The Story of the “Spring Mill” Water Wheel
By DENZIL DOGGETT

The present restoration of Spring Mill village is located in Spring Mill State Park, three miles east of Mitchell, in Lawrence County, Indiana. At about the time that a mill in this location was first considered, practically all of the grinding, carding, weaving, etc., that supplied the early pioneers with food and clothing, was done by hand, by horse-power, or by water power. Spring Mill owed its existence to the presence of a plentiful supply of water which could be used for the development of power by its proper application to a water wheel.

When Spring Mill was being considered as a possible state park, Mr. Richard Lieber, Director of the Department of Conservation, remarked that here was a locality which combined several desirable features: an example of the virgin timber of the early days of Indiana, which our Division of Forestry in some measure is trying to restore; limestone caverns, which the Division of Geology studies for information regarding the state's geology; and a village which if properly restored by the Division of Lands and Waters would show the people of the state, in a practical way, the great progress made in improved living conditions in the past hundred years.

The land which contains this village was acquired by Samuel Jackson, in 1814, as a reward for his services in the War of 1812. In 1817 it was sold to two Kentuckians, Thomas and Cuthbert Bullitt. A quarry was opened and the building of a stone mill was started the same year, which was completed in 1818. The mill was sold to the Montgomery Brothers in 1823. To the activities of milling and sawing of lumber from the timber surrounding the mill the new owners added a distillery. In 1825, the combined enterprises were sold to the brothers, Hugh and John Hamer, who came from Albany, New York. Under the guidance of Hugh Hamer, the mills and distillery were surrounded by homes of workers, a tavern, an apothecary's shop, a general store, a hat shop, and all those trades necessary to the pioneer settlement. With the coming of the railroad, the inland village gradually fell into decay and was finally abandoned in its entirety in the late eighties.

In 1927, the land surrounding and containing the village
site was given to the State of Indiana for park purposes by the corporation then owning it, the Lehigh Portland Cement Company. This action was brought about through the efforts of Mr. Lieber and General Trexler, chairman of the board of directors of the Cement Company.

In the spring of 1951 the task of planning and restoring the flume and water wheel of the mill was given to the Division of Engineering. Then began a systematic research into the details of construction and use of the types of water wheel in Indiana early in the nineteenth Century. This research turned in two directions: detailed investigation of the history of the overshot water wheel of the mill in Spring Mill State Park, and a study of the details of other overshot water wheels which were known to be contemporary with this one.

In the former study, local residents who remembered the old water wheel at the mill were sought out and interviewed concerning details as to diameter, width, method of framing, materials used, etc. Considerable information of this type was gained from William Lynn who lives adjacent to the park. A study of the local conditions at the mill, which might give some clue to the details as to size and construction, was also made. The lime marks on the stone walls of the mill, caused by the splashing of the water from the wheel, gave us information which checked that given by Mr. Lynn relative to the diameter of the wheel, which was determined to be twenty-four feet. A segment of the rim of the original water wheel was found by a workman in a pile of drift a mile or so below the mill. The diameter deduced from the curve of this segment checked our previous calculations. The width of the tail-race was such that the width of the bucket had to be something less than five and a half or six feet. From observation of timbers which were found buried in the mud and debris of the abandoned tail-race, it was decided that the former width of the water wheel was four feet.

When it came to determining detailed methods of planning and fabricating the wheel, it was found necessary to seek other sources of information, as no pictures of the old water wheel used at the mill could be located. A picture of the water wheel of the John Paul Mill at St. Paul, Indiana, yielded considerable information as to methods of framing such a wheel. This information was supplemented through verbal information on this subject, by Marion Owen of near Moscow in Rush County,
who built the last water wheel used at the Owen Mill at Mos-
cow. All through the period of planning and construction Mr.
Owen helped in making the details of construction authentic
for the period of history which the reconstruction was designed
to illustrate. True, some variations have been made to aid in
the ease of operation and to prolong the life of the wheel but
these details are camouflaged to retain the appearance of
former years. The actual work of construction was carried on
under the direction of Oren Reed, a field Engineer of the Di-
vision.

The hub of the great wheel was made from a thirty-six
inch white oak log twenty-four feet long, which was cut near
Henryville. From a count of the annual rings of the log its
age was determined to be one hundred ninety-five years. All
of the timber used in the construction was of the best quality
of white oak that could be located. The design of parts of the
wheel was such that this timber could be purchased from local
saw mills. Rough sawed lumber was used throughout. The
entire wheel was framed in accordance with the practices fol-
lowed in the decade from 1820 to 1830.

Mill fittings, including gudgeons, bearings, etc., for a grist
mill of this date were purchased from Marion Owen, the last
owner and operator of the Owen Mill at Moscow, Indiana. He
had preserved this material when this mill was dismantled in
1912 or 1913. This material is being used in the reconstruc-
tion of the grist mill (and the sash type saw mill, as well) at
Spring Mill Park.

The lay-out of the wooden parts of the wheel was made in
the area adjacent to the mill, the laborers carrying on the
work in the same manner as of 1820 or 1830, except with the
improved tools of today. The assembling of the parts was
made in place due to the weight involved. The calculated
weight of the wheel when completely assembled and in opera-
tion (with buckets filled) is 8,500 pounds. The horse-power
which the wheel will deliver is approximately twenty-five.

The flume which carries the water from Hamer's cave to
the mill is about 600 feet in length and is designed to give the
appearance of the wooden conduit formerly used. An iron
pipe twenty inches in diameter actually carries the water for
the wheel from the temporary concrete-arch dam which has
been erected on land that was retained by the Lehigh Port-
land Cement Company to protect the water rights of the cor-
poration. This dam is in no sense a reconstruction, it is frankly a temporary expedient which is designed to catch the overflow from the Cement Company's dam. However, the outward details of the wooden flume and its supporting stone piers are historically correct.

The historic research for this work, as well as the planning and reconstruction of the water wheel and flume, has been an interesting assignment for those of the Division of Engineering who have had an intimate connection with it.