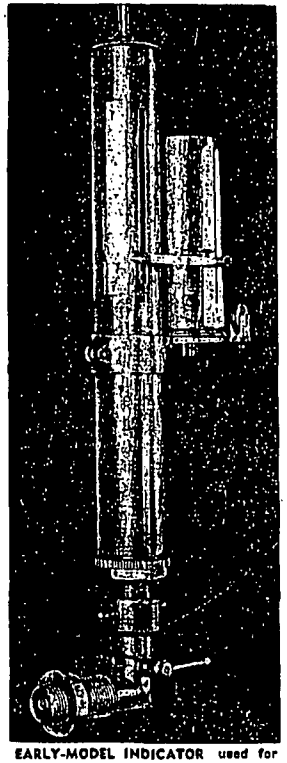
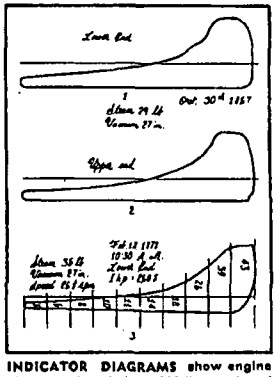
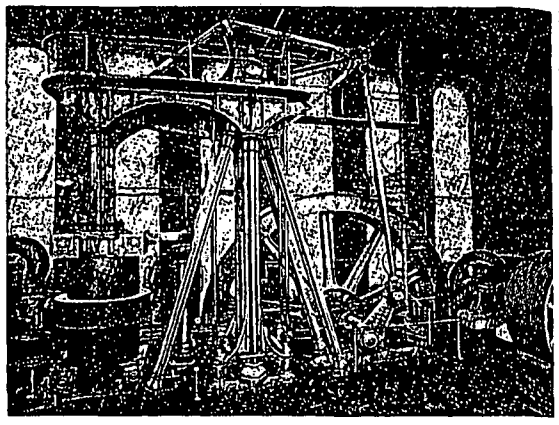


EARLY-MODEL INDICATOR used for first diagrams on walking-beam engine



INDICATOR DIAGRAMS show engine above produced about 260 ihp, each end



ANCIENT GIANT produced 500 hp at 26½ rpm on 35-psi steam, 27 in. vacuum

Walking-Beam Engine

▶ SOME OLD-TIMERS STILL HAVE a fond memory of the power machinery that gave America its industrial start. Judged by today's standards those early steam engines present a weird and unwieldly sight, but they produced many thousands of horsepower before their successors nudged them out completely. Not the least of these old engines is the long since retired walking-beam engine, shown above. It was designed especially for the Plymouth Cordage Co, North Plymouth, Mass., by E D Leavitt, consulting engineer of Cambridge, Mass. Harrison Loring, City Point works, Boston, Mass., built and installed it in 1867.

Improved Valve Gear. When installed the engine was equipped with slide-valve gear similar to the Green gear. Both the main cylinder and valve gear operated vertically. In 1875, the Sargent Corliss Engine Works of Providence, R. I., replaced the original valve gear and cylinder. The cylinder shown is fitted with the "crab-clam" type valve gear for operating the corliss valves.

The cylindrical pipe behind the *A* frame feeds exhaust steam to jet-type condenser below the floor. The double set of long rods on each side of center post of the *A* frame operates condenser pumps from the walking beam. Condenser-pump valves were flap-type rubber valves fastened on one side.

Sturdy Oldster. Method of holding the hub-end of spokes in their seats is shown in the photo, that is, a tapered key is driven through each spoke. A pin holds the key in place. Flywheel is a wooden toothed gear. Teeth are wooden blocks keyed into openings cast in the flywheel rim. Buttends of teeth can be seen on inside of rim. This gear meshed with a cast-iron pinion on the jackshaft. Rope drive transmitted power from this shaft to the mill.

Indicator-card diagrams 1 and 2 were taken on this engine shortly after it was installed with the ancient-model steam-engine indicator, shown above. No indicated horsepower is available from these diagrams. Diagram 3 was taken with a later design indicator after the original valve gear was replaced with corliss valves. This card indicates about 260 hp on the lower end, which shows this "mountain of iron" produced about 500 hp at 26½ rpm. The cards show that steam pressure varied from 29 to 35 psi, with 27 in. of vacuum.

"The fate of the world sits on this rug"

— JOHN L. LEWIS

NOTE: Paste this editorial in your hat. Re-read it as you start to shiver the next time John L. Lewis cuts off the nation's coal supply.

"Labor monopoly" will mean much more to you then. But if you are worried enough you will get after your Congressman to do his part now — before the shivering starts.

* * *

"The fate of the world sits on this rug."

The men on the rug: John L. Lewis, President of the United Mine Workers, who made the remark; Benjamin Fairless, President, United States Steel Corporation; George M. Humphrey, Chairman, Pittsburgh Consolidation Coal Company; Harry M. Moses, President, H. C. Frick Coke Company; Charles O'Neill, President, United Eastern Coal Sales Corporation; the late John O'Leary, International Vice President of the United Mine Workers; and John Owens, President, District No. 6 United Mine Workers.

The place: Room 800, Carlton Hotel, Washington, D. C.

The time: Last July during the "negotiation" of a new soft coal contract.

The outcome: Another whopping increase in wages and the price of coal, another hike in the cost of living, and a "contract" which binds the United Mine Workers only as long as they are "willing and able to work."

Mr. Lewis was right. The fate of the world did sit on the rug. In fact, it sat at Mr. Lewis' feet, for, as this editorial will explain and as the outcome shows, his power over coal is absolute.

Without coal modern industrial civilization collapses. Without Mr. Lewis' assent coal can not be mined. He *has the nation and, in the years 1947-48,* the world at his mercy.

The Taft-Hartley Act, good as it is, does nothing to check this kind of monopoly.

I

The Taft-Hartley Act fails to protect the public in many major particulars.

Here are some of them.

1. Labor monopoly is promoted and protected by its continued exemption from the federal antitrust laws. Management has no such exemption and should not have.

2. Industry-wide bargaining, a kind of second-degree monopoly, is left virtually undisturbed. So is union-wide bargaining which extends the power of national unions far beyond a single industry.

3. Featherbedding, the art of getting paid for doing nothing, is left largely intact.

4. The menace of having local utility strikes wreck the health and safety of a community is left untouched. Postponement and persuasion are the only instruments provided to deal with strikes that would wreck the nation.

My purpose in citing these omissions from the Taft-Hartley Act is not to belittle the act or its framers. They did a most courageous and constructive job. They made a real start toward restoring a workable balance in industrial relations in the United States, so far as the law can do it. But they have not completed the job. Among their omissions the two discussed in the next sections of *this editorial* stand out above all others.

II

The most serious Taft-Hartley shortcoming is its failure to deal with labor monopoly.

Labor monopoly exists wherever a union is so strong that bargaining becomes a sham and the union virtually dictates its own terms.

If an employer or group of employers secures a monopoly or anything approaching a monopoly, prosecution for violation of the federal antitrust laws