



The huge Safety First emblem, shown above, is to be found at the entrance of Reclamation Plant, Springfield, Mo. The emblem is an exact reproduction of our Safety First button, made of colored stone, and measures thirty feet in diameter.



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HINTS FOR BEAUTY SPOTS

In this issue of *The Frisco-Man* several photographs are reproduced showing what Frisco employes have done with bare, if not unsightly places in the neighborhood of shops and terminals.

In subsequent issues we will reproduce similar photographs of this character of work at Birmingham and other points, and it is hoped that this work will be pushed at many places to the extent that *The Frisco-Man* will be called upon to reproduce such photographs constantly.

A break in the monotony of a stretch of cindered or even chat covered ground, made by a bed of flowers, is not only grateful to the eye, but gives a certain class to the place that can hardly be improved upon.

Of course, the photographs reproduced show at this season of the year only the bare beds—nature has not had time to get in her work. Later on, the before and after taking effects will be shown.

A few bricks for a border, a few hours work with a spade and hoe is

all that is necessary, plus a little seed and a little attention each day.

The Frisco's campaign for keeping yards, shops and terminals clean is bearing such excellent fruit that it is rare to see anything out of place or unsightly along the line at such places, and the flower beds are but an evolution of this movement and will stimulate it inasmuch as there is something incongruous between a neat flower bed and a rubbish-scattered yard surrounding it that it will serve as an additional incentive to clean up constantly and effectively.

The following hints from a Saint Louis florist may be worthy of filing for reference in the proper season, and *The Frisco-Man* will gladly obtain any information that may be desired from those contemplating putting out flower beds.

Beds of cannas with border of salvia or geraniums are attractive; or, beds of salvia with border of coleus; or beds of geraniums with border of Dusty Miller. For large beds Caladium, or elephant ears, are suggested.

These require a lot of moisture and must be kept wet, but the other flowers mentioned will grow under general conditions. They should, however be planted not later than the first part of May to give good results. It is advisable to get the cannas, geraniums, salvia and coleus in pot plants about eight inches high. Caladium can be grown from bulb and should be planted the early part of May.

For the corners of lawns Pampas grass is suggested. Same will grow about four feet high with a large tassel, and blooms during July, August and September.

The verbena will make a very fine bed and will bloom all summer. It can be grown from seed if same is planted about the middle of April.

For the names of stations or towns, althermanternum is suggested. This should also be gotten in one-half inch pots. By trimming occasionally this will make a fine showing until frost. Either red or green can be secured.

River and Cape Makes Safety Record

River and Cape Division employes are rejoicing over the record made recently in the accident prevention campaign.

During the month of May, 1914, not a single trainman was injured on that division, which operates 701 miles and which made, during that month, a train mileage of 166,788.

The vital importance of the Man Factor in reaching the Safety First goal is again forcibly brought out in the showing made by the River and Cape men. All the Safety appliances the ingenuity of the human mind could devise would be worthless in attaining this record, had one of the men failed or gone wrong.

The Railroad Association magazine

in an article upon "Man Failure" says:

"The men to whom trains can safely be entrusted are the men whose characters are worthy and whose conduct is reliable. We need men today, who can stand the acid test; men with physical strength unimpaired by dissolute habits, whose loyalty to a trust is genuine and lasting. . . . Man failure spells shattered hopes, cruel disappointments and bitter disillusion. It explains why one train crew meets wreckage and death, while the other safely reaches its destination."

No. 3721

Engine 3721, which carries 180 pounds steam pressure, was snapped recently in the Tulsa, Okla., yards, just as she had ceased popping off, and it will be noted from the reproduction that there was no steam escaping from the engine or boiler, which shows the good condition of the boiler. It will also be noted that there was no



smoke from the stack at the time the picture was taken, which shows good work on the part of the fireman.

The group shown in the reproduction are the Tulsa, Okla., East Lead Yard crew. Reading from left to right: W. C. Tilford, fireman; J. C. Burnett, engineer; H. M. Hanson, switchman; P. E. Glasby, switchman; A. E. Sherrill, foreman; J. L. Bor-thick, assistant yard master.

AMOUNT OF WATER IN LOCOMOTIVE BOILERS

G. R. Berger, Asst. Supt. Loco. Performance, Ft. Scott, Kan.

This subject has received more or less attention from time to time. The Company also has had signs placed in the cabs of superheated engines, which instruct engine crew not to carry the water too high, but I feel that at times the instructions are not lived up to as closely as they should be, and the following remarks are made with a view of again bringing to our mind the bad effects of high water, both in superheated and saturated steam engines.

There are two reasons why the water should be kept as low as is consistent in a locomotive boiler. The first one, with which every engineer and fireman is familiar, is, that if water is carried too high, the lubrication is washed off of the valves and their seats, resulting in their being cut, and frequently the result is broken packing rings, and cracked or broken cylinder heads. The second, and to my mind just as important a reason, is the one I want to discuss in this article.

The reason why most men are inclined to carry too high a water level is because they labor under the mistaken idea that the engine will steam better on account of the comparatively cold feed water from the injector, not affecting the temperature of a full boiler as much as it will a small amount of water in the boiler. This theory, however does not hold good in a locomotive boiler, and can be proven in the following manner. If we leave a terminal, or other stopping point, with, we will say, three full gauges of water in the boiler and injector is put on as fine as it will work, it will be found (unless capacity of injector is too large for that class of engine) that water level will not be maintained and that we are slowly losing some of the water we had when starting; but when the water level gets down to one and one-half, or two gauges, it will be found that the injector will keep up this level very nicely, for the reason that more water was consumed at the higher level on account of steam, which passes through the throttle valve, containing considerable more moisture when being used from a high water level than from the low one, and as we only heat the water we use, it is clearly evident that we burn less coal when we keep a low water level.

In ascending heavy grades, injectors should be regulated so as to less than supply the boiler, and to get to top of hill with just enough water to have a safe margin to descend on the other side. There is also considerable difference of opinion as to what that margin is. Some maintain it is necessary to have more water in the boiler than others, and while I do not advocate running any risks, it is my opinion that it is not the man who carries the water low in the boiler, but rather the man who carries the high water level, that burns his crown sheet, as the low water man pays more attention to the movement of the water in the glass and at once notices the sluggish action of it, which indicates that the bottom water glass passage is becoming stopped up and will need cleaning out; besides this, he more frequently tries his gauge cocks to ascertain if they correspond with the indicated height of water in the glass.

Another item worth mentioning in this connection, is the tendency some

men have of trying to increase the amount of water in the boiler at the expense of their steam pressure when nearing heavy grades, loosing sight of the fact that by so doing they are also decreasing the temperature of the steam that is being delivered to the cylinders of their engine.

Steam at 200 pounds boiler pressure is about 388 degrees Fahrenheit and decreases in ability to perform work in the same proportion as it decreases in heat, and it stands to reason if we decrease the pressure to 160 pounds the reverse lever will have to be dropped to perform a given amount of work, with the result that a greater volume of steam and water, (and of course a greater amount of coal to heat this) must be consumed. We see by this that aside from the damage done to valves, valve seats, packing rings, etc., causing blows and otherwise distorting the proper steam distribution of the engine, it is good fuel economy, from a water consuming point of view alone, to keep maximum pressure of steam on the engine.

We frequently hear men running superheated engines say that it is impossible to work water in the cylinder of this class of engine, and while I am willing to concede this, it is nevertheless very essential to carry a low water level on this class of engine; in order to prevent making an auxiliary boiler out of our superheater system, which has been installed at considerable expense and is calculated to have steam of from 550 to 600 degrees Fahrenheit, perform work in the cylinder, and which will, if not properly used, deliver steam of only about 400 degrees Fahrenheit to the cylinders.

I consider it the best practice to leave a terminal, water tank, or any other place where train has stopped for some little time, with boiler as full of water as engine will stand, to start train, and not carry any water into dry pipes and cylinders, having fire put in before leaving, or at least in such condition that it will not be necessary to open fire door while train is being started and got under way, as this practice is very hard on flues and fire box sheets. After train is under way and engine shows signs of getting hot, and the fireman knows his fire is in good enough condition to allow him to put on injector without steam pressure dropping back from its effect, the injector should be put on and cut down as fine as it will work, aiming to get to the next water tank or station stop with water low enough in boiler that injector can be kept working and fire can be kept burning brightly by slightly cracking the blower valve, without raising pop valve, and engine will again be ready to leave with sufficient water in boiler and fire in good condition. Of course, if while running, engine should at any time show signs of wanting to raise pops it would be good judgment to increase boiler feed until the pressure has again reduced a little when feed should again be cut down.

In conclusion, I want to say, keep water level in boiler from one-half of a glass full down, instead of from one-half of a glass full up, and avoid making a boiler out of your superheater units for reasons above mentioned and also because this is the most prolific source of leaky superheater units, largely increasing the work in the round houses and holding more engines out of service than any other one item of repairs.