through the same. Fig. 3 is a vertical cross section.

Referring to the drawings, the numeral 1 designates a base, upon which is supported a mold comprising a bottom or base section 2 and a body or top section 3, the latter being constructed of two or more parts 4 and 5 adapted to be disconnected for the convenient removal of the formed insulators or other articles. The sections of the mold top or body 3 may be held connected by any preferred type of fastening means, which I have not deemed it necessary to describe.

The mold body 3 is provided with a series of mold chambers or cavities 6, while the base section 2 is formed with upwardly projecting core portions 7 which extend into the lower ends of said cavities and form the recesses in the lower ends of the insulators. A chamber or recess 8 is provided in the top of the mold section 3 to receive the molten glass or other material and also to receive a plunger 9, whereby such material is forced through ducts or passages 10 into the respective mold chambers. The plunger may be operated in any preferred manner.

Arranged upon the underside of the base section 2 of the mold is a supporting plate 11 provided with chambers 12 equal in number to and arranged below the mold chambers, and also provided with threaded passages 13 communicating with said chambers 12. In the chambers 12 are arranged gear nuts 14. These gear nuts are arranged to operate forming devices 15, comprising screws fitted at their lower ends in the threaded openings 13 of the supporting plate and projecting upwardly through openings 16 in the mold section 2 into the mold cavity 6. The upper projecting ends of these screws form the usual threaded sockets in the insulators.

Each gear nut 14 comprises a pinion having a projection 17 engaging the threads of the cooperating screw, which extends through a central opening in the pinion, the construction being such that when the pinion is turned in one direction or the other the screws will be rotated by their threaded engagement in the bearing openings 13 and will be caused to move vertically, so that the upper ends thereof will move downward in the mold chambers to disconnect them from the formed insulators, while an upward movement thereof will project the screws into the mold chambers for the succeeding operation. A rack bar 18 is arranged to slide longitudinally in the supporting plate 11 with its teeth in meshing engagement with the teeth of the gear nuts 14 and is provided at one end with a handle or lever by means of which it may be manually reciprocated, although power mechanism of any preferred character may be employed for this operation. When the rack bar is moved in one direction all the pinions will be turned to project the forming screws, while a reverse movement of the rack bar will actuate the pinions in the opposite direction to retract the forming screws. By this means forming screws cooperating with the several mold chambers may be simultaneously projected and retracted for use in the operation of making a plurality of insulators and to release them from the formed insulators to permit of the removal of the latter.

It will be observed that the construction provides a plurality of independent molding devices, by which a series of insulators or other objects may be formed at one time, thus enabling a large number of insulators to be manufactured within a given period. It will also be observed that the projecting ends

of the screw formers project from below upwardly into the mold chambers and that the material is forced by the plunger into the mold cavities from above. By this construction and arrangement of the parts a stronger and more durable type of press-mold is provided, and the force and weight of the plunger are both exerted to press the molten material into the mold chambers, whereby the material may be compressed to a higher degree of density and stronger and more durable insulators formed.

Having thus described the invention, what is claimed as new, is:—

1. A mold of the character described comprising a base provided with chambers open at one side and having threaded openings below the chambers, a body supported upon the base, said body and base having cooperating portions forming mold cavities arranged above said chambers, said cavities being provided with inlets, means for forcing the plastic material through the inlets into the cavities, a series of forming screws projecting upwardly through the base and into said cavities, the screws being engaged at their lower ends with threaded openings, gear nuts engaged with the screws and arranged within the said chambers, said nuts being partially exposed through the open sides of the chambers, and a rack bar slidably supported on the base adjacent the open sides of the chambers and meshing with the gear nuts.

2. A mold of the character described comprising a base having a series of vertical openings, a mold body supported upon the base, the body and base being provided with cooperating portions forming a series of mold chambers above the openings, said mold chambers being provided at their upper ends with inlets, means for forcing the plastic material through said chambers into the inlets, a supporting plate detachably mounted below the base and provided with a series of chambers open at one side and threaded openings below and communicating with said chambers, forming screws projecting upwardly through the openings in the base, and engaging the screw threaded openings in the supporting plate, gear nuts engaging said screws and arranged in the chambers of the supporting plate, said nuts being partially exposed at the open sides of the chambers, and a rack bar slidably supported upon the supporting plate and meshing with the exposed portions of the gear nuts, whereby the latter may be turned in one direction or the other to simultaneously project or retract the forming screws.

In testimony whereof, I affix my signature in presence of two witnesses.

HENRY WAGNER.

Witnesses:

JULIA A. MOORE,  
D. C. CHIPMAN.

The latter part of Wagner's life seems to have been full of legal, health, and financial problems. After selling his plant in 1905, the shining star of Ingalls seems to have started jumping from town to town, and eventually state to state. While his career may not be a tale of success, it is a story of true determination. Henry Wagner truly was dedicated to his work in the glass business. He seemed to have been drawn to new innovations in the industry, from his time with Pennsylvania Glass, to the American Insulator, and the non-refillable bottle and insulator press patents.

**“Glass blowers are a migratory lot.”  
-Henry Wagner, Sept. 1912.**

In closing, was the insulator mold a success? No. But judging by how many glass factories Henry founded, he was a very determined man. I think that even though the mold may have been a practical flop, he would have been determined to keep trying and make it work. The insulator mold patent was in his name, not the company's. He could have taken that press to Wagner-Davis, Shreveport, or Brownwood. We don't know where the insulators were made. Could it be that this insulator mold was sold to a company somewhere else in the country? Perhaps. Could Wagner-Davis have made some of the “No Name” insulators that we see every day? Not likely. I do believe the mold was made. Did his insulators reach production level quantities? No. But did he do a few trial runs? I think so, yes. There may not be many out there, but they're somewhere.

I am no mold expert. Perhaps one of you can chime in and give some input on what insulator (if any) this top-feeding mold could be attributed to. Any way you look at it, you can bet that when I lay down to sleep at night, I dream of someday finding a nice, shiny insulator, embossed in big, bold letters, WAGNER, PATENT FEB. 25, 1908.

I would like to express my most sincere gratitude to Bob Stahr, who helped me locate the site of the old Wagner Glass Co. (which is now, unfortunately, a residential area,) and much of the other research presented in this article. The Wagner Glass Co. is best known for medicine and whiskey bottles. Because of this, Bob mentioned to me that when the American Insulator is found, it may be in SCA (sun-colored amethyst.) He doubts that Wagner would have made a whole new batch of glass to press the insulators. If that is the case, I suspect that the insulator would be more of a two tone. Half purple, half clear. Considering the insulator was designed to be embedded in the crossarm, it would have had limited exposure to sunlight. Bob has put up with me more than most people would, he is always available for me to bug him with a question. Mr. Stahr, you are truly one of the most knowledgeable people in the hobby!

For links/images to any of the research I used in this article, please feel free to call me. (765) 278-8226.

#### **UPDATE:**

July 28, 2023

With the help of the staff at Evergreen Cemetery in Louisville, KY, I have located the grave of Henry Wagner. He has gone 105 years without a headstone. I would like to have a marker placed, to help keep his tale of the American dream alive. To donate toward this goal, follow the link below.

<https://www.gofundme.com/f/zyb3v6-henrys-headstone>



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Wagner's home as of Jan. 2023. The massive and once magnificent home now seems to be divided into apartments, in a low-income neighborhood.

Author photo.



HENRY WAGNER, PRESIDENT.  
JOHN WAGNER, SEC. AND TREAS.

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