

A NEW COMPANY WITH A DEEP-ROOTED ORIGIN

Bishop Tube Co.

Frazer, Pennsylvania U.S.A.

Frazer lies on Slate Ridge, overlooking some of Chester County's loveliest rolling country. On the western edge of Philadelphia's suburban area, a few minutes from the Penn Central Railroad's important station at Paoli, it comes just within Delaware Valley's enormous manufacturing area.

Once it was a crossroad in early American history. The old Conestoga Trail, later replaced by the Lancaster Turnpike and many years later by the Lincoln Highway (U.S. Route 30), first ran through its site on the western wilderness, crossed by the road leading from Wilmington and West Chester (then Turk's Head) to the Schuylkill Valley and Germantown. Along this road some of Washington's scattered detachments fell back from disastrous Brandywine to rejoin others at Germantown before the bitter months at Valley Forge.

Even then, much of the land had been cleared and farming was stabilizing and enriching the countryside. The people, carrying down through the years the principles of Penn and Pastorius, had given a particular character and solidity to the community by the early Nineteenth Century. It is the continuance of those principles of industry, integrity and tolerance that makes this vicinity so typically American. The effect of this background carries on in our shops today and is reflected in our company's products now going all over the world. Although started in Philadelphia, it was into this environment our founder removed his business.

Joaquim Bishop's early life and training are of peculiar interest. He was born in Oporto, Portugal, in 1806 of English parentage. His father, a director of Royal Fabrics, was temporarily living in Portugal but in 1810, because of the French wars, left there to take up residence in Baltimore and the next year moved to Philadelphia. In 1826, Bishop, against parental wishes, entered apprenticeship in the jewelry trade. In 1832 he went to the University of Pennsylvania as instrument maker and as an assistant to Dr. Robert Hare. As the years passed and Hare did his important work in the electro-chemical field, Bishop assisted in the design and built many of the pieces of apparatus used in that pioneering effort.

At the behest of Hare and others in the scientific field of the day, Bishop left the university to engage in making philosophical instruments and to try platinum working, utilizing Hare's oxy-hydrogen torch in a commercial manner. This was significant because it made possible for the first time the melting of platinum which, in turn, made fabrication quicker and easier and made platinum products more readily available. This was of great help to the growing field of research in chemistry — especially the inorganic branch.

From 1842, when Bishop founded J. Bishop & Company Platinum Works, until 1928, the company confined its business to manufacturing gold, the platinum group metals and their alloys for technical and industrial uses. At this time British-made stainless steel hypodermic needle tubing was introduced to the American market. This new stainless steel product reduced to insignificance a substantial demand for Iridio-platinum and Platinum-gold tubing for hypodermic needle purposes in an unbelievably short time. Having been a major producer of such tubing for many years, this company ventured into cold drawing stainless steel hypodermic needle tubing so as to offer a domestic source of supply as against importation. The trials and tribulations of that development need no recounting here but it was three years before we were able to offer an American-made product that we felt not only equalled but surpassed the stainless steel hypodermic tubing being imported. Irrespective of the development time required, Bishop was the first domestic organization to succeed with stainless steel hypodermic needles. From this humble beginning the Bishop Tube Co. evolved.

At first our production was confined to a single alloy in the "18-8" series (Type 304). Now the range of stainless alloys we manufacture includes all those regularly furnished in tubular form in both the 300 and 400 series (above Type 410) and in both seamless and welded and drawn grades. The maximum outside diameter presently produced is 1-1/2", the smallest is .008". Between these sizes is an unlimited number of diameter and wall thickness combinations. Data describing these various alloy and size combinations are furnished in company bulletins and technical data sheets.

Since World War II we have expanded our manufacture of tubular products to serve many industries. Capillary tubing serves instrument manufacturers in many uses. Small diameter mechanical tubing is used in fire detection systems, for the manufacture of O-rings, and for glass-to-metal sealing applications. Our mechanical tubing serves a wide variety of needs in industry with a major portion of our production being used as aircraft hydraulic lines in all types of military and commercial aircraft. In addition to aircraft uses, our mechanical tubing has found wide application in the electronic and chemical industries. Our high quality mechanical tubing has been used as fuel cladding for nuclear reactors, as thrust chamber tubing for rockets, and in other aerospace

are striving the ultimate in quality and reliability for tubular products.

In addition to supplying tubular products in long lengths, we have expanded our specialties services so that tubing can be cut in short lengths to specialized requirements. Facilities have been added for producing semi-finished or finished parts originating with tubing. These include machined, flared, swaged, stamped, spun, bent and coiled shapes.

On October 1, 1967, the name of the original company, J. Bishop & Company Platinum Works, was changed to Matthey Bishop, Inc. To meet demands in the market, Matthey Bishop, Inc. later reorganized the tubular products department as a wholly-owned subsidiary under the name Bishop Tube Co. On April 1, 1969 Bishop Tube Co. was purchased by the Whittaker Corporation of Los Angeles, California.

On January 7, 1974 Bishop Tube Co. was purchased by Christiana Metals Corporation, a privately held corporation formed by Philadelphia-area businessmen. The new owners launched a program to acquire new and additional equipment. Immediate objectives as well as long range goals were developed for the future growth of Bishop Tube Co. in the metals field.

Bishop Tube Co. products are no longer confined to stainless alloys but now include Nickel, Nickel base alloys, Titanium and Titanium alloys, Glass-to-Metal Sealing alloys, and Precipitation Hardening alloys. It is to be noted that we were the first to produce titanium tubing in production quantities for aircraft requirements. Tubular products are produced in both the seamless and the welded and drawn grades.

The unusual combination of metals in which we regularly work requires, of course, that each department be under unusually strict technical control, not only because of the chemical and metallurgical requirements, but because many times dimensional tolerances are as close as .001" for either inside diameter or outside diameter dimensions. High quality tubing is frequently produced to defect levels in the magnitude of .001".

A complete technical organization performs such functions as metallurgical development, control, and testing; quality control has established a quality assurance program for all operations and performs non-destructive testing of all products; a production engineering group is responsible for developing methods, equipment and procedures; a design engineering group and a maintenance and machine shop department are maintained to service the production operations. These technical people are available to call on customers and potential customers to assist in developing specifications or to assist in solving problems or filling other needs.

Work such as this can only be carried out under most thoughtful supervision and by experienced, competent and willing shop employees who have the know-how and the interest of the company's product at heart. These are the "plus" components that enter into our final products. It is these components that have made Bishop Tube Co. a respected name in its field and have created customer confidence in Bishop's products all over the world.

We cordially invite you to visit us when you can. We will be glad to show you what we produce. If time or distance interfere, then write to us. To determine whether any of our products can serve you advantageously in your manufactures, your production equipment or product control instruments, the assistance of our sales representatives or engineers is yours for the asking. Catalogues describing our products are available upon request.

From This Beginning

JOAQUIM BISHOP
MACHINIST
((And))
PHILOSOPHICAL INSTRUMENT MAKER
LAUREL 20 STREET
Between Second and Third and Spruce and Pear Str.
PHILADELPHIA
GALVANIC MAGNETIC ELECTRIC & ELECTRO MAGNETIC
APPARATUS.
— ALSO —
EXPERIMENTAL MACHINERY.
Made to order and on the most reasonable terms.
*N.B. Turning Lathes, Jewellers Rollers, Presses & Dies made and repaired and
Turning of every description done to order.*

(REPRODUCED FROM THE ORIGINAL COPPER PLATE UTILIZED BY
JOAQUIM BISHOP WHEN HE ESTABLISHED HIS BUSINESS — 1842)

bishop
TUBE COMPANY

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