

ELMER ISAAC McKESSON, M. D.
ANESTHETIST
•
HIS LIFE AND WORK





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1881-1882

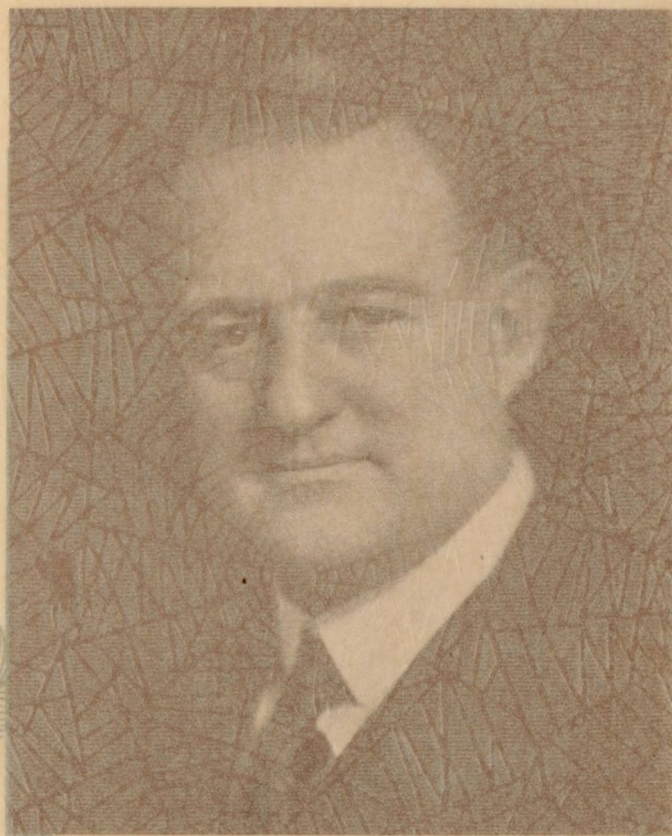


C. S. M. Kesson

1881 — 1935



Memorial Address presented during the Special Fellowship Session of the Fifteenth Annual Congress of Anesthetists, International Anesthesia Research Society in Joint Meeting with the Associated Anesthetists of the United States and Canada, Eastern Society of Anesthetists, Mid-Western Association of Anesthetists and Southern Association of Anesthetists, Clinical Congress of Surgeons Week, Hotel Adelphi, Philadelphia, Pa., October 19-23, 1936.



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LIKE OTHER IMMORTALS, who challenge our admiration for their lives and work, the *good earth* gave us Elmer Isaac McKesson, whom we honor in this Memorial Congress as a beloved physician, world-famous anesthetist, inspired teacher, inventive genius, scientific manufacturer, good citizen and loyal friend.

He was born at Walkerton, Marshall County, Indiana, March 8, 1881, the son of Isaac and Mary Josephine (Heminger) McKesson. His early life gave him those unique influences which so often a rural community seems to bestow. An intimacy with nature revealing the varied mysteries of life that later lured him to research; the necessity for doing anything and everything with the tools and ingenuity at hand that forecast his creative ability and technical skill; the neighborliness of farm and small town life that gave him his sympathy for suffering humanity and the desire to conquer its pain.

He attended the Walkerton High School and the Northern Indiana Normal School at Valparaiso, Indiana, as well as Northwestern University and the University of Chicago. After serving two years as principal of a high school at Walkerton, Indiana, he studied medicine at Rush Medical College, Chicago, where he graduated in 1906, receiving his doctorate in medicine. After serving his internship at the Toledo Hospital, Toledo, Ohio, during 1906 and 1907, he became

Secretary-Treasurer of the Toledo Medical College, as well as associate professor of physiology and physiological chemistry, holding these positions until 1911.

*Early
Influences
and
Education*

He was married June 8, 1907, in Laporte, Indiana, to Martha F. Hillman, by whom he had one son, Elmer Isaac McKesson, Jr., both of whom and two sisters, Mrs. Ilo Butler, of Toledo, Ohio, and Mrs. Ella Butt, of Peru, Indiana, survive him.

*Inventions
and
Manufacturing*

It was while serving his internship that McKesson became intensely interested in gas anesthesia, because of the limited and inadequate equipment then available for safe and dependable pain relief and he decided to use the inventive genius, with which he was so liberally endowed, to remedy this deficiency.

He developed his first gas apparatus for anesthesia in 1910 and in so doing became an integral part of the *gas era*, which has since accomplished so much for industry, agriculture, transportation and humanity. In that same year, realizing the necessity for scientific manufacture, he founded the Toledo Technical Appliance Company to make and market gas apparatus for anesthesia and other equipment for research of his own invention and designing. He remained president of this company and its successor, the McKesson Appliance Company, until his death; and on at least several separate occasions, by using all his accumulated resources to build new plants to produce newer models, he developed his company into one of the largest enterprises of its kind in the world.

Among the more important McKesson inventions are several types of gas-oxygen apparatus for anesthesia and analgesia; electrical pumps for surgical suction and post-operative drainage; vapor machines for ether administrations; the artificial larynx, recording metabolism apparatus; tents and equipment for oxygen therapy; the Nargraf for charting patients during anesthesia; and other accessory devices too numerous to mention.

Today McKesson appliances are in use throughout the civilized world; in the far-flung reaches of the British Empire and its Dominions; in the Continental countries of Europe; in Pan-American countries of South America and in the remotest countries of the Orient; not to forget in his own United States.

*Physician,
Teacher and
Anesthetist*

With his background of earlier education, teaching, general practice and hospital experience, McKesson was well prepared to project himself into anesthesia as a specialty and as a career. Very shortly his ability was

recognized and he became anesthetist at St. Vincent's and Toledo State Hospitals, the Toledo Dental Dispensary, Consulting anesthetist at Flower and Toledo General Hospitals and director of anesthesia at the Lucas County Hospital.

His exhaustive knowledge of the biological sciences dominated both his professional and technical work and enabled him to adapt all his efforts and achievements to the needs of the Fourth or Physiological Era of Anesthesia and Surgery. His skill as a physician and anesthetist, his ability for writing and presenting valuable papers and his capacity for inspired teaching, all combined to extend his reputation as a great authority and leader in the progress of anesthesia.

To meet the demands made upon him he was called upon to speak before many important medical, surgical, dental, anesthesia and other scientific organizations; to give invitation lecture courses in anesthesia and finally to establish a post-graduate school in connection with his own work and laboratory, to which anesthetists from all parts of the world came for instruction and clinical experience. To further take care of his ever-increasing practices, consultation work and teaching; he organized the group of E. I. McKesson, Fred W. Clement and Kenneth C. McCarthy as professional anesthetists and remained the senior member and guiding genius of this group until his untimely passing.

In those, who have achieved unusual success, there is always an abundant measure of personality and character. In his long career it is doubtful if McKesson ever made a real enemy. His disposition was extremely benign and equable. To his intimates he was always congenial; to his associates always considerate, helpful and persuasive; to strangers courteous and agreeable; and in discussion he was invariably fair and open minded and never intolerant. He had the gift of making and keeping friends; of giving all and asking nothing in return; of being true and loyal to the end. He had an abiding faith in his fellow men and a perennial feeling that all was well with the world even in times of stress and difficulty.

There was something throughout his entire life that has been reflected in the sentiment and philosophy of the anonymous poem "Just a Little Bit of Loving."

*Good
Citizen
and Loyal
Friend*

JUST A LITTLE BIT OF LOVING

Put a little bit of loving
Into everything you do;
Let all your words and actions
Come as heart throbs straight from you;
Keep your spirits bubbling over
With the gladness of a song;
Then no task will be too toilsome
And no day will seem too long;
While the world will be attracted
By the job you've found to do
And will see behind your purpose
Only motives sweet and true;
While the passing throngs will linger
For your handclasp and your smile
For there's nothing so appealing
As is friendship without guile.

Just a little bit of loving
And the gladness of your song
With heaps of understanding
For the rest who toil along;
Then the work that you are doing
Pretty near before you know
Will have set the world to talking
And reports that come and go
Will bring echoes of it to you
And you'll see that you have done
More than you have ever dreamed of
When the task was first begun;
And you'll find your bit of loving
And your inspiration's flame
Have come back to you in loving,
And come back to you in fame.

McKesson always took a deep interest in the civic betterment of his community and its business stability and progress as well as in the welfare of his profession and specialty. He believed in and practiced the best possible conditions for expert craftsmanship and technical labor. His civic, business and professional ethics were beyond reproach. McKesson was a member of the Board of Directors of the Ohio Citizens Trust Company, a thirty-second degree Mason and a Shriner. He was a member of Sanford L. Collins Lodge, Ft. Meigs Chapter, Toledo Council and Toledo Commandery of Masons. He took his Scottish Rite Degree in December, 1923. He was also a member of St. Paul's Methodist Episcopal Church and his religion greatly influenced his life and work. His chief relaxation in later years was yachting and he was a member and past-Commodore of the Toledo Yacht Club.

Organization Affiliations and Official Positions

McKesson's early interest in the organization of the specialty of anesthesia is noteworthy. He was a charter member of the New York Society of Anesthetists as well as a charter fellow of the American Association of Anesthetists (now the Associated Anesthetists of the United States and Canada). Originally this Association was conceived as an exclusive body of 100 members but very shortly after its founding, McKesson was among those leaders who won the victory of opening its membership to all those who could meet the essential requirements. The victory was the beginning of a national and then an international viewpoint in organized anesthesia.

He was also a charter member and one of the earlier presidents of the Interstate Association of Anesthetists (now the Mid-Western Association of Anesthetists), as well as one of the founders of the International

Anesthesia Research Society, which he served as president during its first Congress of Anesthetists in 1922. Taking his cue from a suggestion made at this Congress, McKesson persuaded a group of 30 anesthetists from all parts of the United States to spend two weeks in the Pharmacological Laboratories of Prof. D. E. Jackson, of the University of Cincinnati College of Medicine, for a review of current progress in anesthesia, thus helping to initiate the liaison with the basic sciences, their teachers and research workers, which has done so much since for the advancement of anesthesia as a biological science.

McKesson was a member of the Lucas County Medical Society (Toledo Academy of Medicine), the Ohio State Medical Association, a fellow of the American Medical Association and an honorary member of the American Medical Editors' and Authors' Association.

At the annual dinner of the Congress of Anesthetists in Chicago in 1926, McKesson was awarded the Silver Loving Cup of the several associations in appreciative recognition of his achievements in the research, teaching, clinical, technical and hospital service development and literature of anesthesia. It was the honor and privilege of your Secretary General to present the loving cup on that occasion and in so doing he again called upon one of the poets to express the "Strength Invisible" which had sustained McKesson throughout his career.

THE STRENGTH INVISIBLE

Not in thy massive masonry,
However staunch, great pile, it be;
Not in thy stately magnitude,
However fair its symmetry;
No, in far subtler things abide
The sources of thy strength and fame—
Back of thy portals, vaulting, wide,
Ideals are welded with a name.

From east and west, remotest isle,
From whirring loom and craftsman
hands,
Come things of service, science, art—
A wondrous store from many lands;
And all, in blending, glad display,
Within thy doors set forth their claim;
But back of these—in steadfast wills—
Ideals are welded with a name.

Thy walls may totter; gates of steel
To ills of time may fall a prey;
Thy dome of countless rhythmic hues
May fade and crumble to decay;
But thy repute shall changeless stand
Though structure crash, or yield to
flame—
A monument—enduring, sure—
Ideals welded with a name.

It is only natural that the ability and career of McKesson should have resulted in many splendid achievements in anesthesia. Perhaps his greatest accomplishment was his intensive concentration on the scope

*Achievements
in
Anesthesia*

and utility of pure nitrous oxid-oxygen anesthesia and analgesia, which enabled him eventually to bring this method of pain relief to practically ultimate perfection. Curiously enough, Horace Wells in the pioneering days of surgical and dental anesthesia, after using all agents then available, found nitrous oxid most effective and useful.

One thing that largely accounted for McKesson's success along these lines is that his inventive genius, coupled with his knowledge of physical as well as biological sciences, enabled him to keep the development of apparatus for nitrous oxid-oxygen in pace with his perfection of technical administration based on the requirements of clinical experience. As most anesthetists are inventors of sorts they can readily understand the importance of considering the physical factors in gaseous anesthesia.

The capacity of being able to use pure nitrous oxid-oxygen anesthesia and analgesia with complete success in all sorts of operations and in all types of patients was not an overnight achievement, but the result of years upon years of painstaking study, technical advances and clinical observations. Eventually McKesson found it possible to assure the neuro-surgeon against the disturbing factors of both cyanosis and anoxemia for brain surgery and he gave them the advantages of the sitting posture for Gas-serean ganglion operations and cerebellar tumor procedures.

Similarly McKesson showed the possibility of pure nitrous oxid-oxygen anesthesia for nasal and oral surgery in the forward-inclined sitting posture and he succeeded in converting some of the leading nose and throat specialists and anesthetists to this method. He was also an ardent advocate of nitrous oxid-oxygen anesthesia in chest surgery, using either the mask or endotracheal technique with pressure and volume control to stabilize respiratory function and to avoid complicating emergencies. He found this method of especial utility in empyema operations.

One of his most notable achievements was the development of his use of "primary and secondary saturation" as a test for operability, into a technique for providing any desirable degree of relaxation for abdominal surgery. While "saturation" remains a disputed technique, it is to be recalled that McKesson, his associates and many of his followers, have used the method, when indicated, with every reasonable security to patients and to the entire satisfaction of "velvet touch" surgeons. McKesson always maintained that his type of nitrous oxid-oxygen saturation was far less imperiling than the depletion of oxygen needed by other anesthetics in providing satisfactory abdominal relaxation.

Early in his career McKesson realized that the integrity and control of respiratory function had to be positively assured to make anesthesia safe and satisfactory. This conviction made him an ardent disciple of the late Prof. Haldane on "Respiration" and this became his incentive for developing a device and technique for "fractional rebreathing," which provided him with an almost complete manipulative control and flexibility of respiratory function not previously procurable during anesthesia. While McKesson was among the earlier investigators of the "absorption technique" and frankly granted its scope and utility for the more potent gases and liquid anesthetics, he maintained that "fractional rebreathing" was more desirable for pure nitrous oxid-oxygen anesthesia.

Realizing also that the circulatory vital reserve was an essential of life-saving anesthesia, McKesson was among the first to apply the use of the blood pressure apparatus and the visible charting of circulatory depression routinely in his work to anticipate and remedy the occurrence of shock. He established the degrees of circulatory depression and the rule for determining shock, and was one of the Committee on Records which drafted the "safety-first" anesthesia chart of the International Anesthesia Research Society. Understanding also that his charts recorded most valuable lessons, he used them as the background of many important papers and as the basis for teaching, and his accumulated experiences and observations in charting finally culminated in the "Nargraf," a device which finally enabled McKesson to study the results of various anesthetic mixtures, volumes, pressures, rebreathing, oxygen need, carbon dioxide control, as well as reactions of the pulse, respiration and circulation, with far greater fineness than he had ever been able to investigate or record them before.

Not many anesthetists have considered anesthesia as a neuro-muscular phenomenon; but this viewpoint gave McKesson an insight into these reactions, which eventually became his charting of the signs and symptoms of anesthesia. His efforts along these lines, coupled with previous knowledge and the observations of others just as keen as himself, have given us a most vivid, comprehensive and useful diagramming of the stages and planes of anesthesia and the signs and symptoms by means of which they may be clinically recognized.

Knowing also that metabolism was a dominating factor in successful gas-oxygen anesthesia. McKesson clung to those drugs for premedication which were most adaptable for nitrous oxid-oxygen anesthesia, relying

especially on hyoscin and morphin and rather discounting some of the newer agents like the barbiturates and avertin for basal narcosis. McKesson was one of the few anesthetists who appreciated that while excess metabolism had to be reduced to as nearly normal as possible before operation, it was equally advisable to stimulate depressed metabolism with the proper and most effective remedies.

Throughout his career McKesson pursued a most intensive contact with the allied profession of dentistry, and was recognized and held in the deepest affection as one of the greatest experts and teachers in the field of dental anesthesia and analgesia. There is scarcely any detail of nitrous oxid-oxygen anesthesia and analgesia that he did not reveal and develop to practical perfection for the benefit of the dental anesthetists and oral surgeons.

While many methods have been advocated and used for pain relief in normal labor and operative obstetrics, McKesson was always fondest of nitrous oxid-oxygen for this purpose, feeling that it could be used effectively for much longer periods, even in the worst risks and under practically all circumstances and conditions, with the safest and most satisfactory results. Nitrous oxid-oxygen obstetrical pain relief requires far more personal attention from the anesthetist than most other methods, but McKesson was always willing to make this sacrifice of time and service in the greater interests of the child-bearing mother and the unborn baby. Would that all of us could learn to be as considerate and helpful.

This cursory and limited review has only touched upon some of the more important achievements of McKesson in the specialty of his choice; only a really exhaustive resume of all his contributions to the progress of anesthesia and analgesia could do the memory of his life and work the full justice they deserve as an imperishable part of the historical evolution and the world conquest of human pain.

Aside from several brief, if critical, illnesses, McKesson's life was one of otherwise abundant health and ceaseless activity. Even his convalescences and last illness were used for the advancement of the specialty. As a convert to the belief in the hereditary susceptibility to malignancy, McKesson lived the later years of his life under this Damoclean shadow and all too sadly experienced its realization. During his last year some of his intimate friends and associates suspected the worst and McKesson undoubtedly knew himself that he had little longer to live,

although he continued to work as usual and remained his cheerful, indomitable and valiant self. The Boston Congress was one of the very few important anesthesia meetings he was ever unable to attend.

Fortunately his last illness was extremely brief and an internal hemorrhage brought a quick and merciful end, which McKesson accepted with a smile of resignation and words of comfort for those near and dear ones who were caring for him. He died February 22, 1935, deeply mourned by all who knew him. His is a threefold immortality: the eternal reward of a well spent christian life; enshrinement forever in the hearts and memories of those who knew and loved him; an endless rebirth in the heritage which he has left the coming generations of anesthetists. All that remains for us in this memorial tribute is to bestow upon him the benediction of "God's Amen."

GOD'S AMEN!

It cannot be that he has passed into the Land-of-the-Far-Away!
This friend of mine whose hand I clasped—and talked with yesterday!
I see him now, his face aflame, glowing with joy to be again
Able to work and play the game, even as other men.
All he asked was to play his part, to finish the work he craved to do,
Keeping faith with a loyal heart, always staunch and true.
And so he lived. But who can tell how he suffered with courage grim,
Waiting the Call he knew full well was bound to come to him.
Other men would have been dismayed, crushed by the weight of doubt and fear;
But he was a soldier unafraid, even tho' death was near.
Brave and fearless, he did not shirk, but gave himself to his fellowmen,
Asking naught but the boon of work, 'til God should say "Amen".
God's "Amen"! I would ask no more than to know I had as surely won
The right to hear, when my task is o'er, the Master say "Well Done"!

—Edwin K. Lewis, M.D.

318 HOTEL WESTLAKE.

*The
Valiant
End*

THE HISTORY OF THE
CITY OF BOSTON
FROM THE FIRST SETTLEMENT
TO THE PRESENT TIME
IN TWO VOLUMES
BY NATHANIEL BENTLEY
OF THE BARR

VOLUME THE SECOND
CONTAINING THE HISTORY OF THE
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