

beral—that patriotic feeling that should ever actuate them. Yes—they appeared to have forgotten that Georgia had a seaport—that Savannah existed, that the flourishing city of Macon and her wealthy merchants, annually bought and sold thousands of bales of our great staple, which for a long season of the year, are piled up for transportation, to the only real outlet for exports—Savannah. What! surely they should remember that no State in this Union has ever risen in the scale of prosperity, without the assistance of a liberal administration of the public revenue. We would wish to be understood as being opposed to every scheme for internal improvement, that cannot be proved to the understanding of the most humble capacity, as deserving of support from the public coffers—therefore, the Central Railroad, one hundred miles of which have been completed and which already pays a dividend to its stockholders, has our hearty support. It is emphatically a work of public utility, and must enrich our people. It can in no event be stayed; and we hope, for the credit of our State, that no man calling himself a Georgian, will be found to throw a pebble in the way, even though his utmost endeavor can never stop its triumphal progress. Onward it must and will go; then let all, with heart and hand, bid it God speed.

The freight of cotton is now quoted, as worth \$4,50 per bale, to be conveyed from Macon to this city, by water. This fact alone is worth a thousand arguments. The planters who send their cotton to the Macon market—the merchants who purchase it—and all concerned, except the boat owners (and it is doubtful whether they should be excepted)—all feel this heavy tax, consequent on a low river. It is for them, then, to lend a helping hand to the Central railroad, that it may be aided at the next session of the legislature—that justice, though tardy, may come at last.—*Savannah Telegraph.*

EXPERIMENTS ON THE POWER OF MEN. BY JOSHUA FIELD, V. P. INST. C. E. F. R. S.

In this paper are recorded the results of some experiments made to ascertain the working power of men with winches, as applied to cranes. The experiments were undertaken with a view of ascertaining the effect men can produce working at machines or cranes for short periods, as compared with the effect which they produce working continuously.

The apparatus, a crane of rough construction in ordinary use, and not prepared in any manner for the experiments, consisted of two wheels of 92 and 41 cogs, and two pinions of 11 and 10 cogs; the diameter of the barrel, measuring to the centre of the chain, was $11\frac{3}{4}$ inches, and the diameter of the handle 36 inches. The ratio of the weight to the power on this combination is 105 to 1.

The weight was raised in all cases through $16\frac{1}{2}$ feet, and so proportioned in the different experiments as to give a resistance against the hands of the men of 10, 15, 20, 25, 30 and 35 lbs. *plus* the friction of the apparatus.

The resistance occasioned by the friction of the apparatus is a constant element in all machines, and of much the same amount in most cranes, and my object being to obtain some practical results on the power of men in raising weights on a system of machinery, I did not think it necessary to make any experiment for ascertaining the amount of this resistance in the present instance.

In the following table I have set down the statical resistance at the handle, the weight raised in each experiment, the time in which the weight was raised, and the remarks which were made at the time with respect to the men. A column also expressing the power or effect by the number of