Carolina Conductor

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Preserving the Past
Active in the Present
Planning for the Future

Web Site: hubcityrrmuseum.org
Facebook: Carolina Railroad Heritage Association & Hub City RR Museum

Hub City Railroad Museum and SOU Rwy Caboose #X3115:

Spartanburg Amtrak Station
298 Magnolia Street
Spartanburg, SC 29301-2330
Wednesday 10-2 & Saturday 10-2

Meeting Site:

Fountain Inn Presbyterian Church
307 North Main Street
Fountain Inn, SC 29644
Third Friday of the Month at 7:00 p.m.

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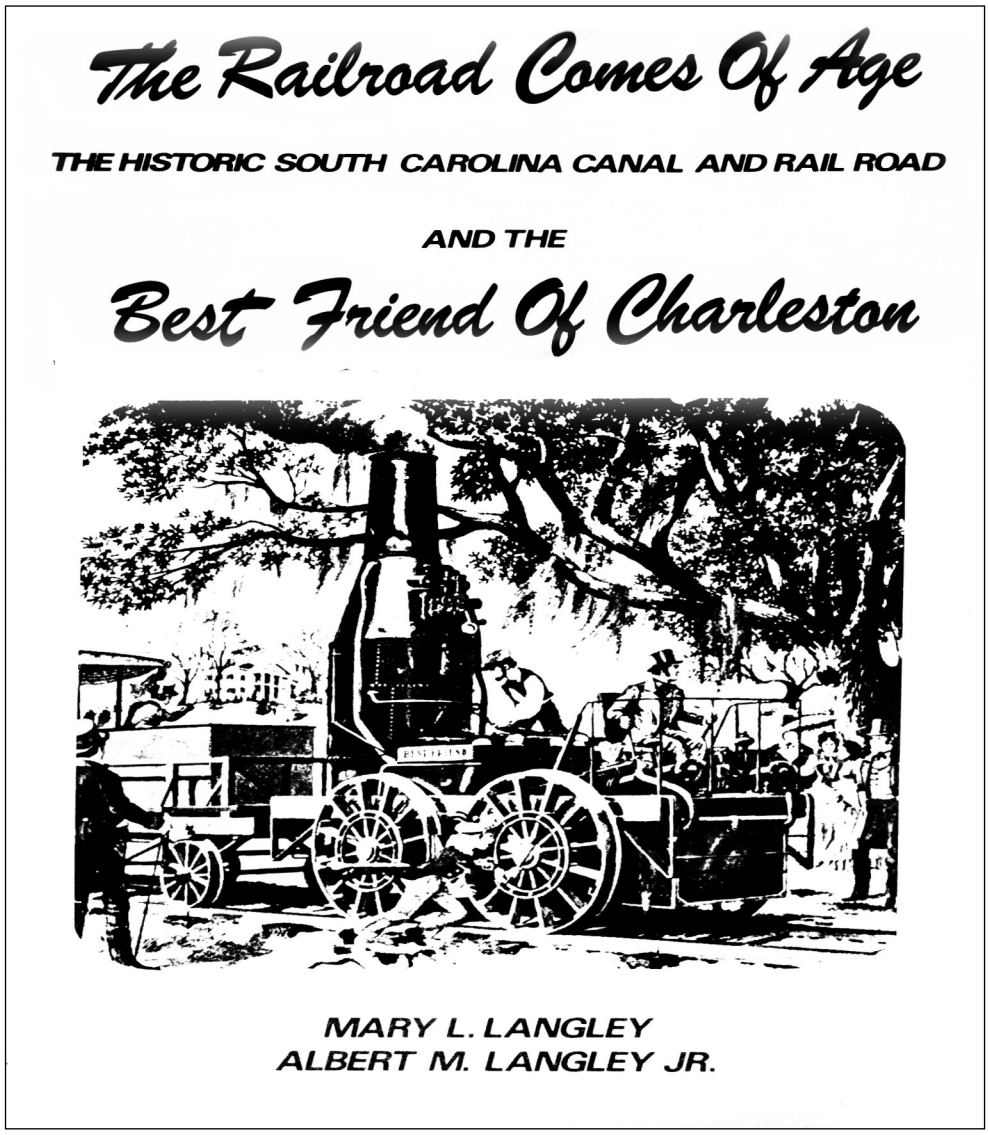
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Articles can be submitted anytime.

Best Friend

This article is a copy of the text and illustrations from this **booklet.**



Continued on Page 3 - *Best Friend*

Museum Happenings

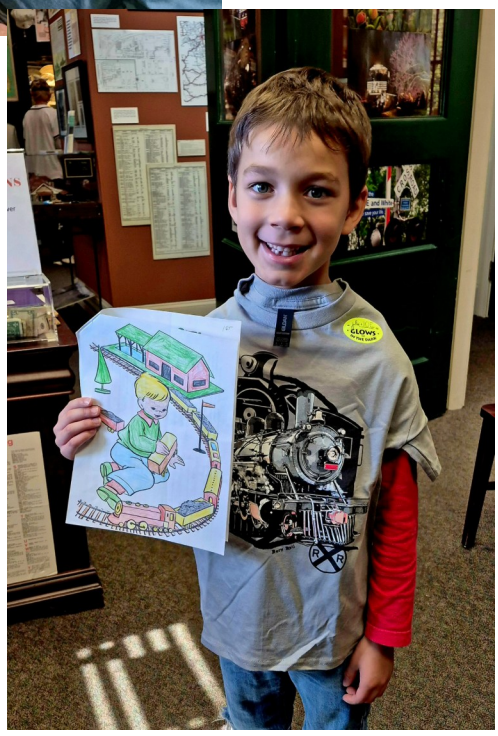
Volunteer appreciation dinner held at Portofino's Restaurant. →



Bo Brown with the first load of magazines from Marv Havens. ↓



One of the Coloring Contest Winners showing off the Tee shirt he won! ↓



Wanted—Articles for the Carolina Conductor

Submit an article of 200 words or more with some photos and captions and see them in print. Every one of us has some unique railroad experience that would make interesting reading for our membership. Your editor always needs more contributions of railway history and news.

Economics of the Southeast 1820 -1830

To begin our story of what was to prove to be the foremost motivation as to the practicality and usefulness of the railroad in our nation, (indeed, the world), we must first survey the conditions which led to its development. Our nation, in the early 1820's, had begun to blossom. In the North, industrialization was gradually replacing the small workshops of New England. The major northeast cities, New York, Baltimore, and the like, were beginning to emerge as manufacturing, distribution, and population centers.

The westward expansion toward the Pacific by the early pioneers continued to bring promise of vast and fertile lands. For the most part however, travel to these remote wilds still proved too hazardous for the average citizen. Little did our forefathers of the 1820's realize that in ten short years their era would produce a mode of transport which would motivate the less adventuresome to "Go West Young Man" and allow the concept of mass production to flower. National progress demanded a more efficient mode of transport and the infant railroad whose history we are about to review was to prove the practicality of the flanged wheel on iron rail as that mode.

In the South, particularly in Georgia and the Carolinas, the economy and way of life remained chiefly agrarian. It would remain so through a devastating civil war which would prove again the importance of the yet unborn Iron Horse. The major cities along the eastern seacoast, Charleston and Savannah in particular, long the cultural and economic centers, were gradually losing their monopolies held since colonization. As farmers and merchants continued to push inland from the seacoast and establish outlying communities, the port city merchant began to express concern at the loss of trade. The once small inland trading posts developed into interior cities boasting their own emporiums. No longer did inland inhabitants find it necessary to make long journeys to the coast to purchase their daily necessities and luxuries.

Steamboats and barges plied the navigable rivers and when navigation became impossible or impractical, trails were widened into roads. While these methods were successful in transporting man and his goods, they were totally inefficient for a rapidly expanding nation. Roads were unpaved and wagon transportation slow and expensive. River transportation was faster than over land, but many streams were navigable only by small crafts. Others proved to be of use only seasonably as they dried up during the long summer months. Thus, it was that a more efficient method of transportation was brought about through necessity rather than the pure evolution of the wheel.

Charleston's Economic Depression 1820 - 1830

As previously mentioned, the port cities along the Atlantic coast had noted an evident economic decline. Hardest struck was the port of Charleston. The October 27, 1827, edition of the *Charleston Courier* best explains the situation.

"The present great depression of commerce and the serious distress pervading almost every portion of the community, are daily becoming matters of deeper concern and higher consideration.

It is known to us that all the retail trade of Charleston which was a few years ago the life and spirit of our town has been cut off and intercepted by a chain of small towns, situated at the foot of our hilly country, and extending across the state from North Carolina to the Georgia boundary line. You will recognize in this chain the towns of Cheraw, Camden, Columbia, and Hamburg. Formerly, our back country people had to look to this city for their supplies even of small articles. Then they increased in number, wealth, and luxury; and their wants are so general that country stores find encouragement and business, limited, it is true, at first, but now extensive. This was no strained or artificial result; but was the natural progress of natural things. If Charleston yet retained her very great retail trade, it would be a strong evidence of our State being behind her sisters in the solid improvements of life. We must now be content to do the retail trade of our immediate neighbors only. If we act wisely, however, we may secure the entire wholesale trade of these towns, as well as that of the adjoining states. But to do this we must rouse our sleeping energies, and instead of supinely bewailing our fallen conditions, put our shoulders to the wheel.

Charleston's neighbor port of Savannah, Georgia was blessed with a navigable river extending into

Continued on Page 4 - *Best Friend*

the interior as far as Hamburg, South Carolina and Augusta, Georgia. Charlestonians could boast of the Santee Canal which made trade possible with Camden and Columbia, South Carolina. However, while the Savannah River was adapted to the use of steamboats, the Santee Canal was navigable only by flatboats as steamboats had proved impractical. Although delays were frequent due to the hazards of the river and to the lack of sufficient water at times to float the steamers on the Savannah, it was certainly more practical than the canal's flatboats, which required twenty - four days for each round trip from Charleston to the interior. The costs were equally exorbitant.

Something had to be done if Charleston was to continue to exist as a center of commerce and it had to be done soon!

Early attempts to regain the trade monopoly from Savannah had proved futile. The city of Charleston had assisted in the formation of the town of Hamburg, South Carolina directly across the Savannah River from the city of Augusta, Georgia. A mortgage approximating $75,000.00 had been granted to Henry Shultz to found and promote the town which hopefully would bring the trade back to the home state's port city. Unfortunately, Hamburg failed to seriously compete with the established commerce in Augusta. Other proposals were offered including the possibility of constructing a canal from the Savannah River just above the Georgia port to Charleston. This never materialized.

With all efforts proving futile, Charleston searched for another form of transportation. Experiments had been conducted in England with a yet unproven invention which operated over what was known as a "rail road". The invention was· called a "locomotive." Charlestonians were desperate. Though new to the layman's lexicon, at least the railroad and locomotive offered a long shot for the city to regain its lost fortunes. The following article in the "City Gazette" of November 22, 1821, perhaps is the first publicized revelation to the citizens of Charleston as to the possibility of employing the services of the two.

"Mr. Editor; Having during an excursion to the Eastward seen a specimen of the patent railway, I was led to believe that the plan would be useful in this State. The inclement weather to which our roads are subject must defy all attempts to render them good during some portions of the year. The soil on which they are made and the materials adjacent to some parts renders them liable to constant injury. The following publication may serve to direct public attention to the subject. It was in relation to a more northern climate and some of the inconveniences stated would not be felt here. The season for discussing the great subject of internal improvements has arrived and this may add to the material".

It was not until December of 1827, however, that a serious meeting was held to discuss the possibilities of petitioning the state to commission a survey to investigate a route for a railway from Charleston to Hamburg. While the state declined to commission such a survey, it did authorize the organization of a corporation to undertake the project. The corporation was to be known as the South Carolina Canal and Rail Road Company, with powers to construct a railroad from Charleston to Hamburg, Camden, and Columbia. Charlestonians had also asked that the possibility of a canal between the Ashley and Savannah rivers be explored and thus the "Canal" in the company's title. The act was passed by the legislature on December 19, 1827, and later amended to exempt the company from the "burden of taxation". James L. Petigru was appointed acting chairman of the company.

With the acquisition of the charter, interest in the railroad swelled. The company had been authorized capital stock of not less than 7,000 or more than 20,000 shares, to be sold at $100.00 per share. When the stock subscription amounted to $700,000.00, work could commence. Although some difficulty was experienced, due to the reluctance of citizens in the inland cities to purchase shares, by April 28, 1828, the conditions of the charter were met, and the stockholders held their first formal meeting to select officers for the company. William Aiken was selected as the company's first president.

A "Committee of Inquiry" was appointed to gather data on the location of the route, construction, and estimate of cost of the construction of a railroad from Charleston to Hamburg. It should be remembered that little was known of railway construction principles and virtually nothing about the newly developed locomotive. Data was scarce and but for the dedication and concern of the members of this committee failure would have been imminent.

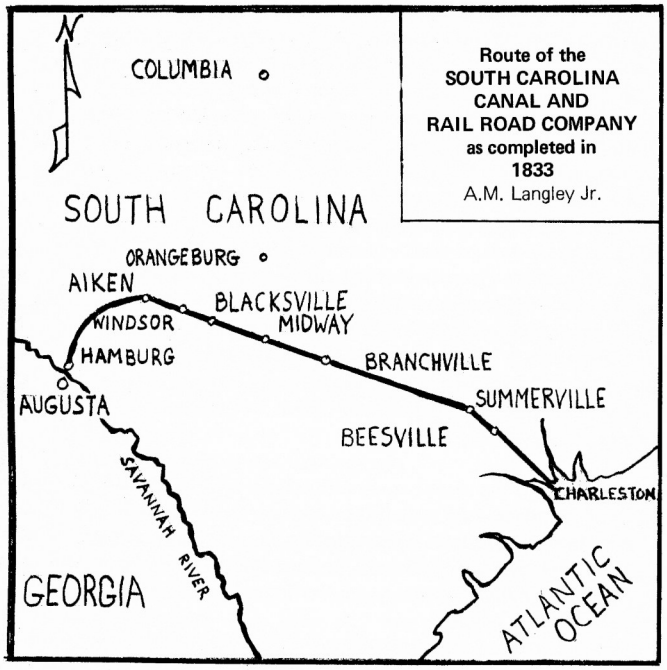
Continued on Page 5- ***Best Friend***

Messrs. Charles Parker and Robert K. Payne were selected to survey and determine a practical route for the line. On March 15, 1828, these gentlemen reported that such a route was feasible. One difficulty existed in the form of a steep grade seventeen miles east of Hamburg (near the present city of Aiken). An inclined plane with a stationary engine and winch was recommended at this location should the locomotive be employed as motive power. In addition to this initial survey, the company secured the services of J.B. Petitval and later Colonel William Howard of the United States War Department. Colonel Howard had assisted in the engineering of the Baltimore and Ohio Railroad Company. Their report in August 1829 generally confirmed the route proposed earlier.

The suggested route was to be between the neck of the Ashley and Cooper rivers, crossing the Ashley above Dorchester and proceeding slightly above Givhan's Ferry to the Edisto River. From here the line would run to Horse Pen Pond, a distance of some ninety-six miles, and thence to Hamburg. All of the terrain was suitable for construction with the exception of the Aiken - Hamburg section previously mentioned. The total length of the proposed line was reported to be 149.5 miles.

In mid-1829, the company employed the services of Horatio Allen as chief engineer. Mr. Allen had gone to England in search of information relative to railroad construction and had conferred with George Stephenson on the operation of the locomotive as well as visiting the primitive Stockton and Darlington Railway.

Mr. Allen proved to be not only a man of ability but also one of great enthusiasm. He recommended that the route be altered from previous proposals. His intent was to build the line up the ridge between the Ashley and Cooper rivers to the junction of the Dorchester and State roads, through Summerville, to the Edisto River some thirty miles above Givhan's Ferry. From the Edisto the line would extend to the headwaters of Horse Creek and then to Hamburg. The advantages of his proposal were that should the company desire later to build a branch to Columbia the route would be shorter, the terrain was more level, crossing the Ashley could be avoided, and the total Charleston - Hamburg distance could be shortened to 135 miles. Still the necessity of an inclined plane at Aiken prevailed but this route eventually proved to be the one constructed with only a few minor changes.



Early Construction

Although some land holders were reluctant to sell their properties for the company's right of way, generally the railroad was welcomed. Indeed, it was in their economic interest. Some offered free passage to the line and others promised to furnish their Negro slaves at reasonable terms to assist in the grading. In a few instances timbers were supplied without charge. The right of way was two hundred feet in width.

The type of construction was the object of some discussion. The use of iron bars on wooden stringer was recommended in the end. The stringers would be set atop "well driven piles", the rails being elevated six to twelve inches above the earth to allow air to circulate beneath. It was proposed that the piles be driven eight to ten feet apart. Brick pillars instead of wooden piling were also suggested as more durable but proved to be too expensive.

The piling system was finally adopted and when construction began on Line Street in Charleston on January 9, 1830, the method employed was the

Continued on Page 6 - *Best Friend*

"driving of piles of lightwood 8 by 8 inches square, 6½ feet apart along the line, and 6 feet apart laterally, caps and ties morticed on the piles 6 x 9, 9 feet long and rails same size, notched on to these ties and wedged on the inner side". Iron bars two and one-half inches wide and one-half inch thick were spiked to the top edge of the wooden rails. Allen desired to use iron with a flange on the inner edge rather than the flat bar rail, but cost was prohibitive. The flange type rail was used on curves, however. The track gauge was five feet between the parallel rails.

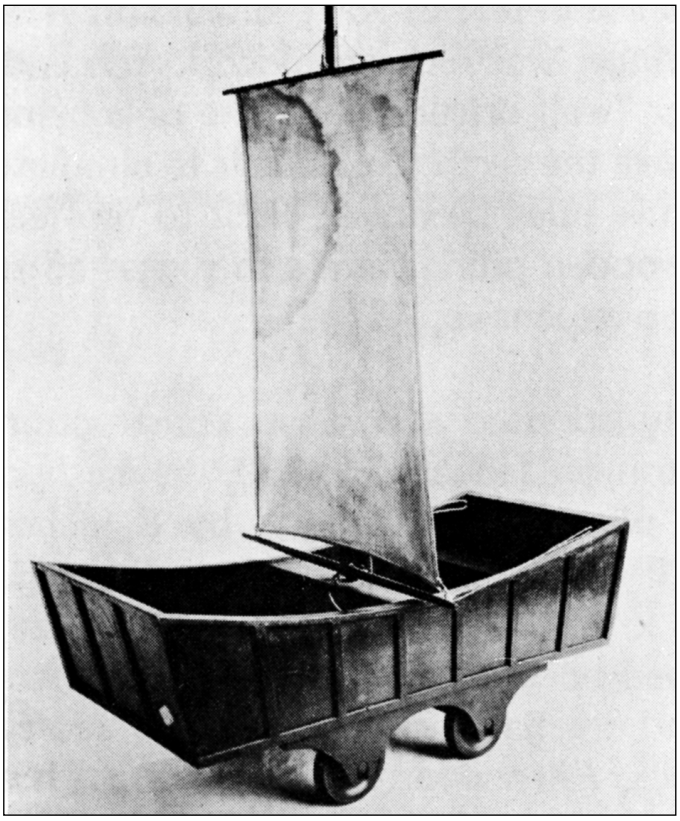
Although the unique piling system was successful in the beginning, it was expensive to maintain. The wood decayed rapidly and gauge was difficult to maintain due to the lateral thrusts of the cars. Later the line was embanked, leading to the present rail on crosstie principle. As the company's early resources were limited in both funds and experience, the adoption of the piling system at the beginning was possibly the wisest choice.

Early Motive Power

While the construction of the line was of great import, perhaps more significant was the decision to employ the locomotive as motive power.

Numerous theories of propulsion were expounded and tried. Among these was a unique sail car consisting of a four wheel cart like affair equipped with a sail for use on rails. The "Charleston Courier" of March 20, 1830, carried the following description.

"A sail was set on the car on our railroad yesterday afternoon in the presence of a large concourse of spectators. Fifteen gentlemen got on board and flew off at the rate of 12 to 15 miles an hour. Thirteen persons and 3 tons of iron were hastily gotten up and of course were not of the best kind, but owing to this circumstance the experiment afforded high sport. The wind blew very fresh from the northeast, which as a sailor would say was "abeam" and would drive the car either way with equal speed. When going at the rate of about 12 miles an hour, and loaded with 15 passengers, the mast went by the board with the sail and rigging attached, carrying with them several of the crew. The wreck was described by several friendly shipmasters, who kindly rendered assistance in rigging a jury mast, and the car was again soon under way. During the afternoon the wind changed so as to bring it north ahead when going in one direction, but this did not stop the sport, as it was ascertained that the car would sail within four points of the wind." While this was a novel experiment, it was never considered seriously by the company's directors.



Although never seriously considered as motive power, experiments were conducted employing wind powered vehicles in the early days of the railroad.

The directors did, in early 1830, offer a premium for a source of motive power propelled by hand or horse. Two were built using manual power and one using horse power. Messrs., Dotterer, and Detmold were awarded $200.00 for the horse car. Later the horse car was improved, featuring a horse walking on a treadmill, propelling the car though a system of gears connected to the axles. It earned the dubious name of the "Flying Dutchman". A $100.00 award was rendered to a Mr. Addison for his manual vehicle known as the "Pioneer". Fortunately for the future of railroading, the locomotive prevailed in the

Continued on Page 7 - *Best Friend*



The "Flying Dutchman", a novel experiment into the practicalities of horse power, was propelled by a horse on a treadmill.

end.

Horatio Allen, who had journeyed to Honesdale, Pennsylvania in 1829 to observe and operate the locomotive "Stourbridge Lion" of the Delaware and Hudson Canal Company, insisted that "in the future there is no reason to expect any material improvements in the breed of horses, but that there is no man living who knows what the breed of locomotives is to place at command ". Mr. Allen's views prevailed and the director's resolved to adopt the locomotive as motive power. This was the first act by a corporate body in the world to adopt the locomotive as tractive power for general passenger and freight transportation.

Another advocate of steam propulsion was E.L. Miller, an influential Charleston merchant. In early 1830, he proposed to the directors that on his own responsibility he would order the construction of a locomotive equal to the best then in use in England. His offer was accepted. Thus the "Best Friend of Charleston" was actually constructed for Mr. Miller but was soon purchased by the railroad.

In the summer of 1830, the construction of the South Carolina Canal and Rail Road Company's first locomotive was begun. The locomotive, constructed by the West Point Foundry, Beach and West Streets, New York City, proved to be the first locomotive built in America for actual service. The locomotive arrived in Charleston aboard the boat "Niagara" on October 23, 1830, and was named the "Best Friend of Charleston" by hopeful Charleston merchants. It would prove worthy of the name. Charleston was destined to become a major port, supplying the needs of the rapidly developing inland areas, and the railroad was to make it possible.

The company employed the services of Dotterer and Eason, local machinists and engineers, to assemble the locomotive and prepare it for service. Julius D. Petsch and Nicholas W. Darrell, of this firm, had the locomotive ready in a few days. On November 2, with Darrell in charge, the locomotive made a trial run which proved the wheels too weak for the lateral strains exerted on curves. Mr. Darrell, who was later promoted to Superintendent of Machinery for the railroad, thus became the first locomotive engineer on the first American built steam locomotive for actual service.

The wheels were soon replaced and another test run made on December 9. Subsequent trials on December 14 and 15 proved the locomotive capable of speeds of sixteen to twenty-one miles an hour with four or five cars containing forty to fifty passengers. Thirty-five miles an hour was attained with the locomotive running light.

On December 7, 1830, the *Charleston Mercury* noted, "the locomotive engine will start from the Lines at 1 and at half past 3 this afternoon with cotton and cars for passengers." A few days later, on December 24, the South Carolina Canal and Railroad Company issued the following notice which constitutes the first timetable issued by an American railroad.

"The public are respectively informed that the Railroad Company have purchased from Mr. E. L. Miller his locomotive steam engine and that it will hereafter be continually employed in the transportation of passengers.

The time of leaving the Station in Line Street will be 9 o'clock, at 10 A.M. and at One and half

Continued on Page 8 - *Best Friend*

past 3 o'clock P.M.

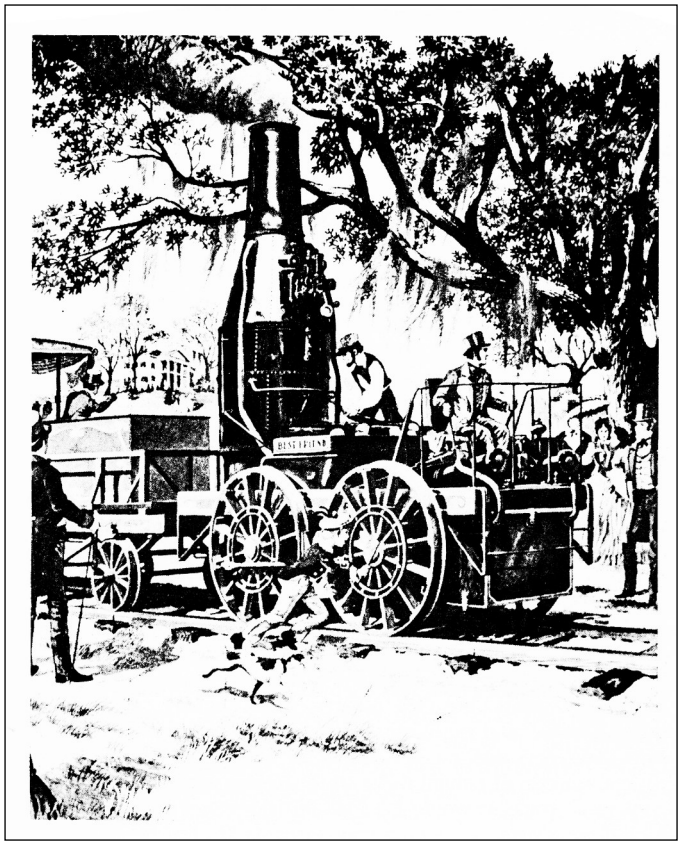
Parties may be accommodated in the intermediate hours by agreeing with the engineer. Great punctuality will be observed in the time of starting.

The Board of Directors have taken all due precautions to ascertain that the engine is well adapted to the purpose of the railroad and gentlemen of distinguished knowledge in machinery have certified that 'the manner in which it is executed - the various combinations and mechanism of the engine is not surpassed in skill and neatness of finish by any high pressure engine of American Manufacture known in this State.'

This engine is of six horse power, its weight of 3 tons and ¾ exclusive of the wood and water for keeping it in continued action. It's said to have moved on some occasions at the rate of 30 miles per hour, but when drawing a train of loaded cars which weighed 3 times as much as itself it moved with great ease from 10 to 15½, being an average of 12 miles per hour.

When drawing 2 cars with 41 passengers it went at an average rate of nearly 16 and where the road was straight at 20-93/100 miles per hour.

The steam in the engine is not worked as high as is usual in the stationary high pressure engines in this State."



On Christmas **Day, 1830, the "Best Friend of Charleston", the first locomotive to be used in regular service, made its debut for the South Carolina Canal and Railroad Company.**

A Christmas Gift to America

Thus, it was on Christmas day, 1830, that the "Best Friend of Charleston" made its formal debut. The first trip, which terminated at the end of the line near the junction of the State and Dorchester roads, was described by the "Charleston Courier" on December 29.

"The one hundred and forty one person's flew on the wings of the wind at the speed of fifteen to twenty-five miles per hour, annihilating time and space. Leaving all the world behind. On the return we reached Sans-Souci in quick and double quick time, stopped to take up a recruiting party -

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