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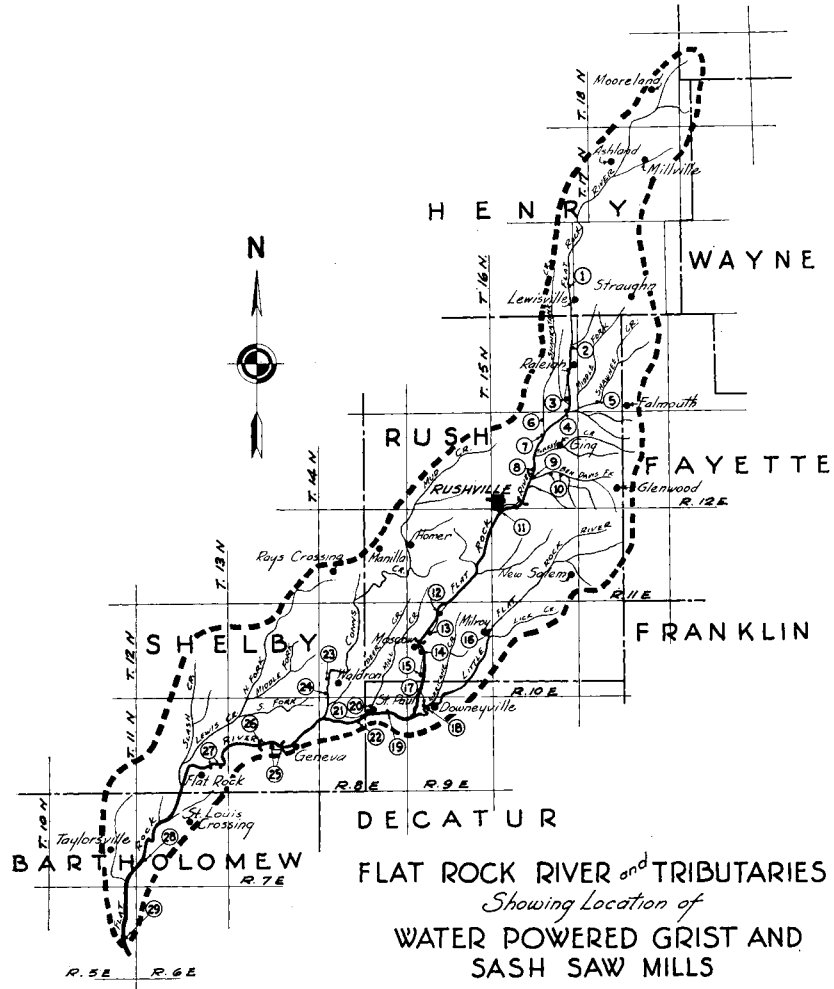
Water-Powered Mills of Flat Rock River

By DENZIL DOGGETT

As the tide of immigration flowed into Indiana, at the end of the eighteenth century and early part of the nineteenth, through the newly founded border towns along the Ohio and lower Wabash Rivers, we find that the settlers followed the main streams in their northward and westward journeyings, paying special attention to those capable of furnishing water power to operate grist-mills and sawmills in the new frontier communities.¹

Flat Rock River, lying in southeastern Indiana, was probably typical of the streams which furnished power for grinding the flour and meal of the pioneers and for sawing lumber for their homes. Accordingly, a history of the individual water-powered grist and sash sawmills of this river and its tributaries will probably be typical of the similar tributary streams which go to make up the White and Wabash river systems. The source of Flat Rock is near the Randolph-Henry county line, about eight miles northeast of New Castle and lies at an elevation of approximately 1128 feet above sea level. It pursues a general southwesterly course for approximately eighty-eight miles (by river) to the vicinity of Columbus in Bartholomew County, where it unites with Driftwood Creek to form the East Fork of White River. Its mouth lies at an elevation of 643 feet, making the total fall in its length

¹ Acknowledgments: To John Nipp, Sr., who collected much and wrote the historical sketches of mills in Rush County accredited to him. I wish to extend thanks for assistance in preserving these historical items. The following persons, I thank for their many informative letters, sketches, photographs and maps: Marion Owen, Mr. and Mrs. Frank Whiting, Mrs. Charles Evans, Mrs. Julia Wyatt, Charles Zoller, Mrs. Phoebe Roberts, Maurice Douglas, Mrs. Hershel Blades, Albert Sanders, Mrs. A. G. Newsom, Mrs. Glee Haymond, Thomas Bone, Jess Wiley, Edker Avery, Earl McNeely, John Wyman, Guy C. Grant, Wade Innis, Mrs. Lucy Stanifer, George Haymond, Mrs. Rose Shelhorn, Joseph Shelhorn, Kenneth Jewett, H. W. Bennett, Robert Tate and Frederick May. I also wish to express my appreciation for the assistance rendered by the members of the staff of the Indiana State Library, who furnished many items from books, clippings, correspondence, and other sources in the various departments.



MILLS LOCATED ON MAP

1. The Glidden Sawmill
2. The William Carr Mills and Factory
3. The Ammons or Nipp Mills
4. The Ertel-Nipp Mills
5. The Kirkpatrick Mill
6. The Vermont and Watson Mills
7. The Smelser or "Tim" White Mill
8. The Nipp Sawmill
9. The Roland Mill
10. The Hinchman Sawmill
11. The Laughlin and Carmichael Mills
12. The Hungerford Mills
13. The Scull-Harcourt Mills
14. The Moscow Mills
15. The Owen Mills
16. The Milroy Mills
17. The Jewett Grist-Mill
18. Picayune Mill
19. The Short Sawmill
20. The Old Paul Mill
21. John Paul Woolen Mill and Sawmill
22. The Bailey Mill
23. The Isaac Newton Mills
24. The Haymond Mill
25. The Copeland Mill
26. The Cave Mill
27. The Girton Grist-Mill
28. The Rains-Crane Mills
29. The Patterson-Whitesides Mill

approximately 485 feet. It has a total drainage area of 532 square miles. Its tributaries are noted on the accompanying map of its drainage basin, showing the location of all mills mentioned in this account.

The name of the river, Flat Rock, is a literal translation of the names given by the Indians, "Pack-op-ka" or "Puchk-achsin." The names of two of the branches of Flat Rock—Ben Davis Creek and Shankitank—were influenced by the Indian occupation. The former is named for an Indian chief, Ben Davis, and the latter is a contraction of the Indian name "Choak-hittuck" which means "Big Tree Creek."

History records that early laws and grants by the bodies governing Indiana Territory encouraged the establishment of water-powered grist-mills and sawmills. Rights of pre-emption were allowed men who would make this venture, and special laws were enacted governing the tolls of the miller and the methods of measuring grain and flour. He was also required to grind "well and sufficiently and in turn."

The census of 1810 indicates that Indiana Territory had several water-powered grist-mills and sawmills. Esarey's *History of Indiana*, I, states that the census of that year listed, "3 powder mills making 3600 pounds of powder, worth \$1800; one wheat mill, 32 grist mills and 3 horse mills, grinding 40,900 bushels of wheat and 14 sawmills cutting 390,000 feet of lumber worth \$3900."

The census of 1840, which applied to Indiana with its present state boundaries, shows a remarkable growth in the milling industry in 30 years, as 204 flouring mills, 846 grist-mills, 1248 sash sawmills and 54 oil mills were listed. In the three principal counties in the Flat Rock watershed—Rush, Decatur and Shelby—we find that there was a total of one flouring mill, 58 grist-mills, 58 sash sawmills and two oil mills. Of this total of 119 water-powered grist-mills and sawmills, probably from 58 to 65 were located in the Flat Rock basin in 1840. This survey has shown that there was a total of 50 mills of all classes, that is, 22 grist-mills, 22 sash sawmills, 2 woolen mills, and 4 wood-working mills on Flat Rock. Many of them were established between 1840 and 1860, while others, poorly or improperly located, were either abandoned or destroyed by floods before and after these dates.

No definite data seems to be available stating just when the first grist-mill or sawmill was started on Flat Rock.

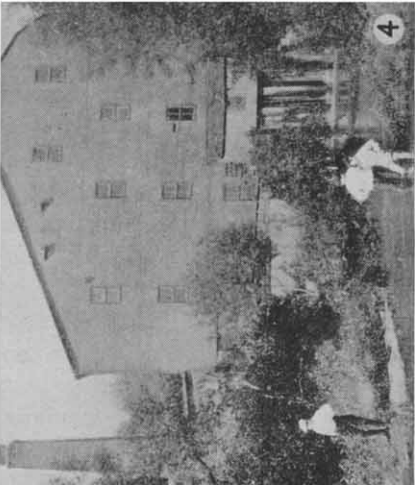
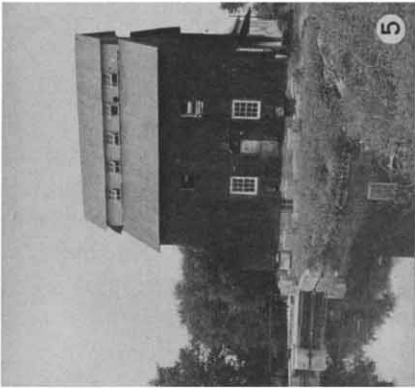
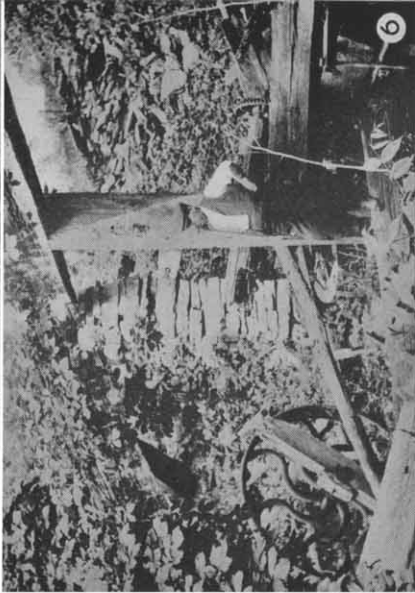
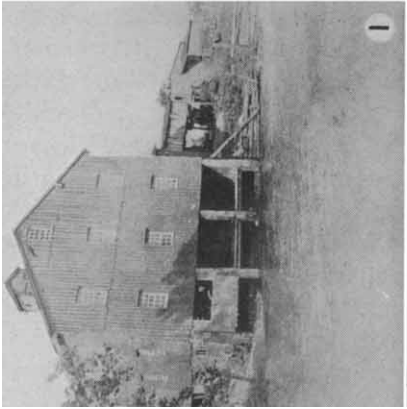
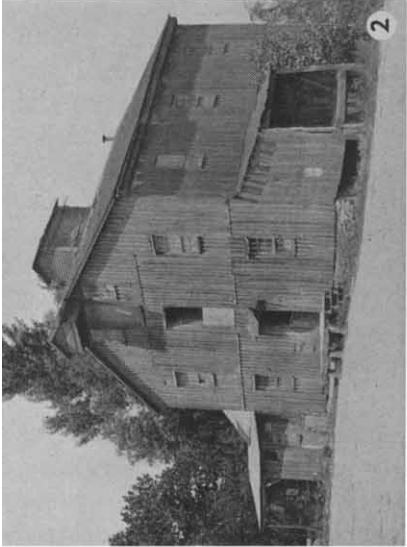
Several were started about 1820, or a little later, among them being the Moscow, Owen, Picayune, Jonathan Paul, Drake (or Girton) and Rains mills.

In this investigation, an effort was made to find the location of the former home territory or state of the mill founders. In many cases, nothing could be determined, but in several it was definitely learned that they came from the East or South. Among these were Joseph Owen from Georgia and Jonathan Paul from Pennsylvania and Ohio.

Due to the great effort needed to grind the family's meal and flour on the early hand-operated querns carried into the wilderness by the pioneers, the grist-mill operator early became one of the most important and respected men in his community. His mill became the center of community life around which grew a small settlement of other artisans necessary to each community. General stores were established and the postoffice was located near or at the mill. Most of these mills were custom mills specializing in the grinding of small, single-bag grists carried to them on a man's shoulders or across the withers of a horse. The trip to mill formed an important social interlude in the routine work of the pioneer.

Many of these early water mills formed the nucleus of a town which is still in existence. On Flat Rock, the towns of Rushville, Moscow, Milroy, Downeyville and Saint Paul were all originally built around a water-powered grist-mill or saw-mill.

The miller and the mill-wright were important personages in each community. The latter worked over a wider territory, building the mill, its wooden machinery, dam and water-wheel in their entirety. His ability as a mechanic was unquestioned as he had many intricate wooden gears and other delicate parts to plan and construct. An inspection of the typical wooden gearing in use in the mill at Indiana's Spring Mill State Park will convince the skeptic. As far as is known, only one handbook on mill construction was available—Oliver Evans, *Young Mill-Wright and Miller's Guide*, first printed in 1795, with fifteen editions following at intervals of two to eleven years, the last in 1860. This publication left many of the smaller details of construction dependent upon the native mechanical ability of the mill-wright. Among mill-wrights, either mentioned casually in the various county atlases, or as having been mill-wrights who built certain mills, were John Nipp



MILLS SHOWN ON OPPOSITE PAGE

	Key No.
(1) Nipp's Mills, about 1909 - - - - -	3
(2) Nipp's Mills, 1936 - - - - -	3
(3) Smelser or "Tim White" Mill, 1936. Located a few hundred feet from its original site. It is used as a storage shed - - - - -	7
(4) Carmichael Mills in Rushville, about 1895 (from an old colored post-card) - - - - -	11
(5) Ralph Nipp Mill, Rushville, 1936. Successor to Carmichael Mill on same site - - - - -	11
(6) Ruins of Owen Sash Sawmill about 1910. Metal parts used in restoration of sash sawmill at Spring Mill State Park in 1932 - - - - -	15

(the father of John Nipp, Sr., age 86, of Rushville), Stephen Cory, Andrew Stevens, William Carr (also a wheel-wright), John Nipp, Sr., and Calvin Hungerford.

In Beer's *Atlas* of Rush County (1879), we find the following quoted paragraph:

John Nipp² built ten mills in Rush County, two in Grant County, and one in Decatur County. He built a sawmill in 1851 for Adam Ammons, in Washington township; in 1856 he built a grist-mill (Nipp's Mill). He helped to build the second mill at Smelser's, the first being built by Stephen Cory. John Nipp built a combination mill for Philip Ertel. This was a woolen mill, a grist-mill and a sawmill on Flat Rock.

The miller built up a reputation for fair dealing and a cheerful disposition and thus influenced the life of the community greatly. His advice was sought and he was usually one of the principal persons in any community assemblage. His mill was often used for community gatherings and sometimes as a place of worship.

As each community's farming industries expanded, a surplus of grain was produced for grinding into flour and meal. No local market was available so it became necessary to transport it by water to New Orleans to be sold to southern planters or for export. No doubt, many of the mills on Flat Rock were forced or led by circumstances to join this movement. My great grandfather, Isaiah McCoy, used to tell of driving stock overland to market at Lawrenceburg and of the flat-boating of products at the time of the spring floods when boats could clear the shoals and bars in small streams like Flat Rock.

As time passed and roads were improved, custom gradually deserted many of the small inefficiently designed and operated grist-mills and sash sawmills, and forced them to enter other manufacturing fields. Several of the later historical accounts mention these efforts. One was transformed into a wood-working plant for the manufacture of wooden wheat-drills. Another made spinning-wheels for use in the pioneer homes. Still others made wheat-cradles, used in the harvesting of wheat. Many of these cradles are still used by farmers in cutting wheat in "new ground" fields. Grain cut in this manner is usually bound by hand, using a band made of wheat stalks twisted together. Still other mills were transformed into wool-carding and spinning mills. Homespun clothes, such

² The John Nipp who still lives at Rushville, is known as John Nipp, Sr., and signs his name that way, although his father's name was also John Nipp. The last mentioned, or elder of the two, is the one referred to in the passage from the *Atlas of Rush County*.

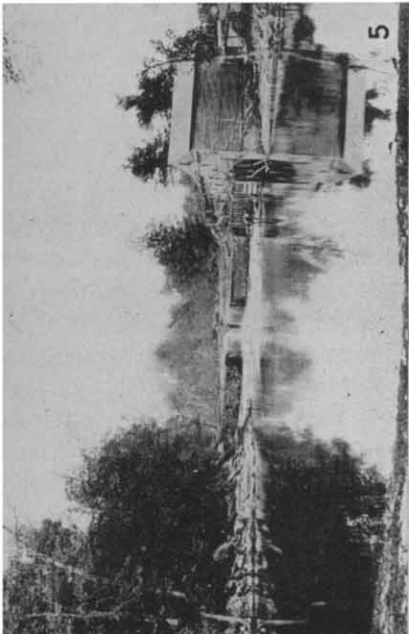
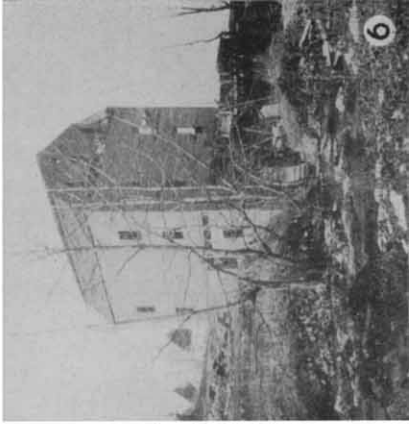
as jeans and worsteds, were made from this yarn, usually in the same mill. Coverlids and woolen blankets were also manufactured. Mr. John Nipp mentions that many woolen mills of Indiana, operated by water power, were controlled by the Rothschilds of New York, somewhat on the order of some of the manufacturing corporations now in existence.

All the old type water-powered mills were of great interest to the boys of the community. Fishing was usually better in the mill-race or mill-pond than in the streams. My father, John H. Doggett, told how he and the other boys of Downeyville used to catch fish with their hands in the fore-bay of the Picayune Mill when it was drained in order that the horizontal wooden water-wheel could be repaired.

Many of the mills on Flat Rock never passed beyond the wooden machinery age. This type of gearing and shafting is graphically shown in the reconstruction of the mill at Spring Mill State Park. Naturally, it required quite a bit of work to keep it in condition and a lot of lye soap to keep it thoroughly greased. The mills that were eliminated were those poorly located, either with respect to power development or to re-located and newly constructed gravel roads. Others followed the evolution from practically all wooden construction to that combining wood with cast-iron gudgeons, with some steel shafting and wood or cast-iron belt pulleys in minor locations or in the setting of new machines. Gradually steel shafting and wooden or cast-iron pulleys with all sizes and types of belting superseded the older construction. This was especially true of the larger and more important mills and those having the best water power sites.

Improved machines for all milling operations, such as grain cleaning and the grinding and bolting of flour and meal were introduced. The roller process of manufacturing flour began to supersede the stone buhr process in the fifties or sixties and had practically supplanted it by 1890 or 1895.

Likewise, the power used to drive the grist-mill machinery went through a process of evolution. Probably the first type of water-wheel used was the undershot or slightly modified current-wheel, operated by confining the water of the stream in a narrow channel and forcing it against paddles under a wheel equipped with them. This type of wheel was only about thirty per cent efficient and went out of common use about 1800. The breast or "pitch-back" had the water in-



MILLS SHOWN ON OPPOSITE PAGE

Key No.

- (1) Moscow Grist-Mill and Sawmill, about 1905. Owned and operated by Park Washburn at that time - - - - - 14
- (2) Moscow Water-Powered Mills, 1936. John M. Wyman, owner and operator - - - - - 14
- (3) Owen Grist-Mill, about 1905. Gearing used in restoration of Hamer's Grist-Mill at Spring Mill State Park in 1931 - - - - - 15
- (4) "Pitch-Back" Water Wheel, Owen Mill, about 1905. Gudgeons used in restoration of overshot water wheel, Hamer's Mill, Spring Mill State Park - - - - - 15
- (5) Picayune or Banta's Mill, about 1897 - - - - - 18
- (6) Old Paul Mill, Saint Paul, about 1800 - - - - - 20

roduced into narrow wooden buckets, the lengths varying according to the amount of water available in the stream. The point of application of the water was usually about three-quarters of the distance to the top, the weight rotating the wheel toward the forebay. Its efficiency was much higher than that of the undershot wheel but probably did not exceed sixty or seventy per cent. This type of water-wheel went almost entirely out of use about 1850. The overshot water-wheel, built of wood and similar to that at Spring Mill State Park, has the water introduced into the type of wooden buckets, as mentioned above, but beyond the wheel's upper center, so that the velocity and weight of the water acts through the whole diameter of the wheel. It was commonly used from the earlier days of the state until 1850, when they began to be gradually replaced by the horizontal wooden water-wheel and then by the cast-iron turbine. The wooden overshot wheels were adapted to heads of water from ten to forty feet and quantities ranging from two to thirty cubic feet per second. All were finally replaced by turbines and none of the water-mills in daily operation in Indiana now has a wooden or overshot wheel. A few of the mills were driven in their later years by steel overshot wheels.

The sash sawmills were driven by flutter-wheels, a type of impulse wheel driven by a jet of water under as much head as possible. The saw carriage was dragged back by a "tub" wheel, the forerunner of the turbine. Both of these types of water-wheels may be seen in operation in the reconstructed sawmill at Spring Mill State Park.

Very little detailed information has been available regarding the types of millstones used and their sizes. Whenever any facts are available, they are carried in the subject-matter of the history of the individual mill. In general, the types mentioned are French buhrs, English buhrs, Sand Creek buhrs and Raccoon buhrs. The two first mentioned types were imported from France and England, respectively, but the other two were made locally, taking their names from the streams on which the quarry was located which produced them. French buhrs were constructed from irregular pieces of suitable grinding stone, used as ballast in ships sailing from France to the United States. They were bound by circular hoops of steel. On the other hand, English stones were imported in their finished state, as they were made in one piece.

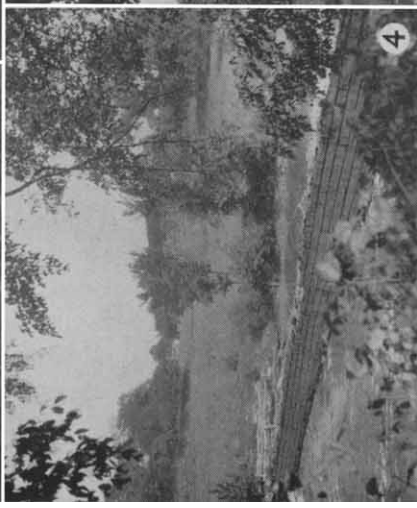
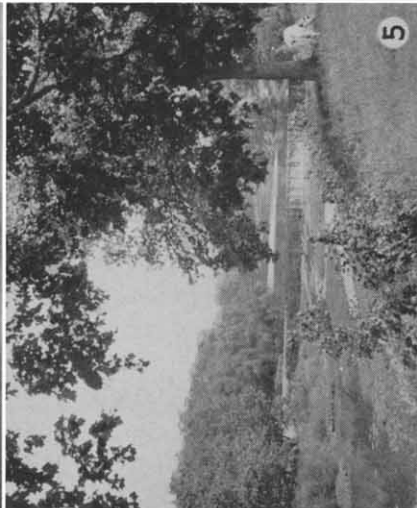
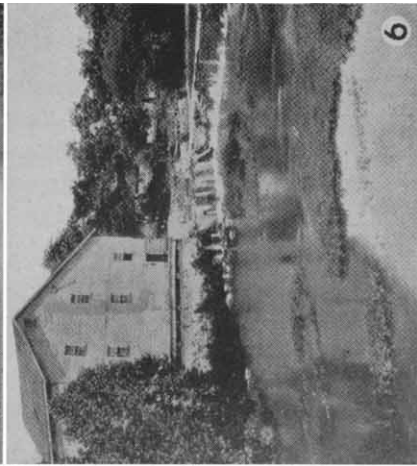
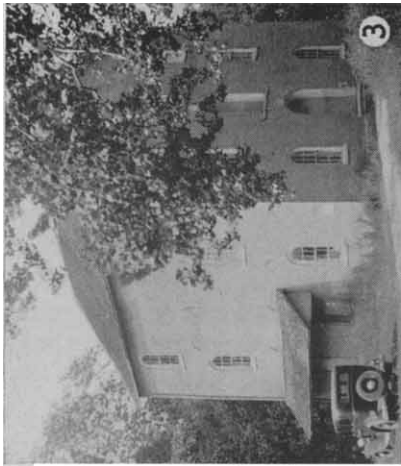
The English millstones were never used extensively in Indiana, as their importation from England practically stopped about 1810—a little before the War of 1812. A few were brought to the state from other states and some were imported several years after the Civil War, but never in the quantity that prevailed in the eastern states from 1790 to 1810. Much might be said about the types of dressings used on all these stones, but it is felt that this should be treated separately after some further research. The following observations anent buhrs and related subjects were made by John Nipp, Sr., in various conversations with him:

Carr's Mill, located three-fourths of a mile above Rushville, used a French buhr for grinding wheat and a native stone buhr for corn.

The White Mill once ground 4 bushels of corn in an hour, on a single buhr, with a 22-inch head of water using a Giant Turbine manufactured by the John Obenchain Co. of Logansport. Normally, this turbine operated two sets of buhrs with an 8-foot head of water. In 1876, I was operating this Tim White Mill on the shares and made \$2500 in a year for my half of the profits. I was furnished with a house, cow, garden, and a horse and buggy on Sunday.

These water-powered mills served the public well from the time of the earliest settlements in Indiana to 1890 or 1900. At that time, the stringent requirements of the government in regard to the quality of flour, caused many of the small mills to quit this class of grinding. Then it was consolidated with the other grinding done in the larger mills having enough capital to handle such machinery as was necessary to meet the requirements. These small water-powered mills struggled along grinding whole-wheat flour and corn meal for local trade. Combinations of damaging floods, obsolete mill machinery, and the improvement of the small electric or gas-powered grinders divorced even this small amount of custom from the water-powered grist-millers who had neither funds nor adequate credit to keep abreast of the latest in machinery and keep their mill dams and other appurtenances in repair. In the Flat Rock basin, only three water-powered mills are now in intermittent operation: Nipp's Mills, Rushville Mills and the Moscow Mill. These are left out of the total list of mills which have separate historical sketches in the following pages.

In the necessary research among publications and books referring to county history, many allusions to mills were incorporated in the following sketches. Naturally, some nota-



MILLS SHOWN ON OPPOSITE PAGE

	Key No.
(1) Overshot Water-Wheel, Old Paul Mill, about 1908 - - - - -	20
(2) Ruins of Mill-dam, John Paul Woolen and Sash Sawmill, about 1908 - - - - -	21
(3) Copeland, Charles or Holland Mill, 1935 - --	25
(4) Mill-dam of the Copeland, Charles or Holland Mill as it appeared in 1935 - - - - -	25
(5) Mill-dam of Cave Mill in 1935 - - - - -	26
(6) Cave Mill as it appeared, about 1918 - - - - -	26

tions were found regarding mills of which no information now exists. The history of Noble Township in the *Rush County Atlas* (1879), contains the following statements:

The first mills were one built by Wm. Robinson on the Abijah Hunt farm and one that John Perkins had on Pleasant Run near where the Baptist Church now stands.

At this time, John Perkins had a distillery on his farm and a horse power tread mill. Some years later he built a mill on Little Flat Rock near where the Pleasant Run Baptist Church now stands (1888).

These two quotations from histories of the township and county evidently refer to the same two places, one located about two miles west of New Salem and one a mile and a half north of the same town. Nothing more could be found regarding these mills.

I. THE GLIDDEN SAWMILL

The first mill on Flat Rock was a sawmill built on the regulation type [sash sawmill]. This sawmill was built and owned by Josiah Glidden. The land on which this mill was built now belongs to the Newgeon heirs and is about 2 miles northwest of Lewisville. It had a 6½ foot-head of water, a short race and a three-foot dam. They used a type of water wheel called a flutter-wheel. It passed out about the year 1895. [J. N.]⁴

II. THE WILLIAM CAR MILLS AND FACTORY

Wm. Carr's Mill was located one-half mile north of Raleigh on Flat Rock in Washington township, Rush County, in sections 12-13, T15N, R10E [Township 15N, Range 10E]. These mills consisted of a flouring mill, a sawmill, and a spinning-wheel factory. Carr located his mills and factory in the year 1845. He first built a sawmill and a few years afterwards built his flouring-mill and wheel factory.

The spinning-wheel industry was flourishing in those days—there was the small spinning-wheel, the large wheel, reel spinning-wheel and the reel on which all this yarn was reeled or wound. These old reels

³The known mills and mill sites are noted on the map accompanying this article and each is given a key number on the map. The same key number is set opposite the name of the mill in the following sketches, making reference easier. Due to the size of the map, it was impossible to place the names of the mills on it. It will be noted that the mill sketches which follow are arranged in order from the source of Flat Rock to its mouth, the mills on tributaries being placed from their sources to their mouths, at the point where they enter the main stream. The mill farthest upstream was the Glidden Sawmill, an account of which is given first in the series of sketches.

⁴All of the sketches among those presented in this series that were written by John Nipp, Sr., are indicated by the initials "J. N." in brackets.

The following statement copied from a history of Henry County, evidently refers to the Glidden Sawmill: "Probably the first mill of any kind in the township (Franklin Township, Henry County) was a saw mill, north of Lewisville, built by Robert Butler. Afterward a grist mill on the same site was run for a few years."

There was not much chance to build mills that could be operated successfully along the upper course of Flat Rock River, as the following sentences, also from a history of Henry County, reveal: "Flat Rock 'drags its slow length along' near the middle of the township (Franklin), and, although at two or three other points it has been compelled to do duty as a mill stream, it has never established much of a character for energy."

would hold 60 cuts of yarn and no more. When turned exactly 60 revolutions, there was some mechanical arrangement inside of the enclosed body that would cause them to snap or knock. It was then that the spinster knew she had a cut of yarn on her reel. According to count, this was about 600 feet of yarn per reel.

This man, Wm. Carr, was known as a wheel-wright by trade and was a good mechanic.

The mill operated under a four-foot head of water and used the old fashioned wooden wheels. His dam was 2 feet high and it damaged lots of good land. These mills, as well as the man, have long since passed.

[J. N.]

III. THE AMMONS OR NIPP MILLS

A sawmill was built on Flatrock, in section 36, T15N, R11E, two and one-half miles south of Raleigh by Adam Ammons in 1847-48. A 35-barrel flouring mill was built in 1854-55. These mills were built by John Nipp, the father of the writer, who afterwards bought these mills. They were then known as the Nipp Mills. The sawmill would cut about 2000 feet of merchantable lumber per day. It was converted into a muley-mill in 1868. The grist-mill made flour and meal and was run as a country custom-mill.

In 1878, the writer [John Nipp, Sr.] of this article bought these mills. He discontinued the use of the sawmill, but changed the flour mill to the roller system of milling, put in a new turbine water-wheel and made a cement forebay or penstock, using the first cement in Rush County, buying it in Louisville, Kentucky. A 13-acre pond of water was impounded by a low rebuilt dam. This mill was operated by a 9-foot head of water, had a mill race one mile long and a very low dam.

John Nipp sold this mill in 1880 and bought it back in 1894 and kept it till after the World War in 1918. He sold it to Ray Whitten, who afterwards sold it to his brother, Will Whitten, who is running it every day. However, the flouring mill ceased to exist many years ago. It is the only water mill in operation on Flat Rock north of Rushville.

[J. N.]

In addition to the information given above by John Nipp, Sr., the following is based on information from Wm. Whitten, the present operator:

The building now standing is the original building and is built of hand-hewed poplar timber cut in the vicinity. It is now powered by iron turbines in two sizes, 25 H.P. and 16 H.P. These are used when there is plenty of water or a shortage, respectively. They operate under a head of nine feet. A gasoline motor furnishes stand-by power when water fails due to drouth. The original sstone buhr is still in place and is used in grinding corn meal and feed. This buhr is a French buhr 4 feet in diameter and weighs 2 tons. The original water wheels were horizontal wooden wheels, the forerunner of the

modern and semi-modern types of metal turbines. The mill race is 1½ miles long and was dug by oxen and man-power. In one of the grain elevators, used in elevating grain to the bins on the top floor of the mill, is a leather belt which was reputed to have been installed when the mill was built. The Senior Nipp went horseback to Cincinnati and carried the belt back. It is said to have cost \$65 at that time. In addition to the stone buhr mentioned above, the water power now drives a cider press, a hammer mill and a steel buhr mill.

IV. THE ERTEL-NIPP MILLS

The Ertel Mills and woolen factory were built by John Nipp, the father of the writer, in 1846-47. They had a saw mill, a corn grinding mill and a wool carding machine. This machine was calculated to take the raw wool and convert it into rolls for the spinning wheels. This plant was located just one-half mile below the Nipp mills. In fact, these mills were so close together that Ertel backed the water on Nipp to such an extent that he [Ertel] was compelled to lower his dam six inches or pay damages for backing the water on the Nipp mill. As Nipp had the priority in claims, Ertel only had at best a 4-foot head of water, while Nipp had a 9-foot head. John Nipp made every bit of the Ertel Mill, excepting the wool carding machinery. He made all four of the wooden water wheels that ran the factory. He built the entire plant which was a large one. The sawmill was 65 feet long and 24 feet wide. The woolen mill, a three story structure, was 50 by 60 feet and was ceiled inside. These mills were run day and night for several years. They did a tremendous business before and during the Civil War. This mill was also prepared to grind corn and feed. Well do I remember going to mill at these mills when I was a youngster a-straddle a horse. But, alas, nothing remains to be seen now at that busy mart but a single mill-stone which is the only marker of that lonely spot. [J. N.]

V. THE KIRKPATRICK MILL

The David Kirkpatrick Mill was located in Washington township on a small tributary to Flatrock called Shawnee Fork. This mill was located on the David Kirkpatrick farm, 2 miles west of Falmouth and ½ mile north.

This mill was strictly a corn and wheat grinding mill. The stream was small and so was the entire outfit, but it did its work well, but slow. It was said of this mill that it only gave out 3 or 4 horse power and it would grind with much less power than that. Its capacity was from half a bushel to a bushel of corn per hour. It did some custom work, but it was designed to do the grinding for the Kirkpatrick family.⁵ [J. N.]

⁵ Mr. Nipp adds the following: "There was a legend that goes with the history of this mill—here it is: One day while the miller was operating this mill, the meal stopped coming down the spout. On looking up, the miller saw a very large yellowhammer (bird) sitting on a beam eating the corn as fast as it came down the spout. The miller shooed this big bird away and the meal came down as usual. This crude mill has long since passed and so has the legend of the big bird."

VI. THE VERMONT AND WATSON MILLS

The lone mill on Shankitank was called the Vermont Mill or the John Watson Sawmill. It was built on Shankitank, a tributary of Flat Rock in 1844. This saw mill was also called Moffit's Mill. It was located in Onion township, about one mile north of the Smelser's mills on the west side of the river. They had an 8-foot head of water, a 5-acre basin of water, a mill race one-half mile long and no dam.

This water mill was converted into what was called a muley steam mill afterward by one Estell Moffit and a mechanic by the name of Gilbert Abrahams. This mill afterward blew up in the year of 1866 and never was repaired. No one was hurt in this boiler explosion, but the mill went out of business and never was operated after this event.

[J. N.]

VII. THE SMELSER OR "TIM" WHITE MILL

The first grinding mill was built at a point on Flat Rock River two miles directly west of Ging's Station in 1822 or 1823 by one John (or "Boss") Smelser, the great-grandfather of the Smelsers of Rush County. This mill was the best and most popular mill in the county for many years. It was said that he owned, at one time, in fee simple 2200 acres of Rush County land. A saw mill and distillery was built several years later. He operated this distillery in connection with his grist mill. The distillery was operated both day and night for many years, and its capacity was from 15 to 24 barrels every 24 hours.

The small mill that Smelser built in 1833 was for many years the best and most popular mill in the country, but had become too small to handle the business of the community ten years later. A company was formed in 1843 composed of the following named persons: Gail Hiatt, Timothy P. White and Jacob Daubenspeck. A new 50-barrel flour mill was built and the old one torn down. The distillery was discontinued but the community was known as Smelser's Mills and was composed of the mills, a good grocery store and a postoffice. This was in 1860. Since then, the mills are gone, the grocery is gone and the post-office is gone.

The mill was operated by an 8-foot head of water. The mill race was very long but the diversion dam was only 2 feet high. This flouring mill ran for many years with this out-of-date equipment. But in 1870, T. P. White, who owned the mill at this time, made some valuable improvements on it and its capacity was increased to 100 barrels per day. A new 50 horsepower turbine water wheel was installed and a renovating of the wheat cleaning department was made. The White Mills had no equal for custom grinding in the state. I acted as miller at these mills in the year of 1875 when I ground as much as 200 bushels of wheat in one day. I would make out of a bushel of good Number One wheat (good sixty pound wheat), as much as thirty-six pounds of good family flour, and twelve pounds of bran and shorts, after taking out one-eighth toll. In the year 1876, Mr. White told me that his flouring mill had made him more money than his farm of 750 acres of land. The

profits of the year that I was there were something over five thousand dollars. At that time everyone went to mill, as the mills handled all the flour and meal. That was the period just before the advent of the paper sack. As soon as the paper sack came into common use, the groceryman commenced to handle flour from the foreign mills and that thing sealed the doom of the small mills of the country.

Mr. White gave me one-half of what the mill made and furnished me a dwelling house and cow pasture. He gave me a horse and buggy on Sunday and still I was not satisfied. Accordingly, I left Mr. White in the fall of 1876 to better my condition. There were at that time, as many as 8 or 10 flouring mills in Rush County. But today there is not one grain of wheat made into flour in this county by water-powered mills. [J. N.]

VIII. THE NIPP SAWMILL

This sawmill [owned by George and John Nipp] was built on the Oliver Norris farm in the year of 1838. It was just east of the Norris Schoolhouse, on the west bank of Flat Rock. Traces of the mill race can be seen on the east side of the Old Clint Norris farm near the river in sections 16-21, T14N, R10E.

The dam was about 3 feet high and was built out of logs. That height of dam and the fall in the river made a 6-foot head of water to run the mill. The mill was a regulation sawmill and had a wooden water wheel of the flutter type. It would cut about 1800 feet of merchantable lumber per day.

George and John Nipp owned 320 acres of land east of this mill. This area comprised the land afterward owned by Dr. Wm. Smith and Purnell Bishop (1888). They failed to take the benefit of the bankrupt law of 1841 and thereby lost the land. The mill had an imperfect title so they let it all go together as land was very cheap in those days. There was a dwelling house and an acre of land that went with this mill.

It was located in Union township, Rush County; was built in 1838 and was dismantled only a few years after it was built. [J. N.]

IX. THE REUBEN ROLAND MILL

This mill was located on Ben Davis or Mahoning Creek, 2½ miles northeast of Rushville, Indiana, and was owned and built by Reuben Roland, a native of Rush County. It had a short race, a three-foot dam, a seven-foot head of water and used a wooden water wheel. It was a custom grinding mill and had the customary machinery for doing such work. It was made out of wood throughout—even the gearing that ran the bolting gears was of wood. It was the principal neighborhood mill until the new Smelser Mill started to grind. There are two legends that go with this old mill.

Wm. Carr, the wheelwright and the millwright, who built the Carr Mill just north of Raleigh, was miller at the Roland Mill in 1845 when the new Smelser Mill started to grind. It was at this time that Carr saw a man on horseback with a full sack of grain across the horse's withers coming up the road from the south. Carr was upstairs in the

mill at that time, so he came downstairs and went to the mill door. This man went by the mill and on to the Smelser Mill a few miles north of the Roland Mill. He went to this mill and found that it was two or three days behind with its grinding, so he brought his sack of wheat back to the Roland Mill. Mr. Carr met him at the mill door and what he said to him was plenty. He would not take the bag of corn off the horse and cursed him. The man went to Rushville and sued Carr for the treatment accorded him. The Justice-of-the-Peace fined Carr twenty-five cents for his crime.

Mr. Roland had a distillery in connection with his grinding mill, and the water for the condensers was pumped by dog power. Roland constructed a tread mill and geared it to a pump, so that all the water that supplied his condensers was pumped by dog power. The arrangement was made to accommodate two dogs at a time, and the weight of those two dogs would pump sufficient water to run this still. Many sheep killing dogs were taken to Roland for work. Mr. Emmett Kennedy who is sponsor for this tale, said that Roland had more dogs furnished to him than he could use. He usually kept three dogs in a pen that served time on the tread mill. These dogs we had in our grandfather's day were large dogs—much larger than the little fice that infest Rushville nowadays. Roland had a 6-foot head of water and wooden water wheels. This mill ran about 6 months in the year.

Remnants of this water wheel shaft and the main gearing were visible to the passers-by [of] the Roland mill in 1865, but nothing remains now but the uneven earth, indicating that a building once stood there.

Mr. Emmett Kennedy showed me the deed [patent] that his father, Hon. A. M. Kennedy, got from Roland. That deed [patent] was made 100 years ago by James Madison [Andrew Jackson] when he was president of these United States. This deed [patent] was made March 20, 1832. [J. N.]

X. THE HINCHMAN SAWMILL

The John H. Hinchman sawmill, built in 1832 by Jonathan Bishop, was located just north of the Marshall Blacklidge (1888) farm in Union township, in Sections 23-26, T14N, R10E, about four miles northeast of Rushville. It was run by the waters of Ben Davis Creek and was a regulation sawmill. It could cut about twelve hundred feet of merchantable timber per day. This mill was operated only in the spring of the year during the freshets when there was plenty of water. It had a six-foot head of water, a two hundred-yard race, and a three-foot dam.

[J. N.]

The following information, from a history of the county, determines that this was the first sawmill in Union township, Rush County: "The first sawmill was built on Ben Davis Creek by Peter Shafer on land now (1888) owned by George

Gray, south of J. W. Looney's farm." According to location notes given by Mr. Nipp, this latter mill was about a mile upstream from the Hinchman-Nipp mill.

XI. THE LAUGHLIN AND CARMICHAEL MILLS

The Laughlin mill and dam were built in Rushville, in sections 5-6, Township 14N, Range 10E, in 1832 by Judge Wm. B. Laughlin. The mill dam, which was located where the south bridge [on State Roads 52 and 53] now crosses Flat Rock, so affected the health of Rushville that people would not tolerate it which caused Mr. Laughlin to remove his dam just two years after it was built.

The John R. Carmichael mill was built on the Laughlin site in 1838, but Carmichael ran his race upstream and built his dam three-fourths of a mile above Rushville and that location is still in use today. Carmichael had a fall of water of about eleven and one-half feet at the mill, and his race was about one and one-half miles long with a four-foot diversion dam across Flat Rock at its upper end.

This mill ran during the Civil War and made its owner a mint of money. It did business with the entire country. Then it was operated by a large wooden overshot water wheel which was approximately twelve feet wide and eleven feet in diameter. This wheel was large enough to run three runs of four-foot buhrs and make 150 barrels of flour per day.

We find that John Carmichael put the first steam engine in his mill on Flat Rock in 1868. The stream went dry for two years and all the millers on Flat Rock had to do the same as Carmichael. It was John Carmichael who made the remark after he had taken his overshot wheel out and put in a turbine, that if he had the Mississippi River flowing down his mill race, he could grind.

This property has changed hands a great many times since the death of John Carmichael. It was owned at one time by Aaron Frazee (1888) and later by I. & C. Traction Company, which bought it for cooling their engines with water. Mr. Charles Alger bought it in 1909 and put in a full set of rolls to make flour and spent several thousand dollars for repairs. The last four years of depression has had a telling effect on this mill. [J. N.]

In addition to the above historical sketch furnished by John Nipp, Sr., it was found that the mill was owned by Wm. H. Young, a native of Ohio until 1935 when it was bought by Ralph Nipp, a son of Mr. Nipp, who is remodeling it and installing new machinery, to be operated by water powered turbines.

From a history of Rushville and Rush County further information may be added. Mr. Nipp states that this quotation refers to a steam auxiliary added to the water powered Carmichael mill:

In 1840, Harvey W. Carr, Joseph Nichols, Joseph McPike and Dr. William Frame formed a company and built the steam mill, to which was attached a sawmill. In 1845, John and Jesse Carmichael bought it. After running it for some time, Jesse went out and Lewis Maddux, James Hibben and John Carmichael became the owners. In a short time, Hibben and Maddux sold their interest and it has been ever since the property of John Carmichael. In July of 1887, Mr. Carmichael put in the roller process works.

At one time, the Carmichael Mills were known as the "City Mills" as attested by the following quotation from a History of Indiana Industries: "City Mills—Alger and Gray, props.—Flour Mill." Brands of Flour manufactured were "Princess" (changed name to "Finest") and "Eureka." Mr. Alger conducted the mill at Glenwood for a number of years. Alger and Gray became proprietors of the "City Mills" in 1895. The Carmichael Mills were sold to Owen F. Carr in the summer of 1908 for \$800, according to a Centennial History of Rush County.

As a matter of interest, Mr. Nipp has added the following description of the Rushville or Alexander Posey Distillery which was dependent upon the Carmichael Mill for its ground grain for mash.

The Rushville Distillery was started in the year 1850 and was built and owned by Alexander Posey. He also owned a bank in Rushville called "The Posey Bank." A distillery was the most common thing imaginable in those days, and there were no small towns or villages that did not have a distillery. Some of these towns had two of them. There were no restraints against people doing anything of this kind that they wished to do. People would take their corn to these distilleries and in return get corn whiskey, the amount being based on a percentage arrangement similar to that used in grinding flour and meal. It was so cheap then that you could get a gallon of good corn whiskey for 25 cents per gallon.

This distillery in Rushville was located south of the Carmichael mill race on half an acre of land. The main building was a wooden structure about 40 feet wide, 60 feet long, and three stories high. This distillery had a capacity of 25 barrels per day. I was there but one time—my recollection of the machinery is as follows: They had two

large tubs or wooden tanks about 12 feet in diameter and 3 or 4 feet high. They used 2 small copper coils instead of one large coil. These condensing coils were located on the east side of the building. They got their condensing water out of the Carmichael mill race. They used a 2-inch iron pipe laid underground for this purpose. Mr. Posey had no corn or rye grinder and consequently John Carmichael did all his corn and rye grinding. They tell me that many farmers would take their corn to the distillery and take it out in corn whiskey. [J. N.]

XII. THE HUNGERFORD MILLS

These mills were built on Flat Rock, in section 4, Township 12N, Range 9E, about 1835 by Calvin Hungerford. A grist-mill and a sash sawmill were both operated here at the same time. The grist-mill had two runs of stones, one for wheat and one for corn. The race was $1\frac{1}{2}$ miles in length and was dug by oxen and men. Wages were $12\frac{1}{2}$ cents per day. Good progress was made so that wages were increased to 15 cents per day for the last quarter mile. The mills were operated under approximately a seven-foot head of water. Some of the foundation walls for the grist mill are still in place (1936), one portion being used as a corn-crib foundation. The foundations for the setting of the flutter-wheel used in the operation of the sawmill can also be seen. However, both are in a farm yard today, and, although the traces of the mill-race, forebay, foundations and tailrace can still be seen, they have been leveled by the feet of farm animals and by weathering. The mill was bought from Calvin Hungerford, its owner and operator, by Asa Forsythe in 1870. He operated it until 1884 when it was abandoned as a flour mill. William E. Roth, who has lived there thirty-nine years, bought the farm and mill in 1896. At that time the buildings were still partially standing.

Quite a bit of the above information was secured from Mr. and Mrs. Frank Whiting, aged 88 and 82 respectively (1936), who lived in the neighborhood 80 years and who were small children when the mill there was being operated at its greatest efficiency. Mrs. Whiting said she could remember that whenever the silk covering the bolting apparatus was changed, the girls of the family had new silk dresses made of the cloth after it was dyed.

Jess Wiley, as a boy of twelve, operated the Hungerford mill for several years for the owner, Mr. Roth. This was from 1896 to 1904. Mr. Wiley was seventeen when he left this job. He states that the mill was approximately forty by fifty feet

in size and three stories high, with a basement ceiling built well above the ground level. The mill-pond and the lower part of the mill-race were all on embankment. In later years (about 1890) an island formed in the center of the mill-pond, the pond silting up until the water was only about two feet deep. Cattle stood in this pond to keep off the flies.

In these years only feed was ground on the two buhrs of the mill, the flouring machinery being entirely abandoned. It had the usual sash saw driven by a turbine. Another turbine operated the windlass which pulled the logs to the carriage and also pulled the carriage back, after the cut was made through the log. The sawmill was located on the south side of the oblong shaped mill-pond and the grist-mill was on the west side and south side, while the mill-race entered it on the north-west side. The pond was approximately 300 feet in diameter. Traces of it may still be seen.

XIII. THE SCULL-HARCOURT MILLS

The John Scull Woolen Mill was located about three-quarters of a mile above Moscow and about a mile downstream from the Hungerford mills, in Section 8, Township 12N, Range 9E, on Flat Rock River. This mill was powered by a small horizontal water-wheel and probably had a two-foot or a three-foot dam. According to John Nipp, Sr., water was supplied through a mill-race about $\frac{3}{4}$ of a mile in length. A woolen mill of this type required about four horsepower for the operations which it handled; namely, picking, greasing, carding and spinning. In these operations, the wool was taken first as it was sheared from the sheep and run through the picker. This separated the wool from the burrs, sticks, and trash that had gotten in it as the sheep wandered through the swamps and wood-lands. It was then greased with stale lard, preferably, so that it would lay straight when carded. In the carding process, it was separated into strands and placed in piles so that it could be readily handled in the spinning. This operation consisted in twisting the strands into threads by means of the foot-power operated spinning wheel. This mill specialized in the manufactured rolls (wool ready for spinning), blankets, coverlids, and rough jeans cloth for clothing. The Mrs. Whitinger mentioned above in connection with the account of the Hungerford mills, had one of the coverlids made

by this mill draped over an old-fashioned sofa in her living room.

This mill was one of what might be called a chain of mills, which were established in 1858-60 for woolen manufacturing under the sponsorship of the Rothschild's, capitalists. The Ertel Mills and the John Paul Mill were two others of the same type, on Flat Rock, according to Mr. Nipp. John Scull was a Methodist minister and rode a circuit in the vicinity for several years.

After the woolen mill failed to make an adequate living for its owner, John Scull, the mill was transformed into a sawmill and wheat drill factory by James Harcourt, the new owner. It was operated in this capacity until 1890, when it was abandoned. It burned in 1893. This drill factory was probably built in the sixties. Ira Harcourt, who lives on the adjacent farm, thinks that it was about 1865.

No information was available as to head or the type of wheel, but from the appearance of the ground, the head was probably about seven feet, and a horizontal wooden wheel, followed by a turbine later, probably furnished the power.

XIV. THE MOSCOW MILLS.

There has been a water-powered mill in Moscow continuously since the town was started in Rush County shortly after 1820. The first mill that was ever built in Moscow was located about 100 feet north of the present mill in Section 18, T12N, R9E, and was built about 1822 by John Woods and David Querry. This mill was built of round logs and had a still-house adjacent to it. Later there were two distilleries with varied capacities, ranging from ten to twenty gallons of corn whiskey per day, located about 190 yards above the mill site. At that time Moscow had a hundred population.

This mills at Moscow were operated by Moses T. Conrad and Job Feaster from 1876 to 1880, according to Sherman Conrad, a son of Moses Conrad. In the *Rush County Atlas* (1879), they were known [listed] as the M. T. Conrad Flour and Grist Mill, Saw Mill with Water Power, 10 ft. fall. A map shows the layout of the property at that time.

The mills at Moscow went through varied changes until Park Washburn and A. V. Barlow bought this property in 1880, six years before the two-span wooden covered bridge was built by the Kennedys in 1886. Milling was a very good business during this period and Mr. Washburn spent at least \$8,000 in repairing the flouring mill. He installed a full set of rolls and built as good a 50 barrel mill as there was in the country. He also put in a new circular sawmill and added a steam engine to help the water wheel in low water periods. Washburn also installed a 56-inch New Dayton water wheel to run the saw mill.

Afterwards Moscow was a lumber town. The first thing you saw as you entered town was lumber and the last thing that you saw as you left was lumber. When Park Washburn got all the timber cut out of the neighborhood, he sold out his milling interests to James Wright, a farmer in 1912. Mr. Wright kept the property eight years and sold it to Joe Clark in 1920. He razed the mill and sold it for junk and that ended the flour mill in Moscow. [J. N.]

John Nipp, Sr., who furnished the above information bought the mill property in 1921 and sold it to John M. Wyman, the present owner, in 1930, who built a new building to replace the one razed by Clark and installed an 83-inch improved Dayton water-wheel to operate a first class feed mill. The mill is operated by water power under a ten-foot head with a gasoline engine for additional power through the low water periods of the year. This mill also grinds corn meal and graham flour on the old stone buhrs of the original mill.

This mill property has had fifteen owners since its original patent to John Wood in 1820. It was deeded to John Smawley in 1837; to William Fellows in 1848; to Franklin and Alonzo Swain in 1850; to Erastus Bussell in 1855; to Erastus L. Floyd in 1855; to Jacob Feaster in 1857; to Israel Buehl in 1858; to Daniel Feaster in 1859; to Moses Conrad in 1876; to Ariss V. Barlow in 1880; to Elihu P. Washburn in 1896; to James Wright in 1912; to Joe Clark in 1920; to John Nipp, Sr., in 1921; and to John M. Wyman, the present owner in 1930. The range in selling price has varied from \$700 to \$5,000.

XV. THE OWEN MILLS

Marion Owen was the last owner and operator of the Owen Mill, two miles south of Moscow on Flat Rock River in Orange Township, Rush County, Indiana. This mill was abandoned in 1888 and was dismantled in 1914.⁶

In the year of 1818 or 1819, Joseph Owen, accompanied by his wife, Tamar Millikan Owen, settled in the pioneer community about two miles south of the town of Moscow in Rush County, Indiana. Mr. Owen came from Georgia and his wife from South Carolina.

In 1820 he built a rude grist-mill on Flat Rock River, the first in Orange township, using a "pitch-back" water-wheel

⁶The historical data regarding the Owen mill which follow are related substantially as given by Mr. Owen in 1936.

as a source of power.⁷ This mill was operated for nine or ten years and was then moved down stream in 1830 so as to secure more fall, thereby developing greater power from the same flow of water. The dam was located at the same point as before and the water was carried through a mill-race almost a mile long to the mill site, in Section 29, Township 12N, Range 9E. This mill-race was started in 1825 and was completed in three years. Yokes of oxen, pulling wooden mold-board plows, loosened the earth which was moved by men with wheelbarrows and shovels. Large boulders were pried out with wooden bars or lifted and carried by the workmen.⁸

At the new site, both a grist-mill and a sawmill were built and operated by Joseph Owen with the aid of his three sons, Ben, Millikan and Joe. Andrew Stevens was the mill-wright employed to plan and supervise the construction of both mills. The sawmill was located about a quarter of a mile upstream from the grist-mill and was supplied by water from the main mill-race by a branch extending in an easterly direction to the low earthen bluff forming the second bank of the stream.⁹

Of the descendants of the three sons mentioned above, two of the sons of Millikan Owen retained an active interest in milling work, and especially in the mills described above. There were four of these sons, Oliver, Ben, Marion and Millikan. The two latter sons operated the grist-mill and sawmill and built the last wooden water wheel in furnishing power for the buhrs of the mill.

The sawmill was abandoned with the advent of the improved steam engine, probably about 1880, but the grist-mill was operated for several years until the flour salesmen from the big flour mills of the northwest placed their "hard-wheat" flour in all the country stores of the territory served by the Owen Mill. The last operation of the mill for the custom grinding of flour was in 1888. Coupled with the above competition there came a series of years of high-water in Flat Rock River caused by a combination of circumstances such as the cutting off of forest cover, the drainage of the land, and excessive rainfall. These floods washed out the dam and caused consid-

⁷ According to the *Rush County Atlas* (1879), Mr. Owen also had a still-house in connection with his mill.

⁸ Isaiah McCoy, my great-grandfather, related many stories concerning his work on this mill-race.

⁹ A map of these buildings and of the dam and mill-race is shown in the *Rush County Atlas* (1879).

erable damage to the water-wheels, making it economically impossible to meet the keen competition of the big mills.

Thus, the old custom, whereby the farmer hauled his wheat to the mill at threshing time and left it "on deposit" there for the year's flour supply for his family, became obsolete and another pioneer custom became a thing of the past. The importance of the pioneer grist-mill as a social center for the community and as a business enterprise was great. Marion Owen stated to the writer that in his remembrance (age now 88), as many as seventy-two wagons brought grists to the mill in twenty-four hours and at times four-horse teams were used, due to the bad condition of the roads. This custom came from a radius of eight to ten miles, although there were times when many came as far as sixteen to twenty miles. Mr. Owen stated that quite a number came from Laurel, on the White-water Canal, in those days.

Mr. Owen related several details in the construction of the mill that were of much interest. One that seems strange to us now is the cutting of a yellow poplar tree thirty-six inches in diameter for the hub of the last pitch-back water-wheel for the grist-mill. The water-wheel was eighteen feet in diameter, was six feet wide over all, and had a double row of buckets as shown in the picture of it. Its speed was eight revolutions per minute and it developed approximately twenty-five-horse-power. This wheel was built by the two brothers, Marion and Pate (Pate was the nickname for Marion's brother Millikan). He told how they went into the woods, picked out a yellow poplar tree of the proper size, cut it down, hewed it into an octagonal stick of timber of the right length, laid out and cut the mortises (four by sixteen inches, by twelve inches deep) for the arms of the wheel, cut the gudgeon seats and then hauled the stick to the mill site where the gudgeons (cast-iron pivots on which the wheel rotated) were installed and the gudgeon bands shrunk on, after heating, to hold them in place. After this work was completed, the remainder of the wheel was built.

The smaller gearing in the mill was practically all of cast iron while most of the larger gears were of wood. These large gears were mainly spur gears, the teeth of which were made of hard-sugar or maple wood. The gearing used in the new mill was the same as that used in the first one and came from the foundry of James Bradley and Bros. of Cincinnati, and

from a foundry at Laurel, located on the old Whitewater Canal.

The mill had a capacity of 100 barrels of flour in 24 hours. In the milling season, mills were run day and night in order to accommodate the patrons who had come great distances to mill. Water was usually plentiful so that the mill could operate at its full capacity of three runs of stones. Four runs were installed but the fourth was never used. Two runs were French buhrs, used in the grinding of flour, one run was of Racoon buhrs, used in grinding feed and the fourth was Sand Creek buhrs which were never used. It is said that the two pairs of French buhrs were hauled overland from Pennsylvania by oxen.

This mill was operated under lease by Moses T. Conrad from 1871 to 1877. The dam washed out in 1876 and he abandoned his lease. This led to a very interesting item, related by Mr. Owen, concerning the construction of a new stone dam to replace the one washed out by floods of the previous spring. Work was started on August 6, 1877, and the dam was completed November 6th, of the same year, just three months being required for its construction. Marion and his brother Pate were there every day helping the stone masons to hurry the work of completion. The following statement is of interest in connection with the Owen Mill:

Owen Bros. of Moscow, Rush County, Indiana, have put in a new stone dam, the finest in the State. The dam was constructed by John H. Eck, the stones being laid on the solid rock and fastened securely with dowel pins, thus making it unusually strong and not likely to give way. Messrs. Owen Bros. are now prepared to do all kinds of custom work at their flour mill; they have also a saw-mill, and are prepared to do a general business in this line.²⁰

According to Mr. Owen, there was, and is, a certain glamour to milling. This included the construction, maintenance and operation of the dam, mill-race, water-wheel, gearing and setting of buhrs, bolting machines and sacking machinery. Probably a goodly portion of it lies in seeing the picture of the old mill on a flour sack with the firm's name underneath it. These early millers were men who took pride in their handiwork, more especially because this work consisted in serving their fellow men with flour and meal, from which the staff of life was made in the pioneer rural community. In addition to

²⁰ From *The Millstone*, Dec., 1877. Published at Indianapolis by David H. Ranck.

the glamour, there were certain pecuniary rewards, especially in normal times when no highwater or drouth conditions interfered with the operation of the mill. When more efficient steam engines came on the market and improvements were made in the flour mill machinery and power transmission, the margin of profits dropped in the milling industry and the old water-powered mills were slated for discard because of their inefficiency.¹¹

In the interview with Mr. Owen, he pointed out that Flat Rock River with its tributaries had been one of the principal milling streams of Indiana. No less than fourteen mills were located on the main stream between the town of Flat Rock in Shelby County and the source of the stream in Henry County. Some of these were grist-mills and some were sawmills, while others were combinations of the two.

Mr. Owen visited all of these mills except the Smelser and Nipp Mills above Rushville and gained many helpful suggestions from his observation of methods of doing milling work at these various mills.

XVI. THE MILROY MILLS

According to a sketch in the *Rush County Atlas*, the first mill at Milroy was kept by Gossett and Miller. It began operations in the late eighteen-twenties and after changing hands several times was abandoned about 1845. The motive power was an overshot wheel supplied by water from Little Flat Rock.

Evidently, a grist-mill was also built at another site in Milroy on Little Flat Rock, for we find a record of a mill built in 1832 having two runs of French buhrs driven by an over shot water wheel operated under a twelve-foot head of water. This mill was two and one-half stories high and 24 x 45 feet in size.

The old mill was abandoned and a new one built about 1890 under ownership of Moses T. Conrad. A turbine and steam power were installed at this time. The full roller process was installed about 1892, under the ownership of J. Grabill Bickhart, a brother of Chris Bickhart, one of the owners and operators of the Bailey Mill below St. Paul. This new mill was

¹¹ In 1931, Mr. Owen gave all of the cast-iron gears, gudgeons, etc., which were left from the dismantling of the sawmill and grist-mill to the Indiana Department of Conservation which was then engaged in the restoration of a flume and a wooden water-wheel, wooden mill machinery and a sash sawmill at Spring Mill State Park near Mitchell, Indiana.

about a hundred feet below the old one which remained many years as a land mark and had a daily capacity of 75 to 100 bushels of grain per day, or 75 barrels of flour. The principal brands of flour manufactured were "Pond Lily," "White Dove" and "Silver Leaf." It was still in good running condition in 1899.

Owners and operators included the following in chronological order: Thomas J. Larimore; Rice and Bracken; Bracken; F. F. Swain (1855-1860); W. Ferree (Steam and Water-Powered Mill); Moses T. Conrad; William T. True (bought in 1879); Conrad (repurchased the same year); J. G. Bickhart; Paulus and Smith; Jones and Bowles; a Mr. VanSickle (operated the Milroy Mill, 1893-1897); "Doc" Gwinn (miller was Boone Arbuckle); Root and Green (George Root, Manager).¹²

The home of Hubert Innis now occupies this mill site. Traces of the mill-race and the beginning of the tail race may be seen at the back and side of the house. The race extends in a general northerly direction to a point north of Milroy where a dam diverted water from Little Flat Rock.

XVII. THE JEWETT GRIST-MILL

This grist-mill was located east of the former Lafayette Shelhorn tenant house at a point between this house and the Lafayette Shelhorn home. This location is about half a mile above the town of Downeyville and just above the cemetery of the Little Flat Rock Baptist Church. It was on the north bank of Little Flat Rock. Traces of the mill race and the forebay may still be seen.

This house (the Lafayette Shelhorn home) is a stone structure and was built by David Jewett, grandfather of Mrs. Phoebe L. Roberts.¹³ It was stated in a family history that Mr. Jewett gave a man a mare for building this large stone building.

XVIII. THE PICAYUNE MILL

This mill was located in the town of Downeyville on Little Flat Rock, about a mile above its junction with Big Flat Rock.

¹² The writer remembers hauling building stone to Milroy with his father about 1910, and seeing the mill standing and in operation at that time.

¹³ Mrs. Roberts of Adams, Indiana, was born in 1864. She remembers that when she was a little girl there were a few old relics or land-marks at the mill site.

The mill property lies in the SE Quarter of Section 6, Township 11N, Range 9E.

It was a combined water-powered grist-mill and sash saw-mill. The water was carried from the dam in a wooden flume to the water-wheels located at the downstream side of the mill. The earliest wheel was an overshot wheel. This was replaced by a wooden turbine wheel, the forerunner of the metal turbine used later in many mills. As far as is known, no turbine was used except the wooden one. The wheels operated under a head of eight feet of water.

The exact date of its construction is not known but it was probably soon after the farm was first purchased by John Shelhorn in 1820. It was the first bought in Decatur County. The mill was operated by the following: John Shelhorn; Peter Sherman (1850); Charles Flinn and Isaac G. White (partners, 1854 to 1862); Daniel H. Banta (1862 to 1864); Jesse T. Hamilton (1864 to 1867); Joshua Kelly (1867 to his death). It was next operated by Elisha Wyatt, an heir, until his death in 1872, then by various other parties. The mill was abandoned in 1884. About 1895 or 1896, the timber was salvaged by Elmer Shelhorn who used it in the construction of a barn which burned a few years ago.

No exact data was found as to the derivation of the name "Picayune Mill." However, it is believed that this was a nickname given because of its small size, from the picayune, a small silver coin used in the early part of the nineteenth century and valued at six and one-fourth cents. This small mill was rebuilt in 1854. Even after its reconstruction, the mill was much smaller than those usually found in the community.¹⁴

XIX. THE SHORT SAWMILL

The Short sash sawmill was located on Flat Fock at or near the present (1936) Shady Bend Camp, a few miles above Saint Paul. It was of the usual type. According to Marion Owen, aged 88, "it was washed away in the New Year's 'fresh-et' in 1848, so I have heard in early times."

XX — XXI. THE PAUL MILLS.

The Paul Mills included the Old Paul Mill and the John

¹⁴The flour was bolted through a fine cloth according to Mrs. Roberts, from whom a part of the historical data relative to the Banta Mill were obtained. She is a daughter of Samuel Shelhorn and a granddaughter of John Shelhorn. Charles Zoller, formerly of Greensburg, who is living in a residence built on the site of the former miller's house, furnished much of the information presented above, including the dates.

Paul woolen mill and sawmill. Jonathan Paul was born in Pennsylvania about 1770. His birthplace was Redstone Old Fort, now part of Brownsville, whither his parents, Michael and Ann Parker Paul had removed from Germantown in 1776. He was the youngest of a family of seven—Rebecca, Peter, Martha, John, Ruth, Elizabeth and Jonathan. His brother, Col. John Paul was the founder of Madison, Indiana, and a member of the first legislature of Indiana. Jonathan Paul lived in Greene County, Ohio, from 1790 to 1819, when he came to Indiana, finally choosing a mill location on Flat Rock. His land patent bears the date of October 10, 1820. He was married in Kentucky to Eunice Griffin, a niece of his brother Peter's wife.

His first home was a log cabin in the valley near the old road at the foot of the cemetery. This house burned and another was built on the same spot. The second only served as a temporary dwelling until he could get a brick house built which he had in contemplation. The contract for the building was let to Daniel French, a brickmason and molder, and the result was the present "Old Paul Homestead," which has been slightly modified. It is a large and unpretentious building of the nineteenth century type. After the completion of his home, he set to work to build a mill on Mill Creek.

Jonathan Paul established this first rude mill on Mill Creek adjacent to the present cemetery, and a short distance above where the later Old Paul Mill stood. This first mill was not much larger than a smoke house. It ground only corn in an old fashioned hand hopper. A few years after Jonathan Paul put his first mill in operation, his son, John Paul built a water-powered-mill a short distance below the old mill. He later built a woolen mill at the confluence of Mill Creek and Flat Rock on the west side of Mill Creek and a dam across Mill Creek. The mill-race can still be seen, though it is badly weathered. He also had a sawmill near the same place, using water power from Flat Rock. The two buildings were connected. It was the original intention to furnish power for these mills by means of water carried through a race extending from the Dripping Springs to this junction. The race was completed but the plan of operation was found to be impractical so it was never used. Portions of the old mill-race may still be traced through Floyds' Woods. It is a matter of curiosity to the people of the town and to many sight-seers. The woolen

mill derived its power from Mill Creek and Flat Rock River was dammed to provide power for the sawmill. The sawmill furnished the building material for the community. In the spring of 1847, both the woolen mill and the sawmill, together with the dams were washed away in a flood.

Paul rebuilt his father's mill, and this is the one that became known as the Old Paul Mill, which was razed in 1909 for the timber which could be salvaged. It was operated by an overshot water-wheel eighteen feet in diameter. Water freed from the race by the lifting of the water gate, would fall down over the wheel, filling the buckets and causing it to rotate because of the weight. The mill was equipped with French buhrs. This rebuilt grist-mill was three stories high and forty by fifty feet in plan. It had a capacity of 30 barrels of flour per day of 24 hours. The mill was equipped with two runs of stones driven by an overshot water-wheel eighteen feet in diameter and about four feet wide. Water was taken from Mill Creek and was impounded by a stone dam in the area, now a cultivated field, on either side of the St. Paul-St. Omer road between the foot of the schoolhouse hill and the bridge over Mill Creek. Traces of this stone dam and raceway leading to the mill site may still be seen. This creek is a tributary of Flat Rock and enters it about half a mile below the mill site.

The woolen mill was in operation in the Spring of 1865, according to Marion Owen. He remembered taking axes to John Paul in 1865 who was also a blacksmith, to get them drawn, handled and sharpened. Walter and Schemel were the proprietors at that time. This mill made jeans, flannel and cashmere cloth. It was made into a knitting mill in 1875.

The original Paul Mill was located at the same place as the mill which was operated by E. L. Floyd in 1882. This is the same mill that was salvaged in 1909. The salvaged lumber was used in several of the frame houses built by George Schwartz, a preacher-contractor, during the period from 1909 to 1912.

XXII. THE BAILEY MILL

The Bailey Mill was located on Flat Rock about a mile below St. Paul in Section 9, Township 11N, Range 8E. It was built by Peter John Bailey in 1833 and 1834, starting to operate late in the latter year. It was a water-powered mill, the buhrs probably being driven by an overshot water wheel at

first, then by a wooden tub-wheel and later by a turbine. A sawmill was operated in conjunction with the grist-mill. Erwin W. Madison assisted Mr. Bailey for many years in the capacity of miller until he went to war in 1863.

In 1868, the Bailey Brothers (Nicholas, John and Peter) came into control of the mill. They built a new masonry dam that year. The mill building was fifty by fifty feet and five stories high. It was fitted with four runs of five-foot stones and had a capacity of fifty barrels of flour in twenty-four hours. The machinery was propelled by an improved turbine after the new management assumed control.

The building was made of yellow poplar and stone. It was supported by stone piers in the river and by the stone banks of the river. These piers held the building up through many disastrous floods. However, the flood of March 28, 1898, was too severe and the mill was lost in its entirety, with the 2,500 bushels of grain stored in it. Christopher (Chris) Bickhart was the owner and operator at the time of the flood, hence the name Bickhart Mill is used by some.

At that time there was sentiment in favor of rebuilding the mill and public subscription amounting to \$3,500 were pledged. The mill was rebuilt by Bickhart in smaller form and powered by a gas engine only.¹⁵ It was later dismantled and removed to Henry County.

XXIII. THE ISAAC NEWTON MILLS

The first Newton mill was built in 1834 as a water-powered sash sawmill on the Isaac Newton farm in the edge of Waldron on Conn's Creek, a tributary of Flat Rock. A grist-mill was added a little later. A set of four-foot native stone buhrs was driven by an overshot water-wheel under approximately an eight-foot head of water. Still later, wood-working equipment was added and turned bedsteads, lath and wooden bowls were manufactured. This mill was operated by water power only, no standby steam or gasoline engine ever having been added.¹⁶

¹⁵ Van P. Bailey, a grandson of Peter John Bailey, states that the buhrs were made in sections of flint and stone and bound with iron. These might have been either French or English buhrs, although the former were more common through this section of the state. The earlier water-wheels were the four-bladed tub-wheels with complete wooden construction including the gearing. The writer remembers "going to Mill" with his father to the rebuilt mill operated by Bickhart.

¹⁶ These mills were abandoned about 1870 and dismantled and razed a few years later, according to Lucy Stanisfer, a daughter of Mr. Newton.

XXIV. THE HAYMOND MILL

The Haymond Mill was located on the farm of the same name, about a mile down stream from Waldron on Conn's Creek, a tributary of Flat Rock. It was built in 1856. It was both a grist-mill and sash sawmill driven by a turbine under a 6 to 8-foot head of water. The stone buhrs were three feet in diameter and are now at the Dr. Ray Haymond cottage north of Waldron. The mill was torn down 30 years ago (1906), according to George Haymond of Waldron, a son of James C. Haymond. It was probably abandoned several years earlier than this date.

XXV. THE COPELAND MILL

Alexander Copeland moved to a farm in the NW quarter of Section 22, Township 11N, Range 7E, on the north side of Flat Rock River and about a mile downstream from Geneva, in 1846.

Soon afterward he built a log dam across the river, a sash sawmill on the north side, a short mill race and a grist and flour mill on the south side.

In 1868, the race was extended down the river and a three story brick mill was built. It was equipped with 2 sets of stone buhrs, probably French, for grinding flour, meal and feed.

After his death in 1879, his two sons-in-law, Edward and Romolus Charles, served the farmers for miles around until the mill was bought and remodeled into a roller mill in the fall of 1912 by William R. Holland. The mill is, therefore, sometimes called the Charles Mill, and, in recent years, the Holland Mill.

The mill was sold to C. C. Shipp in 1918. It was then leased to a man named Stewart two years and was dismantled about 1920. The brick mill building is still standing but the stone-filled timber crib-dam was washed out in the ice jam and flood of March, 1936. This mill was last powered by a standard cast-iron turbine, operating under approximately a twelve-foot head.

XXVI. THE CAVE MILL

This grist-mill was built about 1830 by William Bone, grandfather of Thomas Bone, Jr., who lives in the Cave neighborhood, north of Hope. William Bone operated the mill

until about 1850. It was next operated by Alfred Bone, a son of William Bone, until about 1870 or 1872. Then it was purchased by Leander Nelson.¹⁷ Mr. Nelson operated the mill for fifteen or twenty years as a buhr grist-mill. After that time he added the long-system roller-process, and took a partner. He also repaired the mill building and added other machinery, such as corn shellers and wheat cleaners, which modernized the mill greatly. This work was done in the early nineties, probably about 1892. The mill was sold to Andrew (Andy) Monroe about this time. The roller process machinery was further modernized about 1900, by Mr. Monroe. Monroe sold the mill to C. C. Shipp, of Indianapolis, about 1929. Mr. Shipp razed the mill. During the last few years of its operation, the mill ground feed and made graham flour and corn meal, the roller process not being in use since 1921.¹⁸

The dam has a height of about nine feet, making the effective operating head of the water nearly ten feet. In its early days, it was a buhr mill having two sets of buhrs, one for flour and one for corn meal. The mill was three stories high and of frame construction. The "grinding floor" of the building was the second, the side-hill basement of the mill being the first story. The approach to the mill was on the side away from the stream, where there was a gravel road. Grain was hoisted by means of a rope and pulley from this level to the second story or grinding-floor.

Interesting information found in a history of Shelby County, indicates that "church services of the Cave Mill Christian Church were held here as early as 1885," implying that the mill was used as a place of worship, possibly while the church building was being repaired or rebuilt.

The above quotation from a history of Shelby County evidently refers to the mill which preceded Girton's Mill, as the location is the same. The mill mentioned above was evidently the first in the county, according to the *Shelby County Atlas* (1885).

¹⁷ Leander Nelson's wife was a cousin of the mother of Albert Sanders. The latter is an old mill operator of Milford on Clifty Creek, seventy-five years of age. Mr. Sanders furnished quite a bit of the history and description of the Cave Mill.

¹⁸ The Cave Mill was powered by two cast-iron turbines, in later years, according to Mr. Sanders. John Rutherford helped to break up the wheels for scrap iron and told Mr. Sanders recently that they were of cast-iron. Evidently the earlier wheels were of the all-wooden type of horizontal turbine, as this is the type of wheel remembered by Thomas Bone, Jr.

XXVIII. THE GIRTON GRIST-MILL

In the summer of 1823, a writ of *ad quod damnum* was procured by Isaac Drake, but records show that a mill had been constructed and was in operation sometime previous to the procurement of the writ. This mill was located on the NE Quarter of Section 25, Township 11N, Range 6E, on Flat Rock River.

The above quotation from a history of Shelby County evidently refers to the mill which preceded Girton's Mill, as the location is the same. The mill mentioned above was evidently the first in the county, according to the *Shelby County Atlas* (1885).

The Girton Grist and Flouring Mill was built in 1854 on the Girton farm about two and one-half miles east and north of the village of Flat Rock. It was a brick mill equipped with several runs of large stone buhrs driven by an overshot water wheel. It was built by Jacob Girton and operated by him and his son, Christopher Girton. After Jacob Girton's death, his son operated it until it was abandoned in 1875.

Lewis M. Blades, a son-in-law of Christopher Girton, remembers the appearance of the mill well. It was one of the largest in the community and was in excellent condition, both structurally and mechanically, when it was torn down in 1885. It was abandoned principally because of a mistake in the location of the dam. It seems that the dam was so located that it diverted the heavier silt and pebbles carried by Flat Rock in the comparatively sluggish portion of its length which is near its mouth. This diversion naturally caused the mill race to silt badly so that it eventually became necessary to clean it annually. As it was approximately a mile in length, it can be readily inferred that the cost of cleaning the race took most of the profits from the operation of the mill. The law of economics did the inevitable—closed the mill.

On Christmas morning, 1880, Christopher Girton's residence burned. It stood on the present site of the Lewis M. Blades home in Flat Rock. Girton and his family lived in Shelbyville and Flat Rock during the next five years. In 1885, he decided to build a home in Flat Rock on the site of his former home.

Accordingly, he tore down the abandoned mill and used as much of the salvaged material as possible in the construction of this home. The brick used on the inside wall of the beautiful old brick residence came from the mill. All the window frames were sawed from walnut timbers from the mill's interior framing. The front doors which are of walnut outside

and oak inside were likewise fashioned from the mill timbers. In like manner, the stair posts and railing and the wood finishings for several rooms, were sawed from mill timbers. These timbers were taken to Columbus for the milling necessary before they could be used. The house has stone window sills throughout, which were taken from the mill.

Christopher Girton operated the mill during the Civil War and is said to have cleared \$100 a day. The mill never stopped during that period—was operated day and night, seven days a week, except when Mr. Girton and his miller had a political quarrel. The miller was a staunch Republican and Mr. Girton an equally staunch Democrat. The quarrel started one Friday, when one called the other political names, etc., and lasted until Sunday morning when they decided to drop politics from their work. This miller, incidentally, was well paid, receiving \$7.00 per day.

Jacob Girton also had a sash-type saw-mill located a quarter of a mile directly west of his grist-mill. It was driven by water-power—probably by a breast wheel. It was leased to a man named Clayton and was called the Clayton Sawmill. It was also abandoned in 1875 and probably for the same reason as the grist mill, since it no doubt received water from the same race.

XXVIII. THE RAINS-CRANE MILLS

As early as 1823, Mr. Isaac Rains founded a rude mill on Flat Rock, six miles north of Columbus, at a point afterwards known as Corman Town. At that time there was an island in the river and between it and the east bank there was a narrow channel through which the water ran with much force and velocity. Taking two logs of suitable size, he placed one on the island and the other on the bank parallel to the first and the current, notching them to make bearings for a wooden shaft, which was laid from bank to bank at right angles to the stream and resting in the notches made in the logs. To this shaft he attached flights or paddles reaching down into the water and moved by its flow. Simple wooden gear connected this flood-wheel with a hand mill [previously mentioned as being the first in the county]. Rude as this mill was in its construction, it did a great amount of work and saved the neighboring settlers many a tiresome trip. Later it was replaced by better appliances; the property fell into the hands of the Crane family, who further improved it, adding a saw mill and wood-working machinery.¹⁹

¹⁹ *History of Bartholomew County* (1888). Mr. Albert Sanders of Milford visited a mill on Flat Rock many years ago, located about three miles east and about three miles south of Taylorsville. From the account above, this is the later structure built on the same site. Mr. Sanders stated to the writer that the mill observed by him was driven by a wooden turbine-wheel operating under an eight or nine-foot head. Two runs of stone were in use, one for corn and one for wheat. The building was two stories high and had the bolting devices in the upper story.

Information stating that Joel A. Crane's Woolen, Grist and Saw mills were located on Flat Rock in Bartholomew County has been found by Mrs. A. G. Newsom of Columbus.

XXIX. THE PATTERSON-WHITESIDES MILL

In 1835, Isaac Patterson built a custom flouring mill on Flat Rock, just north of the old Madison road-bed, near Columbus. The location was a good one and the mill commanded a large trade, but the foundation of the dam being sandy, it was constantly giving way and causing trouble and expense. The property changed hands once or twice and finally went down, about 1847, probably owing to the want of water power. In 1847-1848, Messrs. Banfill and Griffith extended the old mill-race to the south side of the town stopping at a point within one hundred yards of the bed of Driftwood Creek. Here they erected a flouring mill fitted for merchant and custom work. The firm sold the property to Capt. Whitesides, who continued to run the mill until the fall of 1858, when it was destroyed by fire. A temporary custom mill was kept up for a few years afterwards at this point, when the water-power was transferred to William Carter, who founded the Hydraulic Woolen Mills near the site of the old mill. The destruction of the Whitesides Mill closed the water mill era in the immediate vicinity of Columbus.²⁰

²⁰ In 1831, Mr. Thomas Cox built a mill run by water power on Flat Rock. In 1835 he built a grist mill near Columbus. This mill engaged a large trade for fifteen years or more, till other mills, more modern and more easy of access, drew off its patronage, when it was abandoned, and the water gradually shifted its course till the old mill was left some two hundred yards to the west of the river. There is no way of definitely determining whether this mill, mentioned in another history of Bartholomew County, is a duplicate of the Whitesides Mill, or is a different mill operated in another locality.

Mrs. Newsome also found a reference to Chase's Mill on Flat Rock near the old Jacoby Ford, afterwards Highfield Bridge Ford. This mill was located about 2½ miles north of Columbus. It was washed away and never rebuilt. Whether these mills were the same as others mentioned above, under either earlier or later ownership, is not known.