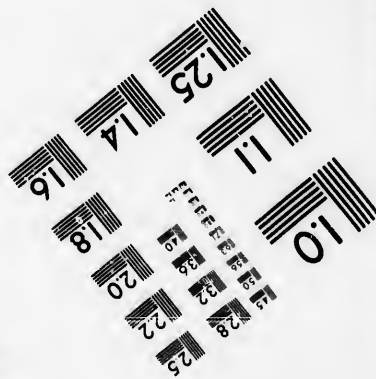
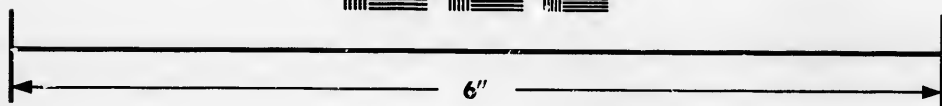
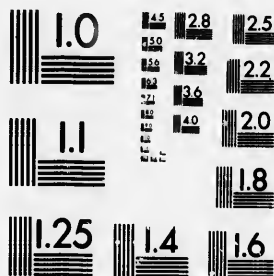


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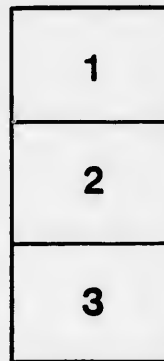
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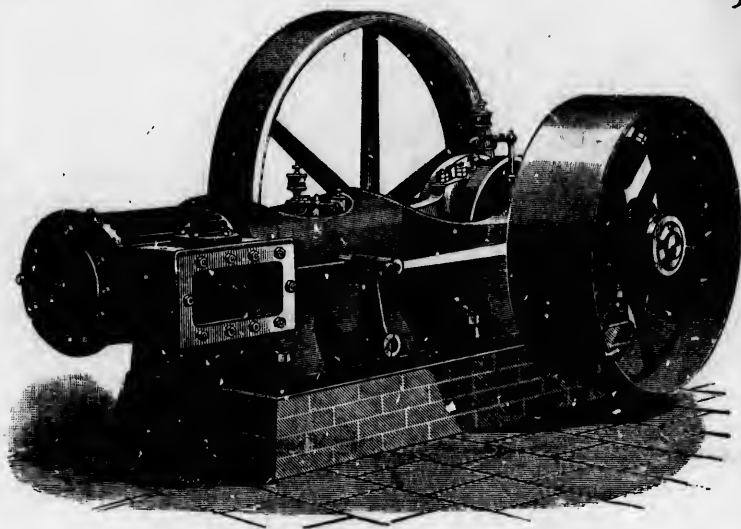
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BALL ENGINE CO.,

—MANUFACTURERS OF—



AUTOMATIC CUT-OFF ENGINES

EMBODYING A NEW PRINCIPLE

—IN WHICH—

The Governor Weighs the Load,

Office and Works, Erie, Pa., U. S. A.

KINGSLAND, JACKSON & Co.,

AGENTS,

50 S. Canal St., CHICAGO, ILL.

The only Governor in the world capable of maintaining absolutely uniform speed under all changes of load or of accelerating speed with increase of load, if desired.

We herewith publish some speed diagrams made by a Moscope Speed Recorder, as an illustration of the perfect results which we obtain.

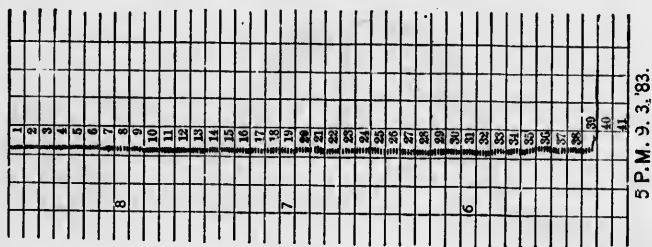


DIAGRAM "A,"

Taken from our 9x12 engine at the Boston Fair of 1883. Taken while making electric light and illustrating, practically, perfect regulation under changes of load and steam pressure.

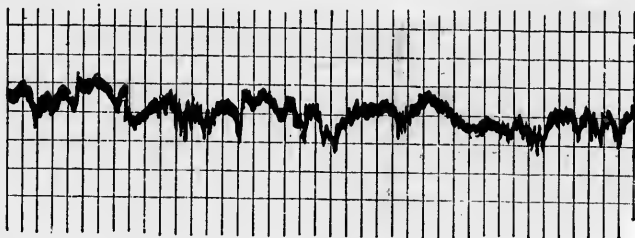


DIAGRAM "B,"

Taken from a 250 horse-power automatic cut-off engine and illustrating the performance of perhaps the majority of engines now in use. We publish it not as a particularly bad case, as the engine was doing its work with tolerable satisfaction, and is doing the same to-day.

The contrast shows what is possible to accomplish with the application of correct principles in governing steam engines.

If interested in the subject, ask for illustrated circular giving full particulars.

The following are fair samples of the diagram we produce and speak for themselves in regard to the fuel economy of our engine.



DIAGRAM NO. 1.

Scale of diagram, 60.
Engine, 9 x 12.
300 revolutions per minute.
Boiler pressure, 80 lbs.
Mean effective pressure, 19.08 lbs.
Indicated horse-power, 21.75.
Net power on brake, 20.
Friction of engine, 8 per cent.
Theoretic water consumption, 24.75 lbs.



DIAGRAM NO. 2.

Scale of diagram, 60.
Engine, 9 x 12.
300 revolutions per minute.
Boiler pressure, 87 lbs.
Mean effective pressure, 47.61 lbs.
Indicated horse-power, 54.27.
Net horse-power on brake, 50.
Friction of engine, 8 per cent.
Theoretic water consumption, 24.21 lbs.

Illustrated catalogue giving full information will be furnished to those interested in the subject.

THE BRUSH ELECTRIC LIGHT AND POWER CO.

CLEVELAND, O., August 31, 1883.

THE BALL ENGINE CO., Erie, Pa.:

Gentlemen—The engine is now running and I find the speed as you claim perfectly steady. Under the most sudden and severe changes of load, I cannot detect any variation in speed whatever, with the best counter I have been able to get. You may use my name in any way you choose regarding this engine if it is possible to do you any good.

Very Respectfully, &c.,
H. E. COOKE, Sup't.

ONTARIO, June 11, 1884.

BALL ENGINE CO.:

Gentlemen—I have engine running all in good shape; beats anything I ever saw. Am saving ten dollars per week in fuel over old engine and doing double the amount of work.

Yours Truly,
E. A. VAN ARSDALL.

**PERFECT REGULATION WHEN USED IN CONNECTION
WITH A WATER WHEEL.**

Office of the EMPORIUM ROLLER FLOURING MILLS, }
EMPORIUM, Pa., February 20, 1884. }

BALL ENGINE CO.:

Gentlemen—It gives me great pleasure to say that your engine is doing most satisfactory work in every respect. I think I have the most complete mill in the State and can make as much flour with a ton of coal as can be made.

I have a water wheel connected by belt and tightener to my mill and can throw the full power of wheel on and take it off at any time, and I have not a machine running by which a change of speed can be noticed.

Yours Truly,
J. P. FELT.

ROXBURY, Mass., Aug. 1, 1884.

BALL ENGINE CO.:

Gentlemen—The 9-inch automatic engine that we bought of you last January has run to our entire satisfaction every day since.

We believe that an account taken at the end of the year will show that the engine will do all that you promised—the same amount of work with one-half the fuel that we were using.

Yours Truly,
W. D. BYRON & SONS.

**ENGINE ADJUSTED TO RUN FASTER WHEN DOING WORK
THAN WHEN EMPTY.**

Office of L. G. SMITH, }
MANUFACTURER OF LONG FURK AND SHOVEL HANDLES, }
McComb, O., January 4, 1883. }

BALL ENGINE CO., Erie, Pa.:

Gents—Enclosed find check to balance account. The engine as near as I can count runs 198 without load and 215 with load, which is O. K.

Yours, &c.,
L. G. SMITH.

F. E. PERKINS, }
DEALER IN IRON AND METALS, }
PROVIDENCE, R. I., March 7, 1884. }

BALL ENGINE CO., Erie, Pa.:

Gentlemen—Regarding the Automatic Cut-off Engine I bought of you, it is giving us the best of work. We are pleased with it and can recommend it.

Yours Truly,
F. E. PERKINS.

