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A Trip Through The Holton Factory

Holton's



**America's Greatest
Band Instruments**

F902E36

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A Souvenir of
Elkhorn, Wis.

*A Trip Through The
Holton Factory*

By the Guide

To

You, Our Visitor

this book is dedicated as a memento of your trip
through the Holton Factory, one of America's uni-
que industries, an institution that stands as the
culmination of an ideal, a monument to the courage
and perseverance of

Frank Holton

A Souvenir of Elkhorn, Wis.

Compliments of

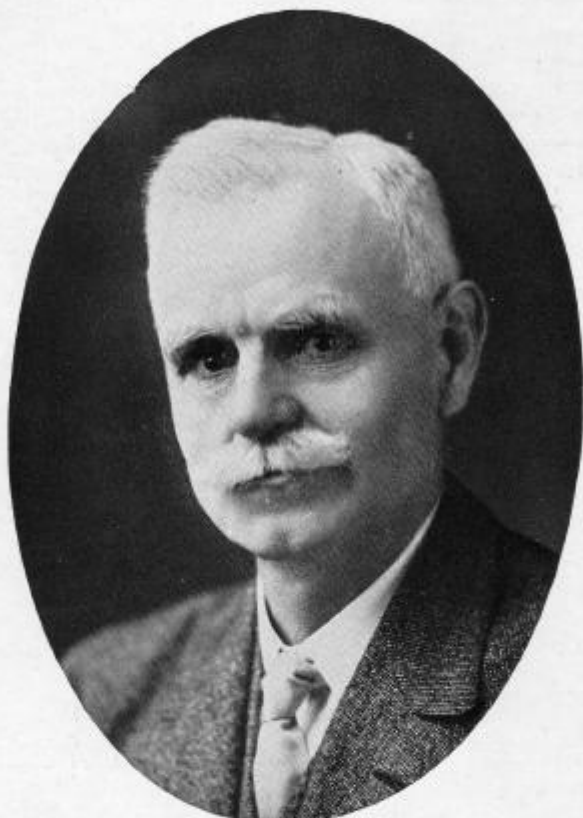
Frank Holton & Co.

Makers of

Holton's

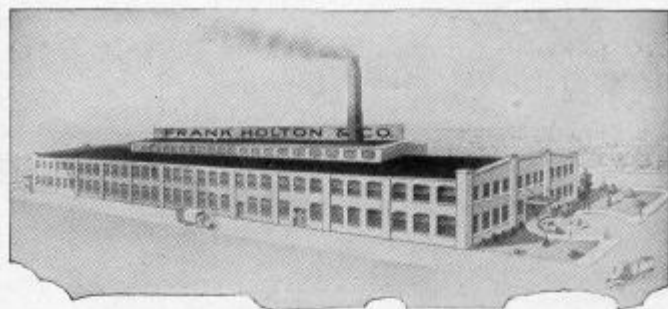
America's Greatest Band Instruments

Elkhorn, Wis.



FRANK HOLTON
President and General Manager of
Frank Holton & Company

Of the famous trio of Band Instrument Manufacturers who made American Instruments the standard of the world—C. G. Conn, J. W. York and Frank Holton—Holton alone remains as the active head of his own factory and is yet but a middle aged man in robust health.



The Holton Factory at Elkhorn, Wis.

A Trip Through The Holton Factory

BEFORE starting through the factory it might give you a more comprehensive view of our institution by touching upon the high spots in Elkhorn's musical history and a brief outline of the history of Frank Holton & Co.

Elkhorn is the biggest little musical center in the world. Here in this city of two thousand people we have between eight hundred and one thousand musicians.

Approximately one-fourth of our population or five hundred of our citizens play band instruments of one kind or another and there are also a goodly number play string instruments and piano and we are well represented in the vocal field by some extraordinarily fine voices both male and female that are really astonishing to find in a city of this size.

The musical history of Elkhorn goes back to the time that Elkhorn was first settled by LeGrand Rockwell in 1837 who with four other members of a company, organized to take up claims in the town of Elkhorn, Wisconsin. In 1840, three years after the first settlers were here the Elkhorn Band was organized under the leadership of Charles Seelye, a famous band leader from Connecticut, and the Elkhorn Band has been a continuous organization from that time, the Holton-Elkhorn Band which has succeeded the original organizations claiming to be one of the oldest continuous organized bands in America.

Remember the first Elkhorn Band was organized approximately nine years after the first white man had looked upon the waters of Lake Geneva and from 1840 on this band was in great demand, furnishing the music at some notable events and helping to build the history of the middle west.

"Over twenty years ago Frank Holton built his first trombone and from this beginning—slowly, cautiously, conservatively—he has built, enlarged, made additions and taken care of customers in a way that makes this the foremost institution of its kind in America."—*Elbert Hubbard in "A Musical Melange."*



The Holton-Elkhorn Band

From the executive offices throughout the factory, the men who build Holtons are musicians who understand an instrument from the player's standpoint.

As the years rolled on the band membership increased and in 1861 when Abraham Lincoln issued his call for volunteers it was really a fine musical organization.

The band enlisted upon Lincoln's call and became the band of the 12th Regiment Wisconsin Volunteers doing their bit during the war as cheerfully as they had entertained the folks at home before that time. And some of the members of the band of that time are still residing in Elkhorn.

Settling down to the routine life in a small city in the middle west, the band continued to prosper, taking an active part in the famous political campaign of 1884 and the period thereafter and finally in the Spring of 1918 when Frank Holton & Co. moved their band instrument factory from Chicago to Elkhorn, consolidated with the Holton Band forming the Holton-Elkhorn Band which is one of the famous bands of America.

Here in the Elkhorn park every Wednesday evening from the latter part of June to September the Holton-Elkhorn Band gives a concert that draws from five thousand to ten thousand people to hear them, people coming from sixty to seventy miles around.

The Holton-Elkhorn Band counts some notable musicians in its membership, among them Arthur H. Rackett who attained fame as the leader of the great Bugle and Drum Corps organized at the Great Lakes Naval Station, Illinois, and which was one of the big features of the Liberty Loan Drive in the great world's war.

Other members include Walter Smith who for thirty years was assistant director of the United States Marine Band at Washington, D. C., and now occupies a position as one of the chief inspectors in the Holton Factory.

But while the band did help to make Elkhorn's musical history it did by no means monopolize it. Here in 1868 Joseph P. Webster wrote that famous old song "In the Sweet Bye and Bye" that is probably known to every American on this continent.

Joseph P. Webster's old home is still standing in good order and is at present occupied by two



The Joseph P. Webster Home

of his sons, Joseph Webster and Louis Webster who have always resided in Elkhorn. It might also be mentioned that "In the Sweet Bye and Bye" was but one of some seven hundred songs written in Elkhorn by Joseph P. Webster and many of his other compositions were famous in his day. The piano used by him in writing this music is still in the old home and in good condition.

The musical talent of Elkhorn has produced many of the famous oratorios and has made the church choirs of the city noted.

Within the past two years the famous Pathe Weekly which is shown to millions of people on the moving picture screen featured Elkhorn as the City of Music taking a moving picture of the citizens of Elkhorn who played band instruments and of various other of the musical features of the city.

Whether it was the musical atmosphere of Elkhorn or the fact that some years previous to moving here Mr. Holton had acquired a stock farm near the city that most influenced the removal of the factory to Elkhorn I do not know but I do know that the musical environment has helped wonderfully in creating that atmosphere so necessary in building instruments to the high standard of musical quality for which Holtons are famous.

It has been a little over a quarter of a century since Mr. Holton first started in business in a small room on the third floor of a building on the corner of Clarke and Madison Streets, Chicago with no capital except courage, enthusiasm, perseverance and the encouragement of the many friends he had made during his professional career. He has told us often that at the time of his starting the business his furniture consisted of nothing more than a desk, two counters and two chairs. The room he rented being in bad shape he painted the entire woodwork himself, giving the floor three coats.

In the early days Mr. Holton's business at first was principally dealing in trombone oil and second hand instruments but after a year or so of this he

"And when man or boy has an ambition to own the best instrument, we find him rising above his fellows in his other vocations."—*Elbert Hubbard in "A Musical Melange."*



HERBERT CLARKE
*The World's
Premier Cornetist*

The Holton-Clarke Model Cornet is the only cornet ever designed by Herbert Clarke. It is fully covered by patents owned by Frank Holton & Co., and cannot be imitated by any other maker.

AMONG the world's greatest musicians, directors, vocalists and instrumental virtuosos, none have had a more brilliant career than Herbert Clarke. He has appeared in practically every city of any consequence in the civilized world. For eighteen seasons the outstanding feature of Sousa's band. The designer of the Holton-Clarke Cornet.

hired an instrument maker and commenced experimenting on trombones. For the first two years he drew nothing from the business for his salary but paid his living expenses as well as put money into the business by keeping up his professional work as a musician playing nights and Sundays in orchestras and bands and attending to the business during the day time.

Several times during the first two years he found himself unable to meet his rent on the first of the month and on each such occasion he carried instruments to a place on Clarke Street where he pawned them for the necessary amount.

Both he and Mrs. Holton had to live very economically, everything he could spare from his earnings as a musician being put into the business while Mrs. Holton taught music to a large class of pupils and added her income to his.

For several years they lived in a small four room flat on the fourth floor of a house heated only by stoves at a rental of ten dollars per month.

The business, however, prospered and began to grow. The first room soon proving too small to meet the demands of the business two larger ones were rented in a building located at the corner of State and Madison Streets, Chicago. That was in 1900 and four years later the business prospered to such an extent that it again became necessary to move into larger quarters.

This time an entire floor was rented at 107 West Madison Street with a floor area of approximately 6,000 feet, yet almost before Mr. Holton was fully settled in this new location, increased space became necessary and finally in 1907 a factory was built on the west side of Chicago. The growth of the business was simply phenomenal and as it became necessary to have more space even after the Chicago factory building had been doubled, a location outside of the city was considered and this city Elkhorn, Wisconsin, was finally decided upon and the factory moved here in the Spring of 1918 and each year since that time the business has been larger than the preceding year.

Today we are doing a business of considerably over one million dollars yearly and you can understand the wonderful success the business has had from the fact that it started with no capital and has succeeded on its merits alone with practically

Not one man's idea, but the amalgamation of the ideas of such men as Heim, Llewellyn and others of equal prominence on this instrument, the tone of the Holton Revelation strikes the ideal that manufacturers have been aiming for from time immemorial.



no outside capital being put into it. The majority of our employees are musicians and have helped wonderfully in building up Elkhorn's fame as a musical center. The city of Elkhorn today supports five bands, the Holton-Elkhorn Band, the American Legion Band, the Elkhorn Saxophone Band, the Elkhorn Senior High School Band and the Elkhorn Junior School Band, as well as numerous instrumental and vocal combinations such as orchestras, quartettes, choirs, choruses, etc.

With this slight outline of the musical history of Elkhorn and of the history of Frank Holton & Co. I am sure you can pass through the factory with a better view and a better understanding of what you will see.

Here are our general offices. We have no traveling men on the road as our business is done entirely by mail, selling direct to the consumer as well as to some of the leading music houses of the United States, who represent us in thickly populated centers and through smaller representatives in the smaller towns. In this office we have the most modern business systems and in fact some of our methods are quite a little ahead of some of the most progressive, up-to-date city firms.

We will now go upstairs and pass through the factory and I want to especially call your attention to two things. First, the happy, contented look of the employees and the high order of intelligence in them which is easily seen. Second, the absence of darkness in any part of the building as this is one of the best lighted, best ventilated factories in America.

Here is our order filling department where the finished instruments are kept in stock and the orders for various instruments are filled.

You will note there is a separate and distinct room for each kind of an instrument. Here for instance you will see trumpets, in another room cornets, in another room saxophones, in another room trombones, in another room baritones and in still another room basses. These rooms are built and sealed so as to be practically air tight

The adoption of the Holton-Revelation by our leading symphony trumpet players is a fitting tribute to the wonderful qualities of this instrument.



ARTHUR PRYOR
*America's Greatest
Trombone Virtuoso
and Bandmaster*

The Revelation Trombone stands as the achievement of an ideal. The Masterpiece of the Master builder.

ARTHUR PRYOR, the incomparable, probably the greatest trombone virtuoso the world has produced is as famous a bandmaster as he is trombonist, although it was on the trombone that he climbed to fame,—his wonderful playing of the "King of Brass Instruments" classing him among the greatest instrumentalists of the present age. Pryor and his band use and endorse Holtons.

and in them we keep lumps of camphor which is used to prevent tarnishing. Tarnishing of silver or gold plate is caused by exposure to the air and by keeping a silver or gold plated article in a room practically air tight in which are the fumes of camphor you eliminate tarnish as much as it can be eliminated.

Passing from the packing and storage department we come to the sales inspection. To insure every article we ship being built to the standard we have set, which is the highest standard known in the band instrument industry, the factory must sell what they produce to the sales department and while every article passes through the factory's own inspection, before it is received for shipment to a customer it must pass through the sales department inspection. An article not up to the standard required by the sales department it is not accepted from the factory. Our instructions to our sales inspectors are not to accept anything for shipment to a customer that they would not buy themselves knowing the standard that has been set for Holton products.

We select our inspectors with extreme care as they must be men of the very highest standards and men who thoroughly understand the instruments they inspect both from a mechanical and playing standpoint. For instance the sales inspection of cornets and trumpets is under the direct supervision of Walter Smith who was for thirty years assistant director of the United States Marine Band at Washington, D. C., accounted one of the most experienced band men in America and a noted authority on tune and tone.

Mr. Smith played Solo Cornet with the U. S. Marine Band under Sousa taking charge of the band when Sousa resigned, directing the organization at the World's Fair, Chicago, and later went with Sousa's original band as solo cornet, resigning to resume his place with the Marine Band. No man can be more recognized as an authority on cornets and trumpets than Walter Smith.

Passing from the sales inspection department we come to the engraving department. All Holton instruments are hand engraved as you will see by watching the engravers at work and the artistic creations of this department have helped to make Holton instruments noted.

Here we come to where you can get a good general view of the factory. Note the light and the



The immense audience that greeted Arthur Pryor's Band, completely equipped with Holtons, at his first concert in Milan, Ita., Winter Season, 1912-1913.

extreme airiness of this entire floor. Not a dark corner, and even our buffing and polishing room which you see on the right is out in the open factory which is rather unusual, for as a general thing, the buffing and polishing department is an enclosed room that is dark and dirty with dirt hanging in streamers from the rafters, but here we are enabled to put this department out into the open shop through a means of drawing to the outside all dirt which the polishing and buffing wheels take off.

These exhaust fans also serve as a ventilation system for the entire floor, keeping the air throughout this floor as pure as the air outside of the factory.

In building Holton instruments the first floor of our factory works from the raw material, sheet brass, tubing, and solid brass rods, also brass castings. The various parts that enter into the making of an instrument are made from the raw material and these parts are then sent to the second floor where they are placed in what we call the finished parts stock room and from thence they are drawn as orders go through for the various instruments.

In the immediate foreground here we have part of the factory inspection department. This department inspects each instrument after every operation has been made upon it and there is also an inspection of each part that enters into a Holton instrument.

Here we have the case department. All Holton cases are made in our own factory to our own specifications and from the very best of materials. Note the extreme care with which these cases are padded and the quality of the material entering into the construction of the cases, genuine silk plush of a very fine quality and the outer covering is extremely durable in its wearing qualities.

In this section of our factory is located Oscar Bauer who makes the final test and inspection of all woodwind instruments and who is also called upon by the saxophone department when anything goes wrong with the playing qualities of the saxophones.

Mr. Bauer is a recognized authority on reed instruments, in fact he is one of the greatest ex-

Holton instruments are shipped on ten days free trial with no obligations to purchase being incurred. The buyer is the sole judge of a Holton.



FRANK SIMON
*The Genius of the
Cornet*
*America's Foremost
Cornet Soloist*

"When they wish to use the superlative they say, 'This is as good as a Holton.' But beyond this they do not go. Thus are we not only advertised by our loving friends but by our zealous rivals."
—*Elbert Hubbard in "A Musical Melange."*

FRANK SIMON may well be termed "The Genius of the Cornet" for no cornetist of this or any other age has shown the remarkable talent that Mr. Simon has in mastering the technique of the Cornet. He was featured as soloist of Weber's band at an age when most boys are beginning, and after a few years joined Sousa, first assisting Herbert Clarke on the first chair, later being featured as cornet soloist. He uses the Holton-Clarke cornet exclusively.

perts in America on woodwinds and reeds and many of our very finest clarinetists will allow no other person to work upon their instrument than Oscar Bauer himself. His inspection, testing and O. K.ing of a clarinet, flute, piccolo or saxophone means that instrument is as near perfection as it can be built.

Passing on we come to another factory inspection room where Mr. Arthur H. Rackett presides. Mr. Rackett is the man I spoke of before we started through the factory as having charge of the Great Lakes Drum and Bugle Corps. He is a very versatile musician, being a wonderful saxophone player as well as a finished drummer and an extremely fine clarinet player. His experience and versatility is used to great advantage in the factory inspection of instruments before they reach the sales department.

Here is our finished parts stock room where, as you will note, the various parts of the instruments which are brought here from the first floor, where they are made from the raw material, are hung, or placed in drawers awaiting to be drawn as orders are received for the various instruments.

In this section are also situated our factory offices, the production department, factory payroll, factory records, etc.

Passing from this department we come to our repair department which is a very important branch of our business as an experienced repair man must know and understand all the various makes of instruments to be able to properly repair them.

As we pass through you will note how they remove the dents from tubing by placing steel or brass balls of various diameters in the tubing and then hammering the dent out with a short light hammer with a smooth flat surface. Rods of various natures and descriptions are also used for rubbing out dents and otherwise putting the instrument back in perfect condition.

Here we find them assembling the finished saxophones. Note the beauty of the finished instrument, the extreme care with which the various parts are fitted and while in this department I want to call your special attention to the pads.

On a saxophone the distance between the pad and the socket affects the tune to a great extent



The Holton-Clarke Long Model Cornet

and on many saxophones it is the practice to pad them with pads made of a swansdown or soft felt which readily absorbs moisture, swells accordingly and lessens the distance between the sockets and the pads thereby affecting the tune of the instrument.

As you will note, Holton pads are made of a hard felt which while giving a better and more secure seat on the socket does not absorb moisture readily and therefore does not swell out of shape as the pads made with the softer felts do. You will also note that the Holton pad is made of two thin pieces of hard felt with a piece of waterproof paper between the two pieces of hard felt. This is to prevent moisture going from one piece of felt to the other and again prevents the pad from swelling to any extent, the pad retaining its smoothness and durability, and in our first test of these pads a Holton Saxophone was used for nine months steady in the hardest kind of professional playing and at the end of that period did not need repadding. We believe the Holton pad is the most durable pad to be had today and while of course more expensive than the ordinary pad they are well worth the additional expense. In addition the kid used in covering the pad is impregnated with a chemical substance which makes it impervious to acids and moisture and increases the durability of the pad.

Passing on we come to the assembling of the valve instruments, trumpets, cornets, basses, mellophones, altos, baritones, etc., and then to the mounting department where the instruments are assembled in the rough.

Here we have the saxophones. Note particularly how each instrument is carefully assembled, the sockets being silver brazed on to the body which allows the body to retain its original proportions and also note how the walls of the sockets are V shaped so as to give a broad brazing surface and absolutely eliminates the danger of the socket leaking or becoming loose on the body.

The result of the most momentous combination in the band instrument industry, the wonderful knowledge of Herbert Clarke, the master cornetist, and the brilliant experience of Frank Holton, the master builder, the Holton-Clarke stands as an achievement in the designing and building of a cornet that is without a parallel.



EDW. LLEWELLYN
*First Trumpet
Chicago Symphony
Orchestra*

EDWARD LLEWELLYN is probably the best known trumpet player in America, his wonderful technic and virtuosity having gained for him a host of admirers. He has won lasting fame as a cornet soloist with many of our most prominent musical organizations but is perhaps best known for his work on the trumpet. He uses the Holton Revelation Trumpet and Holton-Clarke Cornet exclusively.

You know the majority of saxophones are built by pulling the wall of the socket from the body of the instrument by means of direct brute force, which of course affects the delicate proportions of the inside of the body and naturally affects the playing qualities of the instrument. However, this is best explained in a booklet on the saxophone which I will hand to you upon our return to the office, entitled "The Talent Test," a new Holton service.

I would also mention that Holton Saxophones like all other Holton instruments do not pass through so-called standardized operations by which I mean that one part for one instrument fits another instrument and so on. Every part on a Holton instrument is individually fitted to that particular instrument with the utmost care insuring an absolute fit in every respect, a fit which eliminates all looseness or shakiness in a key, piston or brace, etc.

These basses called "Holtonphones" which you see being built as we pass into the bass department are in tremendous demand at the present time and in spite of all our efforts to increase this department we are running considerably behind now. The leading orchestras of the country have taken these up to a great extent which causes the increased demand.

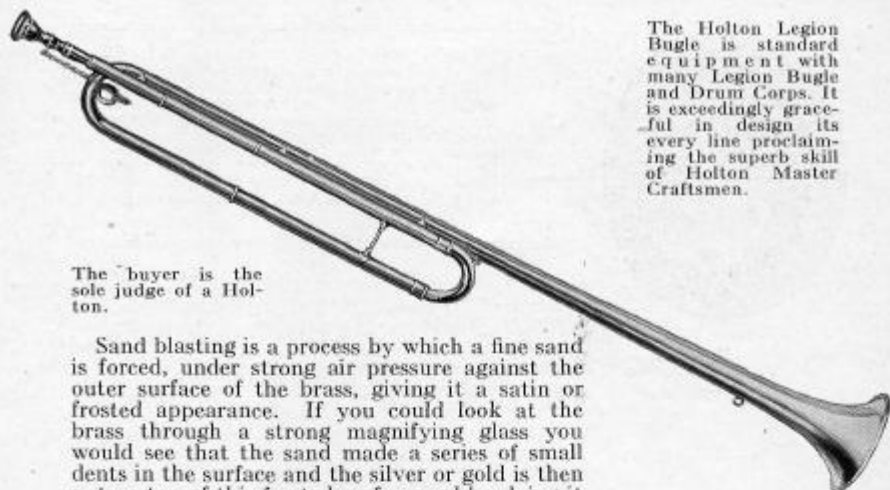
You will note as we come to the trumpet and cornet department that the valves are the first part of these instruments that are built and the instrument is then built around the valves. In the rough state they don't look anything like the finished product.

And here is our trombone department. It is hard to realize the delicacy and care which must be used in building the trombone and how accurately the slides must be "ground in" to insure perfect fitting and a perfect slide action. Here is a machine which Mr. Holton invented for the purpose of grinding in slides and it is one thing that is helping wonderfully in creating the smooth slide action which is found on all Holton Trombones.

We will now pass on to the finishing department which includes the sand blasting, plating, and burnishing.

Here is where we sand blast the instruments.

"I have discovered when we can interest a careless, indifferent man or boy, in the matter of producing harmony on a horn, we have a better workman than we had before,"—*Elbert Hubbard in "A Musical Melange."*



The Holton Legion Bugle is standard equipment with many Legion Bugle and Drum Corps. It is exceedingly graceful in design, its every line proclaiming the superb skill of Holton Master Craftsmen.

The buyer is the sole judge of a Holton.

Sand blasting is a process by which a fine sand is forced, under strong air pressure against the outer surface of the brass, giving it a satin or frosted appearance. If you could look at the brass through a strong magnifying glass you would see that the sand made a series of small dents in the surface and the silver or gold is then put on top of this frosted surface and by doing it by this process we have a frosted finish that the instrument will retain.

Formerly the old satin or velvet finish was gotten by first plating the instrument and then merely roughing the surface after it had been plated, with a scratch brush, a brush composed of fine brass bristles. This finish could not be retained under handling, however, as the constant handling of an article finished in this manner would cause the finish to become smooth and you would have neither a burnished nor a satin or frosted finish.

We will now pass on to the plating department where you will see one of the finest equipped plating plants for the plating of band instruments in America. In the plating, one of the points absolutely necessary is that the instrument or article to be plated must be perfectly clean.

In cleaning we use potash and acid solutions, some of the acid solutions being so strong that if an instrument was left in the acid solution for half an hour it would be completely dissolved. While we do both nickel and copper plating it is silver and gold plating that undoubtedly you are most interested in. Here is one of the silver tanks. The tank is filled with a solution which is bichloride of silver and there are three poles or rods connected with electric wires. These rods are connected with wires carrying two different electric currents, a positive current and a negative current. The one current passes through the rods on which pure silver is hung in sheets approximately six by ten inches in size called anodes.

The other current passes through this rod which is hanging over the center of the tank and on which the article being plated is hung in the solu-

Holtens are built to the highest standard ever set in the Band Instrument Industry, a standard never before attained, much less surpassed.



GUSTAV HEIM
Solo Trumpet
N. Y. Philharmonic
Orchestra

"And in his own chosen work, Frank Holton has set the world a standard which his competitors have not approached, much less surpassed."—*Elbert Hubbard* in "A Musical Melange."

THE embodiment of the true spirit of Symphony Trumpeting, Gustav Heim's artistry has evoked the admiration of practically every noted director who has visited America. For years he was a feature of the Boston Symphony Orchestra, and left that organization for the Detroit Symphony. He is at present solo trumpet of the New York Philharmonic Orchestra. Mr. Heim uses and assisted in perfecting the Holton Revelation Trumpet.

tion by means of copper wires which conducts the current through the article being plated.

The action of the two currents of electricity together with the solution draw the silver to the article being plated in exactly the same way a magnet picks up a pin. By the strength of the solution, which is determined by chemical analysis, the strength of the current and the length of time an article is left in the solution you can determine to the smallest fraction of a pennyweight exactly how much silver or gold is deposited upon the article being plated.

Frank Holton & Co. are noted for their plating in fact we have established a standard in band instrument plating that has never been approached by another company. You know there are different ways of plating band instruments, or in fact any other articles, the method being the same, but the plating being put on hard or soft according to the plater.

A hard plate is put on much quicker than a soft plate and while as much silver may be put on and the process may be applied to jobbing work such as knives, forks, etc., satisfactorily, it is a very unsatisfactory method of plating band instruments because a hard plate forms a shell over the outer surface of the brass and of course on a band instrument this affects the resonance and especially the tone of the instrument.

On the other hand a soft plate is put on slowly and becomes an integral part of the brass and in reality adds to the weight of the metal itself in becoming a part of the foundation metal.

You will notice that gold plating is done in exactly the same way except that the solution is bichloride of gold and the gold solution is heated, and agitated by an air current running into it.

In our gold plating, we differ from most manufacturers in plating only with pure 24-karat gold. It is customary with most manufacturers, to use copper anodes with the gold anodes, which gives the plate a darker color and of course is cheaper as a much lower percentage of gold is deposited upon the article being plated.

Other makers will use a gold plate with a copper alloy and at the finish put on a flash of 24-karat gold or a very light covering which very soon wears down to the gold and copper basis used.



The least advertised
yet the most sought
after saxophone
made.

All our gold plate is pure 24-karat gold, put on over silver, so an instrument is silver plated before being gold plated.

Notice that when an instrument first comes out of the silver plate it is covered with a white celluloid-like film while an instrument just coming out of the gold plate is covered with a sand colored film. This film is removed by the use of Babbitt Soap and water and a scratch brush which is a brush with very fine brass bristles. The film is taken off by this process and it leaves the surface of the plate with a satin-like finish, except where the instrument has been sand blasted previous to plating when the finish is frosted.

After leaving the plating room the instrument goes to the burnishing department where on the instruments that have been sand blasted the ferules, high points, engraving and the inside of the bells are burnished and where the instrument which have not been sand blasted are burnished all over.

Burnishing is a hand polish that is put on the instrument which gives it one of the most highly polished finishes it is possible to obtain, a deep rich mellow polish with an extremely brilliant lustre, and the process of putting on the polish does not remove any of the gold or silver that has been put on the instrument in plating. This being all hand work by extremely skilled artisans the process is highly expensive, but is fully warranted by the results obtained.

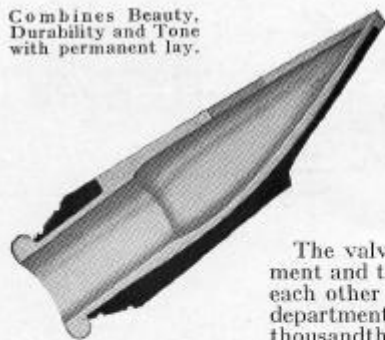
A fairly high polish can be obtained by putting the instrument against a polishing or buffing wheel but in doing that a certain amount of the metal used in plating is removed and consequently that process is not to be recommended.

We will now pass to the first floor of our factory where you will see the different parts being made up direct from the raw material.

On this floor the first department we come to is the punch presses. These presses are used to punch out forms and shape braces, flanges, etc., used in the building of Holton instruments. Passing from this department we come to the valve department which is really one of the most important departments in the factory.

There is an indescribable satisfaction in knowing you have the best. A musician with a Holton never apologizes for his instrument.

Combines Beauty,
Durability and Tone
with permanent lay.



THE Holton Perfected Saxophone mouthpiece has many sensational qualities that make it in great demand among saxophonists. It is easy playing, tasteless, odorless, beautiful in appearance and extremely durable. It is built on a white metal base Bakelite covered.

The valve is the very heart of a band instrument and the piston and casing must be fitted to each other with the most delicate accuracy, this department working in measurements that involve thousandths parts of inches.

As you will note the piston is made of phosphor bronze which is the longest wearing and nearest frictionless metal known to modern science, while the casing of the valve in which this piston works is made of Flintelite, a new metal which is extremely hard yet light and workable and which adds greatly to the long life of Holton valves.

The casing is reamed out to a certain size while the piston is machined down to a size where it will tightly fit the valve casing. From this point on the piston is "ground in" to fit the casing by the use of first, flour of emery and oil, with a final grinding of rotten stone and oil, insuring absolutely the most perfect fitting piston it is possible to build.

Holton workmanship cannot be exemplified to better advantage than in the building of Holton valves. You find absolutely no play but a perfectly tight fitting valve that always works freely and it is largely due to the care exercised in the building of these valves that Holtons have gained such a wonderful reputation for durability.

Those of you who know anything of band instruments have perhaps heard the phrase "This instrument is blown out." As a matter of fact an instrument cannot be "blown out" because to blow an instrument out and by that is meant to blow it out of tune or blow some of the tones out of it so that they do not come properly, the proportions of the tubing must be changed and we have never yet met the player of a band instrument who had sufficient strength in his lungs to do this.

Nine times out of ten the cause of an instrument changing in playing qualities or losing its tune is due to improper fitting of the valves in the first place and as the instrument is used, the play in the valves becomes greater and they leak and consequently affect the tone and tune of the instrument. I don't think this has ever been said of Holton instruments.

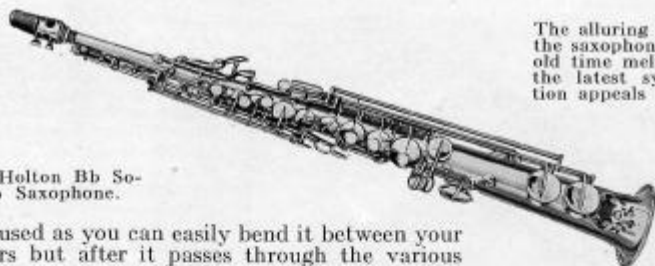
Going on we reach the bell department.

This department works from the sheet brass which as you will notice is very flexible when it is

Ever on the alert to satisfy the wants of musicians, Frank Holton has made more real improvements, on band instruments, since he has been manufacturing, than any other maker.

The alluring tone of the saxophone in an old time melody, or the latest syncopation appeals to all.

The Holton Bb Soprano Saxophone.



first used as you can easily bend it between your fingers but after it passes through the various processes necessary in the manufacture of band instruments you will find the brass is as hard almost as tempered steel.

The building of Holton Trombone, Cornet, Trumpet and Saxophone bells differs in a great many respects from the bells used on most other band instruments in that the bell is made of one piece of brass. You will notice we cut the bell to a pattern as you see here. This pattern is then shaped on a mandril which is a tool used for that purpose, and gradually is brought into the form of a bell. After it has been shaped the one seam which is in the center of this bell running straight up and down the bell is tacked, then brazed and welded. After this it is hammered and annealed and at the finish of these operations you have a bell made of one piece seamless tubing in which has been incorporated that resonance so necessary in the bell of a band instrument and which we call building the Holton tone into an instrument.

A great many manufacturers build cornet, trumpet and trombone bells of two pieces of brass, the flare running for approximately three to four inches from the edge of the bell is stamped out on a press from a circular piece of brass. This is done at a very high rate of speed and this flare is then brazed to a piece of tubing conical in shape which has been made as we make the bells and of course it forms a brazed band around the lower end of the bell where it will affect the tone in the same way that the tone would be affected if you were to hold the bell in a rigid grasp while playing. The best comparison that can be made to a bell made in this way and Holton bells is to take an ordinary brass spun cymbal and compare it with a hand hammered turkish cymbal. The beautiful ringing carrying quality of the tone of the turkish cymbal makes the ordinary brass cymbal sound like a cow bell in comparison with a wonderfully toned church bell.

After the bell has been annealed, hammered, brazed and welded it then comes to the spinning lathe where it is spun so as to conform to the exact inner measurements that we desire, this being gotten by the use of the mandril on which the bell is first shaped and which is built to the exact proportions which we want on the inside of

It is due to the exactitude of the measurements required in the building of Holton Saxophones that the tone seems to partake of the mellow brilliancy of the violin and cello, to which is added the sonorous beauty of the brass, with no warbling or breaking of the lower tones, no added strain to secure the upper tones, but rich, broad and even from the lowest to the highest tone on the instrument.



A Group of Sousa Men

Frank Simon, cornet soloist and assistant director, Del Staiger, and Eugene Bishop on cornets and Al Knecht Bert Howard and Joe Marthage on saxophones, were among the prominent members of Sousa's band on the "Coast to Coast" Tour, season of 1919, who were using Holtons.

In symphony orchestras, grand opera, phonograph recording and concert band, Holtons have been adopted by entire brass sections.

the bell of the instrument. This spinning process also removes the hammer marks on the outer surface of the bell and prepares the bell for the polishing and bending department which bend it into the proper shape to be placed on the instrument.

Our bending department is also different than you will find in most other band instrument factories.

The most important thing in building a band instrument is to build it so as to have the proportions or diameter and size of the tubing on the inside conform exactly to the measurements that we have found are correct in our experimental laboratories. As you probably know tubing can be bent by hand, hydraulically, or by bending machines and it is very easy to bend tubing hydraulically or by machine if it is the outside surface or diameter of the tubing that is to be considered only.

In our bending we use neither machines nor the hydraulic process. The tube we bend, according to the size of the tube, is filled either with lead or pitch. It is then put on a bending table and a pattern placed against the tube. It is bent slightly in the shape desired and before going farther the ridges or wrinkles which form from the bending are hammered out and as the lead and pitch with which the tube is filled is flexible and gives, it means that after we bend a tube in this manner the inner surface of the tubing is just as smooth and clean as the outer surface and in this way we have the assurance that the inner proportions of the tubing have been maintained throughout the entire length of the tubing.

In bending tubing hydraulically which is in use in some band instrument factories, the tube to be bent is placed in a die with smooth steel walls, the end of the tube plugged and a force of water under strong pressure is pressed into the tubing, the tubing expands so as to conform exactly with the walls of the die, but naturally the inside of the tubing is left to take care of itself. There is no assurance that the inner proportions of the tubing

The Holton Revelation Trombone stands as the achievement of an ideal the Frank Holton, the Master Trombone Builder of all time.



It has all the brilliancy of the pure tenor voice, immaculate in its richness,—startling in its fullness.

so essential in the building of a band instrument have been maintained, no assurance that the inside of the tubing has not the ridges that have been created by the sudden bending, and the only real result that can be said for this method is that considerable money is saved by this process.

It might be well here to say a word about the brass of which instruments are constructed. Some band instrument selling companies have talked very strongly on the subject of French Brass, these companies being principally those who are selling instruments manufactured in France and some American companies have boasted that their instruments are made of French Brass.

Brass is an alloy of copper and zinc and sometimes tin is added. It is much harder than copper and it is this particular property of increased hardness which makes brass so much more useful than copper in the arts in which brass is used. The strength and workability of brass varies according to the alloy and French Brass is nothing more nor less than what is known as a 67-33 composition, in other words is composed of 67% copper and 33% zinc, being known in the trade as two to one. It is largely used for drawing purposes and in soft temper can also be spun and is a metal that is very easily worked on account of its softness. For the manufacture of musical instruments we do not regard it as satisfactory as some of the higher copper alloys which respond more readily to those operations which are necessary in the building of band instruments, spinning, brazing, etc., and hammering, which brings out the resonance so necessary in the metal used in the building of band instruments.

In using the hydraulic process it is of course necessary to use a softer more ductile or "dead" brass that will withstand the sudden shock and tremendous power of the hydraulic press, and metal of this strength does not respond so readily to those operations which are necessary to bring out the resonant quality so essential in a band instrument.

Holton Band Instruments are made of brass of a special alloy that was carefully worked out in

"There is no better exercise in the world than playing wind instruments. You naturally learn to control your breath, and if you are able to master your breath, you are pretty nearly captain of your soul."—*Elbert Hubbard in "A Musical Melange."*



The Holton Concert Horn or Mellophone is one of the easiest playing of all brass instruments, the beautiful mellow tone appealing instantly to all lovers of tone quality. As a solo instrument in Church, as in band and orchestra ensemble playing the Holton Concert Horn stands pre-eminent.

"Holtons" have that touch of the skilled craftsman that brings the recognition gained by producing that which is superior.

our own laboratories and it is the special brass that we use that has helped us greatly in building up the Holton tone which is a distinctive quality that is known and admired throughout the entire musical world.

On this floor we also file and solder the keys for the saxophones. The saxophone keys are castings made to carefully laid out patterns and after being cast are polished and then these castings are put together so as to form the various keys which are used on saxophones.

Passing the saxophone key department we come to the draw benches. Here we stretch brass and nickel tubing as if it was common rubber so that you can understand the wonderful quality which the tubing we use must have to stand up under this process.

Tubing approximately eight inches in length is stretched to a length of twenty-four inches and in fact much of the tubing used in the manufacture of Holton instruments goes through this department being drawn over certain mandrils so as to have the inside proportion of the tubing conform to the exact measurements which we find so necessary. These draw benches have a pulling power of approximately five tons to the square inch which gives you some idea of the tremendous power of these machines.

In our screw machine department you see a battery of eleven screw machines. These machines are almost human in the work they do. On them are made the little braces, valve tips, valve tops and bottoms and other small parts for the valve instruments and the sockets, rings and many of the small parts that enter into the manufacture of the saxophones.

On the automatic machines, the machine is set to make a certain part, a tube or rod of brass feeds into the machine and automatically the machine will turn out, hour after hour the parts desired. It is indeed very interesting to watch these machines and the wonderful work they do.

Opposite the screw machine department is that section of the factory devoted to the making of

MOST musicians are familiar with the early struggles of Frank Holton, of how he first started in business by making oil, boiling it on the stove in the kitchen of his apartment, then carrying it down town in a quart bottle to a small room he had rented where he rebottled and sold it. More than 300,000 bottles are now sold each year.



tools, etc., which are used in the manufacture of Holtons. This department contains some very highly specialized men who are very thoroughly trained and it is to this department the credit is due for the accurate measurements to which Holtons are built.

In our raw material room which we are now passing through you see brass in sheets, rods, tubing of various sizes, all of which is used in the manufacture of Holtons. It is of course necessary for us to carry a tremendous amount of raw material on hand as approximately fifteen hundred instruments are always in process going through the factory.

Our saxophone mouthpiece department is an important addition to our factory as the Holton Perfected Saxophone Mouthpiece is one of the most decided improvements for saxophones that has yet been made.

Previous to the perfecting of the Holton Saxophone Mouthpieces there were two kinds of mouthpieces used on saxophones, the rubber mouthpiece and the metal mouthpiece.

The rubber mouthpiece was subject to contraction and expansion as exposed to heat and cold which warped the lay which is the flat part of the mouthpiece on which the reed is placed and this changed entirely the playing qualities of the mouthpiece and interfered greatly with the playing of the saxophone. An attempt was made by some makers to overcome this by putting a metal lay only on the rubber but as only the lay was of metal and the rest of the mouthpiece of rubber it did not overcome this condition and there were still other factors such as the odor and taste of rubber which really made rubber mouthpieces undesirable although they had to be used.

Metal mouthpieces overcame the conditions of the rubber mouthpiece with the exception of the taste, and as the taste of metal in the mouth agreed with but few saxophone players the metal mouthpiece is in very little use.

To improve these conditions as the result of a long series of investigations we invented the Holton Perfected Saxophone Mouthpiece which is a mouthpiece with a metal core covered with Bakelite which has neither taste nor odor, and the core being of metal there is absolutely no danger of the mouthpiece warping, thus changing

Since 1898, "Holtons" have been built under the personal supervision of Frank Holton the Master Builder.

The Holton Perfected Clarinet Mouthpiece



LIKE the Holton Perfected Saxophone Mouthpiece this Clarinet mouthpiece is built on a white metal base, Bakelite covered, is beautiful, durable, odorless, tasteless, and as enduring as the pyramids. No warping, cracking or changing of the lay annoys the user of a Holton Perfected mouthpiece.

the lay, and the mouthpiece is practically indestructible, as enduring as the pyramids.

The Bakelite is put on under a pressure of thirty tons per square inch, being heated to 350 degrees Fahrenheit and it makes a permanent mouthpiece of beautiful appearance and one for which there is a tremendous demand which will unquestionably always exist on account of the wonderful qualities of this mouthpiece. Our production is very large and on that account we are selling these mouthpieces at the price of \$5.00 retail or practically the price at which rubber mouthpieces sell.

We not only work in metal but we also work in wood and in our wood working department where all our shells for cases are made, we have the very latest wood working machinery.

The box cases like saxophone and square cornet cases are made of basswood, dovetailed and glued, giving a very strong construction.

The shaped cases such as the trombone and larger instruments for instance are made of three to five ply veneer, the strongest possible construction and will stand up under the hardest usage.

The shells from this department go upstairs to the case department where they are covered and lined and from a quality standard Holton Cases have a reputation that has never been equalled elsewhere.

Our mail order department and shipping room which you are now passing through is kept busy during the entire day filling the orders from thousands of customers throughout the civilized world.

Here is what we call our bargain room for you know in the selling of band instruments it is necessary to take instruments in as part payment and these instruments are then rebuilt, sterilized, by being dipped in an acid solution which positively sterilizes the instrument and removes all dirt from the inside of the tubing, refinished and sold at bargain prices. As we have one of the largest stocks of second hand instruments in America naturally we do a tremendous business in these instruments and we always have some very astonishing values.

The man who knows of his own knowledge when an instrument is right, can be depended upon to build better than those who must depend upon the knowledge of others.



This large sign on highways 12 and 61 welcomes the tourist to Holtons.

We have now completed our trip through the Holton Factory and in conclusion there are a few facts I would like to leave with you.

First—Band Instrument making is one of America's most unique industries. But few people realize the work that is necessary to make band instruments until they go through a band instrument factory and the Holton Factory which you have just passed through, is probably the largest factory in the world devoted exclusively to the manufacture of strictly high grade band instruments.

You know many of the jobbing firms throughout the United States have their own brands of band instruments and naturally these instruments must be built for them and this is done by various manufacturers and is really similar to the stenciled pianos so many of which are on the market.

We build no instruments of this kind as every horn made here is engraved "Made by FRANK HOLTON & CO.," and is built to the highest possible standard.

Our men are trained to do but one grade of work and that the very highest. We place quality over quantity and build entirely to a quality standard which of course is impossible where the commercial end of the business only is looked at.

Second—According to the last report of the Department of Commerce, Bureau of Census, in the census of manufacturers covering musical instruments and phonographs, we find on page 22 on the relative importance of leading states in the manufacture of musical instruments other than pianos and organs and materials, which covers principally band instruments, that the statistics rank Wisconsin fifth according to value of products, but which statistics cannot be shown without disclosing the operations of an individual establishment.

The individual establishment referred to is Frank Holton & Co., as we are the only manufacturers of band instruments in Wisconsin and as a matter of fact practically the only manu-

When practical playing knowledge is combined with mechanical skill, better instruments must be the result. That's why Holtons are recognized standard.

The Holton
No Pressure
Device



THIS marvelous invention prevents bruising and crushing of the tender lip muscles and has the endorsement of such men as Herbert Clarke, Arthur Pryor, Frank Simon, and Edw. Llewellyn. It is concrete evidence that Frank Holton is ever on the alert to satisfy the wants of musicians.

*Where "Quality" is
selected the choice is
confined to Holtons.*

facturers of musical instruments in Wisconsin other than pianos and as our business has doubled since this report was issued it is safe to assume that a greater proportion of the band instruments manufactured in America are manufactured in Wisconsin now.

Third—That the Holton Factory stands as a monument to the courage, perseverance and unswerving loyalty of Frank Holton to an ideal, an ideal that he had before him, when he first started in business and which ideal has been achieved in the absolute supremacy of Holton Instruments through their wonderful musical qualities and super-workmanship.

Mr. Holton has always taken a great interest in his employees, their average rate of pay throughout our factory being extremely high, and has also looked after their welfare in the home by erecting in Holton Heights a community of twenty-seven of what are considered the finest working men's homes in the state.

These houses were built and sold at cost and in Holton Heights where Mr. Holton and the executives of the company also reside, we have a community of clean living, happy Americans, loyal and efficient and whose interests are wrapped up in the instruments they are building.

If through this book and through your trip through the Holton Factory you have gained an idea of the ideals for which we are working we are content.

The spirit that pervades our establishment is not purely commercial because we know we are accomplishing a good work in building instruments upon which musicians can give better performances, in inculcating in the people of our country a greater love of music which has become so essential a factor in American home life and in aiding in the further development of music throughout America.

And in closing we extend you a cordial invitation to come again at any time you are in our city or near us, and bring your friends.