

Ray Bender named TAPPI's 1991 Distinguished Service Awardee

Ray S. Bender, a consultant with offices in Appleton, Wis., and retired senior vice president of Appleton Machine Co. (now Valmet-Appleton, Inc.), received TAPPI's highest award for service during its Annual Meeting, held this year in Orlando, Fla.

Journal: *Why did you choose to work in the paper industry? What led you to this career?*

Bender: As is the case so many times, I did not make the choice to work in the paper industry; fate made the selection for me. I had been an engineer with the Pennsylvania Department of Highways prior to my military service during 1942-45, so I naturally wanted to continue in some engineering capacity after World War II. Having just married a young lady living in Appleton, Wis., I needed a job rather desperately. Wisconsin had no highway construction funds and was not hiring engineers. I did obtain a temporary position with the City of Appleton's engineering office while I searched for a permanent job. Eventually, I was interviewed at the Appleton Machine Co. where post-war growth and a new product line created a number of engineering positions. I commenced my new job on Feb. 4, 1946. I was not a machine designer, but necessity quickly made me an "expert" in paper and pulp mill machinery. I had never been in a paper mill before joining Appleton, but I soon found myself fascinated with the papermaking process and with the cleanliness of the industry. The work ethic of the management and labor groups appealed greatly to me and convinced me that I should attempt to make a career in this industry. Three years after joining Appleton's engineering office, I was offered the opportunity to go into sales engineering and, when this happened, I soon found that I had selected a good course to pursue in my business life.

Journal: *What are some of the memorable or significant events in your career with TAPPI and the paper industry? I know that, among other activities, you have been the Finishing and Converting Division chairman, on the Board of Directors of TAPPI, very active in local sections, and senior vice president of Appleton Machine Co.*

Bender: I think that one of the most significant events in my early life in the paper industry was being accepted into TAPPI in 1952. In those days, TAPPI required that each applicant



for membership be sponsored by three members in good standing. My sponsors were Steve Baisch, who later founded the very successful and internationally known consulting firm S. J. Baisch Associates, Martin Downs, technical director for Thilmany Pulp and Paper Co., and George H. Pringle, who was to become president of TAPPI (1953-54) and president of Mead Corp. sometime in the early '60s, I believe. These men, without doubt, inspired me more than I realized at the time. Their friendship and guidance at that point in my life left a marked impression on me.

The years 1958 through 1971 were exciting and memorable, as that was the period during which I was named vice president of sales for the Appleton Machine Co., was elected to the Board of Directors, and was named corporate treasurer. By this time, I felt that I had made a home for myself, so to speak, in the paper industry, and I was comfortable in the knowledge that I was accepted in this field. During this period, I watched my company grow from one of nine U.S. manufacturers of supercalenders (in 1940) to one of two domestic suppliers. It was a satisfying experience to be a part of its climb to the position of leading U.S. supplier of these machines.

As for significant and memorable events in my career with TAPPI, the period 1971 through 1977 was a time when I learned what it was like to have two careers. These were the years when the Finishing Committee became the Finishing and Converting Division and when I worked my way through the chairs, culminating the tenure with three years on the Division Board of Directors.

It was work. TAPPI was going through a reorganization at that time with respect to annual divisional conferences and rising costs, and we in the Finishing Division found ourselves working especially hard to establish our status as a division of TAPPI and to promote membership and conference attendance at the same time.

In 1977, I was elected to the TAPPI Board of Directors—a distinct honor, especially since I was the first director representing a paper machinery manufacturer and the first from the Finishing and Converting Division. Chairing the Annual Meeting and Planning Committee in 1979 and 1980 were unforgettable experiences, partially because 1980 was the first year that the Annual Meeting and Exhibit was held in the new Georgia World Congress Center in Atlanta. There is no need to expound on the growth of this exhibit; its astonishing expansion is well known in and out of the paper industry. I am proud of my contributions to its success.

I must include among the significant and memorable events of the '80s my being named a TAPPI Fellow in 1980 and being honored by the Finishing and Converting Division with its Division Award in 1984. As I reflect on these honors, I am convinced that the late Gene Sowers, who eventually prevailed upon me to accept the position of secretary of the Finishing Committee in 1971, is smiling at his victory over my rather cool reception of his suggestion that I take on additional tasks that I did not need at that time. I must say that my company, being very supportive of my TAPPI activities, encouraged me to accept and to continue as long as I enjoyed and could handle the extra work.

Journal: *What are some of the significant technological changes you have seen in your years in this industry, especially in your area of specialty which is supercalendering?*

Bender: One of the early technological changes in supercalenders took place in the early 1940s when Appleton began to manufacture this machine. Prior to that time, the upright frames of supercalenders were made of cast iron. This meant that manufacturers had a considerable investment in huge wooden patterns used in the casting of the frames. And the patterns limited the versatility of design insofar as height and width of the calender was concerned. The use of fabricated-steel box-type frames, such as Appleton introduced, permitted virtually unrestricted design because there were no patterns involved, and greater strength of the upright members was attained. This was one of several reasons why many manufacturers of supercalenders either went out of business or ceased the manufacture of such machines. Appleton and Beloit (who made the successful conversion from cast iron to steel fabrication) had the domestic market, for all practical purposes, to themselves between

1956 and 1977.

In the late 1950s, a German manufacturer of supercalenders sold several units in North America for calendering glassine grades of paper. These machines were equipped with movable full-width platforms, or elevators. This was something new on this side of the Atlantic and soon existing calenders were being retrofitted and new calenders were being equipped with these conveniences. Operators had, until this time, been required to climb these tall machines using fly rolls, ladders, and stationary crosswalks when threading the stack and servicing the rolls. I would say that this was a significant development in supercalender design.

There are many technological changes that should be mentioned, and probably none has made a more significant contribution to quality control of supercalendered paper than the "variable crown" roll. The versatile "zone control" roll evolved from this earlier design. These rolls have eliminated the fixed crown, solid top and bottom chilled-iron rolls that operators fought for years. They had a very narrow range of effectiveness above and below the specific nip pressure for which the crowns were calculated.

Since the middle of the 19th century, the soft or resilient rolls used in supercalenders have been made of cotton and wool mixtures, or, in North America, 100% cotton. These rolls mark easily and have a rather short life. Their replacement cost contributes so much to the cost of supercalendering paper that mills have literally begged for years for a substitute material—especially since speeds of supercalenders have increased from 1000 or 1500 feet per minute to over 3000. As new and better plastics were developed, they were tried as roll covers for supercalender rolls. They have not totally replaced cotton filled rolls to date, but each year sees an improvement in their ability to withstand high temperatures and high nip pressures and to provide the surface finish on paper that only cotton seems to produce.

We should mention transfer-type wind and unwind mechanisms that permit reel changes on the supercalender without stopping the stack. Rapid-drop and quick-raise mechanisms now are standard equipment on the modern supercalender. These innovations minimize damage to the resilient rolls in the calender when there is a web break by quickly dropping the bottom roll and raising the top roll, thus relieving nip pressure in the individual nips. We cannot, of course, overlook the technological assistance given operators today through computer monitoring and control. Video cameras and screens have removed most of the personal, hands-on operation of years ago, and computers automatically make changes in applied pressure, steam supply, and top and bottom roll configuration as required for established paper specs. As with all other papermaking machinery, the supercalender is requiring less and less operator attention and becoming more efficient through automation.

The area that is fast becoming important to mills

making supercalendered paper, and even those making other grades, is the on-machine soft calender. This is not a new idea. In the middle 1940s, a Pennsylvania mill was doing on-machine supercalendering, albeit not too successfully. Today's interest and progress in the use of these units is strong because we now have the technology to provide synthetic roll covers. We can closely control temperature of rolls, which reduces nip pressures, in many instances, relative to off-machine supers. On-machine soft-nip calenders generally have two or four nips. In most instances, they replace the steel-to-steel calenders found on standard paper machines. The resilient rolls provide a finish somewhere between machine-finish and supercalender-finish. As technology progresses, we are coming closer and closer to supercalender-finish on all grades where this operation is desirable.

Journal: *Who would you say were some of the key people you remember from your years in the paper industry?*

Bender: In addition to the early influence that Steve Baisch and George Pringle had on my career, the following people come to mind, among many men to whom I am indebted for their roles in furthering my career in business and in TAPPI during the '50s and '60s: the late R. M. Radsch, who was vice president of sales at Appleton when I joined his sales group; Lawrence W. Murtfeldt of Consolidated Papers; George Sheets of Mead Corp.; George Spencer of Torrington Co.; R. A. McDowell and R. O. Gee of Reliance Electric; H. Paul Petzold of Oxford Paper; R. G. Spangler of P. H. Glatfelter Co.; and M. J. "Johnnie" Osborne of Bowater. More recently I'm indebted to Thomas W. Busch of Appleton Papers, T. O. Norris of Nekoosa-Edwards Paper Co., S. G. "Woody" Holt of Consolidated Papers, George H. Tomlinson II—1969 TAPPI Gold Medalist, and Jack E. Chinn of Madison Paper Industries.

I am especially indebted to several Association career people at TAPPI: P. E. Nethercut, retired executive director; W. L. Cullison, executive director; Wayne H. Gross, director of international operations and exhibits; and Donald M. Gilmore, director of technical services.

All of these men touched my life and influenced my career in business, or in TAPPI, in some manner or other, whether they realized it or not. A number of them assisted and encouraged me directly, others through their example. I am grateful.

Journal: *What role did your service in TAPPI play in shaping the direction of your career?*

Bender: Initially, TAPPI meetings presented an opportunity for me to become acquainted with an industry that was new to me.

Local section meetings introduced me to people who were interested in improving their knowledge of the industry and in exchanging information pertinent to their positions in local mills. TAPPI presented an opportunity to participate as a local section officer, if one so desired, and to further one's associations with his peers. My term on the Executive Committee of the Lake States Section in 1958-59 was personally rewarding and provided an insight into a professional association where the dissemination of technical information was its primary goal.

In addition to the technical knowledge gained through my membership in TAPPI, I found that personal contacts in the industry were lasting and memorable because TAPPI was our common denominator.

My service in TAPPI and advancement in my business career complemented each other. By this I mean that, as I gained more technical and business knowledge, I gained confidence in taking on new tasks in TAPPI, which, in turn, broadened my competence in business. TAPPI has opened many new doors for me as a businessman and, in retirement, has provided an outlet for energies that needed to be channeled into sources of satisfaction.

Journal: *What recommendations would you have for a young person just beginning a career in the paper industry?*

Bender: Young people just beginning a career in the paper industry should make every effort to continue their search for knowledge of the entire process of papermaking and of its related industries. Joining TAPPI, with its multitude of informational services, is, of course, one way. Additional formal education at one of the several good universities offering a degree in paper technology is another. Combining the two is the ideal course to pursue, but a degree does not guarantee success in any industry. One must apply oneself, have a strong desire to improve oneself, search out both technical and nontechnical knowledge, and utilize that knowledge in one's daily life.

Begin by attending TAPPI local section meetings, take notes during presentation of technical papers, participate, ask questions, join in, volunteer your services on committees and task forces. You will be surprised at how readily you will be rewarded with a feeling of satisfaction and, chances are, your employer will appreciate your desire to learn and will encourage you to make use of your new-found knowledge. There are many national conferences, seminars, short courses, home study courses, etc. that TAPPI sponsors. *Tappi Journal* itself is an excellent source of new technical and practical information. Access TAPPI's Information Center with your computer. Join the 30,000 other women and men who recognize TAPPI as the source of continuing education through the technical information that it makes available. □