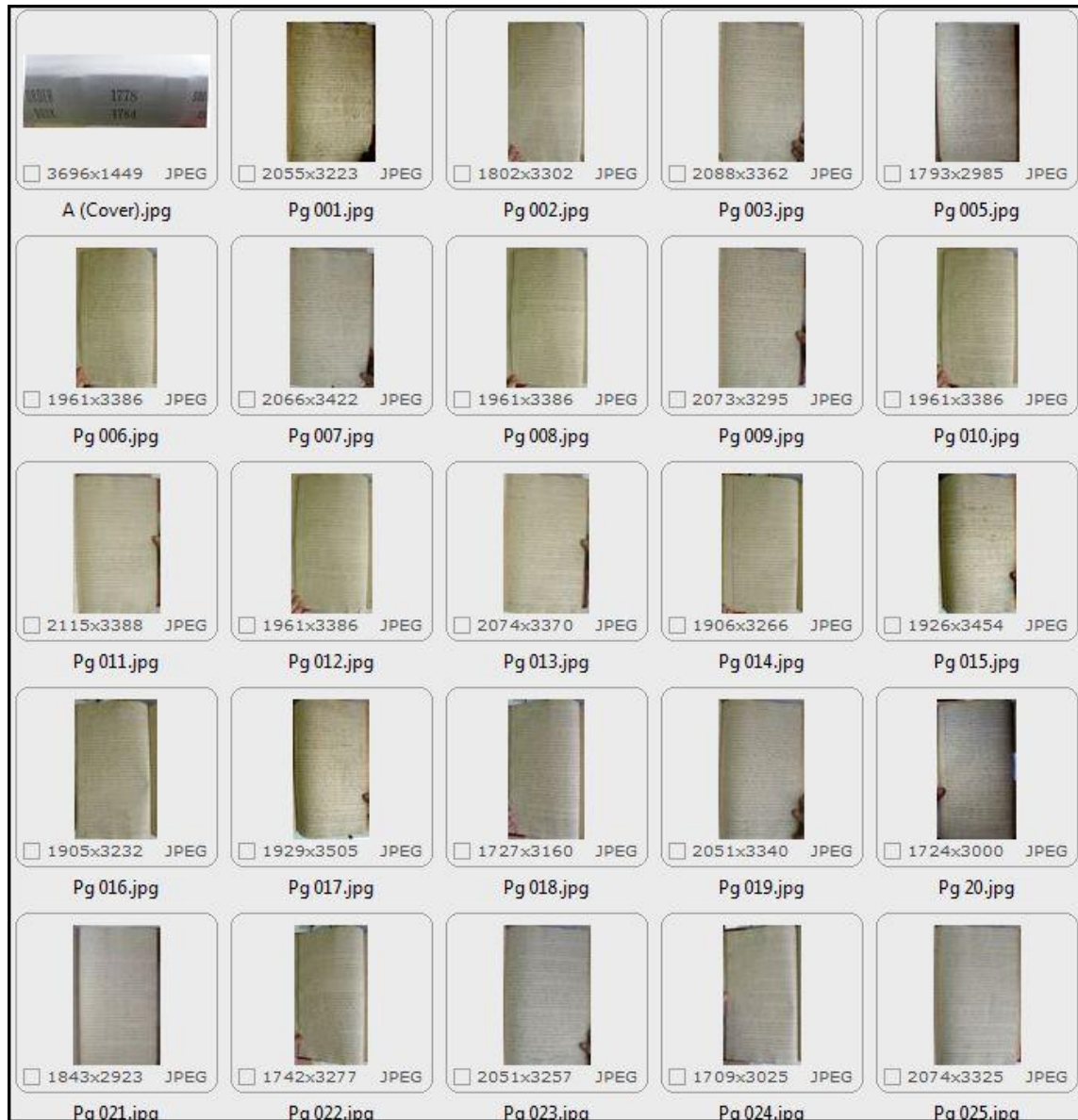


Digital Imaging and Its Fruits



The Southampton Project

A story of the first early courthouse in America, to have its records digitized, put on-line and indexed by every man, woman and child. The early records (1749-1885) of this courthouse in Southampton County, Virginia under the approval and support of circuit court clerk, Richard Francis, were digitized in a 3 week period in early 2009 by the Brantley Association of America. Within a year, the indexing of the nearly one million names was nearing completion by volunteers across the U.S. The story discusses the approach made to accomplish the project, the many things learned, and the tools developed to help others who may want to venture into such projects. It also lays out the development of a simple camera system platform which allowed one man to digitize this entire court house collection.

I am my first exhibit to my own claim that you don't have to be smart to do some phenomenal things with digital imaging. I personally digitized 57,000 pages of court documents from the Southampton County Virginia courthouse in a 3 week period in early 2009. This is true, despite the fact that I had no knowledge of photography or digital imaging other than that gained in the few weeks preceding the project. While I did make a lot of silly mistakes, we walked away with a fantastic collection of an early American courthouse and I learned how to do it better and even quicker on my next project.

I want first to explain the background to and the development of my unsophisticated system of digitizing records, particularly from the early county courthouses and then, the posting and indexing of the records. My main goal here is to awaken researchers and genealogy enthusiasts to the potential of this approach to getting records assessable to all of us and by the creation of indexes that will serve to benefit all concerned.

Let me give you a little history which led me to what we call the "Southampton Project" or {SoH}. We will first go back several years. I, for the last six or seven years, had been the director of the local Family History Center near my home in Powder Springs, Georgia. I noted that while we had a \$12,000 digital imaging machine, a couple of patrons would bring their digital camera and instead of using this machine, they would take a photo of the microfilm image they were wanting to research. The elaborate machine was specifically designed to do this. How was it that they could get as good an image and be done; and so quickly? We all observed the machine make all kind of gyrations; u-n-n-n-n u-a-a-a-a-a u-n-n-n-n and after about a minute, it would complete the download of the image to our computer. Even then, it still was not over, as the patron, when through and was ready to leave, would then put in a media piece, DVD or jump drive, and proceed to download the image files to that instrument. This took some time too and the patron further had to download it again to their home computer. Yet, the patrons with the cameras took the image in less than a second, with no flash and did not have to download to anything until they got home to their computer. At the time, there was a little downside. Back then you had to have one of the latest high megapixels and expensive cameras to get a good image and of course unless you could get the camera directly over the image, there was a noticeable distortion, but the image was very readable. I, with another volunteer at the center, began to discuss the potential of the digital camera with regard to mass imaging, not necessarily for just microfilm, but court books and other vital documents. As you know, the technology took off on the cameras and in a few years you could buy a camera that would take a remarkable image for \$200. Today, they have developed very sophisticated and powerful, even point and shoot cameras, with all sorts of features and capabilities. A 10 megapixels or 12 megapixel camera is quite common now. I will tell you that while there are advantages to a higher megapixel camera, especially with regard to mass imaging, a 4 megapixel camera can take a splendid image of a document. As you may know, it not only gives you a remarkably good image, it does so NOW. Once downloaded, it can be sent to tim-buck-two and observed by other interested parties, and in a flash.

This original thought; that is, that there is a great potential with a simple digital camera, began to grow. I became convinced that with a little creative development of some equipment to hold the cameras over a book, one, with the help of a second person, could take images as fast as one could turn its pages. I had in mind a simple design to make this happen when I traveled in the spring of 2008 to southern Virginia to do research and to approach Isle of Wight and/or Southampton County officials about volunteering to digitize their records. There is another story here, but for now we will just say that I was rejected in Isle of Wight, but was warmly received in Southampton County, by the new Circuit Court clerk, Rick Francis. After I explain my intentions to index the records, furnishing copies to the County, Rick was impressed and wanted to see this happen as much as I did so we began correspondence working toward that end.

In the meantime, returning home, I began to put in motion my plans to erect a system that would allow me to get two cameras stabilized over a book. Having bought a heavy duty tripod at a garage sale (\$12) earlier, I finally began construction by attaching extensions made from 1/2 inch water pipes in such a way that I could stand the tripod behind a table and have these extensions hold the camera over the book on the table. Since the extensions were so long the "arm" or "leverage" they created, required a support set of moveable braces to stabilize the cameras. I ordered three cameras. One was a standby in case of failure of either of the others.



First tripod set-up with extensions created from 1/2 inch water pipes.

There are very few point and shoot cameras which have remote shutter control, but I had elected the Olympus SP 570 which did, in fact, have remote shutter control capability. There were other reasons why I selected these cameras. The remote shutters were necessary to assure no movement of the camera when the images were being shot. So now I found the remotes, on-line, for \$7.50 each and at that point thought I was ready to go. I was waiting on Rick, to say come on up.



First tripod: Note, two remote shutters

I had planned on other volunteers going with me, one to turn the pages of the book as I took the images. The cost just for expenses to accommodate another person to help me was an issue, let alone finding someone who could donate 5 to 6 weeks to work at the courthouse with me. I determined that I needed to find a way to trigger the remotes myself with a dual remote control. I searched high and low to find one. I learned that, basically, there was no such thing with either point & shoot or even the conventional SLR cameras. While I was sure somewhere there was one for some special commercial cameras, but if so, the set would surely be cost prohibitive.



Two remote controls for the Olympus Sp 570

I got in mind what I needed to construct. I went to Home Depot, Lowes, and some other hardware stores, looking for something I could use to make the dual remotes work with one movement simultaneously. I would need a hinge on two pieces of metal arranged in such a way that the remotes would set side by side, between the hinges and be triggered with a sturdy, but padded bar when compressed together. I would need a spring to hold then hinges open when not in use. I realized that there were other issues with regard to the little device, I had not thought about. I spent a Saturday walking through these stores looking for materials and ideas. Finally, I gave up for the time. I was tired and I had seen nothing that seemed practical. I decided to drop by the FHC to see if the volunteers there were staying over as they did some time. I found the library empty, but as I walked in the door, I saw, sitting all alone on the desk, a two hole paper punch. Well; it seemed to say, what about me? Jimminee crickets! I picked it up and in a flash I knew I had found the answer. The remotes would fit right in between the base and the flanged handle; the springs were there; the right size; no construction required. I took it home and in one hour I had a functioning dual remote shutter control.



My new dual remote shutter control, made from a two hole paper punch.

I then installed the dual remote shutter under the table I was using in such a way that I could activate the shutters by pressing the control with my hand or by bumping the flange with me knee.



New dual remote shutter control mounted under the table and activated by a knee bump. It would work 56,000+ times, without a hitch.

So now I felt I was ready to go and was getting a little impatient with SoH because I was not getting a confirmed green light or a proposed date to go there. I continued to practice with my cameras and I then learned of another problem. As long as I stood up, I could see when the shutters activated, but I could not stand all day and if I was to ever sit down, I needed a way to observe the camera's display and shutter activation lights. Since both cameras would trigger simultaneously, I could not tell by sound if both activated upon compression of my new dual remote shutter control. The answer to this problem could be the installation of two mirrors, one over each camera. So I attached two mirrors is such a way that I could adjust them and see from any angle the display and shutter activation lights.



With these mirrors in place I could see what was happening with the shutters at all times.

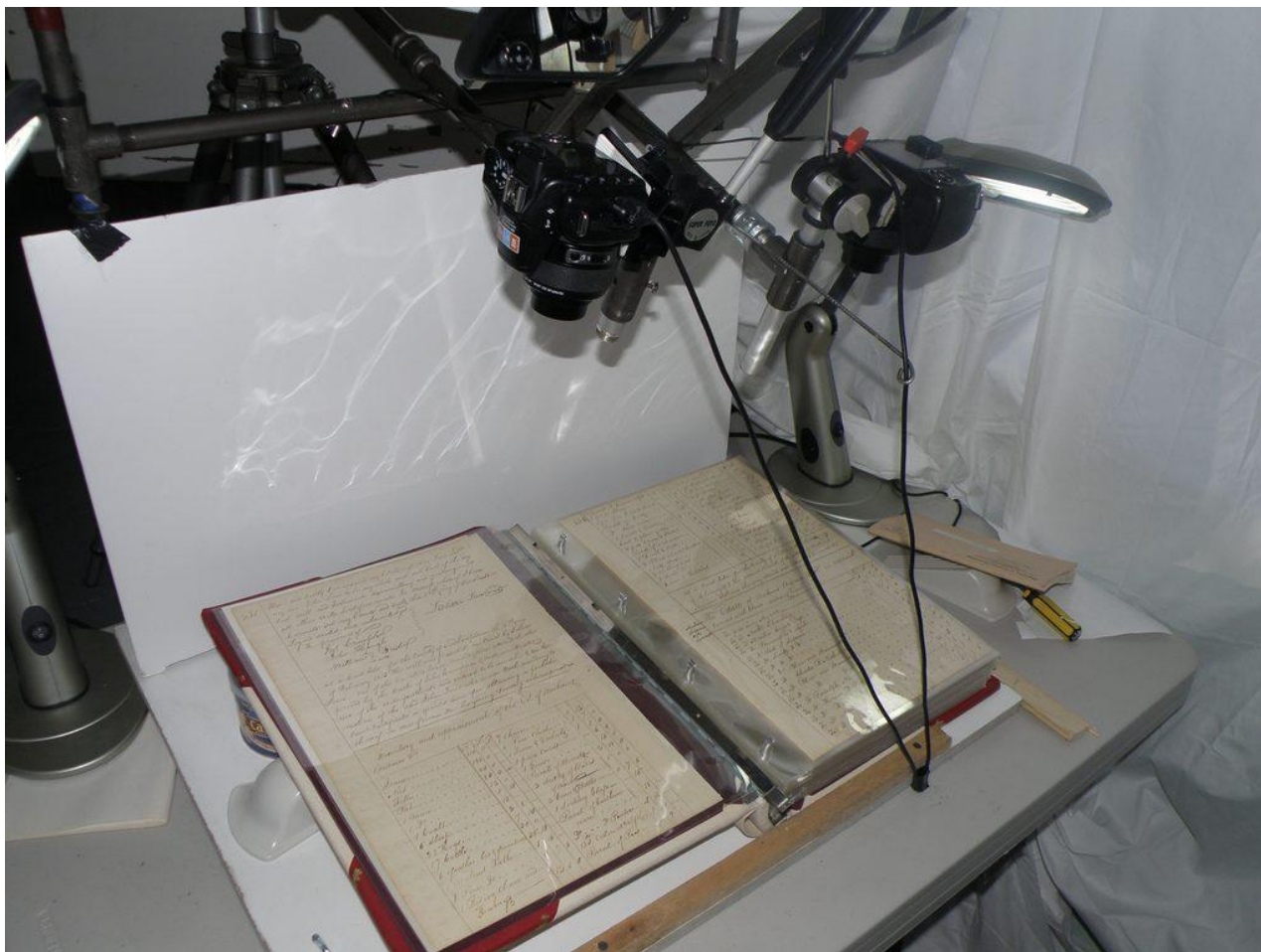
Now, I was ready and no sooner than I finally had the system down and the absolute need for other participants off the table, I got my green light. I went to SoH arriving on Feb 10th. With-in 3 weeks I had personally digitized over 56,000 images and some 57,000 pages of courthouse book pages with the help of local Historical Society member, Bruce Saunders, who helped me by locating and tracking the books. Because the outlay of funds for other participants was unnecessary, I did not use but about \$1800 of the \$5,000 dollars allocated by the county for the project.



Southamptn County, Virginia
Courthouse

Courtland, Virginia

Courtland; here I come!

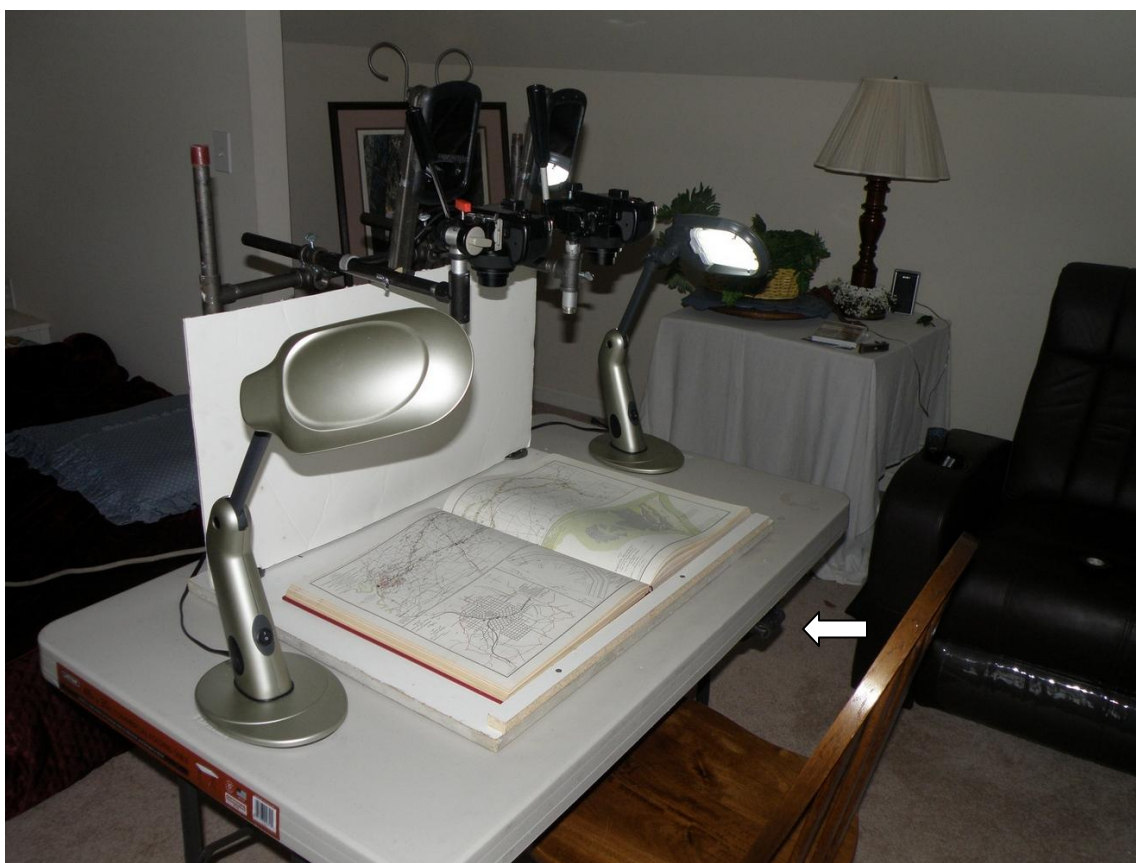


The actual on site set-up, in the Southampton County, Virginia courthouse, in Courtland.

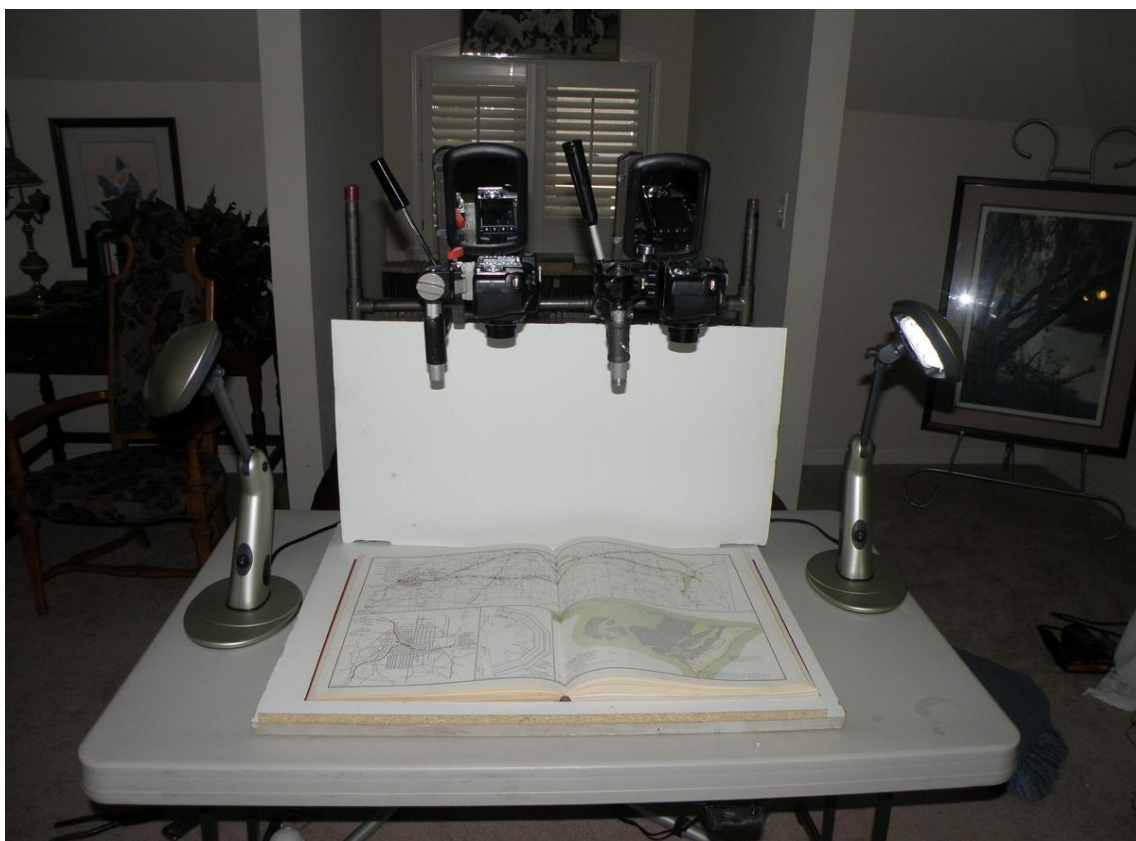
Note: At the time there were no remotes for the cameras with cables more than 40 inches; thus a minor obstruction

After Southampton

After I returned from SoH, I begin to paginate the books. I saw that I had made a lot of mistakes. There were times I had paused and erroneously thinking I had already taken the shots of the page pair, went to the next pages, omitting them. There were a few occasions where I failed to observe that one of the remotes did not activate because I did not press the control hard enough, then there were shots where the light to one camera was less than the other, the shutter therefore working slower caught my hand moving across the page to turn it. These would cost me retakes of pages and the time it took to individually number them and insert them in the original directory. *(A visit to SoH is planned to accomplish retakes required by a variety of reasons).* A few months later, I did another courthouse (post Sherman) and did better. Another problem was that with the long extensions and the created leverage at the camera mounts, it was easy for my cameras to move and on occasion they would "drift" to the point that part of the page was missed. I decided to think about some machine work that would give me (1) a more stable set of extensions, (2) take us less floor space and (3) be much lighter to carry. I approached Greg Richardson a local machine shop owner. Greg became so impressed with what we were doing that he insisted of doing the machine work free. In a jiff, he made some modifications to my original designed and bingo, we had a more staple, more versatile and lighter camera mount and extensions. It worked perfectly.



The current "free hands" camera set up
Note: Recent marketed remotes were now available with 10 foot cables; no obstruction.



The current free hands camera set up (front)

About the Digital System Design

Since my design and development of this free hand camera set -up, others have initiated even more elaborate homemade designs of book imaging equipment. In fact, they can be seen on a number of spots on the internet and there will surely be even more to follow (see www.diybookscanner.org). These were not designed specifically for court room books, but will work, in most cases, nevertheless. These designs avoid problems found in my free hand standing platform design. One thing we have to accept with my design is the shot includes the finger tips of the imager as he/she holds the pages at the edge to keep them flat. Of course, that can be corrected with all sorts of clamps and holders, but we lose the time factor and it will extend the project significantly. While this is not an issue with many of us, the big boys (professional host sites) label this sometimes as "tacky". They don't like to see finger tips, even if white cloths are used as we did. Further, some pages will tend to want to rise up in the middle in spite of the hold down effort on the edges, and there is little that can be done with our design without, again, giving up valuable time at the imaging site, but bear in mind that this does take away from being able to read the text, it just will seem a little distorted near the binding edge. These more elaborate designs start with a slanted platform or "tray" holding the book open at a fix angle with cameras opposing each side of the page platform. Above the book is another platform set at the same angle. While supported by a reasonably sturdy structure, its center is all glass. The glass platform is lowered each time an image is to be taken and it securely holds the pages flat with no sight of fingers and no clamps. Another advantage of these later designs is the fact that the pages are all taken is the same fixed spot. That is; there is no need for adjustments as the imaging progresses and the pages will show up on the very same spot of the image on each shot. This is important because cropping is almost always required and it will allow for batch cropping, instead of weighing and evaluating each image and then selecting only series of images at a time. Theoretically, there will be need only for one, perhaps two, crops which will take only a few seconds. Because we did not think through this before the SoH project, we later lost a lot of time, cropping images. Even then, images were over cropped in some cases causing us now even additional (repair) time. While we are progressing with ideas to assure protection from this with our own design, the design itself does not provide an automatic fix as with these newer ones. One



Just one of the many similar designs which utilizes dual trays to secure and image books.

has to focus and follow certain directions or we will have a problem cropping the images. While the later designs can lead to a more "professional" looking image, they cannot do a book as fast. While we can take the images as fast as we can turn the pages, these later designs have to, by necessity, operate slower. I would think a book would take, at least, twice as long. I am presently thinking through the design of an apparatus which, if employed, would actually attach to the imager's thumb. It would be clear and wide enough to avoid the view of the finger or thumb on the page edge

Our goal here is not to promote one design over the other, but to explain the advantages of both. Presently, one is much faster in its operation on site while the other, although slower, produces a somewhat more professional looking image. Needless to say, that if a smart guy, came up with an automatic way for the top tray to operate rapidly with a touch of a foot, or knee pedal, we all would promote it over our design, but such an addition will take some serious engineering and we would have to step out of the "Do it yourself" approach, as it would likely be marketed with a complete imaging platform which will lead us into the big bucks. We stress the fact that with either of the two basic designs discussed above, you can build either in your garage in hours for very little cost. *Note: I am thinking about offering the parts to our set-up that have to be machined at a modest price if we have enough inquiries.*

Indexing Phase

As work began in the courthouse, I was somewhat apprehensive about the promise I had made to Circuit Court Clerk, Rich Francis that I would facilitate the indexing of the records. Sometimes I was reminded of Prissy in the movie, "Gone With the Wind", when she said, "I don't know nothing about birthing babies; I don't know why I told such a lie". I had never attempted digitizing any records, nor did I know anyone specifically who might commit to help index the names. It did not take a rocket scientist to know that I, nor any one person could do it, at least in my lifetime. I thought often: What was I thinking to make such a statement? All I knew; and this thought would often swelled within me, there were millions of Americans whose ancestry once resided in Southampton County and if someone was to tell me they were launching such a project, I would volunteer and I assumed there would be many others who felt the same way.

I did not need just Rick Francis' approval. His actual support of the project was crucial. Francis, a historian and genealogy enthusiast whose family had resided in Southampton County since its creation in 1749, recognized the potential for findings in both areas of research and, fortunately, enough, to pursue my offer. He was skeptical at first and why shouldn't he be? Why does a man want to take on such a massive project if there are no monetary benefits? As he continued to talk to me via e-mail and phone, I finally convinced him that I was not there for the money, but if successful, the fruits of our labor were far reaching and could be a catalyst in launching other similar projects throughout the nation. His first move after my arrival was to let me address a local genealogy group which would meet at the court house on the first Saturday (Feb 14th) after my arrival. I am not an orator, but when I said I was there to digitize the court books and facilitate the indexing of the names of every man, woman and child in the early records, I saw eyes light up and mouths drop open. I was impressed with this response, but when no one appeared after the meeting to tell me they would volunteer to index a book, I began to worry. One man named AL Washington did say he would "be glad to help index some pages". This was a little scary. Was I going to find myself in my twilight years still indexing these books that I had committed to? I held hope that others would later come forth and did not respond immediately, because I was obviously not ready to start the indexing since I had just initiated the digital imaging.

In the meantime, to kick the indexing phase off, I called on Larry Jones, a valiant member of the Brantley Association. Larry had taken part in the first book we had indexed in 2008 and, in fact, indexed nearly one third of that book himself. I hated to lean on him, but I was in desperate need of a solid launch. I called him in Maryland and started carefully laying out the situation and explaining how important it was for us to be successful. He was way ahead of me after just moments and interrupted; "Kenneth, send me a book". So now I had my first commitment to do an entire book and I felt better. I knew Larry, having already seen the effort required, would come through. The next day I attended the LDS church in Franklin. A lady, Shari Flythe, a native and researcher of Southampton County, overheard what we were doing and said to me, "Oh; can I have a book to index"? She may have not noticed it, but I almost joked up. I realized at that moment, she was my first volunteer to approach me to index an entire book. A few days later, my brother who had retired to southern Alabama, called me, having heard of the project through some messages I had sent out. He said he wanted to help and ask me to send him a book promptly. A few others called in that week wanting to help and later, the second week, at the encouraging of Bruce Saunders who was my only on site assistant, I drafted a letter to the President of the local Historical Society. The letter was published and before the end of that day, we had four others to volunteer to index entire books. Before noon the next day, we had four more and by that evening, we had another four. Soon, Rick Francis and Bruce Saunders, themselves, volunteered to do at least one entire book. Others, just inquiring about the project, would become impressed with the effort and they volunteered. As it would turn out, we would

have 33 people who had volunteered to index at least one book when I left Courtland two weeks later. While some of these failed to follow through when seeing the effort required, others would later come forward and retrieve their assignments and we would wound up with some 45 people who indexed entire books. Several would finish one book and immediately ask for another. Bruce Saunders would index several marriage books and a number of miscellaneous books and indexed over 40,000 names. Shari Flythe would index seven entire books before we were through, and AL Washington: remember he said he "could help with a book", would alone, index six entire books. What about Larry Jones? Larry a busily employed representative for a software/communications company was as of Apr 1, 2010, on his twelfth book and had indexed over 100,000 names.

There are wonderful stories and several miracles along the road, which alone would be worthy of a published story. Not able to pursue that now, we will simply say that after only one year, we are nearing the completion of the indexing of nearly one million name entries from the SoH collection. Five other books have been found in the Library of Virginia in Richmond. We, if allowed by the bureaucrats, will digitize these soon and they too will be indexed. This will give us another approximately 75,000 names. As far as we know, Southampton County is the first county in American history, to have all its early records to the mid 1700s, digitized, put on line and indexed by every name mentioned therein. It is our hope that many will recognize the fruits of such efforts and initiate projects in their own counties.

J. Kenneth Brantley
President: "The Brantley Association of America"
4750 Oakleigh Manor Dr
Powder Springs, GA. 30127
www.BrantleyAssociation.com

The Association offers guidance upon request to others interested in digitizing genealogy related documents. Feel free to contact us for questions about the project you may be considering at: brantleyassoc@bellsouth.com