

The background of the cover is a photograph of an organ console. The console has a top surface with a red and grey checkered pattern. The front panels are decorated with gold leaf designs, including stylized floral and foliate motifs. The organ keys are visible in the foreground, with black and white keys and gold-colored decorative elements on the white keys.

Organ Restoration Reconsidered

Proceedings of a Colloquium

Edited by John R. Watson

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An Organized Piano by Alpheus Babcock

DARCY KURONEN

As the piano became increasingly popular in the late eighteenth century, several instrument makers constructed examples that were combined with a pipe organ, especially in England.¹ London music dealers Longman and Broderip often listed so-called organized pianos among their stock, and in 1798 John Geib claimed to have constructed about four hundred examples himself.² Even in America a few keyboard instrument makers produced organized pianos, but only a handful of examples are known to survive.³ Interest in combined instruments seems to have been short-lived, though, as their manufacture dropped off considerably, beginning in the early nineteenth century.

As to exactly how organized pianos were used musically we are mostly left to guess. Various eighteenth-century sources praise both harpsichords and pianos combined with an organ for their novel tonal combinations. However, contemporary reports also indicate the difficulty of maintaining such an instrument and keeping the two components in tune with each other, in some cases leading to the permanent separation of the two parts.⁴ The organ disposition of many surviving organized pianos, such as those by Longman and Broderip, is limited to a single eight-foot stop. Also, nearly all the known instruments are constructed

Some of the material contained here was originally presented at the First Annual Symposium of the Westfield Center in Northampton, Massachusetts, October 1994.

¹ See *The New Grove Dictionary of Musical Instruments*, s.v. "Claviorgan" by Peter Williams (London and New York: Macmillan, 1984); Wilson Barry, "Preliminary Guidelines for a Classification of Claviorgana," *Organ Yearbook* 15 (1984): 98-107; and F. J. De Hen and Arthur W. J. G. Ord-Hume, "Combination Pianos," in *Encyclopedia of Keyboard Instruments: 1, The Piano*, ed. Robert Palmieri (New York: Garland Publishing, Inc., 1994).

² See an advertisement of 1800 quoted in Rita Susswein Gottesman, *The Arts and Crafts in New York 1726-1804* (New York: New York Historical Society, 1938-1965), 328-29.

³ During the 1850s, Timothy Gilbert's piano manufactory in Boston produced numerous square pianos that contained a so-called Æolian attachment, which was a single rank of free reeds and bellows. However, these instruments were technically much simpler than earlier pianos combined with actual organ pipes. See John Koster, *Keyboard Musical Instruments in the Museum of Fine Arts Boston* (Boston: Museum of Fine Arts, 1994), 293-99.

⁴ See *The New Grove Dictionary of Music and Musicians*, s.v. "Claviorgan" by Peter Williams, 2d ed. (London: Macmillan, 2001).

using square pianos rather than grands, suggesting that their musical applications were not overly serious. Regardless of whether instruments like these were in demand among musicians, craftsmen and inventors will often combine two mechanical devices simply for the challenge of doing so.

The Babcock instrument at the Museum of Fine Arts (MFA) in Boston (fig. 13.1) is comprised of a rectangular organ case with a square piano resting on top that can be tilted back on two massive hinges to allow access to the pipes and bellows below (fig. 13.2). By itself, the piano portion is highly significant, since it incorporates one of the earliest known examples of a one-piece cast-iron frame, an idea that Babcock himself was the first to patent in Boston on 17 December 1825. Until the discovery of this organized piano, the only other known Babcock piano with such an iron frame was one at the Smithsonian Institution, the nameboard of which indicates that it was made by Babcock in Philadelphia, during his employment with William Swift between 1833 and 1837. A third surviving Babcock square piano with an iron frame (privately owned in Rhode Island) was discovered in 1998. Like the MFA's organized piano, it predates the Smithsonian instrument.



FIG. 13.1. *Organized piano made by Alpheus Babcock, Boston, about 1829*

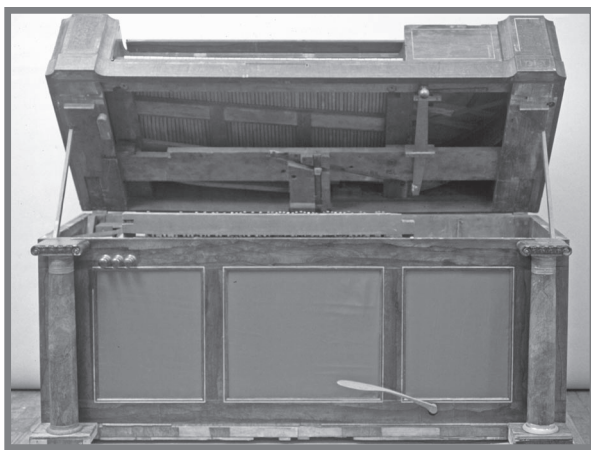


FIG. 13.2. *Piano portion of instrument tilted back for access to organ pipes and bellows*

The existing patent drawing of Babcock's iron frame was reconstructed in the late 1830s, since the original from 1825 (along with all other early American patents) was destroyed by fire in 1836 (fig. 13.3). The frame depicted in this drawing bears some resemblance to that in the Smithsonian piano, but is unlike those in either of the earlier Boston-made instruments. The most noticeable difference is in the portion called the hitch-pin plate, which in the Boston instruments curves away from the right end of the case. As in other American and English pianos made before about 1830 that use a separate hitch-pin plate of metal or wood, there is a wide area the strings must span between the bridge and the plate (fig. 13.4). In Babcock's patent drawing and the Smithsonian piano,

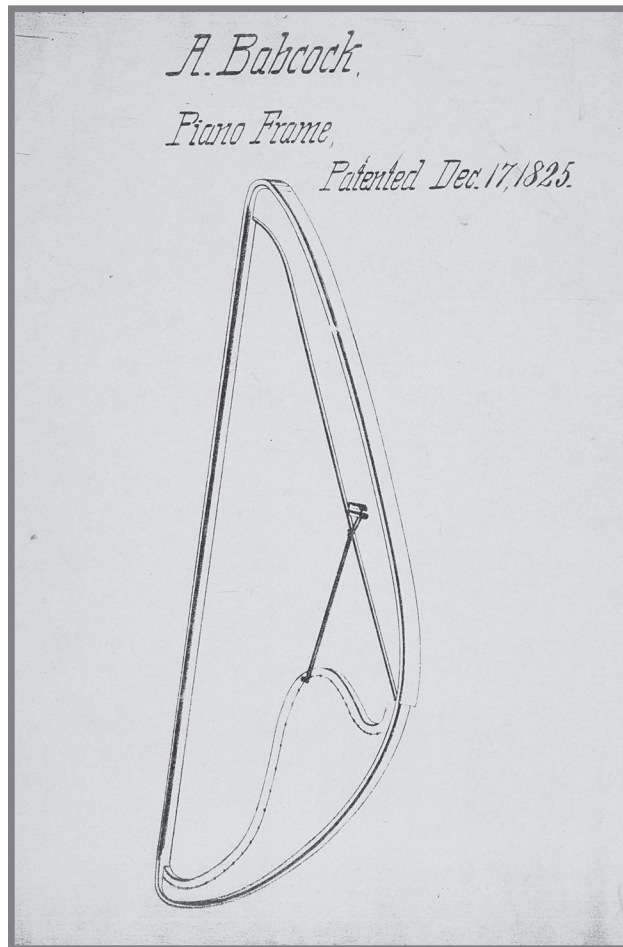


FIG. 13.3. Patent drawing by Alpheus Babcock for a one-piece cast-iron frame for pianos



FIG. 13.4. Plan view of instrument showing layout of cast-iron frame

the hitch-pin plate closely follows the contours of the bridge, thereby eliminating most of this so-called after-length of the string. James Shudi Broadwood patented an iron hitch-pin plate of this same design (but not incorporated into a full iron frame) in London on 9 April 1827 (British patent no. 5485). Similar plates began to appear in American pianos soon after. One of Broadwood's specific reasons behind this style of plate was to eliminate string after-length. A long after-length usually produces a ringing sound from the strings, typically eliminated by weaving a thin strip of wool "listing cloth" through the strings in this area. Many Babcock pianos from the 1820s (including the organized piano and the Rhode Island instrument) employ a pedal to lift a cloth-padded bar from the string after-lengths to allow them to ring intentionally. William Frederick Collard patented such a device as the "harmonic swell" on 8 March 1821 (British patent no. 4542). Among American piano builders only Babcock and his Boston competitor Jonas Chickering are known to have used it (Chickering only rarely), and practical experience suggests that it is not very useful musically.

In summary, the form of the hitch-pin plates in the MFA and Rhode Island instruments strongly suggests that their iron frames represent an earlier design by Babcock than that used in the Smithsonian piano. Lacking the original patent drawing, it cannot be known if it, too, illustrated a different shape than the reconstructed one. Whatever the case, Babcock must have had confidence in his iron frame design, since in all three of the pianos that have it the thickness of the rear case wall of wood is reduced to about fifteen millimeters. This is about one-third the thickness of the walls in his instruments without iron frames, where the strength of the back is vital in resisting string tension. Wood-framed pianos must also have a strong, thick bottom to maintain a rigid structure, but the piano case of the organized piano has no bottom at all. This might have been to save weight, but may also be a further indication of Babcock's faith in iron.

There are a number of factors indicating that the Babcock organized piano was made in late 1828 or 1829. First, the piano's wood hammer heads have small pieces of lead set into their tops, a design patented on 14 August 1828 by John Mackay, Babcock's apparent financial backer at the time. The purpose seems to have been to create a slightly firmer and heavier foundation for the surrounding leather coverings. Also of interest, though less critical to the instrument's dating, is the presence of back-checks for the hammers, a very uncommon feature in Babcock pianos, but one regularly employed by Chickering and his teacher, John Osborne. The instrument's serial number (570) is the highest known of any Boston-made piano by Babcock.⁵ (In one area the serial number has a five stamped over a four, but other parts of the instrument are clearly marked with a five only.) The piano also shares two features found in other Babcock instruments with high serial numbers (i.e., those numbered above about 349): a full six-octave compass from FF to f4 and the presence of Babcock's name alone on the nameboard without the inclusion of any of his financial

⁵ John Koster first proposed that serial numbers used by Babcock during his Boston period are cumulative. See Koster, *Keyboard Musical Instruments*, pp. 248 and 250, n. 16. Unpublished research by the present author has substantially corroborated this theory.

backers (such as members of the Mackay family). Taken together, these facts suggest that the organized piano was one of the very last instruments made by Babcock in Boston before leaving for Philadelphia, where he is said to have arrived by the latter part of 1829.

Circumstantial evidence about the organ portion of the instrument also implies that it was made in the very late 1820s. An 1834 biography of Boston organ builder William Goodrich cites five specific instances during his career when he “organized” a piano.⁶ The last of these instruments was made in 1828 or 1829 for a Boston client named Caleb Eddy, using a Babcock piano in particular. Given the rarity of organized pianos, the example at the MFA could very well have been Mr. Eddy’s, and the organ part therefore made by Goodrich (fig. 13.5).

Preliminary investigation about Caleb Eddy has proven interesting in relation to this organized piano. Boston directories initially show him as a ship chandler, but beginning in 1825 he is listed as a canal agent, and for the next twenty years he served as superintendent



FIG. 13.5. *Interior view of organ pipes*

⁶ See “Biographical Memoir of William A. Goodrich,” *New England Magazine* (January 1834), 28, 32-33.

of the Middlesex Canal, an important transit system connecting Boston with Lowell, Massachusetts. With such a job, Eddy certainly possessed the financial means to commission an instrument as complex as an organized piano. Perhaps more interesting, though, is that Eddy was one of two witnesses who signed the 1840 patent for Jonas Chickering's one-piece cast-iron frame for square pianos, which incorporated certain improvements on Babcock's design. This may only be coincidence, but it would be interesting to know if Eddy was otherwise involved in Boston's musical instrument industry. Of related interest is that Eddy's son Robert, a civil engineer and "solicitor of patents," was a signed witness on two other Boston piano patents, one by Babcock in 1839 for an improved piano action and another in 1843 for Chickering's cast-iron frame for grand pianos.

From the beginning of the nineteenth century, William Goodrich was connected with many of Boston's other builders of keyboard instruments. In 1804 he briefly formed a partnership with Benjamin Crehore, Babcock's teacher, explicitly for the purpose of constructing organized pianos. Goodrich was also no stranger to Babcock, having worked with him and several other instrument makers at Boston's Franklin Music Manufactory between about 1815 and 1820. Barbara Owen, an expert on New England organs, briefly examined the Babcock organized piano in 1993 and concluded that the construction style of the pipes is within the workshop tradition of William Goodrich. However, she also stressed that this tradition must necessarily include William's younger brother, Ebenezer, and his brother-in-law, Thomas Appleton, both of whom learned their craft from the elder Goodrich. Although attribution of the instrument's organ works to William Goodrich may never be conclusive, there is no doubt that he is the likeliest candidate given his documented interest in organized pianos.

The Babcock/Goodrich instrument has three registers of organ pipes, the unlabeled stop knobs for which are situated beneath the keyboard at the bass end. The first is an eight-foot Stopped Diapason encompassing five-and-one-half octaves from C to f^4 (fig. 13.6). Most of its pipes are constructed of mahogany, but the lowest octave and a third are of pine. A second eight-foot register is comprised of open pipes made of red pine and cherry with lead tuning shades, running four octaves from f to the top f^4 of the keyboard (fig. 13.7). Of particular interest is that the lips in this register are cut on the inside of the pipe bodies, rather than on the outside, and the cut-ups are very low, resulting in quite soft voicing. No exact name can be determined for this register. But there are other early New England organs in which a labeled stop knob is still present for a register of pipes that was removed during later rebuilding. As some of these stop names are rather unusual, one of them may be the term that was used to denote the middle register of the MFA instrument. All the wood pipes of the two eight-foot registers survive intact, but a four-foot Dulciana register of open lead pipes is represented by only twenty-two surviving pipes of the original forty-nine, the compass being four octaves from f to f^4 (fig. 13.8). It appears that the missing pipes were removed randomly (perhaps by children who used them for whistles) during a period when the instrument was in storage.

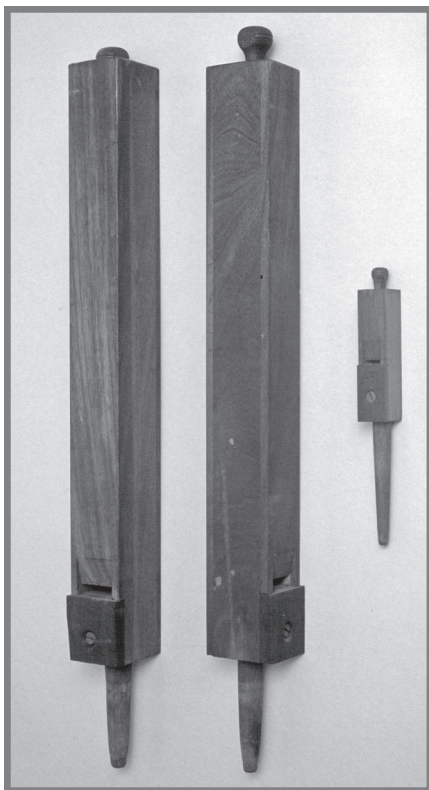


FIG. 13.6. *Eight-foot Stopped Diapason pipes*

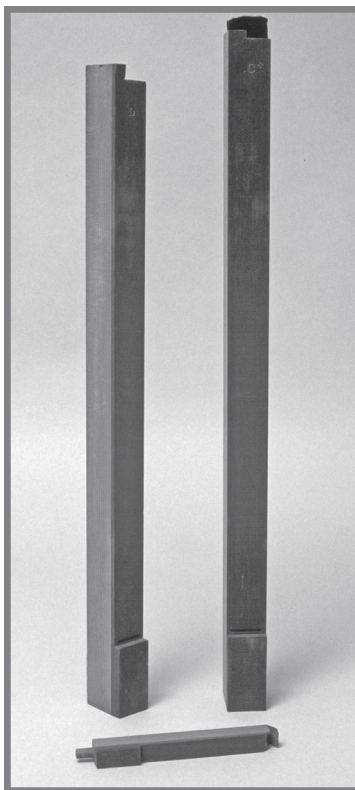


FIG. 13.7. *Pipes from unlabeled eight-foot register*

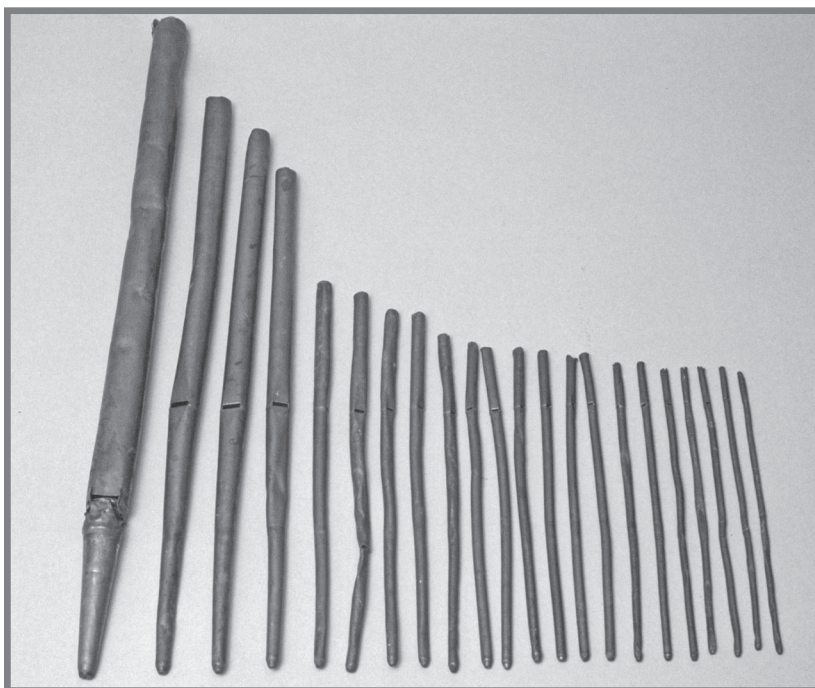


FIG. 13.8. *Four-foot Dulciana pipes*

There is a single-feed bellows at the right end of the organ case, which is of a type used in small organs to maximize efficiency by pumping air both when the pedal is depressed and released (fig. 13.9). A surviving iron pedal can be operated by the player when positioned at the front of the case, or it can be moved to the right end of the case for assisted pumping (fig. 13.10).

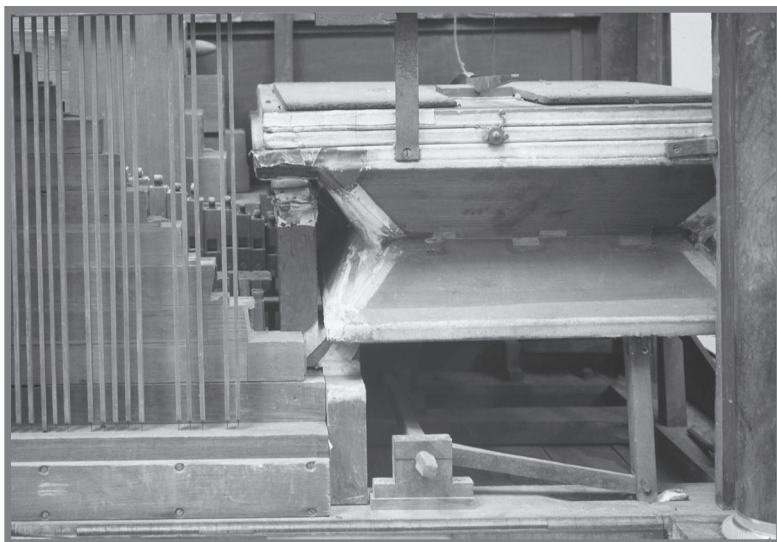


FIG. 13.9. *Bellows as seen
from front of case*



FIG. 13.10. *Bellows as seen
from right end of case*

Below the keyboard at the treble end is a long wood lever that allows the player to disengage the piano action so that only the organ plays. This is accomplished by forcing a rail to lift up the underhammers of the instrument's English double action. Likewise, a knob at the bass end of the keyboard disengages the organ action to allow only the piano to be played. By moving this knob, a rail containing leather-hinged stickers is pushed out of alignment with pads on the underside of the key levers, thus stopping transmission of motion to the stickers (fig. 13.11).



FIG. 13.11. *Wood stickers along front edge of case*

The case decoration is in Empire style, and is relatively ornate compared with much of Boston's conservative furniture of the time. Highly figured rosewood veneer is accented by foliate brass inlay on the nameboard and projecting front corners, and straight brass stringing on virtually every other surface, including the back of the case. Supporting the front corners are columnar legs with carved capitals and imported gilt-bronze mounts. The openings in the frame of the organ case were originally filled with panels of pleated silk cloth, including one in a radial pattern at the center. Such a lavish case befits the elaborate mechanisms housed inside, and would have helped reflect the owner's status.

There is evidence that the instrument was kept at least somewhat operable in the latter part of the nineteenth century. A stamp found in three places on the iron frame and casework bears the name of H. W. Berry, a piano dealer first active in Boston in the 1870s. Berry might have re-sold the instrument and/or had some minor work done to it, although there is no indication that a thorough overhaul was undertaken.

It has proven difficult to reconstruct the ownership history for this organized piano. The MFA acquired the instrument from an individual in Rochester, New York, who had discovered it in about 1989 in the town of Bethlehem in northern New Hampshire. It belonged to an antique dealer who often sold old pianos, and was considering converting

the instrument into a player organ. Thankfully, the purchaser from Rochester saw the wisdom of not undertaking such drastic measures to make it operable. Regrettably, though, the Bethlehem dealer passed away shortly before the MFA was able to contact him, and his widow was reluctant to discuss the past. Consequently, it is not known how and when the instrument came to rest in New Hampshire. It can be conjectured, however, that the instrument spent a considerable period of time in a barn or other outbuilding. The casework is quite dirty inside and out, the shellac finish has suffered considerable deterioration, and there are numerous losses of rosewood veneer and decorative brass stringing, especially along the lower portion of the organ case. Most telling of the instrument's past storage conditions was ample evidence of rodent infestation, including nests, droppings, and chewed-up corncobs. Gratefully, the damage inflicted by the rodents was minimal, consisting of some gnawing on a few pipes and other less essential wood parts.

The relative rarity and significance of this instrument mandate caution when considering what steps, if any, should be undertaken for its restoration. Since acquiring it, the MFA has been faced with concerns about how best to share it with the public. Although the instrument is clearly of great historical importance, the poor condition of its casework would belie this significance to all but the most informed museum visitor, were it on public view. The MFA makes a regular practice of restoring its musical instruments cosmetically—i.e., they are conservatively returned to a state where they may be appreciated visually. Exterior surfaces are cleaned, missing material is often replaced, and ephemeral components such as strings, reeds, and mouthpieces are put on to give the instruments a complete appearance. From the outset, this has been the intended approach for the organized piano as well.

Regarding the deteriorated state of the casework, advice has been sought from a respected furniture conservation firm in the Boston area, which supplied an estimate of the amount and type of work needed to make the instrument presentable. Particular features of rosewood cause difficulties in retaining shellac coatings, so there are considerable areas of the case where the finish is virtually gone. Although due efforts will be made to retain as much of the original finish as possible, it is clear that new shellac will need to be added in several locations to present a cohesive appearance. A thorough cosmetic restoration raises only moderate concerns, since there is little danger of losing vital information about the instrument's construction, and numerous other examples of Boston-made furniture survive from the period with original finishes.

Undertaking restoration of the organized piano's musical mechanisms would present many more complications. Both pianos and organs contain a multitude of moving parts, which often include materials that are quite susceptible to deterioration, such as leather and cloth. Even the structure of wood and iron can break down rather rapidly if not cared for properly. With many mechanical objects, it is often unrealistic to expect them to function as originally intended without the wholesale replacement of components that are worn out. Materials removed can be saved for future examination, but they can never again be studied in quite the same way as when they were attached to the main object. There

is also a real danger, even in a museum setting, of removed materials becoming separated from their original source, and then becoming lost or discarded. If all historical pianos and organs have their worn-out materials systematically replaced, there will soon be no instruments from which to draw accurate conclusions about past construction methods. Although it may be unrealistic to advocate that all antique keyboard instruments be preserved in whatever state their caretakers discover them, it seems prudent to carefully conserve the information contained in particularly rare and significant examples.

The Babcock/Goodrich instrument is an interesting instance of an early New England organ that has avoided receiving major alteration in the past one hundred and seventy years, and which therefore may survive into the coming centuries as a relatively pure example of such work. Probably the instrument's greatest safeguard is that it has become part of a museum collection, and will therefore be subjected not only to favorable storage conditions, but also objective and informed reasoning about what measures should be taken with its restoration and preservation. One of the particular reasons this organized piano has come to rest in a museum is its small size, since few such institutions are equipped to display or store even modest-sized church organs, which are often quite tall. Since it is a chamber organ, the Babcock/Goodrich instrument was probably never owned by a church, so it escaped an economic need to be updated and kept in continuous operation. Also, unlike many large organs that were essentially "built in" to a church, it avoided destruction to make way for an entirely new instrument.

The instrument's peculiarity may further serve to save it from overzealous restoration, since it would be less compelling to restore the organ component to playing condition if the piano portion cannot also be made operable. Since features in both parts of the instrument are almost equally rare and important, their inseparable presence in one unit should provide twice as much incentive to proceed cautiously. Although an organized piano is a relatively complex piece of musical machinery, it would be within economic reason to consider constructing an accurate reproduction of this instrument, provided there is a strong enough desire to experience its musical capabilities.

In conclusion, the Babcock/Goodrich organized piano at the Museum of Fine Arts, Boston, is a virtually unique instrument, which historians should be grateful has survived to present times in such an intact state. It is equally fortuitous that it has come to rest in a major cultural institution, where it can be preserved, interpreted, and hopefully displayed to the public someday soon. This fascinating instrument has much to tell us about the state of piano and organ building in New England at a time when those crafts had reached the first stages of maturity in America.