

## Filling in the Blanks

NONE of us could imagine delivering an inhalational anesthetic in the absence of oxygen. It wasn't always that way. In this issue of ANESTHESIOLOGY, George S. Bause, M.D., presents the unlikely history behind the recognition that specialized equipment is necessary to deliver both oxygen and anesthetics in a controlled manner.<sup>1</sup> This article and its attendant cover image provide a platform for introducing a new feature in ANESTHESIOLOGY (fig. 1).

As a specialty, we are fortunate to have an incredible collection of books, images, and artifacts housed in the Wood Library-Museum in Park Ridge, IL. As a journal, we often have pages that are incompletely filled with print. One plus one now equals a journal feature that has mutual benefit to the two organizations and, more importantly, will enrich the reader's experience in ANESTHESIOLOGY.

My interest in this topic began with the assignment to become editor of the Classic Papers Revisited (CPR) section of ANESTHESIOLOGY. Inaugurated in 2001 by Srinivasa N. Raja, M.D., and Michael M. Todd, M.D., the CPR section is devoted to telling the story behind discoveries that have had a major impact on the practice of anesthesiology. The task of identifying peer-reviewed publications that reported these discoveries and finding the authors who wrote them has been extraordinarily rewarding. Without these insider's perspectives, the story could have been lost on how enflurane, isoflurane, sevoflurane, and desflurane were invented.<sup>2</sup> Also, potentially lost was the story of how a regular anesthesiologist had the extra bit of insight and recognized that the patient he was confronting most likely provided an example of the inheritability of malignant hyperthermia resulting in the referral of the patient to a geneticist.<sup>3</sup> Similarly, how do we know that the  $\mu$ -opioid receptor exists, and how did its discovery lead to the discovery of most of the receptors that we, as

anesthesiologists, exploit pharmacologically on a daily basis?<sup>4</sup> The CPR section offers many examples of how major discoveries and inventions happened and how they have led to major changes in our practice.

As the CPR section has matured, a question was asked. We recognized that historical images associated with the article, while published in the web-based enhancements, did not appear on the printed page of the article, although there was plenty of blank space to fill. Indeed, there are multiple blank spaces throughout the Journal. The idea then arose that images from the Wood Library-Museum could fill these spaces. An even better idea was that of Paul M. Wood Distinguished Librarian Patrick P. Sim, M.L.S., who recommended that the Journal contact George Bause, M.D., honorary curator of the Wood Library-Museum. Many of you know the work of Dr. Bause through his presentation of historical articles and images in the American Society of Anesthesiologists Newsletter. As curator of the Wood Library-Museum, Dr. Bause not only offers images but a professional historical perspective on the context from which those images were derived. Consequently, through collaboration with the WLM and Dr. Bause, the Journal will now offer historical images in blank spaces with a brief but accurate description of their historical significance. The images selected will be diverse, including equipment, pioneers in medicine, landmark publications, and curiosities that arose in the early days of anesthesiology, when regulatory agencies had less to say about how anesthetics might be used (see fig. 1). We hope you enjoy this new feature of the Journal, and we hope that these images will serve to fill in the some of the blank spaces in our collective consciousness of how we evolved as a specialty.

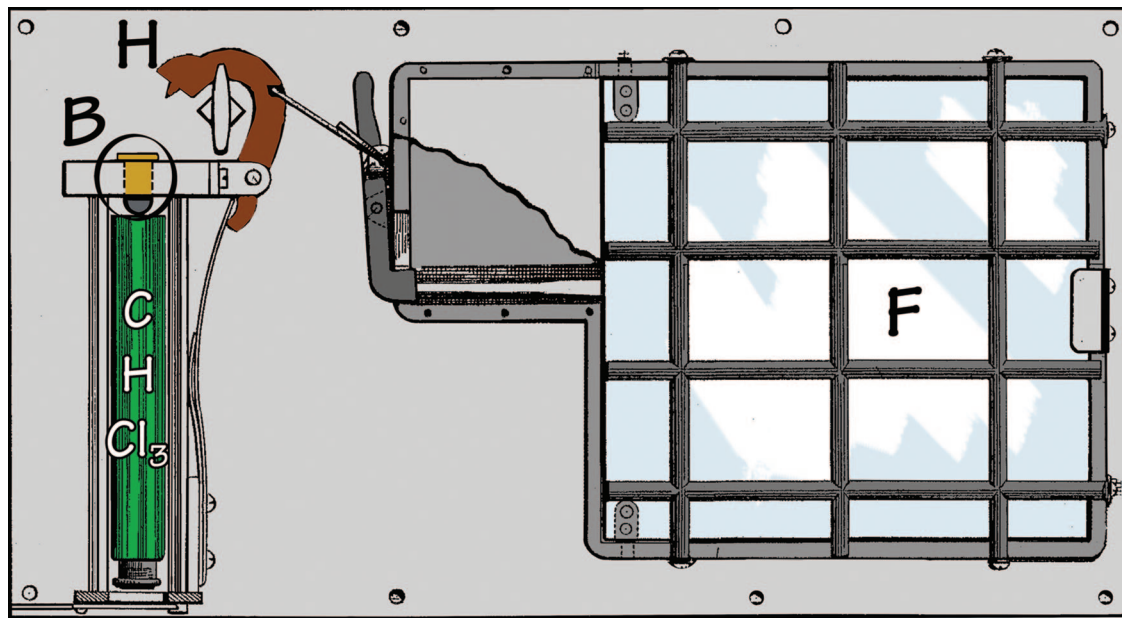
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This Editorial View accompanies the following article: Bause GS: America's first patented series of bubble-through anesthetic vaporizers: Reverend Samuel J. Hayes' sermons against asphyxial anesthesia. ANESTHESIOLOGY 2009; 110:12-21.

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## References

1. Bause GS: America's first patented series of bubble-through anesthetic vaporizers: Reverend Samuel J. Hayes' sermons against asphyxial anesthesia. ANESTHESIOLOGY 2009; 110:12-21
2. Terrell RC: The invention and development of enflurane, isoflurane, sevoflurane, and desflurane. ANESTHESIOLOGY 2008; 108:531-3
3. Denborough MA: Malignant hyperthermia. 1962. ANESTHESIOLOGY 2008; 108:156-7
4. Snyder SH: Opiate receptor revisited. ANESTHESIOLOGY 2007; 107:659-61



H = Hammer  
B = Bullet

$\text{CHCl}_3$  = Chloroform  
F = Fan Blade

Fig. 1. Chloroforming or etherizing safecrackers. While working in antebellum Baltimore, German merchant Abraham Oberndorf, Jr., received US patents for his toy, umbrella, and ladder designs. Naturalized as a citizen by the Confederacy at the outbreak of the Civil War, he served as a Private in Company H of the 10th Alabama Infantry. After the war, he worked in Kansas as a farmer and then a banker. In the latter capacity, he filed two patents for safeguarding bank vaults from thieves. On June 23, 1896, Oberndorf received US Patent No. 562,767 for his Safe Attachment. Hung inside “any safe or vault,” this invention uses a fan-blade to sense the concussion of a safecracker’s explosive. The triggered release of a spring-loaded hammer then strikes a bullet cartridge, the explosion of which shatters a glass bottle of a “stifling and poisonous gas” . . . “like chloroform or ether . . .” Any thief who persisted would suffer “death or insensibility.” —George S. Bause, M.D., M.P.H., Honorary Curator, ASA’s Wood Library-Museum of Anesthesiology; Clinical Associate Professor, Case Western Reserve University.