

# FRISCO ENGINE IS ENDURANCE CHAMPION

**T**HIS is the story of a famous railroad "battle" in which a 170 pound man fought a 560,000 pound locomotive for twenty-five days—fought it in a friendly fashion, lavishing a tender care upon the iron monster—and came out with a unanimous decision of "draw!"

Safe to say the battle was scarcely a private affair. Every railroad man in the United States knew about it before the first round was over, and it became public property at the conclusion of the second round when newspapers over the nation placed stories concerning it on their first pages and kept them there until the contest was finished.

It is the story of the Frisco's famous endurance locomotive No. 4113, and its intrepid commander, D. L. Forsythe, on the world's record endurance run of 7,350 miles.

When the run was finished Forsythe found himself a famous man, and his locomotive almost equally as renowned. Together they had weathered storms and sunshine during night and day for five complete round trips between Kansas City, Mo., and Birmingham, Ala., and both locomotive and road foreman were ready for more had it been thought necessary that another trip be made.

During the grueling run the 4113 had consumed 975 tons of coal, 1,500,000 gallons of water, made 13,780,749 gross ton miles, hauled 555 cars for a total of 393,529 car miles, carried 60 different crews in its capacious cab, more than doubled the former world's record of 3,500 miles, had never on the entire test been late or caused a delay—and to top it off, came into the Kansas City terminals at the end of the run three and one-half hours ahead of time with 3,746 tons behind her straining pistons!

But let's get this story from the beginning and miss none of the details.

The famous St. Louis Robin was no more than two or three days in the air on its famous sustained flight record of 17 days when a conference of railroad officials was held in Springfield, Mo., headquarters city of Frisco Lines. There was nothing about the conference to arouse the fancy of any outsiders. Gathered around a conference table were the Superintendent of Motive Power and his assistants, the Fuel Agent and a member of his staff, and a grizzled veteran of 51 years Frisco railroading, whose

*No. 4113 Travels 7,350 Miles  
Without Knocking Fires—  
More Than Doubling  
Former World's Record  
—D. L. Forsythe in Charge*



D. L. FORSYTHE

title is general road foreman of equipment.

Spread on the table were blueprints and official looking documents and records of past performance of railroad motive power, and each of the conference members had covered several sheets of paper with formidable looking figures.

The Superintendent of Motive Power looked at his general road foreman.

"All right, Dee," he said. "Which one do you want?"

"I'll take the 4113, Mr. Worman," Forsythe answered, "and I'll be on her when she quits."

And so, while the St. Louis Robin still soared above Lambert Field in St. Louis, a long, black, Mikado-type freight engine began its 7,350 mile grind at Kansas City, Mo. Fire was built in the fire box at 3:00 pm July 19, and at seven o'clock the same evening the 4113, with Forsythe aboard, left Kansas City pulling No. 131, fast meat and merchandise freight train to Birmingham,

The first trip was made on time,

and the return to Kansas City aroused a comment. With an eight hour layover the engine again went out with No. 131 and again returned from Birmingham with pulling No. 136, another "hot shot" freight loaded with steamer freight and Florida perishables.

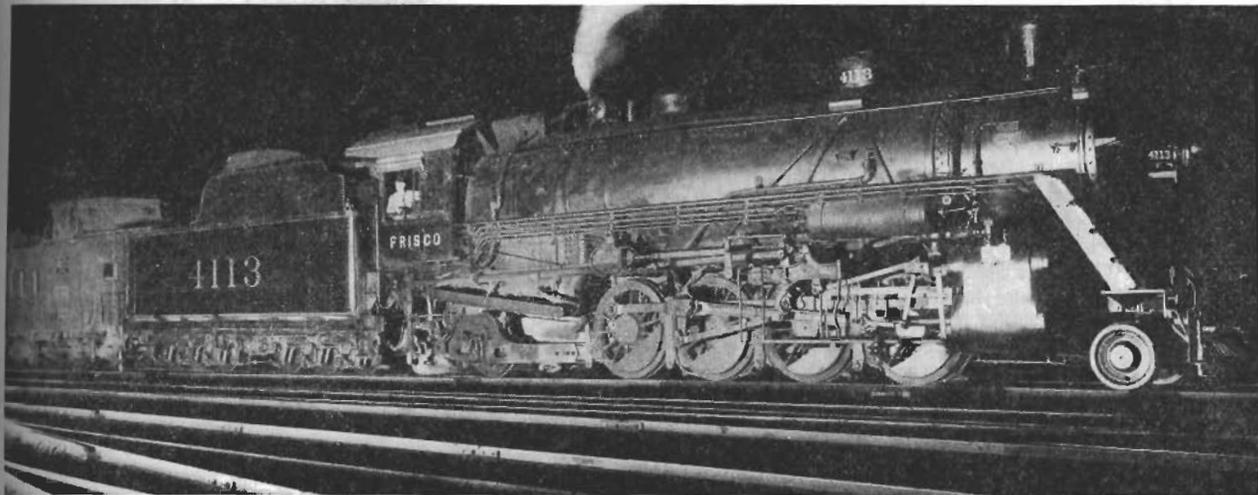
The two round trips made a total of 2,940 miles without knocking the fires or blowing boiler flues on the 4113, and the engineers and firemen and roundhouse workers on every railroad in Kansas City came to the Frisco roundhouse to "look 'er over."

Newspapermen, realizing that the world's record of 3,500 miles was considerable danger, came with their cameras and "shot" the engine and its crew and made numerous pictures of "Dee" Forsythe. Newspaper press associations put the story on the wires and when the 4113 steamed out of Kansas City on its third round trip, the "locomotive endurance run" had become a part of the news of the day, and was to remain "live" news until the world's record had been broken and passed.

When the locomotive reached Birmingham on the first lap of its third round trip the additional 750 miles made it a total of 3,690 miles, passing the former record by 190 miles. Again the giant engine and Forsythe took their rightful place on the front pages of the nation's press, and Springfield, Mo., employes made arrangements to fittingly greet the locomotive at noon August second, when it arrived in Springfield enroute to Kansas City to complete the third round trip. Early in the morning of that day, while the 4113 was coming proudly up the Southern division, a slight accident to a train ahead resulted in a three-hour delay, and rather than hold the train pulled by the endurance engine Frisco officials postponed the celebration to a later date.

The locomotive made up its time and arrived in Kansas City with its cars of freight bright and early the morning of August third. Little time was lost in beginning the fourth round trip.

At seven o'clock that same evening Forsythe and his "Robin," as the engine had become known to Frisco employes, began their fourth round trip, completing it at Kansas City on August eighth. Crowds greeted the locomotive at stations along the line, and the press of every city, big and



The above flashlight photograph was taken at 2:00 o'clock the morning of August 13 upon the arrival at Kansas City, Mo., of engine 4113, completing its world's record endurance run of 7,350 miles. Twenty-five days of constant freight service, during which the engine handled a total of 13,780,749 gross ton miles, was the record.

small, carried stories of the remarkable achievement.

The fifth round trip began the evening of August eighth, and Forsythe, wiring in his reports from each subdivision point couched them tersely and pointedly.

From Pratt City he wired: "From 7 pm August 9th to 9 am Birmingham August 10—14 hours, total 522 hours, total mileage 6,615, engine doing fine."

From New Albany: "From 9 am August 10th Birmingham, to 12 noon Amory August 11th, 27 hours, total number of hours 549, mileage to Amory 6,737."

From Paola at 11 pm August 12, came his final wire, which read: "Engine 4113 to 2 am Kansas City has made 587 hours, 7,350 miles to Kansas City handling 3,746 tons, engine in excellent shape."

An eager crowd of railway men waited in the Frisco yards at Kansas City in the early morning hours of August 13. The 4113 was reported "by" Rosedale at 1:30 am, and the roundhouse force came out en masse to greet her. At 1:47 her headlight shone around the power house at the end of the yards, and promptly at 1:50 am she halted just west of the roundhouse.

Engine 4113 and "Dee" Forsythe had beaten the world's record for continuous, under-fire engine performance by more than twice, and had been doing it for 587 hours.

Flashlight pictures were taken and many rousing cheers sent into the night. Then the 4113 pulled gently into the roundhouse. At 3:00 am that morning her fires were extinguished for the first time since July 13.

Meanwhile, "Dee" Forsythe held an impromptu conference with newspaper-

ermen and told them about the record run in his own words.

"We had no trouble with the locomotive at any time," he said. "I am positive if that engine had to go out again on a run tonight she could do it without trouble. The only reasons we ended the run now are because the United States department of commerce regulations call for thorough inspection of all locomotives every thirty days—and because I'm getting a little tired of riding that old 'hog,' good and faithful though she is. I promised to stay with her until she quit, and if we had to go again tonight, I'd go too. But I'm going to get a good night of sleep—or rather a full day of it—then I'll make out my reports, and go up to Excelsior Springs with Mrs. Forsythe for a few days rest.

"I'm mighty proud of the engine. We had quite a time of it. A fellow who has handled motive power for forty-one years like I have gets so he feels toward a locomotive like other folks feel towards dogs and cats and pets around the house. Why, that 4113 has almost human intelligence. A notch or so on the throttle is just like a pat on the back to a horse. She works for a fellow. Gets right down and pulls when she is asked too. Then the 'little man' helped a lot on some of the grades. The 'little man' is the locomotive booster, you know. We use it for more power on starting, or on grades. He's a great help to the old lady some times.

"Our fuel consumption was much better than we thought it would be. We were 11 pounds under our former listing. I don't know yet just how it will compare with the general run of locomotive handling, but we'll be right up toward the top. We had no

trouble with the boiler, either, because we were careful with our water. We treated it right, and she steamed properly all the time."

While the world's champion engineer was taking his well-earned rest at Excelsior Springs, trained mechanics in the Kansas City shops of Frisco Lines "looked into" the 4113. Her fire was knocked, her boiler drained and her flues blown. From top to bottom, rear to front and side to side, they examined the 4113.

When the "calibration" of her many instruments was over, a puzzled group of expert mechanical men stood at the head end of her enormous bulk.

"Why" one of them exclaimed, after a silence, "there's nothing the matter with that engine. She's good for another 7,350 miles!"

And that is the story of the famous endurance run on Frisco Lines.

So widely scattered were the many accounts of the progress of this famous Frisco engine that road foreman Forsythe kept two stenographers busy for days answering telegrams and letters of congratulations from many persons in all parts of America. Among the many communications were telegrams from Samuel Vauclain, chairman of the board of the Baldwin Locomotive Company; President Kurn of the Frisco; President DeBardeleben of the DeBardeleben Coal Company at Birmingham, and many railroad men from other lines wrote the famous engineer congratulating him on his achievement.

Another world's record endurance run has been made. Never before has a locomotive traveled so great a distance with a continual fire under her boiler, a continual train behind her straining drivers.

# BERNICE JENNINGS. PILOTS PLANE

**M**ISS BERNICE JENNINGS, an employe of the telegraph department, Springfield, Mo., is not satisfied with mere titles. When she attempts a job, she wants to make it better than her competitor. She is out for the titles of "first" and "only", and she gets them.

In 1927 she claimed a feature story in *The Frisco Magazine* as the only woman relay operator on Frisco Lines, and while she was at it, she managed to make a record which still stands, of sending 92 messages an hour. Then she turned her excess energy into the work of soliciting freight and passenger business for the Frisco Girls' Club at Springfield and not only led the list of traffic secured by women in that city, but she set a pace which was a difficult one for any member of the two clubs to follow.

And now she has acquired another "only" title.

Within a short time she will be known as the Frisco's one and only woman pilot, for she has fallen head over heels in love with aviation. She has had twelve hours in the air, and ten hours entitles her to a private license. She has already been examined for her private license, and the examination, which was a stiff one, was made by a Frisco physician, Dr. R. W. Hogboom, of Springfield.

Her decision to become a pilot came as unexpectedly as did the announcement that she was but a short way from her pilot's license. She visited the airport at Carthage, Mo., one day with a girl friend. This friend was well acquainted with O. L. Carrothers, the instructor at the Carthage field, hence their journey there. Airplanes soared above the field, motors droned and hummed. "Let's take up aviation," remarked the friend who was with her.

In the twinkling of an eye she was being helped into the student's seat of the training plane.

From now on, the story will be more interesting if Bernice is allowed to tell it.

"I had never been so interested in aviation," she said, "but somehow the desire came to me to take up aviation, and I moved like I was in a trance. I first came to I believe, when the instructor put me in the cockpit of the training plane. I had been

## *Springfield Employe Is First and Only Woman Pilot on Frisco Lines*



MISS BERNICE JENNINGS

given coveralls and a helmet as he gave me the headphones to adjust. The next thing I knew someone spun the propeller, the motor roared and the plane climbed into the seat.

"For a moment I gasped. Where am I? What in the world am I doing in this cockpit.

"But the minutes seemed seconds and we were taking off. I glanced over the wings and saw them all waving to me and waved back. Then the wheels left the ground, and we just sailed around in the air. I breathed deep—deep. It was great, and I was enjoying the thrill and wondering just how difficult it was to fly so easily when all at once my pilot began talking.

"All right Miss Jennings, SHE'S YOURS, SUPPOSE YOU FLY HER AWHILE!"

"Now, just what would you do with a command like that?

My heart stopped beating for a full minute, I knew I gasped for breath. I thought he surely must be crazy, but since he had the motion picture, I could only listen, and I knew there was to be no back seat driving.

"It's funny how it all comes back to me now. I remembered his instructions before we took off that I must do everything he told me to, and must keep calm and cool. I called, too, that I had been examined and was to become a pilot. My breath came easier, and in another minute another command came—to put my hand on the stick—then my feet on the rudder bar, and I was told just what to do with them. Within a few moments I was flying that plane myself. My first run in the air and flying the plane.

"Of course, when it was time to come down, I took my hands off the stick and my feet off the rudder bar and the pilot made a perfect three-point landing.

"I climbed out, shaking, and the pilot told me later, I was pretty white. I just babbled—that's the word, babbling. My sentences were disconnected, but I was telling them about flying the plane alone. Then I thanked the pilot and started toward the car.

"Where are you going?" the pilot called out to me. "Home," I said. "Wait a minute, we're going up again."

(Now turn to next page, please)

## Passenger Trains 97.5 Per Cent on Time in July

FRISCO LINES 5,027 passenger trains were operated 97.5 per cent on time during July states the monthly report on this subject issued August 5 by the office of F. H. Shaffer, Springfield, Mo., general manager

of the St. Louis-San Francisco Railway Company. This compares with 93.6 per cent for July, 1928, and 96.5 per cent in July, 1927.

The River division came within five-tenths of one per cent of making

a perfect record for July, 1929, the division's percentage being 99.5 Western division was second and Central division was third for the month.

The report:

DIVISION	Total Trains Operated			Total Trains Maintained Schedule or Made Up Time			Per Cent Trains Maintained Schedule or Made Up Time			Standing of Divisions		
	July 1929	July 1928	July 1927	July 1929	July 1928	July 1927	July 1929	July 1928	July 1927	July 1929	July 1928	July 1927
River.....	914	815	918	909	809	895	99.5	99.3	97.5	1	1	3
Western.....	186	186	217	184	183	215	98.9	98.4	99.1	2	2	2
Central.....	310	248	620	306	212	615	98.7	85.5	99.2	3	6	1
Southwestern.....	804	744	867	785	718	842	97.6	96.5	97.1	4	3	4
Northern.....	1108	1054	1332	1078	985	1279	97.3	93.5	98.0	5	5	5
Southern.....	930	679	837	894	840	801	96.1	94.3	95.8	6	4	6
Eastern.....	589	496	650	564	393	615	95.8	99.2	94.6	7	7	7
Total Operated.....	4841	4222	5441	4720	3940	5362						
Per Cent Operated.....							97.5	93.3	96.7			
Texas Lines.....	186	243	248	181	246	229	97.3	99.1	95.4			
Total System.....	5027	4470	5689	4901	4186	5491						
Per Cent Operated.....							97.5	93.6	96.5			

### BERNICE JENNINGS PILOTS PLANE

(Continued from Page 6)

he called.  
"I would have rather done anything than go up again. Why not wait until tomorrow, was my suggestion. But after an hour I went up, and it was my greatest thrill. The effects of the first ride had worn off. I had flown the plane once, I knew, and I was just determined to fly it again. When I again took the stick under his instructions, I never have and never will experience such a thrill. I was queen of the air—I was in heaven! I just smiled and flew and it came easier all the time. I would bank to the left, then to the right! Oh—what a thrill! Then we came down.

"And that was just the beginning. There is so much to learn, and I was and am so anxious for my license that the hours did not come fast enough. You see I have the 5:00 a. m. 'till 1:00 p. m. shift at my work, which gives me the afternoon for driving to Carthage. Feeling that I might hurry up the hours, I went to the Springfield Airport and met the instructor there, Mr. Pat Carlson, and immediately signed up for instruction. Now, I'm taking at both places and piling up the hours.

"When I get my private license, I'm going after my commercial license, received after 50 hours and then I'm going to try for the transport pilot's license, given after 200 hours."

And that is not where Miss Jennings finished her story. She lives aviation, sleeps it and eats it. The women's derby keeps her attention and she sighs as she reads the names of the

entries. "But just wait until I've had my hours," she said.

When this busy girl is not flying, eating or sleeping, she is delving deep into books on navigation, meteorology and others which will aid her in her effort to become a first-class woman's pilot. She is also planning an extensive study of airplane motors and rigging.

Her instructor says that she has taken to it in a more earnest manner than most women. The object usually is to take it up because it is fadish and thrilling, but this girl means business. When she makes a poor landing, she cries bitterly, and then goes up and tries again. Her instructors are enthusiastic over her progress, her ability, her courage and her grim determination.

"Yes, it's just a hobby, but I love it better than anything I've ever done before and, of course, there is always the chance that it may work into something splendid for me. But we won't talk about it now. What I'm most interested in at this time is ten more hours, and when I reach that goal, then 50 and then 200," she said.

Then she hopped in a car and was whisked to the field, accompanied by friends. She donned her helmet, stepped into the cockpit with her instructor, the motor hummed and roared, the plane taxied across Springfield's airport field and rose. Miss Jennings at the control. And in a few moments the plane was a mere speck in the air, and there seemed to come to her friends, watching her as she sailed through the sky the thought that this ambitious Frisco girl had soared up to meet her ambitions, which are at this time sky-high!

### ANOTHER RECORD HOLDER



Speaking of endurance records, behold Miss Lizzie Nineteen Thirteen, who proudly takes her place with the St. Louis Robin and Frisco locomotive 4113 as endurance vehicles.

Miss Lizzie Nineteen Thirteen is a Ford car and is of the ancient vintage of 1913.

At the controls is J. E. "Jim" Miller, of Fort Scott, Kans., conductor on the A. & P. sub-division. He has forty years service with the Frisco. At Jim's right is Spot, looking over the windshield.

Miss Lizzie Nineteen Thirteen was in continual service in the Miller family for fifteen years and four months and is now owned by a farmer in Missouri who hauls feed to cattle with her.

We don't know when Miss Lizzie Nineteen Thirteen will end her endurance run.

# ACCOUNTING FOR 38,000 FREIGHT CARS

THE railway freight car, bulky and box like, lumbering along on its way from one point to another, carrying commodities of every description from automobiles to canned tomatoes and from talcum powder to furniture, is just a freight car to the layman, but to the owning railroad it is one of the most important factors of earning power and a unit to be reckoned with. Approximately 38,000 freight cars, not including work equipment (and this total varies monthly) owned by Frisco Lines, move thousands of miles yearly and touch cities from coast to coast. The accounting methods have kept pace with the twentieth century demand for speed—and while railroad schedules have been moved up and new through and fast freight trains established, the methods used for accounting for these cars in transit is of true twentieth century proportions.

Many departments of the railroad function day by day, sustaining spokes of the great wheel of transportation in such an efficient manner that they are taken more or less for granted, and their numerous and varied operations are rarely understood by even those coming in touch with the situation daily.

The car accountant's department at Springfield, Mo., under the direction of H. W. Johnson, probably receives more reports from more employes than any other office. This office is daily and hourly in touch with employes in the offices of the yardmasters, master mechanics and car foremen and with freight and passenger conductors over the entire system. These employes send in daily reports to the office of the car accountant and it is upon these reports that car accounting for Frisco Lines is based.

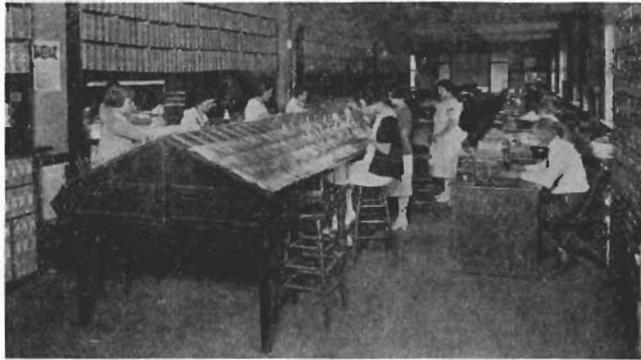
An idea of the volume of the work may be conveyed by considering that this department keeps records monthly on approximately thirty-three million car miles, about three-fourths of a million car movements, as high as a million per diem days to pay and receive, and over a billion gross ton miles handled by freight trains.

Probably the most important feature of the car accounting routine is the maintenance of car records which

## H. W. Johnson Explains Elaborate System Employed in Tracing Equipment

are used principally as the basis for several phases of car accounting.

Car record books, size 18"x19" are maintained, a separate set of books for each month, into which is posted information from the various reports referred to, indicating all car movements between stations, to and from connecting railroads, and certain "on hand" records, indicating with each



How car movement slips are assorted in the car accountant's Springfield office is shown above.

item the date, whether loaded or empty, class of car, etc., each car being allotted a horizontal line space across the page and each day of month a vertical column space. In addition to this the movement of Frisco cars interchanged between foreign railroads is recorded from reports received from car accounting offices of those roads, the delivering road reporting such movements to the car owner.

In order to shorten the amount of work involved and to conserve space and material, this information is indicated in records by use of symbols or codes representing stations, railroad connections, etc. The use of codes shortens the car record work very materially. Car record books, therefore, enable this department to locate each car on the railroad at any date and its detailed movement history and to determine what railroad has any of the Frisco's equipment at any time. In addition to this, information available by reference to various reports, indicates the origin, destina-

tion, commodity, tonnage, etc. which is used extensively for various purposes. This necessitates filing of all reports in exact order and keeping them in good condition and accessible at all times in order that this reference work may be accomplished with the least possible labor and delay.

In referring to the various reports, Mr. Johnson said, "I have frequently been asked to explain the use of the narrow sheets (containing only such items as are essential for car records) of freight conductors' reports of cars handled and of reports of cars interchanged with connecting lines. Car record books must, of course, be

grouped according to ownerships and number series of foreign cars and according to series and classes of system cars in order that individual cars may be located and to facilitate per diem accounting. In order that the movement reports of individual cars may be distributed promptly to the clerks handling the various groups, and that record posting may not be delayed, these slips are cut up or cut apart between car numbers and the tickets thus made are assorted on pegs or slips

dies. This assorting saves turning pages to locate the space allotted to the individual cars. Several hundred slips are placed together and cut in one operation. This is the reason for the necessity of writing wholly within the space provided in compiling these reports. If the figure "2" is written low, the bottom is cut off leaving "7"; if "7" is written too high, the cutting process makes it "1", etc. The difficulty caused when this happens can be imagined when it is considered that we must have continuous record on each car handled."

One of the most important functions of the car accountant's office is that of per diem accounting, whereby the earnings of Frisco cars while in possession of other roads and of foreign cars while on our road are accounted for. Per diem accounting is of necessity a more exact science than that of banking, for the reason that while the bank may return the deposited dollar in kind from receipts from any source, the Frisco must in per diem account-

(Now turn to next page, please)