### The Era of the Woodruff File

By VICTOR GONDOS, JR.1

National Archives

IN THE sweep of American history the Civil War is sometimes referred to as the Second American Revolution, as it is recognized to have had a profound effect on American society. In commerce, in industry, in railroad building, as well as in the Federal Government, all sights were raised from a local and sectional to a continental range. Indeed, the Government was by no means lagging in the race for size. It is seldom realized that although the 1860 population of the United States, at 30,000,000, was some 6 times larger than that of 1800, the 1860 roll of Federal employees, at 50,000, was over 16 times larger than the personnel of 3,000 on the rolls at the end of John Adams' administration. Yet, oddly enough, although in magnitude the change was great, the functions and the organization of Government remained much the same.

This lack of basic change prevailed also in record making and keeping. Outgoing letters still continued to be copied in letter books, and incoming communications still continued to be bundled, tied, or strapped and put on shelves or in pigeonholes or wooden storage boxes. Filing equipment and materials to be filed interact on each other. As long as the "Book Period" lasted — and it did last for most of the nineteenth century — enterprising men tended to confine their inventive efforts only to devices that would facilitate the filing of folded documents.

This trend is underscored by the significant rise in the number of patentable filing devices during the war and reconstruction decade of 1860-70. Although only a score of such patents were issued in the entire generation before Fort Sumter, 1830-60, almost as many, some 15, were issued in the years 1860-65, and there was an explosive rise to 50 in the last half of the decade, 1865-70. Naturally, a device might be patentable without being marketable. Some of the patents of this decade that conceivably had some significance

<sup>&</sup>lt;sup>1</sup> This article is part of a longer study on the historical development of filing equipment from the beginning of the Federal Government through the early decades of the twentieth century, presented on April 20, 1956, at a session of the National Archives seminar on record keeping practices. The author is chairman of the Society's Committee on Archival Buildings.

<sup>&</sup>lt;sup>2</sup> Index of Patents for Inventions, 1790-1873, comp. under M. D. Leggett, Commissioner of Patents (Washington, 1874).

because of actual use, however, or that were cited in litigation as basic to some other device that may have been used are those of G. W. Martin and William L. Woods, issued in 1861 and 1863 respectively; and of W. Burnet, T. K. Sterrett & W. R. Farrell, and E. J. Smith & Benjamin Cheever, issued in 1865, 1866, and 1868, respectively. But none of these devices remotely approached the impact of one that also saw the light of day in 1868, the Woodruff file holder.

As previously indicated, the inventors of this period sought devices to hold documents securely yet permit easy access. A number of inventions accomplished these objectives, but without the requisite simplicity and acceptable cost. The reason for this search by the public and the Government is well illustrated in a Senate report made during the Cockrell Committee investigation in the late 1880's. Referring to the handling of records in the Archives Division of the Treasury Department, the report states:

Prior to 1865 the files of settled accounts were arranged in bundles of convenient size and secured by cord. In 1865 leather straps were substituted for cord at considerable cost. Both the cord and the strap systems were open to serious objections. The unloosing and refastening of the bundles occupied too much time. When carelessly refastened the bundles fell apart the next time they were handled, and the lower part of the papers, being in contact with the shelves, soon became abraded by being pulled out and pushed back. To overcome these objections file-boxes were procured, and all the money accounts . . . from 1817 to the present date are neatly and securely filed.<sup>3</sup>

Many if not all of these "file-boxes," yes, thousands of them, were Woodruff file holders.

To staff members of the National Archives the name Woodruff has been written on the archival heart by the myriads of units, filled with nineteenth-century documents, which began to fill the shelves of the National Archives Building from the day of its opening. Yet, oddly enough, there appears to be a complete dearth of published literature relating either to this type of filing equipment or to its manufacturer. His name is known to have been confused with that of Theodore Woodruff, who is listed in the Dictionary of American Biography and Appleton's Cyclopedia as the inventor of a sleeping car; but actually the name of Edmund Whiting Woodruff is not listed in any of the standard lexicons, nor in the card catalogs of the Library of Congress, the National Archives, or the Patent Office. Basic source materials on Woodruff and his file holder exist, however, in the patent records, in William Boyd's Directory of Wash-

<sup>3 50</sup>th Cong., 1st sess., S. Rept. 507, part 2, p. 254-255.

ington, D. C., in military pension files, and in legal papers such as probated wills and court cases.

The Woodruff era began when, on March 31, 1868, Edmund W. Woodruff and George C. Green were granted Patent No. 76,287, which quickly became known and was marketed for a generation as the Woodruff file holder. The Woodruff and Green patent did not sail unobstructed through the channels of the examination system of the United States Patent Office. The patent was applied for on January 3, 1868; and in the following month, on February 27, Examiner D. L. Stewart declared an interference with the invention of Eldridge J. Smith and Benjamin H. Cheever, also of Washington, D. C. It was likewise alleged that a part of the device was anticipated in a patent issued to G. W. Palmer on March 27, 1855, in the matter of "sideboards acting as braces to the headpiece." 4 After reconsidering the two 1868 applications the examiner dissolved the interference a few weeks later, March 19, and each of the contending parties was granted letters patent: Woodruff and Green receiving theirs as of March 31, and Smith and Cheever as of April 14, 1868.5

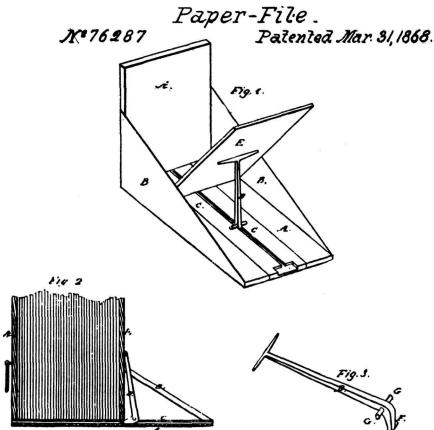
Archivists generally are familiar with the appearance and operation of the Woodruff file holder. It is a triangular shaped document box with the hypotenuse-side open to receive the triple-folded documents, with or without jackets; at the rear of the open side is a movable board attached to an iron clamp which has a lug inserted in a metal channel in the center of the baseboard, much as an electrical connection is made to the third rail of a streetcar track. Its operation is the acme of simplicity; there are no springs or coils or complicated parts to get out of order or to increase the cost. The rear clamping board exerts quite an even pressure on the vertically filed documents, accommodating itself to the documents because it is free of the baseboard.

The file holders were usually made of walnut and poplar, but mahogany, butternut, oak, ash, and cherry were also used, as preferred by the buyer. All operating parts such as the clamp, clamp lever, lugs, and baseboard channel were made of iron. The front of the box had a ring pull, and card receivers were attached to the front for labels, if so ordered. The holders were made of any desired size. In the War Records stacks of the National Archives

<sup>&</sup>lt;sup>4</sup> U. S. Patent No. 76,287, issued to E. W. Woodruff and George C. Green, Mar. 31, 1868; in Record Group 241, Records of the Patent Office, National Archives; hereafter RG 241, NA.

<sup>&</sup>lt;sup>5</sup> U. S. Patent No. 76,834, issued to E. J. Smith and B. H. Cheever, Apr. 14, 1868; RG 241, NA.

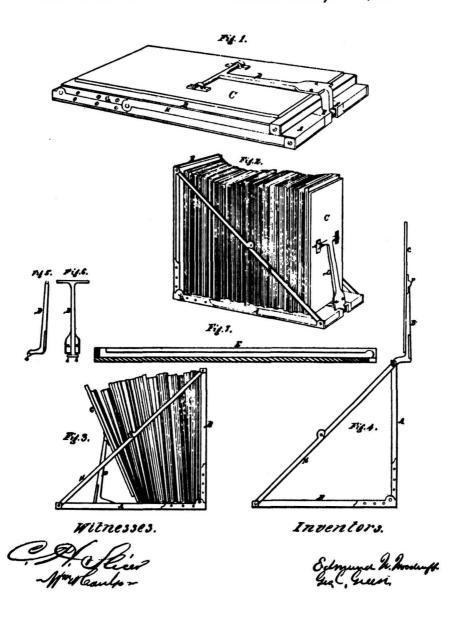
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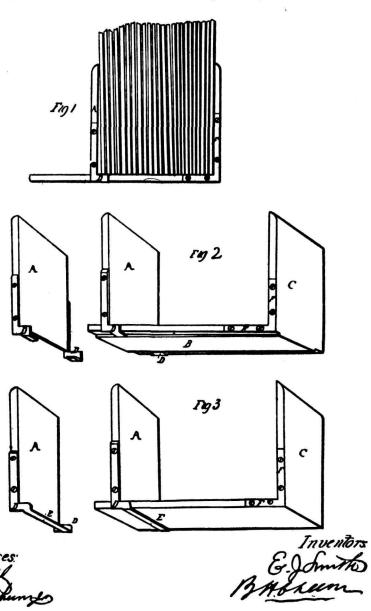
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E.J. Smith & B.H.Cheever: Bill & Paper File JV? 76,834. Patented Apr. 14, 1868.



there are some large specimens for filing unfolded flat letters. Generally, however, the nineteenth-century document size was the rule, which would approximate a 4-inch width, a 10-inch height, and a 12-inch depth. The file holders were sold singly or in cases of various capacity, such as cases with a half dozen, one dozen, or two dozen file holders, some with cornice and base, some without. Complete cabinets and stacks containing file holders were made to order.<sup>6</sup>

Price lists and commercial quotations are not now available, but it is possible to approximate the unit costs. Various congressional documents refer to expenditures for filing equipment and supplies. An 1875 reference is to the purchase of 475 "file boxes, Wood's patent," for \$475. Several years later, in 1878, "I Woodruff file" was purchased for \$1. Other references to Woodruff purchases in 1883 and 1884 are at the rate of 75c apiece. Depending on the number of orders, the kind of material, and the finish wanted, the price probably ranged from 75c to \$1.25 per file holder. Cabinet work and other special units were, of course, subject to individual estimates.

The file holder of Smith and Cheever, attributed to Eldridge J. Smith as inventor, "comprised a front and baseboard rigidly secured to and at right angles with each other, and a movable clamping board which at its lower end was rigidly secured to clamping lugs." The clamping lugs, in turn, "passed over the edges of the base board, at each side and were united by a piece of metal underneath the baseboard so that the clamp entirely encircled and enclosed said baseboard." The holder had no sides, as these would have interferred with the free movement of the follow or clamp board. In the words of one witness, "As a mechanical device, it only differed in dimensions of its parts from some familiar devices of much older date, such as the shoemakers measure . . . but it required more differences to adapt the shoemakers measure to the use of the file

<sup>&</sup>lt;sup>6</sup> Catalog pamphlet, Woodruff's File-Holder (Washington, D. C., ca. 1882), p. 15; Exhibit J. O. C., No. 4, in District of Columbia Supreme Court Equity Case No. 8265; in Record Group 21, Records of District Courts of the United States, in the National Archives; hereafter, Equity No. 8265, RG 21, NA.

<sup>&</sup>lt;sup>7</sup> See respectively: 44th Cong., 1st sess., H. Misc. Doc. 3, Dec. 6, 1875; 45th Cong., 3d sess., H. Misc. Doc. 9, Dec. 20, 1878; 48th Cong., 2d sess., H. Misc. Doc. 5, Dec. 2, 1884.

<sup>8</sup> Purchase prices for cabinets, though not necessarily Woodruff cabinets, observed in a scattering of House Miscellaneous Documents, ranged approximately from \$150 to \$200.

<sup>9</sup> Affidavit of R. D. O. Smith, patent attorney, Aug. 29, 1882; in Equity No. 8265, RG 21, NA.

holder." 10 An important difference between the contending inventions concerned the nature of the clamping board.

In the Woodruff device the clamping board was separate from, although attached to, the clamping lever; thus it could conform to the paper surface and its variations so that clamping pressure was distributed with a reasonable degree of uniformity. In the Smith device the clamping board had very little "play," as it remained rigidly vertical. Another mechanically practical difference was that the Woodruff clamp lever moved entirely inside the baseboard, so that the file holder could have protecting sides, and the under side of the baseboard was free of any encumbering metal. The Smith clamp projected over the baseboard edges and also on the under side of the baseboard.

Although the two devices do have points of similarity and although others before and after the first Woodruff patent also used some form of a follower board, the test of time and of the market place unquestionably gave preeminence to the Woodruff file holder. But in the early days of the file holders, Smith and Cheever, it appears, were highly dissatisfied with the outcome of the first interference case; they pressed for and obtained the declaration of another in May 1868. This was fought through before the examiner, and again the decision was in favor of Woodruff and Green. The interference was once more dissolved on July 21, 1868, thus giving a clear title to both parties to proceed with the marketing of their appliances to the best of their respective abilities.<sup>11</sup>

Woodruff purchased Green's interest in the patent in 1871,12 and thereafter devoted himself entirely to the promotion and manufacture of the file holder. But Eldridge Smith remained unreconciled to his previous defeats in the Patent Office. He acquired a new partner, Gilbert B. Towles, apparently to help finance further action, and several years later, on June 8, 1872, his attorney filed motion for injunction in the District of Columbia Supreme Court.

The case was strongly contested by both parties.

The taking of affidavits and testimony, hearings, appeals, and the arguments of counsel dragged on for 2 years, until the final decree of the court, on June 6, 1874, dismissed the bill for an injunction and required each party to pay the respective costs.<sup>13</sup> In this case

<sup>10</sup> Ibid.

<sup>11</sup> U. S. Patent No. 76,287, RG 241, NA.

<sup>12</sup> Affidavit of E. W. Woodruff, Aug. 30, 1882; in Equity No. 8265, RG 21, NA.

<sup>18</sup> Supreme Court of the District of Columbia, Equity No. 2795, Docket 11, Liber 11, p. 495; in Record Group 21, Records of the District Courts of the United States, in the National Archives. There are 41 separate entries of court documents entered in this case; an unusual number.

the validity of Woodruff's second patent, 14 which featured a collapsible clamp board, was also tested, and both the first and second patents were upheld.

From some of the testimony rendered in another equity case in which Woodruff was the plaintiff, 10 years later, 15 it may be surmised that Eldridge Smith had an underlying motive even deeper than the financial in his tenacious efforts to knock out Woodruff. Whether rightly or wrongly, he thought of himself as the prior inventor of the file holder and, in fact, seems to have harbored the belief that Woodruff pirated the idea from him.

Smith claimed to have invented the paper file, for which he ultimately received a patent, in November 1866. He did not, however, apply for a patent until March 1868, some 2 months later than Woodruff. Smith claimed that, in March 1867, a year before his application, he had shown his device to one Homer Riggs, a fellow employee in the Pension Office. In turn, Riggs is said to have displayed the device to Jerome B. Woodruff, a model maker and the father of Edmund, who at that time was working with his father. Nine months later Woodruff and Green made application for letters patent. The implication is obvious. "I was, in connection with my co-patentee," Smith stated under oath, "the first and original inventor of Paper Files or File Holders in which an adjustable plate was combined with a base and a fixed vertical plate. . . " 16 Whether or not Smith's belief had any justification, it is not firmly anchored in relevance. Both inventors duly received patents, and presumably both had an open field to market them. Although physical or documentary evidence relating to the use of the Smith patent is not in hand, it is surmised that there were sales of his file holder to Federal agencies, but, of course, nothing approaching the sales of his rival's device.

Woodruff's success with his file holder appears to have been immediate. In 1869, it was already in substantial use in various Federal departments and agencies, such as the Treasury Department, the Office of the Chief of Engineers in the War Department, and the Smithsonian Institution. Either then or a few years later, it was in use in the Departments of Agriculture, of the Interior, and of Justice. Among satisfied users were county and local governments, such as the commissioners' office, Fayette County, Pennsylvania, and the public library, Milwaukee, Wisconsin; railroad

<sup>&</sup>lt;sup>14</sup> U. S. Patent No. 76,872, to E. W. Woodruff and Geo. C. Green, Apr. 14, 1868, RG 241, NA.

<sup>15</sup> Equity No. 8265, RG 21, NA.

<sup>16</sup> Equity No. 8265, RG 21, NA.

offices, such as the Central Pacific Railroad, the Louisville & Nashville, and the Central Railroad of New Jersey; banks and insurance companies, such as Riggs & Company of Washington, D. C., and the Home Insurance Company of New York. Testifying to the value of Woodruff's product were such noted individuals as Thomas A. Edison, who used the file holder in his office and considered it "very well suited to the purpose . . . intended," and Benjamin F. Butler, the captor of New Orleans, who stated, "I have used . . . your File-Holders . . . from 1868 onward and find them . . . the most economical and convenient method of preserving papers in order." <sup>17</sup>

The statement of a Pennsylvania attorney, written in 1882 during Woodruff's prime, is typical of others in the same vein:

I had two hundred of them placed in the office. They gave such great satisfaction that they have since been adopted in the other offices of the county for filing record papers, and the majority of the members of our Bar have procured them for their office use. From an experience of about six years with them I have no hesitancy in saying that they are superior to any and all other . . . devices yet invented for filing business and official papers. 18

The characteristics emphasized by the various users of the product are a catalog of the virtues of any record container: facility of access or reference is most often mentioned; then come structural qualities, such as simplicity of construction, strength, durability, lightness, and compactness; as to appearance, its neatness is noted; economy in terms of space utilization, and ability to take papers of various sizes (when folded) are commented on; and, lastly, one of the cardinal requisites, the protection of papers from dust, dirt, rodents, and other enemies is claimed by some as one of the major advantages of the file holder. This last mentioned characteristic, however, is decidedly debatable.

Adelaide Minogue, at one time acting head of the Preservation Branch of the National Archives, had ample opportunity to observe the physical and chemical aspects of the long-continued use of the Woodruff and all similar document containers which conformed to the folded document system of filing. She states:

What those who introduced the Woodruff files evidently did not foresee was the inevitable physical damage to the paper that would be incurred by the periodic unfolding and refolding of the records as they were used. Because of the natural aging of an initially poor paper, the exposure of the paper to rela-

<sup>17</sup> Woodruff's File-Holder, p. 14.

<sup>18</sup> Woodruff's File-Holder, p. 12.

tively high concentrations of sulphur dioxide evolved by the gas burners and coal heaters of the day, and lack of properly humidified air, the papers gradually dried out, deteriorated, and became brittle.<sup>19</sup>

#### As a long-term result,

Breakage along the fold lines became inevitable but was more commonly encountered among the sharply folded records containing few enclosures than among those with softly rounded folds. The general weakening and fracture among the folded files finally became obvious and this method of filing was gradually abandoned so that by the beginning of the twentieth century the flat filing of loose papers had been almost universally adopted as standard practice. The older files, however, were kept for the most part in their original containers . . . <sup>20</sup>

It should be noted that in general papers of an earlier period, mainly those made before 1870, have remained in a fairly good condition, particularly if they were inactive. Papers made after 1870, actively used and improperly stored, present today's archival problem, because their torn and broken state seriously hampers effective servicing.

Nevertheless, one should not lose sight of the fact that, before the invention and development of later nineteenth-century filing equipment and supplies, the file holder for the folded document was highly satisfactory to both the Government and business offices of the post-Civil War period. As Mrs. Minogue herself admits:

This type of filing was . . . satisfactory from several viewpoints. The documents pertinent to the subject were folded and kept together conveniently; an over-size sheet presented no special packing and indexing problem since it was folded to standard size and was filed in its proper sequence in the series; and . . . servicing was easily and quickly accomplished without the need of extraneous and space-consuming materials such as folders and guide cards.<sup>21</sup>

At any rate, as previously noted, the Woodruff file holder soon after its patenting came into general use in the Government departments, and its assume that the contract of t

business firms and professional men. By the late 1880's more than half a million units had been sold.<sup>22</sup>

What about the man himself, and his circumstances?

Edmund Whiting Woodruff was born in Plymouth, Connecticut, March 12, 1840.<sup>23</sup> At the time of receiving his first letters patent he was therefore 28 years old. Edmund was the only son among the four children born to Jerome Blakeslee and Melinda Beach Woodruff, both also natives of Connecticut. The Woodruffs first appear on the Washington scene in 1850. The elder Woodruff at various stages of his career in the capital city (where he remained until his death in 1874, at the age of 63), was listed as a model maker, a sewing-machine manufacturer, and a patent agent.<sup>24</sup>

The younger Woodruff at the age of 20 became associated with his father as a model maker and machinist. At the outbreak of the Civil War, Edmund enrolled in the District of Columbia militia, which acted as honor guard to Abraham Lincoln at the President's inauguration ceremonies and which was honored among "The First Defenders" of the national capital, an honor that even to this day is treasured by the successors of those old militia companies, such as the Sixth Massachusetts and the Ringgold Guards of Reading, Pennsylvania.<sup>25</sup>

After 3 months of guard duty in and about the capital, young Woodruff was honorably discharged and returned to his father's shop. The business association of father and son continued for the remainder of the decade, although in 1869, after receiving his initial patent, Edmund formed a partnership with George C. Green, the copatentee. This firm was Woodruff & Green, Paper File Manufacturers. In the meantime, prudently, the firm of Woodruff & Son, Patent Agents and Modelmakers, was continued under the paternal roof at 494 H Street, N.W., Washington.<sup>26</sup>

<sup>22</sup> Advertisement in Boyd's Washington Directory, 1890, p. 928.

<sup>&</sup>lt;sup>28</sup> Department of the Interior, Bureau of Pensions, Pension Declaration (Form 3-014), Mar. 14, 1910; in Record Group 15, Records of the Veterans' Administration, in the National Archives; hereafter E. W. Woodruff pension file, RG 15, NA.

<sup>&</sup>lt;sup>24</sup> Register of Wills, District of Columbia, Wills, No. 16, p. 357-359; in RG 21, NA; Edward Waite, comp., Washington & Georgetown Directory, 1850 (Washington, 1850). See also Boyd's Directory, passim.

<sup>&</sup>lt;sup>25</sup> E. W. Woodruff was a member of Company B, 5th Regiment, 3d Brigade, D. C. Militia, commanded by Capt. Matthew G. Emery, who, as master mason, had laid the cornerstone of the Washington Monument, on July 4, 1848, and who was the last Mayor of Washington in 1871. See William Van Zandt Cox, "Matthew Gault Emery. . . ," in Columbia Historical Society, Records, 20: 19-59 (Washington, 1917). This militia company was federalized as Company A, 4th Battalion, Washington Light Infantry, D. C. Volunteers. See Muster-out Roll of Capt. Lemuel D. Williams, July 10, 1861; in Record Group 94, Records of The Adjutant General's Office, in the National Archives.

<sup>&</sup>lt;sup>26</sup> Boyd's Directory, 1867-1870, p. 596, 483, and 395 respectively.

Although both firms occupied the same premises in the early days of the venture, the weight of evidence indicates that Woodruff père had no part in the invention, promotion, and production of the file holder. Nor does the available evidence show whether the vounger Woodruff and George Green jointly evolved their invention, or whether the idea was really Green's, brought to fruition in the Woodruff modelmaking shop. The various patent examinations and court hearings in the course of Woodruff's career do not shed light on this question. In any case, it appears quite clear that Edmund Woodruff was the sparkplug of the firm; and the many patents he received in later years, after his partnership with Green was dissolved, would indicate that Green's role was probably minor. Woodruff testified that in 1871 he bought Green's rights in the two original patents issued in 1868; the partnership, however, probably terminated even earlier, as all listing and advertisements of the file holder from 1870 onward are solely in the name of Edmund W. Woodruff.27

The business association of father and son continued until the father's death in 1874.<sup>28</sup> During the years they styled themselves variously as "Patent Agents, Attorneys, Model Makers, Machinists," and as proprietors of the "Emporium of Practical Arts." Their versatility was not only a typical example but part of the great glory of the less formalized days of American economic life and enterprise. Among the products of their skillful hands and practical minds was "every kind of light machinery made to order and repaired." <sup>29</sup>

In 1872, as sales of his device began to mount, the younger Woodruff, then 32, for the first time removed his personal business from his father's shop. He opened a "manufactory and salesroom" at 705-707 Ninth St., N.W., as Edmund W. Woodruff, Patent File Holder Manufacturer. At the same time he removed his domicile to 1411 Sixth Street, N.W. Thus he made the first of his many changes of residence in Washington, progressing westward a few blocks at a time, with the gradual shifting of the capital's better residential areas, until at the outbreak of the First World War he arrived as a householder of the Mount Pleasant section.<sup>30</sup>

Although his product was well known in Washington by the mid-

<sup>27</sup> Boyd's Directory; see also Equity No. 8265, RG 21, NA.

<sup>&</sup>lt;sup>28</sup> The two male Woodruffs must have been quite close to each other, as the father's will has a certain warmth of phrasing in bequeathing to his son an "antique Barronial Topaz Seal to be handed down to future generations (should time continue)."

<sup>29</sup> Boyd's Directory, 1870, p. 508.

<sup>30</sup> Boyd's Directory, passim.

1870's it is more than likely that in the country at large the Philadelphia Centennial Exposition of 1876, as with so many other products of American industry, really put the Woodruff file holder on the map. One of his advertisements in the following year claims the "Award Medal and Highest Mention in Judges' Report at [the] Centennial." <sup>31</sup>

For a dozen years Woodruff supplied a ready market, virtually without serious rivals. But in the early 1880's competition began to assert itself. The Eldridge Smith device had not made much headway because, as a patent attorney remarked, it "was an impractical structure... of no commercial value." As to other devices of the 1870's, the same expert declared:

Since the grant of the patents aforesaid [Woodruff's] a considerable number of patents have been granted by the Patent Office, for alleged improvements upon the invention of Woodruff and Green . . . [but] without any exception I believe, such alleged improvements were strikingly inferior to the file holder made by said Woodruff . . . and although some of the said "improvements" have been offered at cheaper rates, none of them, so far as I have ever heard, have supplanted the file holders made by Woodruff. 32

The Patent Office by then had used thousands of these file holders for over 10 years, and it was testified that the patent employees regarded them as superior to all other devices for the same purpose.

Nevertheless, serious competition was bound to arise, even if it had to cut corners. Early in 1881, a group of Washingtonians organized the National Shelf and File Co. for the purpose of manufacturing and dealing in document containers, safes, metal shelving, and library supplies. Lorin M. Saunders, a native of New York State, but for the previous 20 years a resident of Washington and a practicing lawyer, headed the firm as president. Associated with him were several local residents: Grenville A. Whitaker, bookseller and stationer of 941 Pennsylvania Avenue, N.W.; George C. Garrison, formerly Record Clerk of the United States Senate; and John C. Lang, formerly of the Engineer Department of the Army. Later in the year these men were joined by Frank H. Conger, E. E. Jackson, and Miletus J. Wine, also a local attorney; and on September 1, 1881, the firm was duly incorporated in the District of Columbia, with a capital of \$25,000.<sup>33</sup>

It soon became apparent that the basic purpose of the new corporation was to cut into the field so long preempted by Woodruff.

<sup>31</sup> Boyd's Directory, 1877, p. 684.

<sup>32</sup> Affidavit of Robert D. O. Smith, in Equity No. 8265, RG 21, NA.

<sup>33</sup> Affidavit of Lorin M. Saunders, in Equity No. 8265, RG 21, NA.

National Shelf and File equipped itself for this project by buying up a number of older as well as more recent patents for file holders and combining them to produce and market a holder of its own. Thus it bought control of the old Eldridge Smith patent and of certain later patents, such as the Schuyler Duryee patent of 1879, the Gilbert Thompson patent of 1880, the Willard Doremus patent of 1882, and John C. Lang's own invention of a steel stack structure called a portable metallic case for bill-files.<sup>34</sup>

National Shelf and File proceeded to manufacture paper files which, in principle if not in all details, resembled the Woodruff file holders. The two competed for Government business, and National Shelf and File succeeded in selling its wares to a number of departments as well as private firms, in all likelihood because it undersold Woodruff rather than because its product had more appeal. Naturally, Woodruff reacted and warned National Shelf and File to cease marketing a device which, he claimed, was a gross infringement of his patent.

As the competitor firm paid no heed, Woodruff had his attorney, R. D. Mussey, institute a suit for injunction and damages against the National Shelf and File Co. The suit was filed with the District of Columbia Supreme Court, on August 30, 1882, and the case was in litigation for 2 years.<sup>35</sup> It was first tried at Special Term before Mr. Justice James, who in June 1883 awarded an injunction for the plaintiff and ordered an accounting. This decision was appealed by the defendants, however, and the case was tried again in the General Term of the court in the fall of the year.

Woodruff contended that the defendants infringed the several claims in his first and second patents (Nos. 76,287 and 76,872 respectively), which had to do with the clamp lever combined with the baseboard, the clamp lever with the file or clampboard, and the metal channel running through the central part of the baseboard. The defendants asserted that their file holder was protected by patents owned or controlled by them; that there were substantial differences between the plaintiff's and the defendants' files; and that, in any case, Woodruff's patents were invalid because they had been anticipated by prior patents; namely, by those of H. E.

35 Bill for Injunction, Account, and Discovery, Edmund W. Woodruff vs. The National Shelf and File Co., in Equity No. 8265, RG 21, NA.

<sup>&</sup>lt;sup>34</sup> See Defendant's Answer, in Equity No. 8265, RG 21, NA. The following U. S. patents are listed in this brief as controlled by the defendant: No. 213,040, issued to Schuyler Duryee, Mar. 11, 1879; No. 235,294, issued to Gilbert Thompson (assignor to J. C. Lang), Dec. 14, 1880; No. 262,793, issued to John C. Lang, Aug. 15, 1882; and No. 262,890, issued to Willard Doremus, Aug. 15, 1882.

Woodbury in 1854, W. A. Collard in 1850, George W. Palmer in 1855, and J. E. A. Gibb in 1857.<sup>36</sup>

An examination of the cited patents reveals that there are features resembling the later Woodruff and Green patents but that none of them attain that functional efficiency characteristic of the Woodruff patents of 1868. But, as the plaintiff's attorney pointed out, the alleged anticipations as well as the Smith and Cheever patent had been adjudicated 10 years previously (in equity case No. 2,795) in the same court, and the decree was in favor of the plaintiff. Nevertheless, the usual parade of witnesses, affidavits, hearings, and testimony had to pass by for many months before the case was decided. As to Woodruff's claim for infringement, one of the expert witnesses stated its merits tersely:

Deponent further says that in all of his experience he had seldom if ever seen or known of a case in which the construction and mode of operation of two different devices were so nearly identical as are these; and that the said paper file by him examined . . . is a clear and palpable infringement of the first, third, and fourth claims of patent # 76,287, and the third claim of . . . patent # 76,872.87

The court agreed with the foregoing version of the issue, and in its final decree of February 5, 1884, stated, "... Plaintiff do recover of the Defendant... in appeal filed herein the sum of four hundred and thirty two 50/100 dollars as and for his damages... because of said infringement..." and provided that the defendant should pay the costs. So Edmund Woodruff was once again triumphant. But when, 2 days later, an attempt was made to collect the damages, the United States Marshal was constrained to report, "The Defendant—The National Shelf and File Company—is practically dissolved and has no property liable to Execution." Sedmund Woodruff, it thus appeared, had not only triumphed over but destroyed his competitor.

This last affray, nevertheless, must have left its mark on Wood-ruff's peace of mind. The trend of his life shows him as a cautious

<sup>&</sup>lt;sup>36</sup> Defendants cited the following anticipatory patents: No. 7648, to W. A. Collard, Sept. 17, 1850; No. 11,504, to H. E. Woodbury, Aug. 8, 1854; No. 12,604, to Geo. W. Palmer, Mar. 27, 1855; No. 16,642, to J. E. A. Gibb, Feb. 17, 1857; No. 17,526, to D. A. Styles, June 9, 1857; No. 32,106, to G. W. Martin, Apr. 16, 1861; No. 45,813, to Wm. Burnet, Jan. 10, 1865; and No. 76,834, to Smith & Cheever, Apr. 14, 1868. The patents on which the defendants relied are cited in note 34, above.

<sup>37</sup> Affidavit of William C. Dodge, patent attorney, Aug. 30, 1882; in Equity No. 8265, RG 21, NA.

<sup>38</sup> Final Decree, by Chief Justice D. K. Cartter, Feb. 5, 1884, in Equity No. 8265, RG 21, NA.

<sup>89</sup> Report of the United States Marshal, Feb. 7, 1884, in Equity No. 8265, RG 21, NA.

and careful man. He left his father's house well along in his young manhood, and then only when he felt himself firmly established in business. Then, apparently, he concentrated so thoroughly on his business that he married rather late in life.40 Evidently, too, he kept a weather eve trained on the Patent Office as well as the office equipment field generally; he realized that new devices were being developed at a much faster rate than formerly, and that competition was bound to be felt. In fact, by 1889 he was again subjected to a challenge for his market by the Office Specialty Manufacturing Co., successors to the Schlicht & Field Co. of Rochester, New York, who were pushing the so-called Lang File, which was quite similar to the Woodruff file holder and specimens of which (transferred from other Federal agencies) are now on the shelves of the National Archives. The Office Specialty Manufacturing Co. had offices in Washington, and was a forerunner of the noted Yawman and Erbe Manufacturing Co., which has remained one of the foremost office furniture and equipment concerns to this day.

From 1884 on, as protection against mounting competition, Woodruff barricaded himself behind a legal wall of letters patent on minor, perhaps even specious, improvements of his device. In that year of his court victory he was granted or had assigned to him no less than 3 patents,<sup>41</sup> in the 4 years from 1886 to 1889 he received 6 more patents,<sup>42</sup> and during the decade of the 1890's the United States Patent Office favored him with 5 more patents,<sup>43</sup> making a grand total of 14 patents in 16 years!

As a further result of the 1882-84 litigation, he now took the precaution of protecting his product with a registered trade mark, "Woodruff's Improved File Holder," with which each unit was henceforth labeled.44

Woodruff has been treated at some length because his file holder, of which he probably sold well over a million, "ruled the roost" in the offices, nooks, and crannies of Federal agencies, as well as of many local governments, business firms, and professional offices,

<sup>&</sup>lt;sup>40</sup> E. W. Woodruff married his first wife, Frances Amelia Dennison, on Sept. 5, 1895, when he was 55 years old. She died 7 years later, on Apr. 9, 1902. He was married again to Laura Virginia Bolsey of Baltimore on Oct. 6, 1903. See E. W. Woodruff pension file, RG 15, NA.

<sup>&</sup>lt;sup>41</sup> U. S. Patent No. 295,577, Apr. 29; No. 297,905, Apr. 29; and No. 306,308, Oct. 7; all issued in 1884.

<sup>&</sup>lt;sup>42</sup> U. S. Patent No. 335,668, Feb. 9, 1886; No. 358,240, Feb. 22, 1887; No. 399,461 (wash stand), Mar. 12, 1889; No. 404,458, June 4, 1889; No. 412,154, Oct. 1, 1889; and No. 415,429, Nov. 19, 1889.

<sup>&</sup>lt;sup>43</sup> U. S. Patent No. 476,854, June 14, 1892; No. 535,782, Mar. 12, 1895; No. 547,163, Oct. 1, 1895; No. 569,700, Oct. 20, 1896; and No. 651,739, June 12, 1900.

<sup>44</sup> U. S. Patent Office, Registered Trade Mark, Apr. 29, 1884.

during some two decades of the latter half of the nineteenth century.

But long before 1916, when he died in his seventy-sixth year, vast new forces had made a documentary break-through, bringing about a demand for an entirely different approach to the problem of records and filing equipment. These revolutionary changes, even before the First World War, had relegated Woodruff's beloved file holders to the Valhalla of honored but obsolete products of the rapidly passing age of handicraft. His business, typical of all craft businesses, never was more than the lengthened shadow of the man. He had no children to carry it on, and his life's work had already preceded him in death.

There are still thousands of units bearing his name, reposing on repository shelves, but eventually these too will be fed to the incinerator. Nothing will then remain to bear witness to the existence of the man but a few artifacts in the glass case of some archival exhibit hall.

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