

ESTABLISHED 1853.



HIGHEST CENTENNIAL AWARD

AND

SPECIAL MENTION

BY THE

U. S. Centennial Commission.



Two Medals and Two Diplomas.

(SEE JUDGES' REPORT ON PAGE 18.)

THE ECLIPSE

PORTABLE

STEAM ENGINE,

AWARDS OF FIRST PREMIUMS AND
PRIZE MEDALS TO THE
"ECLIPSE" ENGINE.
Cincinnati Industrial Exposition, 1874.
Maryland State Fair, Baltimore, 1874.
Georgia State Fair, 1874.



Virginia State Fair, Richmond, 1874.
North Carolina State Fair, Raleigh, 1875 & 1877.
Delaware State Fair, Middletown, 1875.
Pennsylvania State Fair, Lancaster, 1876.
North Carolina State Fair, Raleigh, 1877.
Maryland State Fair, Westminster, 1877.
And wherever else exhibited.

ALSO,

Stationary Engines and Boilers, Circular Saw Mills, Etc.

MANUFACTURED BY

FRICK & CO., Waynesboro, Pa., U. S. A.

70 MILES WEST OF BALTIMORE, ON WESTERN MARYLAND R. R.

OFFICERS OF THE COMPANY:

GEORGE FRICK,

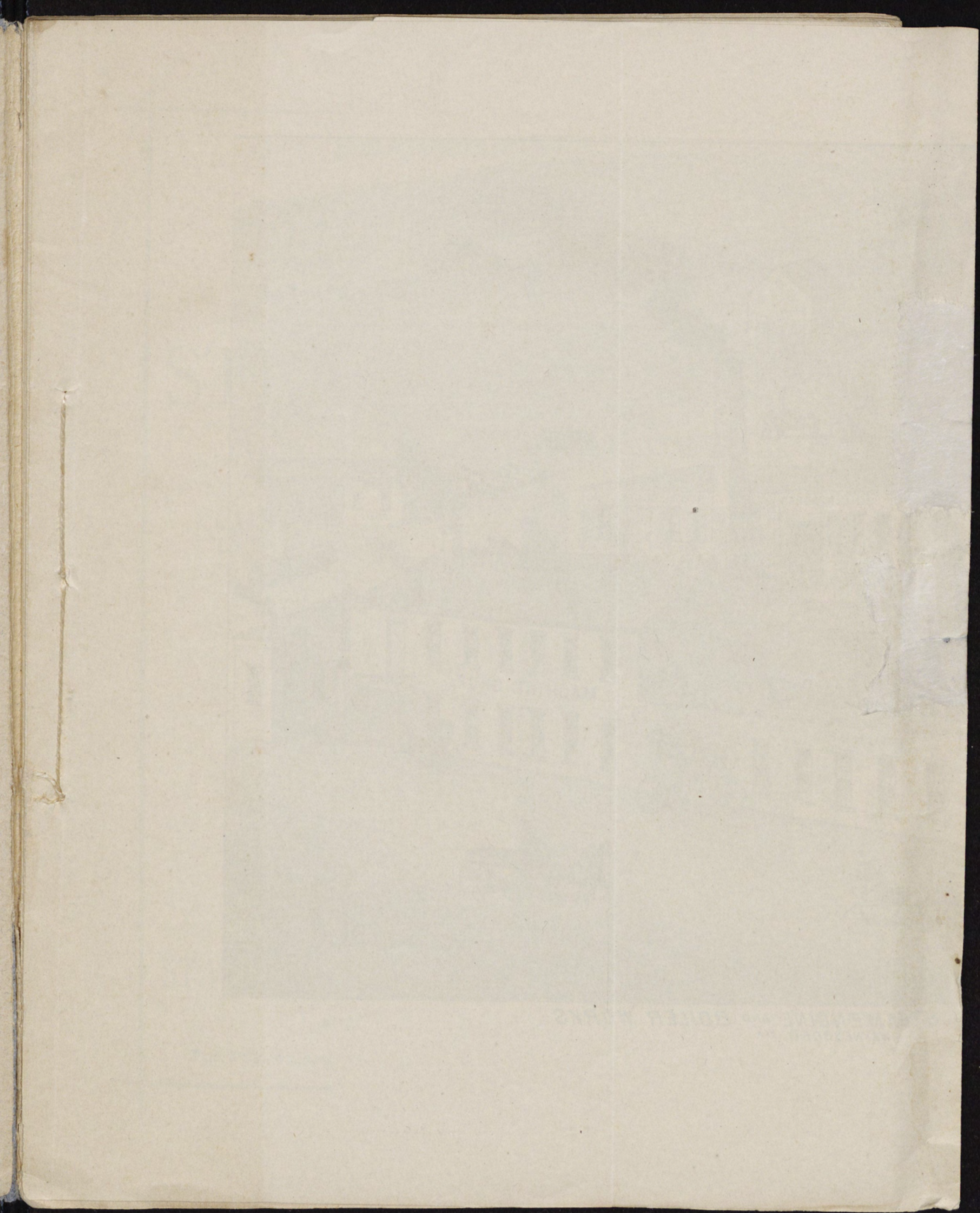
General Superintendent.

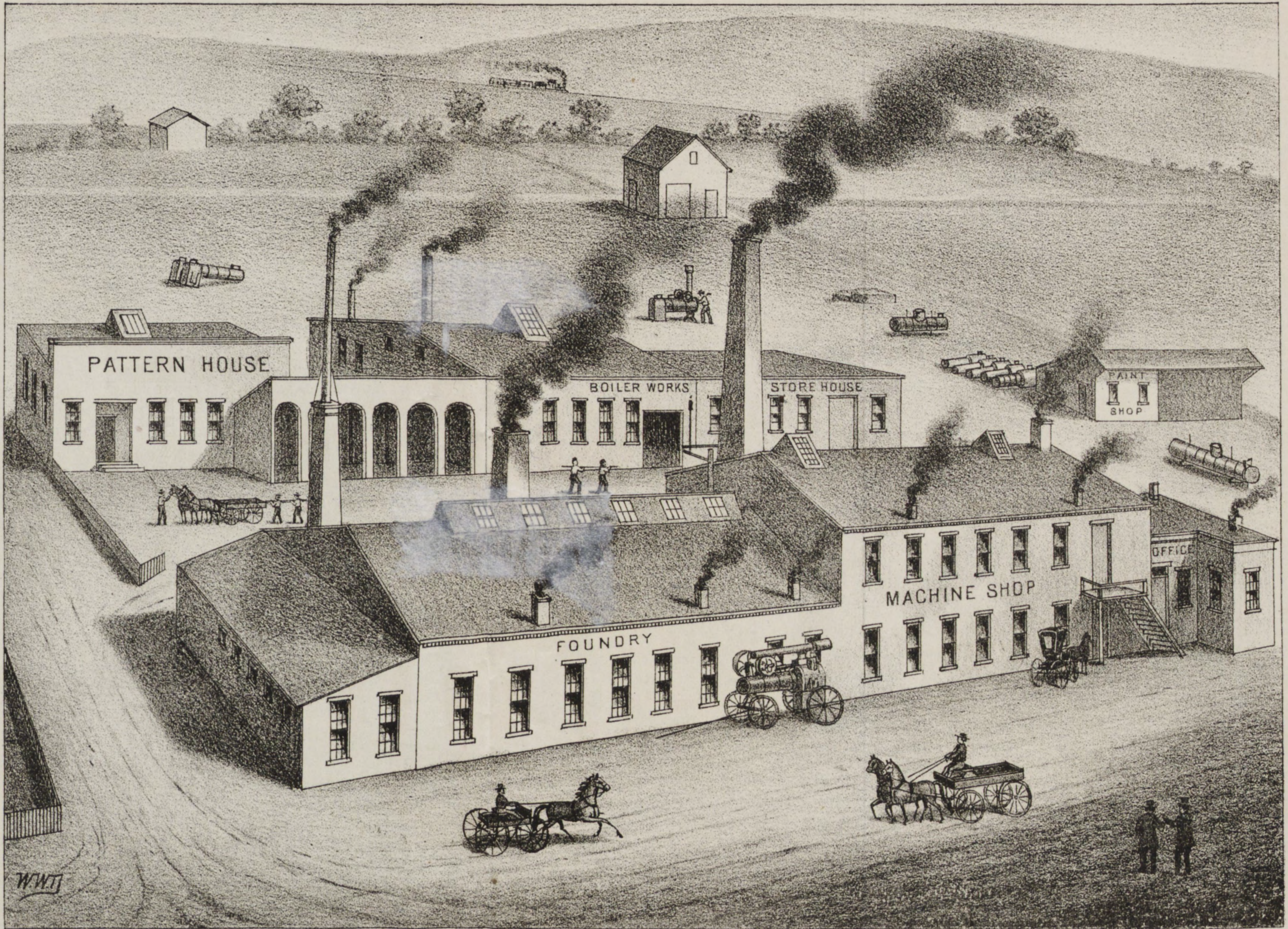
JOHN PHILLIPS,

President.

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WAYNESBORO STEAM ENGINE AND BOILER WORKS.
WAYNESBORO, PA

ESTABLISHED 1853.

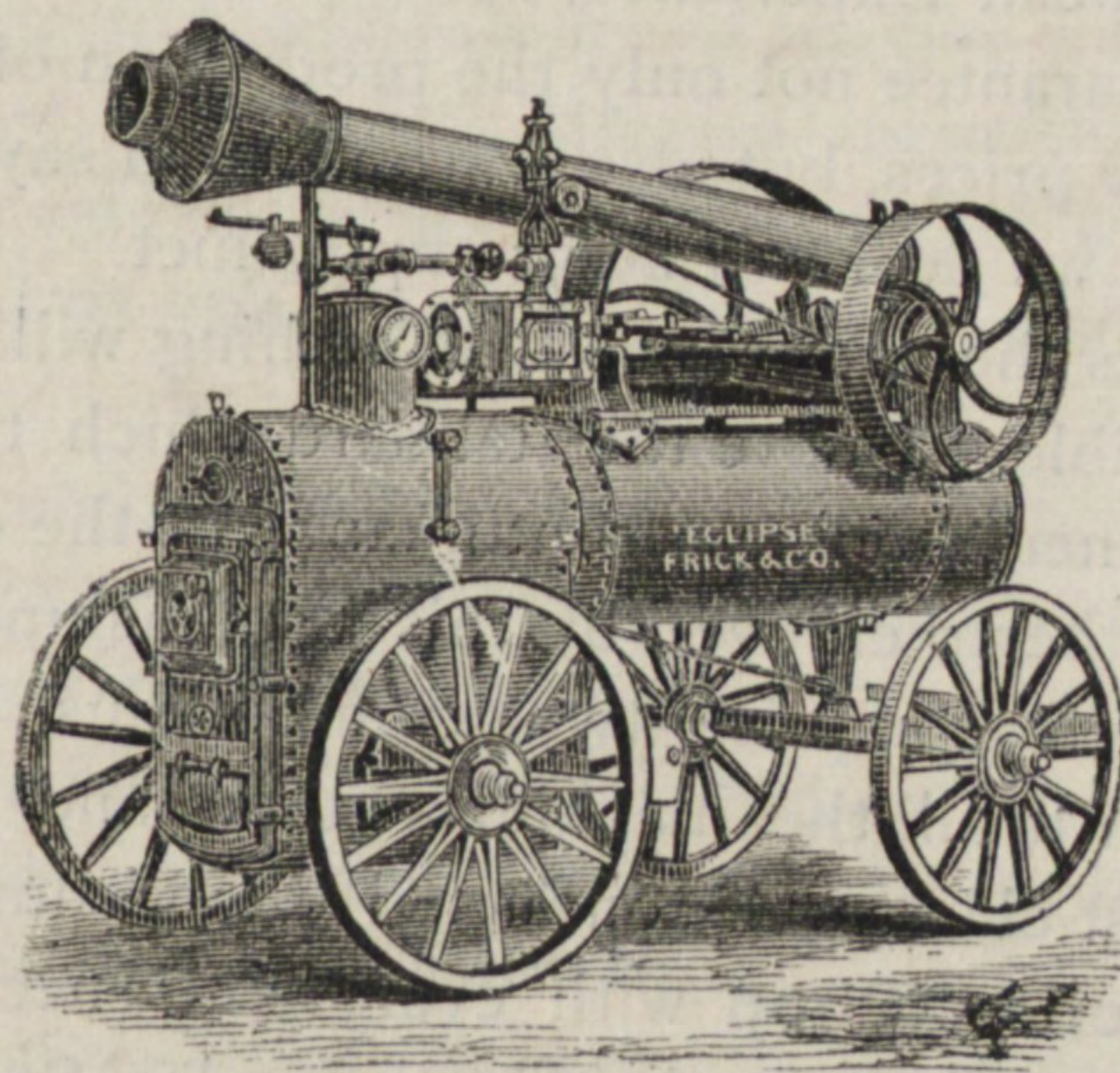
THE ECLIPSE
PORTABLE
STEAM ENGINE,

AND PORTABLE CIRCULAR SAW-MILLS,

MANUFACTURED BY

FRICK & COMPANY,

WAYNESBORO, FRANKLIN COUNTY, PA., U. S. A.



ALSO, MANUFACTURERS OF
STATIONARY ENGINES AND BOILERS,
AND OTHER MACHINERY.

For Particulars of which Send for Illustrated Catalogue.

ADDRESS TO THE PUBLIC.

IN ISSUING this Illustrated and Descriptive Catalogue of Portable Steam Engines, we make a few introductory remarks.

The Waynesboro Steam Engine and Boiler Works has been **progressive**. Since first established, in 1853, there has been a continued succession of improvements, increase of skilled workmen, and an unparalleled, growing reputation, all merited, in fact, only by the production of machinery really superior in material, design and workmanship, and economy in the operative expenses.

Several years ago it was deemed prudent, and, indeed, found **necessary** to increase the capacity of the already extensive Works, in order to supply the **pressing demand**.

Accordingly, in February, 1873, a company was organized, with an operative capital of \$100,000, and the **facilities largely increased**. It is due to state that the additional Capital, Mechanical Skill, Commercial and Financial Experience, which the new Company has added to the Works, guarantee not only the production of first-class machinery at satisfactory prices, but also warrant us in saying that the wants of all with whom we deal will be promptly met.

The Firm offers the **assurance** that nothing will be spared to maintain, and, if possible, to raise the standard which the products of the Works have attained, hoping a continuance of the confidence and liberal patronage hitherto enjoyed by this Establishment.

OUR WORKS comprise two commodious **Finishing Shops**, well furnished with all the machinery, tools and appliances, usually operated in a first-class, well-conducted establishment of this character; a large **Boiler Shop** with everything necessary to produce work of all kinds and styles in this line; also **Steam Forge Shop, Smith Shop, Iron Foundry, Brass Foundry, Ware House, Pattern Shop and Pattern House**, with a very large collection of Patterns used in our business, and to which constant additions are being made.

Thus, having **every department necessary** to build all kinds of Steam Engines and Boilers, Portable Circular Saw-mills, and other

machinery, we are enabled to guarantee our work as first-class and complete.

We never allow any of our manufactures which are not finished and complete, in every respect, to be taken from the Works.

With *good material* and every facility to manufacture **good work**, and employing a large force of skilled workmen, under the personal supervision of Mr. George Frick, the original proprietor, a master mechanic of over thirty years' practical experience, assisted by other master mechanics in various departments, we are enabled to produce our manufactures at prices as low as can be afforded for the quality produced.

It will be noticed that very few Engine Builders make as large-sized cylinders for the **SAME POWER** as we do.

We build a large variety of Stationary Engines and Steam Boilers, small and large sizes, for Printers, Miners, Tanners, Saw-mills, Flouring Mills, Paper Mills, Rolling Mills, Blast Furnaces, etc. Gearing and Machinery of different kinds furnished, in connection with Steam Engines, and for which we have a very large variety of Patterns.

These Works have for a number of years made a specialty of building portable engines; and while starting with a **good engine**, they have not been insensible to the possibility of making a better one; and to this end they have constantly addressed themselves, until now the "**Eclipse**" has come to be favorably regarded wherever used, and is claimed to stand **at the head of portable engines** of this country.

They have recently added to and greatly improved their engines in several points, leaving nothing that could be desired or asked for to make them what they are claimed to be. As an evidence of the popularity of this engine, it is but due to state that the manufacturers have been receiving orders for them from foreign countries, and are daily in receipt of inquiries from all parts of the world. The "**Eclipse**" engine was on exhibition at the great "Centennial Exhibition," 1876; and in July it was **taken to the great field trial** of portable engines and threshing machines, near Philadelphia, under the auspices of the Centennial Commission, and subjected to a thorough and severe trial of several days' duration, in competition with many other engines heretofore supposed to be the best in the market. Three expert engineers were appointed by the Centennial Commis-

sion especially for conducting the test of portable engines at the field trial, who accurately weighed all the fuel and water consumed by each engine, per horse power, and after a careful comparison of the results, it was acknowledged by all disinterested parties that the "Eclipse" gave the most power with the least fuel and water; also, that the design, workmanship and general "get up" of the "Eclipse" was far superior to anything they ever saw.

Since the field trial the "Eclipse" has undergone a critical examination on the part of the Centennial Judges, who have conferred upon it, as an evidence of its high merits, **one grand medal of honor and two diplomas.** Such distinguished awards as these should be an assurance to the public that these engines are not only what the manufacturers claim for them, but are in all respects quite up to this progressive age of invention and improvement. **In addition to the above distinguished awards,** we would state that this engine has also been on exhibition at the Cincinnati Industrial Exhibition of 1874, where it vanquished all competitors, and was awarded a prize medal. Also at the Maryland State Fair, Baltimore, 1874; Virginia State Fair, Richmond, 1874; North Carolina State Fair, Raleigh, 1875; Delaware State Fair, Middletown, 1875; Pennsylvania State Fair, Lancaster, 1875; and North Carolina State Fair, 1876, Georgia State Fair, Atlanta, 1877; Maryland State Fair, Westminster, 1877, and wherever else exhibited. Over 500 of these engines are now in use in almost every State in the Union, and also in the East and West India Islands, doing all kinds of service; and such is the care and caution exercised in their construction that of the large number now in use **not a single explosion has occurred.** The manufacturers wish it understood that these engines are not placed in the market in competition with "cheap," "short-lived" engines, with which the country has been flooded for several years. They are built solely with a **view to economy and durability,** and to give the best engineering results with the lowest first cost consistent with good work.

SPECIAL ATTENTION

Is desired of the reader in regard to some facts to protect the public against misrepresentations in our line of trade.

There are, at present, many manufacturers of Portable Steam Engines of various styles, and competition is great. Persons wanting Steam Engines desire all the information they can get, and will buy where they can get the best machinery for their money.

OUR ENGINES ARE THE CHEAPEST IN THE MARKET, considering the sizes, rated horse power, and quality of material and workmanship. We make this remark for the reason that some engine builders rate the power of their engines beyond what can be done with them without injury.

We advise persons intending to purchase Engines to examine well the given diameters of cylinders and the sizes of boilers for *the same rated Horse Power*, by the manufacturers who may offer their Engines. Our Eight Horse Eclipse Portable Engines are rated by some builders at TEN HORSE POWER and by others at TWELVE HORSE POWER.

NO REDUCTION OF PRICES.

A year ago we made a very considerable reduction of our prices. This year we make no reduction for the reason that we have recently made FURTHER IMPROVEMENTS, namely, Increase of steaming capacity of the Boilers, and greater simplicity in some points of construction, thus rendering the "Eclipse" Engine MORE ECONOMICAL AND DURABLE, and STILL MORE EASILY MANAGED. Under these considerations, we do not feel justified in reducing our price lists at present.

DESCRIPTION OF
FRICK & COMPANY'S
(NEW DESIGN)
COMBINED PORTABLE AND STATIONARY
STEAM ENGINE.

"THE ECLIPSE."

IN presenting to the public our New Pattern of the Portable Engine, we would call particular attention to its simple mechanism and graceful form. No desirable quality, however, is sacrificed to appearance, yet the form is not only pleasing to the eye, but is also that which secures the greatest possible strength with a given amount of material.

The manufacturers present this engine to the trade, feeling confident that it will meet a want that has long been unsupplied—that of an engine so combined that it can be used as readily for stationary as for portable purposes, and shall give the best engineering results with the lowest first cost consistent with first-class work and greatest economy of fuel.

It was with a special view of producing an engine that should at once be a model for efficiency, simplicity, durability, economy and safety, that the present machine was designed and constructed.

The engine is of the horizontal style, and is made with a bed, from entirely new and improved patterns. The entire engine can be readily removed from the boiler and placed on a suitable foundation, and used separately as a stationary engine, when so desired.

We would call special attention to the following points, all of which are of sufficient import to entitle it to the superiority we claim for it. As will be seen from the engraving, the engine consists of two principal parts,

CYLINDER AND STEAM CHEST,

And the frame or bed, which comprises the **Cylinder Head, Guides for Cross Head,** and the two bearings for crank shafts all in ONE SOLID CASTING, thereby making it impossible for the important working parts of the engine to get out of line.

As will be seen from the engraving, the general

SHAPE OF BED

Is the half of a horizontal hollow cylinder, except a small portion of one end, which is an entire hollow cylinder with its one end closed by the formation of a flange or **cylinder head**, to which is bolted the **Cylinder and Steam Chest in one Casting.** This trough-shaped bed extends nearly to the pillow blocks. Immediately under the pillow blocks, the bed is shaped similar to the steam cylinder end, except that it is at right angles to it in order to allow the crank to pass. Extending around the entire upper edge of the bed is a flange strengthening it, and serving as guides for cross head.

The bed is bolted to brackets on the boiler when used as a portable, or on a foundation when used as a stationary engine, by means of a flange running its entire length, which is widened under the pillow blocks and at the steam cylinder end for that purpose; and the main part of the bed is connected with this flange by means of a web. The pillow blocks and the widened flanges at the same end of the bed are connected for the purpose of strengthening them by means of vertical braces. The widened flanges at the other or steam cylinder end are connected with the main part of the bed in like manner, **all forming one solid casting.**

It will be observed that, by this style of bed (which is trough-shaped) under the principal working parts, we catch all the oil, or drippings, from the bearings and Stuffing Box, which would otherwise drop on the boiler and make it very hard to keep clean. There is also an oil channel around the outside of both guides, leading into and conveying all the waste oil into the inside of the bed. The drippings and waste oil in the bed are conveyed from the engine and boiler through a small tube provided for that purpose. By this arrangement the engine and boiler can, with little labor, be kept much cleaner than any other engine in the market, and will be found especially valuable where the engine is set up in a building where cleanliness is an object. This is a feature peculiar to this **engine alone.**

The **Cylinder** and **Steam Chest** are made in one casting, which is firmly attached to the solid bed, and in perfect line in the manner above described; all the exposed parts being covered with felt and handsomely jacketed with iron, which very much improves its appearance, and prevents radiation of heat—preventing the steam in the cylinder from losing its elasticity by condensation: the cylinder being bolted at its one end only to the bed, is allowed perfect freedom of expansion; and as the cylinder, steam chest, slide valve and piston-rod lengthen in the same direction, the engine will have the same lead and clearance when working as when cold; and, by this arrangement of **Cylinder** and **Bed**, the working strain acts on a line through the centre, thereby relieving the engine from the powerful and unequal leverage incident to many, though defective, modes of construction.

THE PILLOW BLOCKS,

Or bearings for Crank Shaft, on this engine, are of the kind used on first-class Stationary Engines, being lined with the best quality of anti-friction metal, and provided with side brasses and adjusting screws for taking up all lost motion.

THE CRANK SHAFT

Is double, extending far enough on either side of the engine to receive a pulley without interfering with the boiler. It is made of the best American forged iron, without weld or seam, and is longer than those used in most other portables, and is balanced by means of counter weights, which produces a smooth and equable motion, so that the engine can be run at a high rate of speed without injury to its parts.

THE CONNECTING ROD

Is forged from the best refined wrought-iron, and has the proper proportions for the greatest strength, and is provided with boxes made of the best copper and tin composition, having very large bearing surfaces, and made adjustable to any possible wear, and the whole is fitted with the greatest accuracy and care, thereby making it very durable.

THE GUIDES

Are of the kind so universally used on all the best locomotive and stationary engines, and have very long bearing surfaces for

THE CROSS HEAD,

Which is also of the locomotive kind, except that it has brass gibs, adjustable to any wear.

THE PISTON

Is of an improved pattern, fitted with a metallic packing ring, which is self-adjusting, and readily adapts itself to any wear of the cylinder, needs no adjusting or setting, and will remain steam-tight with but little friction until the ring is worn out.

AS WE USE STEEL PISTON RODS

We are enabled to make them much smaller than those made of iron, occupying less space in the cylinder, and consequently making the areas on each side of the piston more nearly alike.

THE PUMP

Is driven direct from the cross head, and is bolted to the side of the bed. It has an improved brass valve chamber with composition valves, and they are so arranged that by simply turning one screw either valve may be removed without disturbing the other or any of the pipe connections. The suction valve also serves as a stop cock in the suction pipe, thus dispensing with an extra cock and several extra joints in the suction pipe, consequently insuring greater certainty of pump to work. This valve is always open, and the supply of water to the boiler is regulated by the use of a waste-pipe and stop cock in the discharge pipe from the pump to the boiler, by which it is easy to regulate the amount of water required in the boiler, and the pump is never allowed to run dry, as in many other engines.

THE HEATER

Consists of a large cast-iron pipe bolted near its one end to the steam cylinder, is slightly inclined to admit of draining, and is supported at the other end by a bracket on the bed. The advantage of this position is, that the extremes of heat and cold to which the heater is subject, cannot affect the engine in any way; while, if the heater were formed in the bed, the consequent expansion and contraction would affect the working parts by throwing them out of line. The exhaust steam from the cylinder passes through this heater, in passing to the smoke stack, heating the water in the feed pipes (which pass two or

three times its entire length) to a very high temperature before it enters the boiler, which makes it much easier to keep the pressure of steam to any desired point, and also entirely relieves the boiler from severe shocks caused by forcing currents of cold water into it, and saves considerable fuel.

The exhaust steam, after being utilized for heating the feed water, discharges through a nozzle into the smoke stack, which also greatly increases the draught and aids in extinguishing the sparks, thereby making the engine perfectly safe as regards fire.

THE GOVERNOR

Is of the most approved kind, and is placed directly over the valve, which is perfectly balanced, making it direct-acting, obviating the use of levers and the consequent lost motion due to them. This governor being direct in its action, makes it act instantaneously, so that the most uniform speed is maintained under the most varying load and pressure of steam.

THE SLIDE VALVE ROD

Has a guide outside the steam chest, with large bearing surface.

THE ECCENTRIC

And its connections with the valve are fitted up in the most substantial manner, being provided with all necessary arrangements for taking up wear, and fitted with a degree of skill and accuracy that cannot fail to please.

A COLD WATER PUMP

Can be furnished with all the Eclipse engines driven by belt from the engine, or by hand, as most convenient. This arrangement will be found well adapted to drawing water from deep wells, for supplying tank for feeding pump, and also serves in filling the boiler when the engine is not in operation.

A TALLOW CUP

Enters the top of steam chest, by means of which the piston and slide valve can be lubricated without stopping the engine, and under full pressure of steam.

SELF-FEEDING OIL CUPS

Are inserted on cross head, slides, connecting rod, eccentric, pillow

blocks, and all other parts where experience has found them necessary.

AIR COCKS

Are placed on the pump, steam chest, feed pipe, etc., for the purpose of draining them, thereby preventing freezing and bursting of pipes in cold weather, which is a source of great trouble with many portable engines. In fact we have placed all useful appendages upon this combined portable and stationary engine, regardless of expense, and any one who will compare our table of dimensions and corresponding prices with the description and prices given by other engine builders, will find that we give a much larger engine and boiler per horse power, and far more complete in detail, while our prices are as low, if not lower, than any other manufacturer, which justifies us in claiming to produce the best, most durable and complete engine in the market.

These engines are made fully as well, and in all their parts as perfect as the best stationary engines, and are intended to be used as such when so desired. There are very few cases, however, where they cannot advantageously be used in the portable form. They are certainly more quickly and cheaply set up and started, occupy considerably less space, and are more economical, avoiding long pipe connections, which increase the friction and condensation, thereby diminishing the pressure of steam, which causes a loss of power and fuel.

These engines are manufactured in quantities, and the parts are duplicated by special machinery (as in fire-arms and sewing machines), which secures great accuracy and uniformity in workmanship, and also allows of any part being quickly and cheaply replaced when worn out or broken by accident.

THE BOILER

Is made of the best American Boiler Plate Iron, in the style or pattern of a locomotive boiler, which secures the greatest amount of heating surface and water space within given limits. The water space extends entirely around the fire-box and ash-pit, which is an improvement, both in economy of fuel and safety in keeping fire from dropping to the floor. Special care has been taken in allowing the proper proportions of fire surface, water capacity and steam space, so that there is no danger from foaming or trouble from rapid firing.

The shell is made of best Pennsylvania Iron, of proper thickness, and makes a very strong boiler.

The **Furnace** is made of best solid fire-box plate, which is **seldom** used in **Portables**, but we prefer using this to produce **first-class work**, making it **safe beyond doubt**.

The **Tube Sheets** are also of the best iron for this purpose, and are selected of the proper thickness, according to size of boiler.

The **Tubes** are of the best American lap-welded, and set in the heads by the most improved process. The furnaces at the sides and top and bottom are braced in the most approved and strongest manner.

Special attention is directed to the **shape** of the furnace, the under side of which is semi-circular, forming an ash-pan, around which the water circulates freely, preventing the accumulation and adhering of sediment in the part of furnace below the grate. The water legs of the ordinary locomotive boiler soon require renewing, on account of there being very little heat below the grates, where the water is comparatively in a state of rest, thereby allowing particles of mineral and earthy matter to deposit, which soon form a solid and compact mass and destroy the boiler. By rapid circulation of the water in the **circular water bottom**, these particles are kept in a state of **solution**, so that they can easily be removed from the boiler, by simply opening the blow-off cock, or removing hand-hole plates provided for that purpose. A boiler made on this style is also **much stronger** than others, and does not require a separate ash-pit, and can be run with as much safety from fire as a common stove.

The **Smoke Chamber** is an extension of the rear end of boiler, which is covered with an ornamental cast-iron head furnished with a neat door, through which the flues can be cleaned without removing the head.

A **Large Wrought-Iron Steam Dome** is placed on every boiler. This is a reservoir for steam and prevents priming.

The **Furnace Front** is cast in two pieces, and bolted together, making it less liable to crack than when solid. We have lately made an important improvement in this front by means of which all the cold air before it enters the furnace passes over the inside lining of the front, thereby preventing this lining from being overheated and burning out. This improvement also secures greater safety from fire, as it is not necessary to have the ash-pit door open to supply air to the furnace.

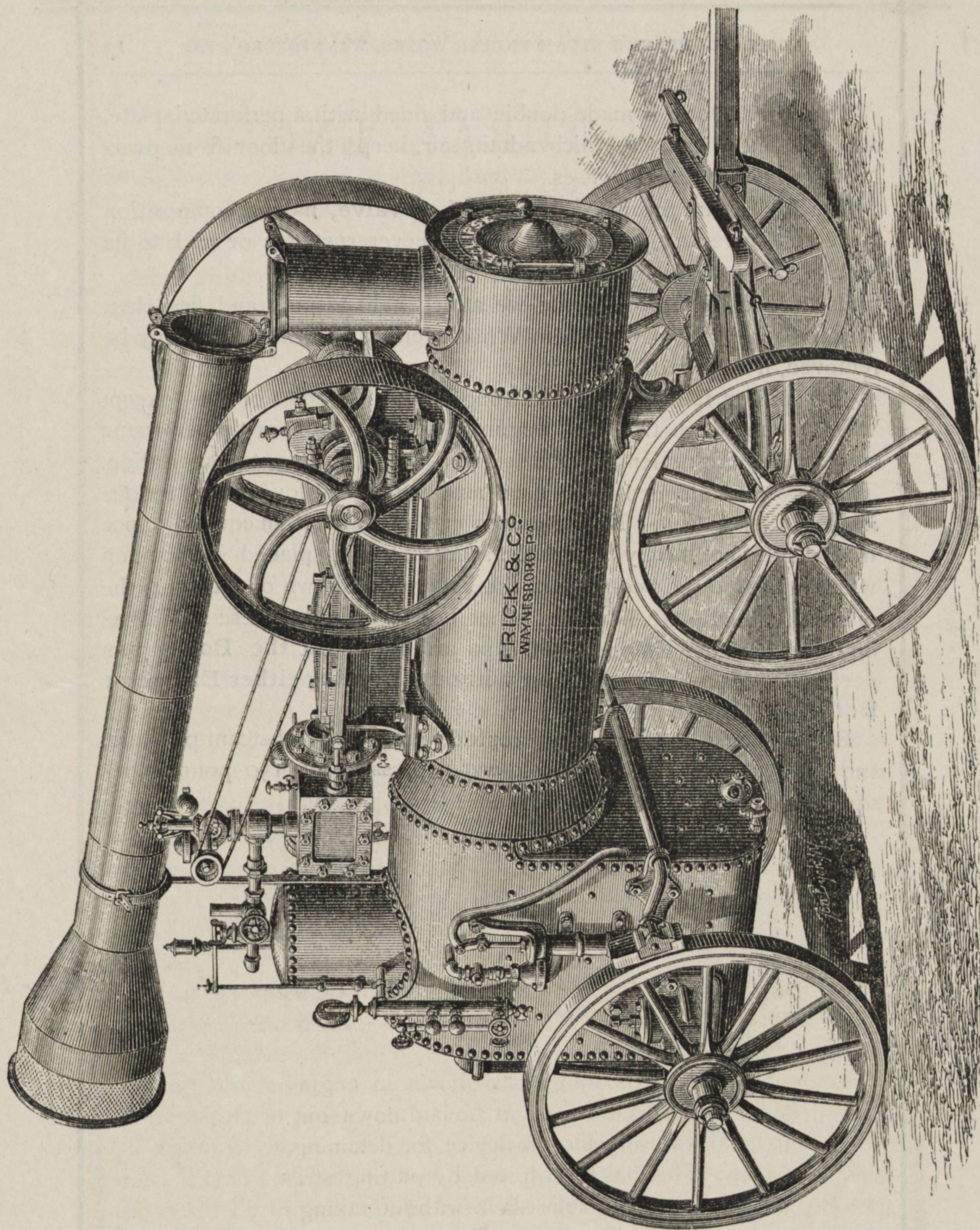
The Fire Door is made double and lined with a perforated plate, and has also a register, which admits air, keeps the door from overheating, and ignites the gases.

The Boilers are furnished with a **safety-valve**, having composition valve and valve-seat, and will, therefore, never rust fast or stick to its seat, as is the case when made of iron.

In the side of Steam Dome we attach a handsome and first-class Steam Gauge, and also a Steam Whistle, either of which can easily be removed, if required.

The Boiler is mounted on strong cast-iron saddles or legs (except when mounted on truck or wagon), bolted to skids or timber frame running its entire length, and supporting it during transportation. They are also intended to be used as a permanent foundation, requiring no other setting. Nearly on top of Boiler and at an equal distance from centre, are firmly bolted the saddles, having planed surfaces, on which is bolted the bed-plate of the Engine, as shown on page 14; the one end of bed plate, however, is not bolted direct to these saddles as on other Portable Engines, but is so arranged that **the Boiler has perfect freedom for expansion without straining either Engine or Boiler.**

Every Boiler is thoroughly tested with water and steam pressure, and guaranteed to stand a cold-water pressure of 150 pounds per square inch.



THE "ECLIPSE" ON WHEELS.

AGRICULTURAL ENGINE.

THE "ECLIPSE" ON WHEELS.

(See cut on page 14.)

This engine is mounted on a very strong truck or wagon, for farm purposes, giving great strength with ease of carriage, and is, therefore, especially adapted for threshing grain, sawing wood and lumber, ginning cotton, and whenever it is necessary to move it from place to place. As will be seen from the cut on page 14, the engine and boiler are the same in every respect as the Portable Engine, which has already been described.

The wheels of wagon have cast-iron hubs, and are large enough to raise the boiler high enough above the road, so that the forward wheel can turn under the boiler, thus allowing the entire engine to be turned on a small space. The engine can be drawn by a team as well as any similar weight, without removing any of its parts.

The boiler is mounted on axles, made of the best refined wrought iron, and by means of strong cast-iron brackets (securely bolted to the boiler), containing spiral steel springs, carrying entire weight of engine and boiler, thus enabling it to be moved with less risk or injury of any kind over the roughest roads. The addition of this improvement is alone a great advantage, and one that is used on no other portable engine. The springs are quite accessible for repair or adjustment, if necessary, without dismounting the engine and boiler.

An *improved* and very powerful *brake* is put on these engines, making them entirely safe in hauling.

THE FLY WHEELS

Are large enough to give the proper speed for threshing wheat, etc., or other work which requires a rapid motion. The wheels are turned true and smooth for belts.

The **smoke stack** is hinged as shown in engraving, so that for storing or for transportation it can be laid down out of the way. It is also provided with an efficient device for detaining and extinguishing the sparks. This has been tested by putting straw or other combustible material on the smoke stack without taking fire. The **ash-pan** is also provided with a close-fitting door which can be closed when desired, and, therefore, no one need apprehend any danger from

the use of this engine near a house or barn, or even among stacks, as also our customers will testify. They are as safe in all respects as common stoves.

Each Engine is provided with a suction hose and strainer, steam gauge, steam whistle, glass water gauge, gauge cocks, safety valve, governor and belt, oil cans, and all the necessary wrenches. In fact, we have omitted nothing in the construction of these engines and their appendages; and we confidently offer them to the public as the most complete agricultural engines now in the market, and among the most labor-saving machines for farm and other purposes.

We believe the day is not far distant when the steam engine will be considered a necessary part of farm machinery. That it can be advantageously and economically employed, there remains no doubt with us, and many who have practically tested it concur in our opinion.

For prices and dimensions of the "Eclipse" Agricultural Steam Engines, see page 17.

The Eclipse Engine gave the best results at Centennial field trial, and was awarded medal and diplomas by Centennial Commission. See Judges' Report, page 18.

For description and prices of our Stationary Engines and Boilers, send for Catalogue.

We make special estimates of the cost of machinery, when persons write us and give particulars of what is wanted. Address,

FRICK & COMPANY,

Waynesboro, Franklin Co., Pa.

We will furnish all our customers with a cut showing the various parts of our Eclipse engines in detail for convenience in ordinary repairs. By comparing the piece wanted with the cut corresponding with same, and giving us the number of the cut to which it corresponds, and the horse power of the engine (or Bore of Cylinder), we can send a new part with a certainty of its fitting. This will be found a great convenience, and will often save much time and expense.

PRICE LIST AND TABLE OF DIMENSIONS

OF THE

"ECLIPSE" AGRICULTURAL STEAM ENGINES,

(See Cut on page 14.)

BUILT ONLY BY FRICK & COMPANY, WAYNESBORO, PA.

See Judges' Report, next page.

Horse Power	Cylinder.		Boilers.							Fly-wheel.		Driving Pulley.		Revolutions per Minute.	Weight of Engine, Boiler and Truck in pounds.	Price Complete with Truck, at shop.			
	Diameter, Inches.	Stroke, Inches.	Fire Box.			Tubes.	Smoke Stack.	Diameter, Inches.	Length, Feet.	Diameter, Inches.	Width Face, Inches.	Diameter, Inches.	Width Face, Inches.						
			Length, Inches.	Width, Inches.	Height, Inches.												Number.	Length, Inches.	Length, Inches.
2	4	7	21 $\frac{1}{2}$	24	16	25	16	2	48	8	9	28	6	20	6	200	2800	2	\$440
4	5	8	23	28	19 $\frac{1}{2}$	34	24	2	60	9	9	36	7	24	8	185	4150	4	680
6	6	9	23	30	19 $\frac{1}{2}$	34	29	2	64	9	10	42	8	28	8	175	4650	6	830
8	7	10	24	32	21 $\frac{1}{2}$	36 $\frac{1}{2}$	35	2	69	11	12	48	8	36	8	150	5550	8	1020
10	8	10	26	36	23	39	38	2	69	11	12	54	8	36	8	140	6300	10	1180
12	8 $\frac{1}{2}$	10	26	39	23	39	40	2	72	11	12	54	8	36	8	140	6800	12	1300
15	9	12	29	42	27	44	40	2 $\frac{1}{4}$	84	13	14	60	10	36	10	135	8475	15	1480
18	10	12	29	46	27	44	43	2 $\frac{1}{4}$	88	13	16	60	12	36	12	135	9275	18	1665
20	10	16	32 $\frac{1}{2}$	48	29 $\frac{1}{2}$	46 $\frac{1}{2}$	48	2 $\frac{1}{4}$	96	15	18	66	12	42	12	125	10500	20	1925
25	11	16	32 $\frac{1}{2}$	54	29 $\frac{1}{2}$	46 $\frac{1}{2}$	55	2 $\frac{1}{4}$	96	15	20	66	12	42	12	125	12000	25	2050

HIGHEST AWARDS. TWENTY-TWO DIPLOMAS.

TWO MEDALS and TWO DIPLOMAS.

NOTICE.—Strangers writing to us with a view to buying, should in all cases give good reference, as we must know the financial standing of all parties before shipping.

The above list contains prices of engines complete, with trucks, steam gauge, boiler feed pump, spring safety valve, improved balance valve governor, feed water heater, hand holes in boiler, length rubber suction hose, steam whistle, glass water gauge, gauge cocks, oil cups, governor belt, spark-arresting smoke stack with hinge joint, improved lever brake, oil can, monkey wrench, fire irons, extra fusible plugs, single and double trees, etc. In fact, nothing has been omitted, everything being complete, and is ready for fire and water. Every engine and boiler is carefully tested and run until known to be perfect and complete in all its parts, and is guaranteed. All sized engines are furnished with fly wheels and driving pulleys, as given in above table, but we can supply any size pulley in place of the regular size wheels without extra charge, the weights being equal. The fly wheels and driving pulleys are all turned on the face for belt. Engines always on hand and ready for immediate shipment.

In the above price we do not include the hand pump for filling the boiler with cold water, for this we charge \$10 extra; everything else is included in above prices.

For Particulars of Stationary Steam Engines and Boilers, and other Machinery, send for Illustrated and Descriptive Catalogue.

Address **FRICK & COMPANY,**
70 Miles West of Baltimore, on W. M. R. R. Waynesboro, Franklin County, Pa.

NO. 235.

INTERNATIONAL EXHIBITION, PHILADELPHIA, 1876.

The United States Centennial Commission has examined the report of the Judges, and accepted the following reasons, and decreed an award in conformity therewith:

Philadelphia, January 31st, 1877.

REPORT ON AWARDS.

Product, *Portable Farm Engine. "Eclipse."*

Name and address of Exhibitor, *Frick & Company, Waynesboro, Pa.,*

The undersigned, having examined the product herein described respectfully recommends the same to the United States Centennial Commission for Award, for the following reasons, viz.:

This engine gives the best results of any that were tested, and may be regarded as a well-made, strong and useful machine. The traveling wheels are large and powerful. The boiler is suspended on springs for traveling, which are let down when at work. The boiler is capacious. There is a powerful brake on the hind wheels, very useful for staying the engine when at work. The engine is carried on the top of the boiler, resting on a powerful bed-plate, which is hollowed out to form a receptacle for oil leakage. This can be detached from the brackets, and the engine converted into a fixed horizontal engine if required. The governor has three speeds, and the crank shaft is counterbalanced. The engine saddle has provision for varying expansion. The water heater is large, of the ordinary diaphragm form, and the pump with air-chamber is well constructed. The cylinder has balance slide valve. The safety valve works by a spring, which is a good arrangement, particularly when the roads are rough. Driving wheel on each side of crank shaft.

George E. Waring, Jr.,

SIGNATURE OF THE JUDGE.

APPROVAL OF GROUP JUDGES.



Fermin Rosillo.

E. Oldendorf.

James Bruce.

Ekeda Kenzo.

James S. Grinnell.



[SEAL.]

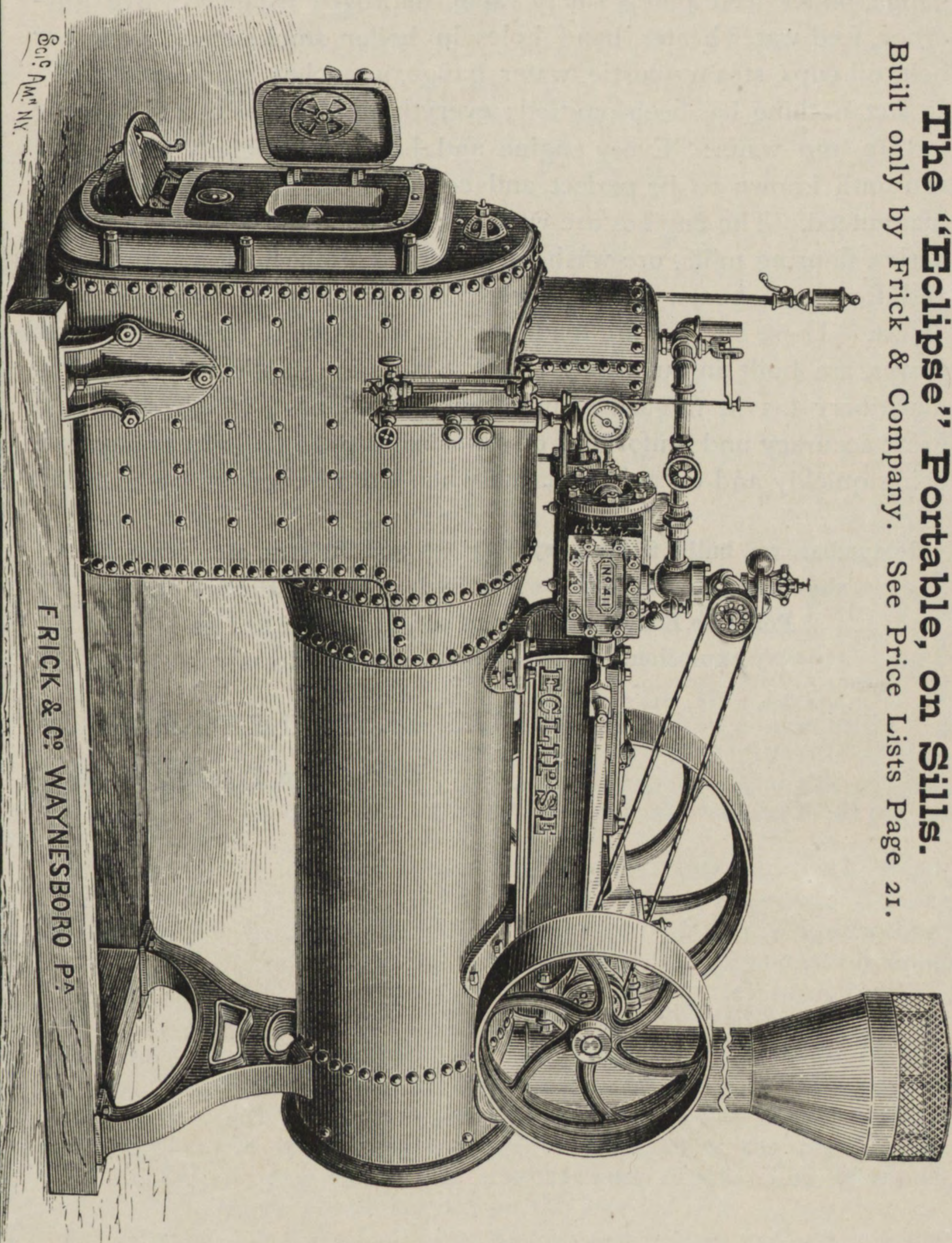
A true copy of the record. *Francis A. Walker.*

CHIEF OF THE BUREAU OF AWARDS.

Given by authority of the United States Centennial Commission.
A. T. GOSHORN, *Director-General.* J. L. CAMPBELL, *Secretary.* J. R. HAWLEY, *President.*

Always examine well the given diameters of Cylinders and sizes of Boilers, for the same rated "Horse Power" by persons who may offer their engines.

The "Eclipse" Portable, on Sills.
Built only by Frick & Company. See Price Lists Page 21.



Do not buy Engines and Boilers by what is termed their "Horse Power," as this varies with different makers, both in theory and practice.

The cut on page 19 represents the Eclipse engine and boiler complete, and mounted on sills. As shown, it is complete with steam gauge, boiler feed pump, safety valve, improved balanced valve governor, feed water heater, hand holes in boiler, smoke stack, governor belt, oil cups, steam whistle, water gauge, wrenches, gauge-cocks, etc. In fact, nothing has been omitted; everything is complete and is ready for fire and water. Every engine and boiler is carefully tested and run until known to be perfect and complete in all its parts, and is guaranteed. The engines are well adapted for running saw-mills, tanneries, flouring mills, ore washers, ginning cotton, hoisting machines, and for small boats, and wherever economy of space and fuel is an object. These engines are made in sizes from two to twenty-five horse power, are built in quantities, and the parts are duplicated by special machinery (as in fire-arms and sewing machines), which secures a great accuracy and uniformity of workmanship, and allows of any part being quickly and cheaply replaced when worn or broken by accident.

Remember, we build Stationary Engines and Boilers, etc., other than shown in this Catalogue. Hundreds of our Stationary and Portable Boilers are now in use, and never had an explosion. Send for Catalogue. Address

FRICK & COMPANY,

Waynesboro, Franklin Co., Pa.

PRICE LIST AND TABLE OF DIMENSIONS
 OF
THE "ECLIPSE" PORTABLE,
 ON SILLS, (See Cut on page 19.)
 BUILT ONLY BY FRICK & COMPANY.
 (See Judges' Report, page 18.)

Horse Power	Cylinder.		Boilers.							Fly-wheel.	Driving Pulley.		Revolutions per minute.	Weight of Engine and Boiler on Sills.	Price Complete at Shop.	Engines and Boilers always on hand ready for immediate shipment. We always ship by cheapest and safest route.			
	Diameter, Inches.	Stroke, Inches.	Fire Box.			Tubes.		Smoke Stack.	Diameter, Inches.		Width Face, Inches.	Diameter, Inches.					Width Face, Inches.		
			Length, Inches.	Width, Inches.	Height, Inches.	Number	Diameter, Inches.											Length, Inches.	
2	4	7	21 $\frac{1}{2}$	24	16	25	16	2	48	8	9	28	6	20	6	200	2100	2	\$360
4	5	8	23	28	19 $\frac{1}{2}$	34	24	2	60	9	9	36	7	24	8	185	3275	4	560
6	6	9	23	30	19 $\frac{1}{2}$	34	29	2	64	9	10	42	8	28	8	175	3775	6	730
8	7	10	24	32	21 $\frac{1}{2}$	36 $\frac{1}{2}$	35	2	69	11	12	48	8	36	8	150	4525	8	860
10	8	10	26	36	23	39	38	2	69	11	12	54	8	36	8	140	5160	10	1020
12	8 $\frac{1}{2}$	10	26	39	23	39	40	2	72	11	12	54	8	36	8	140	5660	12	1130
15	9	12	29	42	27	44	40	2 $\frac{1}{4}$	84	13	14	60	10	36	10	135	7100	15	1300
18	10	12	29	46	27	44	43	2 $\frac{1}{4}$	88	13	16	60	12	36	12	135	7900	18	1475
20	10	16	32 $\frac{1}{2}$	48	29 $\frac{1}{2}$	46 $\frac{1}{2}$	48	2 $\frac{1}{4}$	96	15	18	66	12	42	12	125	9000	20	1675
25	11	16	32 $\frac{1}{2}$	54	29 $\frac{1}{2}$	46 $\frac{1}{2}$	55	2 $\frac{1}{4}$	96	15	20	66	12	42	12	125	10500	25	1800

NOTICE—Strangers writing to us with a view to buying, should in all cases give good reference, as we must know the financial standing of all parties before shipping.

The above list contains prices of engines complete with steam gauge, boiler feed pump, SPRING safety valve, improved balance valve governor, feed water heater, hand holes in boiler, length rubber suction hose, steam whistle, glass water gauge, gauge cocks, oil cups, governor belt and smoke stack. In fact, nothing has been omitted, everything being complete, and is ready for fire and water. Every engine and boiler is carefully tested and run until known to be perfect and complete in all its parts, and is guaranteed. All size engines are furnished with fly wheels and driving pulleys, as given in above table, but we can supply any size pulley in place of the regular size wheels without extra charge, the weights being equal. The fly wheels and driving pulleys are all turned on the face for belt.

For Particulars of Stationary Steam Engines and Boilers, and other Machinery, send for Illustrated and Descriptive Catalogue. Address

FRICK & COMPANY,

70 Miles West of Baltimore, on W. M. R. R.

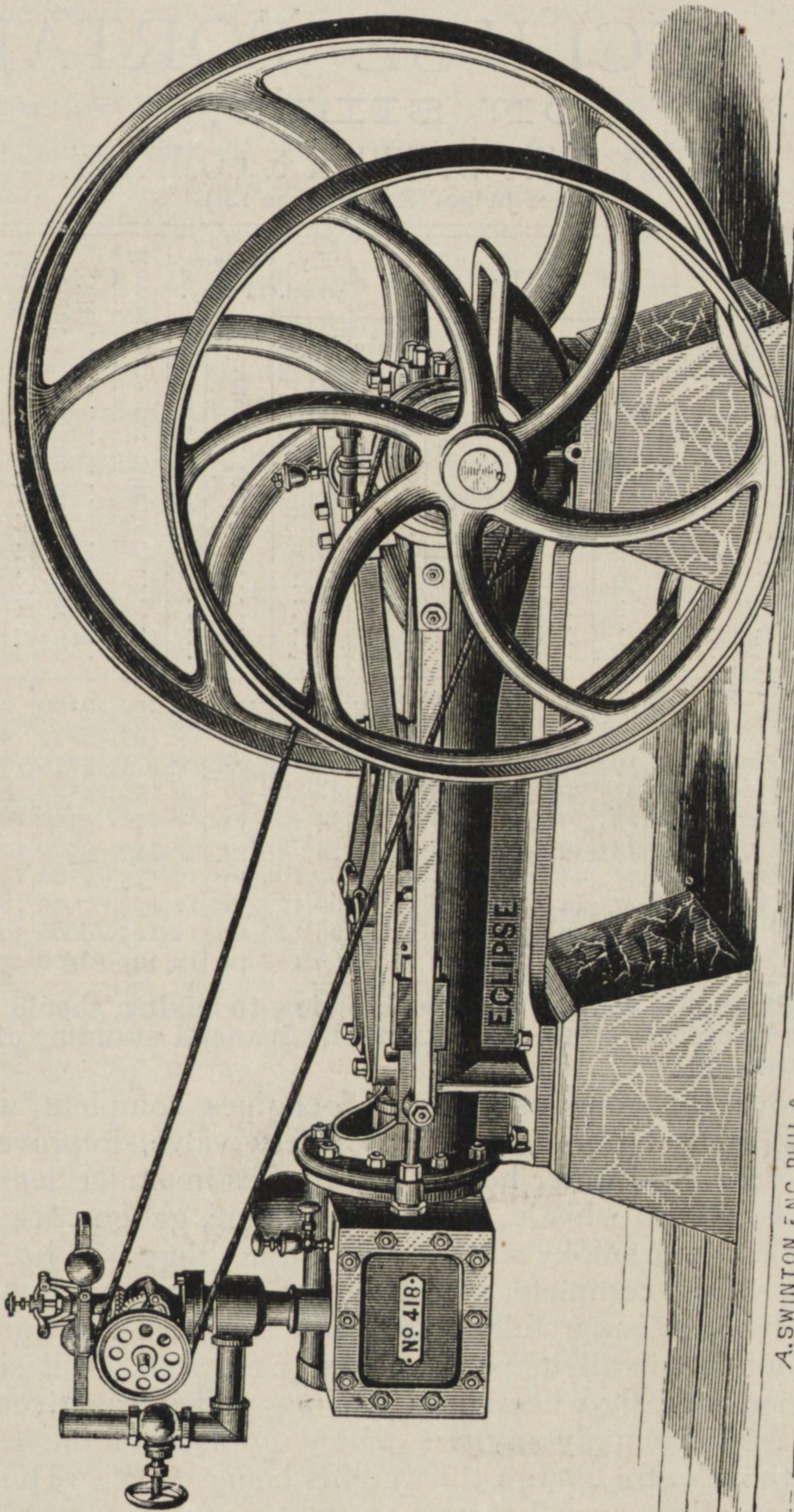
Waynesboro, Franklin County, Pa.

We manufacture Stationary Engines of various other styles, from 2 to 200 horse power, of superior workmanship and finish, and guaranteed.

The "Eclipse" Stationary Engine.

Awarded Medal and Diploma at Centennial Exhibition. See Judges' Report, page 26.

See Prices on page 25.



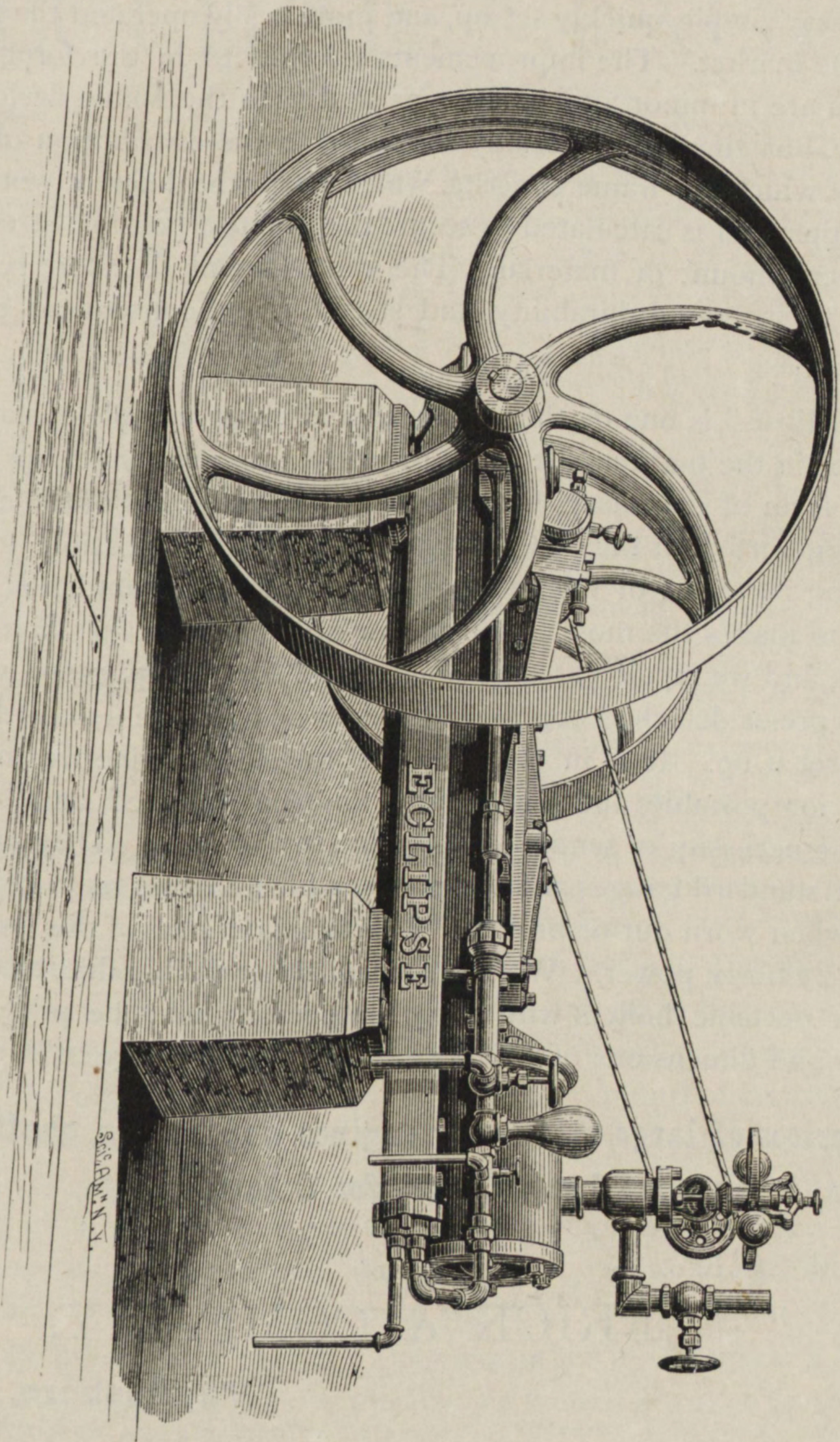
A. SWINTON. ENG. PHILA

FRONT VIEW.

We never allow any of our manufactures which are not finished and complete in every respect to leave our works.

The "Eclipse" Stationary Engine.

Awarded Medal and Diploma at Centennial Exhibition. See Judges' Report, page 26.
See Price List page 25.



REAR VIEW.

The cuts on pages 22 and 23 represent the "ECLIPSE ENGINE" as used for stationary purposes. As will be seen from the description the engine is very simple, quickly set up, and more easily operated than any other in the market. The improvements referred to in the foregoing description are in minor attachments, as well as in the whole design of the engine, but they are especially in regard to the distribution of the material of which the frame consists, which keeps the different working parts together and is calculated to secure the greatest possible strength with a given amount of material. The improvement therefore relates especially to increased durability and strength, and consequent economy of wear.

The "Eclipse" is one of the cheapest and most complete stationary engines in the market. It is more easily and quickly set up than any other form of stationary, from the fact that both ends of the crank shaft are supported on the bed plate, which makes it impossible to get the working parts out of line, no matter how poor the foundation may be. It also makes the most complete saw-mill engine ever offered to the public, and we in all cases recommend it for this purpose where customers prefer detached engines, as it does not require a skilled mechanic to set it up. It is in every respect the same engine we mount on boiler for portable, and can at any time be mounted on a boiler without the necessity of sending the engine to the shop. They are all made over standard gauges and templates, which enables us to replace any part when worn out or broken. We make ten sizes of this engine, from 2 to 25 horse power. We will furnish either double flue, tubular, or regular portable boilers with these engines, as may be preferred. See prices and dimensions of "Eclipse" stationary on page 25.

For prices of large stationary engines and boilers, shafting, pulleys, and other machinery, send for Catalogue.

Address

FRICK & COMPANY,

Waynesboro, Pa.

PRICE LIST AND TABLE OF DIMENSIONS
OF THE
"ECLIPSE" ENGINE.

(See Cuts on pages 22 and 23.)

AS USED FOR STATIONARY PURPOSES.

(See Judges' Report, page 26.)

Horse Power	Cylinder.		Fly-Wheel.		Driving Pulley.		Revolutions per Minute.	Price.					Weight of Engine Complete.	Horse Power	Size of Steam Pipe, Inches.
	Diameter, Inches.	Stroke, Inches.	Diameter, Inches.	Width of Face, Inches.	Diameter, Inches.	Width of Face, Inches.		Engine with Fly-Wheel and Pulley.	Governor.	Pump	Heater	Price Complete.			
2	4	7	28	6	20	6	200	\$170	\$21	\$10	\$10	\$211	600	2	1
4	5	8	36	7	24	8	185	250	25	10	10	295	950	4	1 1/4
6	6	9	42	8	28	8	175	320	25	10	10	365	1225	6	1 1/2
8	7	10	48	8	36	8	150	365	30	12	12	419	1470	8	1 3/4
10	8	10	54	8	36	8	140	415	30	12	12	469	1700	10	1 3/4
12	8 1/2	10	54	8	36	8	140	465	35	12	12	524	1740	12	2
15	9	12	60	10	36	10	135	520	35	14	14	583	2450	15	2
18	10	12	60	12	36	12	135	560	35	14	14	623	2600	18	2
20	10	16	66	12	42	12	125	600	45	14	14	673	3000	20	2 1/2
25	11	16	66	12	42	12	125	650	45	14	16	725	3600	25	2 1/2

These engines are always tested at our works, and run until known to be perfect, and are guaranteed first-class in every respect.

By a careful examination of this list, it will be found our cylinders are much larger for the same rated horse power than usually given.

NOTICE.—Strangers writing to us with a view to buying, should in all cases give good reference, as we must know the financial standing of all parties before shipping.

The above list contains prices of Frick & Co.'s Improved Engine, detached from the boiler, and used for stationary purposes. The list gives the price of engines complete with governor, pump and heater, and also price of engine without governor, pump or heater. All the above size engines are furnished with fly-wheels and driving pulleys, as given in table, but we will supply any size wheels without extra charge, the weights being equal. These engines are of the same style as those already described, and are all made as good and have all the advantages of the best stationary engines. They are not complicated, and are more easily operated than any other in the market.

For Particulars of Stationary Engines and Boilers, and other Machinery, send for Illustrated and Descriptive Catalogue. Address

FRICK & COMPANY,

70 Miles West of Baltimore, on W. M. R. R. Waynesboro, Franklin County, Pa.

NO. 235.

INTERNATIONAL EXHIBITION, PHILADELPHIA, 1876.

The United States Centennial Commission has examined the report of the Judges, and accepted the following reasons, and decreed 'an award in conformity therewith:

Philadelphia, January 31st, 1877.

REPORT ON AWARDS.

Product, *Stationary Engines.*

Name and address of Exhibitor, *Frick & Company, Waynesboro, Pa*

The undersigned, having examined the product herein described, respectfully recommends the same to the United States Centennial Commission for Award, for the following reasons, viz.:

The engines exhibited are of a very good design and good workmanship, being well fitted for the purpose intended.

F. Reuleaux,

SIGNATURE OF THE JUDGE.

APPROVAL OF GROUP JUDGES.



Horatio Allen.

Emil Brugsch.

Charles T Porter.

Joseph Belknap.

Charles E. Emery.



A true copy of the record.

[SEAL.]

Francis A. Walker.

CHIEF OF THE BUREAU OF AWARDS.

Given by authority of the United States Centennial Commission.

A. T. GOSHORN, *Director-General.* J. L. CAMPBELL, *Secretary.* J. R. HAWLEY, *President.*

DIRECTIONS FOR ERECTING AND RUNNING

Frick & Co.'s "Eclipse" Portable Engines.

Before Shipping our engines, all prominent and projecting parts are taken off and carefully packed in boxes, and all the polished surfaces covered with tallow and white lead to prevent rusting.

Place the Engine in a steady and firm position, and as nearly level as possible. The crank shaft should be level across, and be as nearly parallel with the shaft to be driven as possible.

After Removing the Parts from the boxes in which they are packed for shipping, carefully clean them of all dirt, grease, etc., that may have gathered on the slides, journals, valve-seats, etc. Then oil the parts well with good clean oil, and place them in their proper positions, which can at once be seen by any intelligent person; in fact, no mistake can be made, as no part will fit any other place but its own.

Care Must be Taken not to key up the connecting rod too tight. Screw up the crank shaft boxes by hand, for they should be run quite loose when the engine is first started, and the slack taken up gradually until there is no pounding or noise, as fast as can be done without causing the bearings to heat.

Use the best oil for all bearings. See that the piston and pump rods are all properly packed with hemp or other suitable material, so there will be no leaking of water or steam. Keep them well oiled and look to them often.

In screwing steam or water pipe together, use a little white or red lead, also on all bolts that screw into the boiler, thereby preventing leakage of steam and water. Connect the suction pipe of the pump with a tank, well stream, or other source of water supply, which should never be more than twelve feet below the pump if possible. It is better to raise the water into a tank by an ordinary cistern pump.

Fill the boiler with water up to the second gauge cock at furnace end, put up the smoke stack and make a slow fire at first, thus giving time to alter what may be out of place, or see "screw loose." Fill all the oil cups and oil the working parts well.

The Steam being up, and having all the cocks under the cylinder open (and always leave them open when the engine is not in motion), open the starting valve gradually, and when the water is all out of the cylinder, and dry steam is blowing through, close the cocks.

Oil the cylinder two or three times a day if using good water, and oftener if muddy water is used, through the oil cup on top, with good clean tallow.

Always keep the water in the boiler about half way between the two cocks. If the water falls below the lower gauge cock, draw out the fire as rapidly as possible: failing to do this makes the boiler liable to explosion. We insert in the crown sheet of all our boilers a fusible plug, the center of which will melt out the moment the crown sheet is bare of water, discharging steam and water into the fire, thus preventing injury to the crown sheet from low water.

To renew this plug after it has melted out, it is only necessary to remove the hand plate over the furnace-door in front of the boiler, and, with a small wrench, unscrew the brass thimble which holds the fusible plug, put in a new one (we furnish duplicates with each engine), and replace the thimble. Use a small hammer to form the head of the fusible plug; do it with care so as to form a steam joint. By being careful the plug can be put in without taking out brass thimble. When the plug can not be procured, melt together one part tin and three parts lead, and pour the hole in the thimble full, having closed the small end with clay, and hammer the ends as above directed.

This plug will never melt when covered with water; but as soon as the crown sheet becomes bare of water, it will melt and blow out before any damage is done to the iron.

When soft water is used, it is enough to blow off the boiler once in three or four weeks. To blow off have a good head of steam, say 30 pounds, and draw out all the fire; be sure and have all the doors shut tight so no cold air can pass through the flues; then open the blow-off cock beneath and let off all the water and steam. Allow the boiler to cool before filling again. Use no dirty or filthy water if it can be avoided, as it will make the boiler foam. Use soft water, if possible, in order to prevent scale in the boiler. In case hard water is used, blow off two or three times a week. When hard scale has been formed on a boiler; solvents may be used to remove it. Many solvents known as "boiler compounds" are offered in the market, but

great care should be taken in selecting them, for they frequently contain acids injurious to iron. Among the best solvents we have used are Gum Catechu (a cheap article which can be found at any drug store), and *Carbonate of Soda*, or the common soda of commerce, in the preparation of one part of Catechu to two parts of Soda. A couple of pounds once a week introduced through the hand holes will usually be found sufficient. Or pump half gallon molasses in the boiler with the water a half day before blowing off; this will also be found to loosen the scale. *Hand holes* are provided in suitable places to admit of scrapers for removing the loosened scale and deposit of sediment resulting from the use of solvents or otherwise. If this scale or sediment is permitted to remain in the boiler it will spread over the fire sheets and tubes, and increase the danger of burning them. Therefore it is of the first importance that the boiler should be frequently cleaned out through the hand holes as above described. **The flues should be cleaned** two or three times a week, and also the inside of fire-box. The cleaner the flues and fire-box are kept, the less fuel will be required, and hence easier to make steam.

Keep the ashes from under the grate, as this improves the draft, and prevents the grate from burning out.

Never put an extra weight on the safety-valve. Occasionally raise the lever and see that the valve works free. **Never close the valves between the check valve and boiler** when the engine is running—this is only to be closed when taking out the pump valves.

Regulate the supply of water to the boiler by the small valve in discharge pipe next to the pump, **but always have cold water going through the pump.** If you are not pumping in the boiler, have the small valve to the right of the pump, and to which the small gum hose leading to the water tank is connected, open. It is best to have the valve partly closed, and a portion of the water going in the boiler constantly (thereby more effectually heating the water), and a portion going back to the water tank through the small gum hose. By a little practice and attention to this point, you will be able to so regulate the pump as to have just as much water going in the boiler as is converted into steam. If at any time the pump should get hot, or hot water should come back into the water tank through the small hose, close the valve between check valve and boiler, and unscrew cap on check valve. Remove the valve and carefully examine both valve and valve

seat to see that it is perfectly clear of all dirt or grit of any kind which would prevent the valve coming to its seat, and allow hot water from the boiler to pass through it to the pump and water tank. If possible, time your machinery so that the engine may run as the governor dictates with the throttle-valve wide open. **In cold weather** always be sure to have all the drain cocks open in all the steam and water pipes, and wherever they may be found. Under no circumstances allow the water in the boiler to freeze, but always have it perfectly clear and empty of water in cold weather when you are not running. By strict attention to this, you will often avoid serious injury to your boiler and bursting of pipes.

By altering the position of the eccentric on the main shaft according to the chisel mark on it, the engine may be run either way. Never run the engine unless the marks on the eccentric and main shaft correspond at one of the two places.

When either wood or coal is used, the fuel should be in sufficient quantity to keep the grates well covered, so as to prevent cold air from passing through. Keep the bed of fire a little thickest in the middle, which will keep the heat against sides of fire-box.

Do not let the grates become bare, which will let cold air pass through and check the heat. It is best to fire often, and not too much at a time, and keep the fire lively. Should the steam come down too much on account of fire becoming choked, open the blower a few minutes until the fire revives. Always keep the ash-pit door closed when running, and admit the draft to the furnace through the register between the fire door and the ash-pit door. Only have the ash-pit door open when this register does not admit sufficient draft to keep up steam, or when raising steam before starting the engine.

By admitting the draft through this register, it passes over the inside lining of the front, thereby preventing it from overheating and burning out. If at any time it should be found necessary to admit part of the air through the ash-pit door, it should be only partly opened, so as much of the air may pass through the register as possible.

Keep the grates free from clinkers.

In starting a new Engine we think it advisable to *stop often* and examine all the working parts by feeling to see that they do not heat, for when they get hot they are liable to cut and injure the bearing

surfaces, and ever afterwards give trouble. If the bearings are allowed to get too loose, they make an unnatural noise by pounding or thumping, in which case they should be brought to their proper place by tightening the keys or bolts as the case may be, always being careful not to tighten much at a time and cause the bearings to heat.

A new Engine always requires more strict attention for several days than afterwards.

TRUCK FOR ENGINE.

In order that this engine *may be hauled* over any kind of roads *without injury*, either to the truck, or engine and boiler, we have provided spiral steel springs incased in brackets, bolted to the sides of fire-box, at its centre, and on which the entire weight of engine and boiler is carried while hauling. When the engine is in operation, the weight is nearly all carried on two bolts or screws which pass through the plates bolted on the top of brackets or spring chambers.

Before starting the Engine, these screws should always be screwed down on the axle, sufficiently to relieve the springs of nearly all the weight. This will prevent the Engine from shaking or vibrating when in operation. These will also be found very convenient for leveling the engine by simply screwing one screw down on the axle tighter; thus one side may be raised more or less as required.

While hauling the Engine, these screws should always be raised sufficiently to allow all the weight of Engine and Boiler to be carried by the Springs.

Failing to attend to this will endanger the threads of the screws, as the whole weight would thus be carried by them.

The spring chamber over the centre of front axle is also provided with a bolt which screws against the centre pin, in order to prevent shaking or vibrating when the engine is operating. It should be loose only when hauling, to allow the weight to be on the spring.

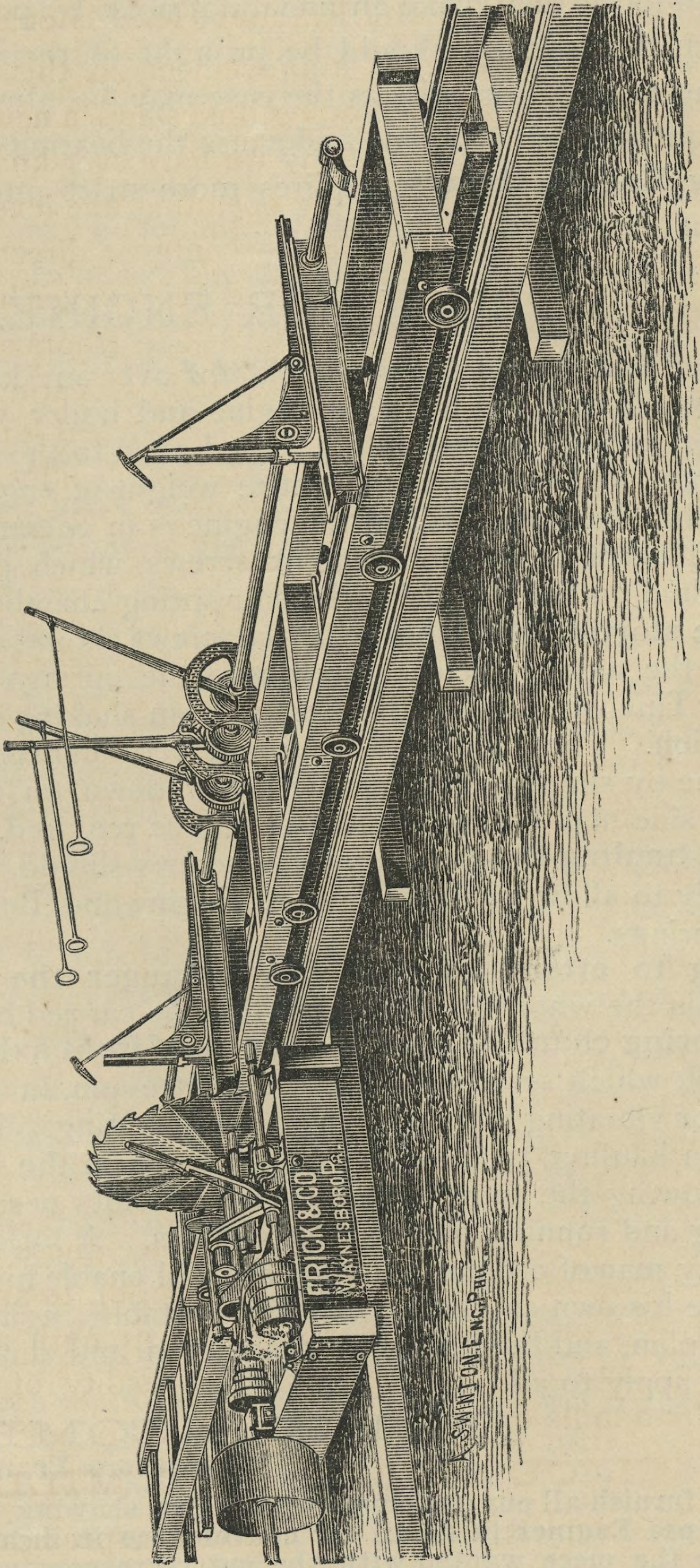
By following the above directions no difficulty need be apprehended in starting and running our portable engines. A little attention on the part of any man of ordinary intelligence will enable him in a short time to become his own engineer. All our portable engines are made on the same plan, and the foregoing description and directions for operating will apply to all.

FRICK & COMPANY,
Waynesboro, Franklin Co., Penna.

We will furnish all our customers with a cut, showing the various parts of our Eclipse Engines in detail, for convenience in ordering repairs. By comparing the piece wanted with the cut corresponding with same, and giving us the number of the cut to which it corresponds and the horse power of the engine (or the Bore of the Cylinder), we can send a new part with a certainty of its fitting. This will be found a great convenience, and will often save much time and expense.

PORTABLE SAW MILLS,
 MANUFACTURED BY
FRICK & COMPANY, WAYNESBORO', PENNA.

See Price List, Page 34.



The above cut represents our No. 2 Saw Mill, with Independent and Simultaneous Ratchet Head Blocks.

Frick & Co.'s No. 2 Circular Saw Mill, with Improved Feed Motion and Ratchet Head Blocks.

We have lately made great improvements in this mill by supplying it with self-adjusting and self-oiling boxes and a new friction feed, the most simple and substantial of any we have ever known. Our friction feed is so arranged that by simply operating one lever, the sawyer can feed the mill, while a motion in the contrary direction will gig back the log to its position. With this feed the sawyer has perfect control over the feed under all circumstances. The arbors of all our Mills are very heavy, and have very long self-adjusting bearings. In every part this Mill is constructed in a superior manner, and is the result of many years' experience in mill building and sawing, and will not fail to give the best satisfaction. When examined they will be found in all their parts simple, complete, and of ample strength for sawing any kind of logs, or any class of lumber. It is equal to any mill ever offered to the public. It is made with wood frame, and furnished with either screw or independent and simultaneous ratchet head blocks.

Our independent and simultaneous ratchet head blocks are so arranged that by the alternate use of different levers, one or both head blocks can be set at will without the necessity of detaching any part or the sawyer changing his position. Our independent ratchet head blocks have all the advantages of the simultaneous and independent, except that they have not the simultaneous connection. The axles upon which the truck wheels of the carriage are fastened pass through under the carriage from one beam to the other; the wheels are at the outside of the carriage beam, and the axles have boxes lined with babbit metal, making a good and substantial arrangement. This mill is suitable for engines from 15 to 30 horse power, and will saw from 5,000 to 25,000 feet of lumber per day. We guarantee these mills to give entire satisfaction, and to be equal, if not superior, to any in the market either in quality or quantity of work done, strength and simplicity of construction, and convenience, ease and facility of operation. See prices of these mills on page 34.

PRICE LIST OF NO. 2 MILLS.

Furnished complete, as per the following specifications: Mill with Saw, 30 feet of Carriage, 60 feet of ways, improved friction feed motion, 1 pair of either screw, independent or independent and simultaneous ratchet head blocks, as may be preferred. Internal belting, files, saw,

hammer, set gauge, anvil, monkey wrench, belt punch, cant hooks, oil can, etc., complete to main belt.

Prices of No. 2 Mill.

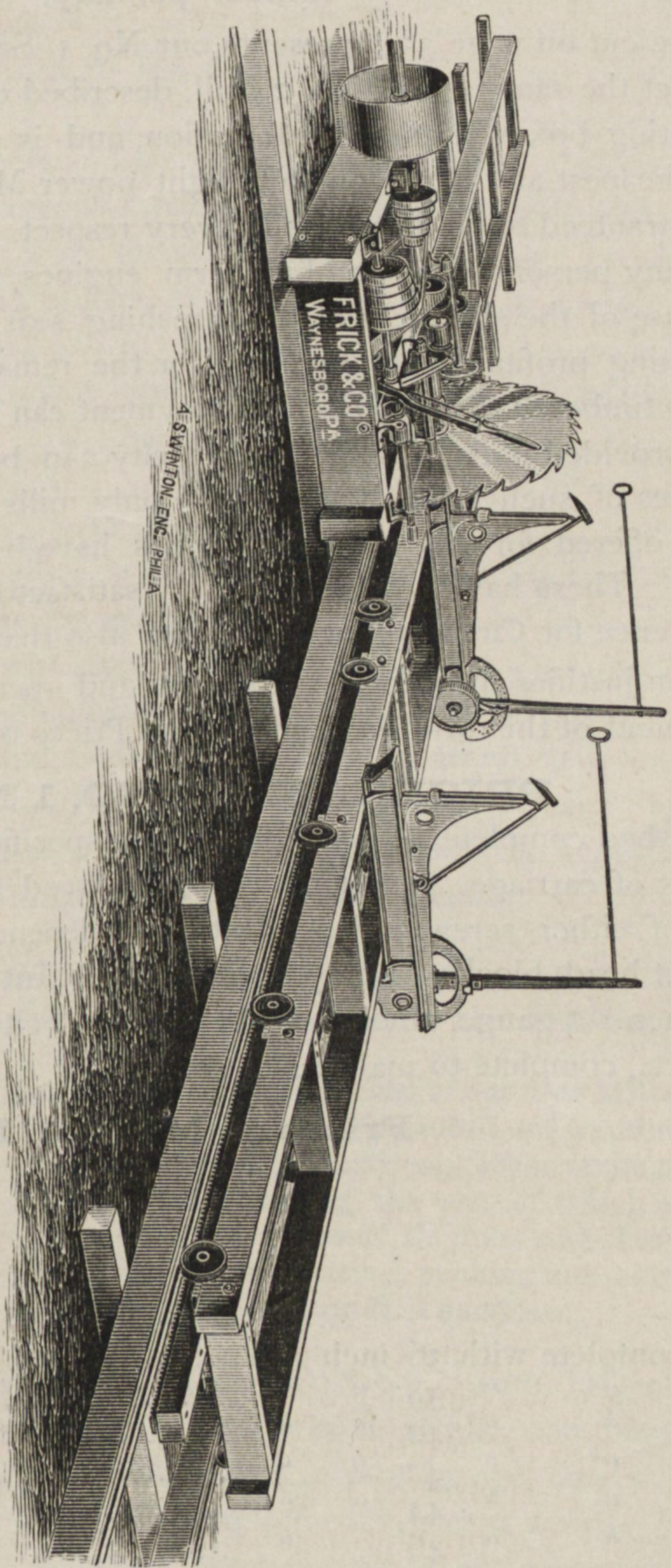
	With screw head block.	With indp't R. H. blocks	With indp't & simultan's R. H. blocks
Mill complete with 48 inch saw.....	\$500	\$530	\$615
" " " 50 " "	510	540	625
" " " 52 " "	525	555	640
" " " 54 " "	540	570	655
" " " 56 " "	560	590	675
" " " 58 " "	585	615	700
" " " 60 " "	610	640	725

Driving Pulley 22 or 24 inches diameter and 13 inches face.

EXTRAS FOR NO. 2 MILL.

If wood work of carriage is not wanted deduct.....	\$18.00
" " " saw -frame " " "	25.00
Extra carriage per foot, with all irons necessary.....	3.50
" Ways " " " "	1.50
Carriage axles with wheels and boxes complete, each.....	6.75
Independent and simultaneous ratchet head blocks per pair and connections, and set work for 30 foot carriage.....	200.00
Independent ratchet head blocks, each.....	50.00
Screw head blocks.....	35.00
Connections for independent and simultaneous ratchet head block, without set works, over 30 feet, per foot.....	4.00
Saw-dust screw and elevator.....	50.00
Axles and wheels for log carriage, per pair.....	12.00
" " " lumber carriage, per pair.....	12.00
Binding pulley and frame for main belt.....	12.00
Upper saw rigging complete with 30 inch top saw.....	200.00
Disston's saw gummer with 3 cutters	25.00

If saw is not wanted deduct price per list of solid tooth saws. (See page 42.) If inserted tooth saw is wanted deduct price of solid tooth saw, and add price of inserted tooth saw as per list on page 42. Unless special directions are given to the contrary, we always send the independent ratchet head blocks and solid tooth saw with our mills.



FRICK & CO.'S NO. 1 CIRCULAR SAW MILL,

FOR LIGHT POWER,

With Independent Ratchet Head Blocks, and Friction Feed Motion.

See Price List Page 36.

No. 1 Circular Saw Mill, designed for light power and Farm Engines, will cut from 2,500 to 10,000 feet of lumber per day.

The cut on page 35 represents our No. 1 Saw Mill. It is in every respect the same as our No. 2 Mill, described on page 33. It has self-adjusting boxes, friction feed motion, and is in every respect one of the cheapest and most complete light power Mills in the market, and is guaranteed to be first-class in every respect.

Many persons will not buy farm engines for threshing purposes because of the shortness of the threshing season and the difficulty of obtaining profitable employment for the remainder of the year. In many timbered districts such employment can be had in sawing lumber, provided mills of sufficient capacity can be procured suitable for engines of such light power. The only mills which have heretofore been offered for this class of engines have been a variety of Muley Mills. These have not been entirely satisfactory, owing to a general preference for Circular Saw Mills, and also that their cutting capacity seldom justifies the expense of buying and operating them.

See cut of this Mill on page 35, and Prices on this page.

PRICE LIST OF NO. 1 MILLS,

Furnished complete, as per the following specifications: Mill with saw, 20 feet of carriage, 40 feet of ways, improved friction feed motion, 1 pair of either screw, independent, or independent and simultaneous ratchet head blocks, as may be preferred. Internal belting, files, saw hammer, set gauge, anvil, monkey wrench, belt punch, cant hooks, oil can, &c., complete to main belt.

Prices of Mill No. 1.

	With screw head blocks.	With indp't R. H. blocks	With indp't & simultan's R. H. blocks
Mill complete with 36 inch saw.....	\$312	\$342	\$427
" " " 38 " "	316	346	431
" " " 40 " "	321	351	436
" " " 42 " "	328	358	443
" " " 44 " "	336	366	451
" " " 46 " "	344	374	459
" " " 48 " "	353	383	468

Driving pulley 20 inches diameter and 10 inches face.

Extras for Mill No. 1.

If wood-work of carriage is not wanted, deduct.....	\$12.00
“ “ saw-frame “ “ “	15.00
Extra carriage per foot with all irons necessary.....	2.50
“ ways “ “ “ “ “ “	1.00
Carriage axles with wheels and boxes complete, each.....	5.50
Independent and simultaneous ratchet head blocks per pair, and connections and set work for 20 feet carriage.....	185.00
Independent ratchet head blocks, each	40.00
Screw head blocks, each.....	25.00
Connections for independent and simultaneous ratchet head blocks without set works over 30 feet, per foot.....	3.50
Saw dust screw and elevator.....	45.00
Axles and wheels for log carriage, per pair.....	10.00
“ “ “ “ lumber “ “ “	10.00
Binding pulley and frame for main belt.....	10.00
Disston's saw gummer with three cutters.....	25.00
If saw is not wanted, deduct price, per list of solid tooth saws. If in- serted tooth saw is wanted, deduct price of solid tooth saw, and add price of inserted tooth saw, as per list on page 42. Unless special directions are given to the contrary, we always send the independent ratchet head blocks and solid tooth saw with our Mills.	

**Specifications and Prices of Steam Engines and Saw Mills,
Complete with Locomotive Boilers, 8 to 25 Horse-Power.**

The following arrangement is for the different sizes of our Saw Mills, with engines and boilers of suitable size and power attached for running the same to best advantage. We can, however, furnish any other arrangement of engine and mill different from the following, the cost of which can be computed by selecting from the different tables of Engines and Saw Mills the sizes desired, to which add the cost of belting, packing and shipping; the aggregate will be the cost of Engine and Saw Mill complete.

No. 1.—One 8 horse-power Eclipse Portable Steam Engine and Boiler on sills, cylinder 7 inch bore, 10 inch stroke, complete with governor, pump, heater, sawyer's valve, steam gauge, safety valve, gauge cocks, glass water gauge, blow-off cock, steam whistle, smoke stack, poker, scraper, monkey wrench, oil can, governor belt, etc., \$860.00

One No. 1 Improved Portable Circular Saw Mill, complete with 44 inch Solid Tooth Saw, 20 feet of carriage, 40 feet of ways, 1 pair improved Independent Ratchet Head Blocks, friction feed motion, internal belting, cant hooks, saw hammer, set gauge, and anvil, monkey wrench, oil can, belt punch, files, etc..... \$366 00
 40 feet 8 inch 3-ply gum belting..... 23.00
 Boxing, packing and shipping..... 10.00

Total list price of Engine and Mill complete.....\$1,259.00

If Engine and Mill is taken complete as above deduct

3 per cent..... 37.77

Making net cost after deducting 3 per cent.....\$1,221.23

Mounting Engine and Boiler on wheels, extra, \$160. The above size Engine and Mill is capable of sawing from 2,000 to 3,000 feet of lumber per day.

No. 2.—One 10 horse-power Eclipse Portable Steam Engine and Boiler on sills, cylinder 8 inch bore, 10 inch stroke, complete with governor, pump, heater, sawyer's valve, steam gauge, safety valve, gauge cocks, glass water gauge, blow-off cock, steam whistle, smoke stack, poker, scraper, monkey wrench, oil can, governor belt, etc.....\$1,020.00

One No. 1 improved Portable Circular Saw Mill, with 48 inch solid tooth saw, 20 ft. of carriage, 40 ft. of ways, one pair of improved independent ratchet head blocks, friction feed motion, internal belting, cant hooks, saw hammer, set gauge and anvil, monkey wrench, oil can, belt punch, etc..... 383.00
 40 ft. 8 inch 3-ply gum belting..... 23.00
 Boxing, packing and shipping 10.00

Total list price of Engine and Mill complete.....\$1,436.00

If Engine and Mill is taken complete as above, deduct

3 per cent..... 43.08

Making net cost, complete, after deducting 3 per cent.....\$1,392.92

Mounting Engine and Boiler on wheels, extra \$170. The above size Engine and Mill is capable of sawing from 3,000 to 4,000 feet of lumber per day.

No. 3.—One 12 horse-power Eclipse Portable Steam Engine and

Boiler on sills, cylinder $8\frac{1}{2}$ inch bore, 10 inch stroke, complete with governor, pump, heater, sawyer's valve, steam gauge, safety valve, gauge cocks, glass water gauge, blow-off cock, steam whistle, smoke stack, poker, scraper, monkey wrench, oil can, etc.....\$1,130.00

One No. 1 Portable Circular Saw Mill, complete with 48 inch solid tooth saw, 20 ft. of carriage, 40 ft. of ways, 1 pair improved independent ratchet head blocks, friction feed motion, internal belting, cant hooks, saw hammer, set gauge and anvil, monkey wrench, oil can, belt punch, files, etc..... 383.00
 40 ft. 8 inch 3-ply gum belting..... 23.00
 Boxing, packing and shipping..... 15.00

Total list price of Engine and Mill complete.....\$1,551.00
 If Engine and Mill is taken complete as above, deduct
 3 per cent..... 46.53

Making net price, complete, after deducting 3 per cent. \$1,504.47

Mounting Engine and Boiler on wheels, extra \$170. The above size Engine and Mill is capable of sawing from 4,000 to 5,000 feet of lumber per day.

No. 4.—One 15 horse-power Eclipse Portable Steam Engine and Boiler on sills, cylinder 9 inch bore, 12 inch stroke, complete with governor, pump, heater, sawyer's valve, steam gauge, safety valve, gauge cocks, glass water gauge, blow-off cock, steam whistle, smoke stack, poker, scraper, monkey wrench, oil can, governor belt, etc..... \$1,300.00

One No. 2 Portable Circular Saw Mills, with 50 inch solid tooth saw, 30 ft. of carriage, 60 ft. of ways, improved friction feed motion, one pair of improved independent ratchet head blocks, internal belting, cant hooks, saw hammer, set gauge and anvil, monkey wrench, oil can, belt punch, files, etc..... 540.00
 50 ft. 10 inch 4-ply gum belting. 43.00
 Boxing, packing and shipping..... 20.00

Total list price of Engine and Mill complete..... \$1,903.00
 If Engine and Mill is taken complete as above, deduct 3 per cent..... 57.09

Making net price, complete, after deducting 3 per cent. \$1,845.91

The above size Engine and Mill is capable of sawing from 5,000 to 8,000 feet of lumber per day.

No. 5.—One 18 horse-power Eclipse Portable Steam Engine and Boiler on sills, cylinder 10 inch bore, 12 inch stroke, complete with governor, pump, heater, sawyer's valve, steam gauge, safety valve, gauge cocks, glass water gauge, blow-off cock, steam whistle, smoke stack, poker, scraper, monkey wrench, oil can, governor belt, etc..... \$1,475.00

One No. 2 Portable Circular Saw Mill, with 50 inch solid tooth saw, 30 ft. of carriage, 60 ft. of ways, improved friction feed motion, 1 pair of improved independent ratchet head blocks, internal belting, cant hooks, saw hammer, set gauge and anvil, monkey wrench, oil can, belt punch, files, etc.... 540.00
 50 ft. 10 inch 4-ply gum belting..... 43.00
 Boxing, packing and shipping..... 20.00

Total list price of Engine and Mill complete.....\$2,078.00
 If Engine and Mill is taken complete as above, deduct
 3 per cent..... 62.34

Making net price, complete, after deducting 3 per cent. \$2,015.66
 The above size Engine and Mill is capable of sawing from 7,000 to 10,000 ft. of lumber per day.

No. 6.—One 20 horse-power Eclipse Steam Engine and Boiler on sills, cylinder 10 inch bore, 16 inch stroke, complete with governor, pump, heater, sawyer's valve, steam gauge, safety valve, gauge cocks, glass water gauge, blow-off cock, steam whistle, poker, scraper, monkey wrench, oil can, governor belt, smoke stack, etc.....\$1,675.00

One No. 2 Portable Circular Saw Mill complete, with 52 inch solid tooth saw, 30 ft. of carriage, 60 ft. of ways, improved friction feed motion, 1 pair improved independent ratchet head blocks, internal belting, cant hooks, saw hammer, set gauge and anvil, monkey wrench, oil can, punch files, etc.... 555.00
 60 feet of 12 inch 4-ply gum belting..... 63.00
 Boxing, packing and shipping..... 20.00

Total list price of Engine and Mill complete.....\$2,313.00
 If Engine and Mill is taken complete, deduct 3 per cent. 69.39

Making net price of Engine and Mill, complete, after
 deducting 3 per cent.....\$2,243.61
 The above size Engine and Mill is capable of sawing from 10,000 to 15,000 feet of lumber per day.

No. 7.—One 25 horse-power Eclipse Portable Steam Engine and Boiler on sills, cylinder 11 inch bore, 16 inch stroke, complete with governor, pump, heater, sawyer's valve, steam gauge, safety valve, gauge cocks, glass water gauge, blow-off cock, steam whistle, poker, scraper, monkey wrench, oil can, governor belt, smoke stack, etc.....\$1,800.00

One No. 2 Portable Circular Saw Mill with 56 inch solid tooth saw, 30 ft. of carriage, 60 ft. of ways, improved independent ratchet head blocks, friction feed motion, internal belting, cant hooks, saw hammer, set gauge and anvil, monkey wrench, oil can, belt punch, files, etc., complete..... 590.00
 60 ft. 12 inch 4-ply gum belting..... 63.00
 Boxing, packing and shipping..... 20.00

Total list price of Engine and Mill.....\$2,473.00
 If Engine and Mill is taken complete as above deduct
 3 per cent..... 74.19

Making net price of Engine and Mill, complete, after deducting 3 per cent.....\$2,398.81

The above Engine and Mill is capable of sawing from 15,000 to 20,000 feet of lumber per day.

It will be seen we make a reduction of 3 per cent. from the total price of engine and saw mill. We do this only when both engine and mill are taken together, making a complete saw mill outfit. When either engine or mill or any part of same is taken separately, list price will be charged for same.

Our saw mills are equally well adapted to steam, water or horse power. The greater and steadier the motive power, the greater number of feet of lumber they can cut per day. When it is desired machinists are sent from our works to erect machinery; they are required to be paid for the whole time they are absent from home, their passage and fare from and back to Waynesboro, and to be boarded while engaged at work. We always recommend the services of a good machinist to set up our engines and saw mills. We always secure special shipping rates and guarantee through rates to all available points, prior to shipment.

We manufacture Stationary Engines from 2 to 200 horse-power, of superior workmanship. Strangers writing with a view to buying should in all cases give reference. For Illustrated and Descriptive Catalogue of Stationary Engines, Boilers, Pulleys, Shafting, etc., address

FRICK & CO., Waynesboro, Franklin Co., Pa.

PRICE LIST OF DISSTON'S Patent Ground and Tempered Solid Tooth Circular Saws, of extra quality, superior workmanship and guaranteed.

Diameter.	Thickness.	Size of Hole.	Price.
36	9	1 $\frac{5}{8}$	\$24.00
38	8	1 $\frac{5}{8}$	28.00
40	8	2	33.00
42	8	2	40.00
44	7	2	48.00
46	6	2	56.00
48	6	2	65.00
50	6	2	75.00
52	5	2	90.00
54	5	2	105.00
56	5	2	125.00
58	5	2	150.00
60	5	2	175.00
62	4	2	200.00
6	4	2	230.00

PRICE LIST OF HOE & CO.'S Patent Inserted Tooth Circular Saw :

Diameter in Inches.	Gauge at rim.	Gauge at Centre.	No. of Teeth in Saw.	Price.	No. bits given with each Saw.	Greatest No. of Teeth put in a Saw.
36	8	7	16	\$53.00	22	300
38	8	7	16	57.00	24	300
40	8	7	24	78.00	26	300
42	8	7	24	82.00	28	400
44	8	7	24	95.00	30	400
46	8	7	26	100.00	30	400
48	7	6	26	110.00	32	400
50	7	6	28	122.00	34	400
52	7	6	28	140.00	36	500
54	7	6	32	160.00	38	500
56	7	5	32	180.00	38	500
58	7	5	36	210.00	40	500
60	7	5	36	240.00	42	500
62	6	5	38	295.00	44	500
64	6	5	38	310.00	46	500

PRICE LIST OF BEST OAK TANNED Leather Belting:

4 inch per foot,.....	.42	14 inch per foot,.....	\$1.62
4½ " " " .....	.48	15 " " "	1.78
5 " " " .....	.54	16 " " "	1.94
5½ " " " .....	.60	17 " " "	2.10
6 " " " .....	.66	18 " " "	2.26
7 " " " .....	.78	19 " " "	2.42
8 " " " .....	.90	20 " " "	2.58
9 " " "	\$1.02	21 " " "	2.74
10 " " "	1.14	22 " " "	2.90
11 " " "	1.26	23 " " "	3.06
12 " " "	1.38	24 " " "	3.22
13 " " "	1.50		

PRICE LIST OF RUBBER BELTING made with cotton duck, manufactured expressly for the purpose :

3-ply.			4-ply.		
4 inches.....	34 cents per foot.		4 inches.....	42 cents per foot.	
5 "	43 " "		5 "	52 " "	
6 "	52 " "		6 "	62 " "	
7 "	60 " "		7 "	73 " "	
8 "	70 " "		8 "	84 " "	
9 "	80 " "		9 "	95 " "	
10 "	90 " "		10 "	107 " "	
11 "	100 " "		11 "	118 " "	
12 "	108 " "		12 "	130 " "	
1 "	118 " "		13 "	142 " "	
14 "	128 " "		14 "	154 " "	
15 "	138 " "		15 "	166 " "	
16 "	150 " "		16 "	178 " "	
18 "	170 " "		18 "	202 " "	
20 "	190 " "		20 "	226 " "	
22 "	212 " "		22 "	252 " "	
24 "	236 " "		24 "	280 " "	

TESTIMONIALS.

In proof of the merits and superiority of our work, we herewith offer a few authentic testimonials and references of persons using our engines. A great many more could be given, but we do not deem it necessary:

BROAD NECK, KENT CO., MD., Sept. 12th, 1874.

Joshua Thomas, Agent, Baltimore, Md.

Dear Sir—The 8-horse Frick & Co. Eclipse Engine, built at Waynesboro, Pa., which we bought of you, has given general satisfaction. It is considered the best finished engine in the county, and takes less coal and water than any other 8-horse engine I ever saw, except the other three Frick & Co. Engines you sold in this county this season.

We can thresh 1,600 Bushels of Wheat with three-fourths ton of coal, and with only five hogsheads of water, which is a very great saving of labor. The engine is so much thought of that we want you to have another 8-horse engine put up for us ready for next season, to be delivered July 1st, 1875.

Yours truly,

T. E. W. CREW,
J. W. CREW.

Frick & Company.

COVINGTON, GEORGIA, August 14, 1874.

Gentlemen—I received the 10-horse Eclipse Portable all right, and have tested it; and am satisfied that it is equal to, if not superior to any engine I have ever seen, as it possesses advantages that cannot fail to recommend it to every one wanting a first-rate engine. NOTHING COULD BE MORE SATISFACTORY; working as smoothly as any sewing machine, giving all the power claimed for it with only sixty pounds steam pressure. It is as cheap as any first-rate engine of its style, and is a decided improvement over any yet introduced.

Yours truly,

THOMAS CAMP.

Frick & Company.

FREDERICK, MD, March 10, 1874.

Gentlemen—Having had several years of experience with your Portable Steam Engines, and having sold quite a number of them in this and adjoining counties, we know them to be admirably adapted for many purposes on the farm, on account of their safety as regards fire and explosion, and because of their portability, compactness, power, durability and non-liability to get out of order, with ordinary care. We take pleasure in recommending them to all who want to buy the *best engines*.

The economy and convenience of untiring steam power over that of sensitive horses, is every year becoming better understood by our wide-awake farmers. The advantage is probably better seen in the farm labor of threshing grain, but for sawing either lumber or firewood, shelling or grinding corn, cutting hay or corn stalks, and other purposes, steam ought to take the place of horse power on all large farms, and with those who study true economy is speedily doing so.

All our customers who bought the Frick Engines, will say with one accord that they are perfectly satisfied, and that the engines answer their purposes far beyond their expectations, being adapted to any kind of fuel, and little of it. We have seen nearly every style and make of engines in use in this country, and all our friends do not hesitate to pronounce yours the best and most economical engine made.

Very respectfully yours,

STEWART & PRICE.

RED LYON, NEWCASTLE CO., DEL., May 30, 1876.

Gents—The eight-horse "Eclipse" Agricultural Engine we purchased of you last year has given us good satisfaction; everything works very smooth and nice, giving us plenty of power for threshing with a 36-inch Westinghouse thresher, with only 50 lbs. of steam. The pump works excellently, never refusing to take in water. Altogether we are well pleased with the engine. Yours truly,

F. H. DIEHL & BRO.

Joshua Thomas, Agent.

RIDGE SPRINGS, S. C., April 20, 1876.

Dear Sir—I have run a great many engines of different make, and at different kinds of work. I now own an "Eclipse" Engine, made by Frick & Co., and I can truthfully say that in my humble opinion the "Eclipse" has no superior; the whole get-up of the engine is the best I have ever seen, especially your mode of mounting it on spiral steel springs. I was just offered an ——— engine and \$500 cash for my "Eclipse" Engine.

Yours respectfully,

TILMAN WATSON.

Messrs. Frick & Company, Waynesboro, Pa.

WEST ELKTON, OHIO, June 1, 1876.

Gentlemen—The eight-horse "Eclipse" Engine we purchased of you last season for driving our ten-horse "California Chief" Grain Separator, is very economical in water and fuel, and we find it fully adapted to all farm machinery, from a threshing machine down to a fodder cutter or a grindstone. I much prefer the use of the two-band wheels or driving pulleys, as you make them. We find them very convenient, for while we are threshing we can also saw our wood. The steel springs on which you mount your engines are *just the thing*. We do not hesitate to say that the "Eclipse" Engine is the best piece of machinery of its class we ever saw, and would recommend them to any one wanting steam-power.

Yours truly,

N. S. MENDENHALL & E. M. STUBBS.

Messrs. Frick & Company.

BELLEFONTAINE, OHIO, May 26, 1876.

Gents—We are using the two-horse power "Eclipse" Engine we bought of you, and it gives the best of satisfaction. It works nicely, does its work very easy, and with very little fuel. We think it equal to five-horse power. We are running one lathe, one drill, two emery wheels and one grindstone, with 40 lbs. of steam, without a bit of trouble. We can safely recommend your engines to any one wanting steam power.

Yours truly,

P. BOWMAN & SONS.

Joshua Thomas, Agent, Baltimore, Md.

CHESTERTOWN, MD., Aug. 25, 1874.

Dear Sir—In answer to yours of 20th inst., would say that the six-horse "Eclipse" portable, built by Frick & Co., and bought of you, gives me entire satisfaction. I run a 30-inch (eight-horse) "Sweepstakes" thresher with it, and it is of ample power to drive the machine up to a capacity of 600 bushels per day. It is very economical in coal; the average consumption this year was about one ton of coal to 1500 bushels grain threshed. I have burned both hard and soft coal in it, and it makes steam very rapidly. It is very simple and easily managed. Take it all together, it is the best engine I have ever used. (I own 3, and have worked 4 different makes of portable engines.) Respectfully yours,

HENRY H. DIEHL.

Messrs. Frick & Co.

MT. JACKSON, VA., May 24, 1876.

Gents—The twelve-horse power "Eclipse" Engine and Saw Mill we purchased of you, about twelve months ago, has been in constant use ever since, and has kept in perfect running order and given entire satisfaction. In fact, it has gone entirely beyond our expectations. We have also used your engine for threshing with the "Geiser" machine, and our orders for the ensuing season are beyond our power to fill.

Yours very respectfully,

WM. D. PEACHY.

Messrs. Frick & Co.

TOMS BROOK, VA., June 5, 1876.

In reply to your favor, would say that the twenty-horse power engine, bought of you over a year ago, has given entire satisfaction, has not cost one cent for repairs, and looks as well as the day we started it. We use it for cutting staves, sawing, heading, planing, etc., and use nothing but offal for fuel, and have no trouble to keep up steam. We consider the "Frick" engine the best in use, and would advise any one in want of an engine to buy that kind.

Yours respectfully,

BORDEN & SONS.

Joshua Thomas, Agent.

FAIRLEE, KENT CO., MD., Sept. 22, 1874.

Dear Sir—I write to say that the eight-horse "Eclipse" Portable Engine I purchased of you gives satisfaction in every particular. I have owned at different times 4 engines of different make, but I must say the "Eclipse" eclipses them all. It is admired by all who see it, and is universally acknowledged to be the most complete portable engine that has ever been operated in this county. You can refer any parties wanting engines to me, and I will unhesitatingly advise them to buy the "Eclipse."

HENRY BRAMBLE.

Joshua Thomas, Agent, Baltimore, Md.

MANSON, N. C., Nov. 22, 1876.

Dear Sir—My six-horse Frick & Co. "Eclipse" Agricultural Engine I bought of you is doing just all I could ask. She has made me 25 bales of toll cotton this season already.

Yours respectfully,

L. BOYD WHITE.

NEW CHESTER, PA., June 14, 1876.

Gents—Your favor to hand. I am highly pleased with the "Eclipse" Engine purchased of you last fall. It has given entire satisfaction to me as well as to those for whom I have threshed. I think threshing by this means more economical than by horse power, besides saving a great deal of time.

Truly yours,

PHILIP DONOHUE.

E. NEW MARKET, DORCHESTER CO., MD., January 8, 1876.

Joshua Thomas, Esq., Baltimore, Md.

Dear Sir—It gives us great pleasure to add our testimonial in reference to the six-horse power "Eclipse" Engine bought last season. It gives entire satisfaction, working beautifully, with but a small amount of fuel and water. It drives a 30-inch cylinder "Sweepstakes" steam thresher with 60 pounds of steam, threshing 500 bushels of wheat in six hours. For *lightness, simplicity and durability*, the "Eclipse" can't be beaten.

Respectfully yours,

VARNES & CHILCOTT.

Messrs Frick & Company.

YORK, PA., May 23, 1876.

Gents—Yours of 20th inst. received, in regard to the "Eclipse" Engine. I have never heard a single complaint of them. All that I sold have given entire satisfaction.

Respectfully yours,

A. B. FARQUHAR, Proprietor of the Penn'a Agl. Works.

Messrs Frick & Company..

COVINGTON, GA., May 27, 1876.

Gents—Having been familiar with all the most popular portable engines in use for several years past, I take pleasure in saying the "Eclipse" is far superior in my estimation to any other. I have used an "Eclipse," and think it an excellent machine.

Yours truly,

RICHARD CAMP.

BELLEFONTAINE, OHIO, May 29, 1876.

Messrs. Frick & Company, Waynesboro, Pa.

Gents—It gives us great pleasure to recommend your fifteen-horse engine which we purchased of you last January. We would not give it for any engine we ever saw. We run a 56-inch saw with it, and it walks right through a log on a 1/2 inch feed. We never carry over 90 pounds pressure on our boiler, and consider it perfectly safe at that. Our boiler makes steam very rapidly with nothing but green slabs for fuel. If we were to buy forty engines, this would be our choice of all others. All who have seen our engine say it is the best they ever saw. *Hurrah* for the "Eclipse" Engine!

Yours truly,

WILLIAMSON & BRO.

Messrs. Frick & Company.

ELIZABETH CITY, N. C., May 26, 1876.

Dear Sirs—The six-horse Eclipse engine I bought of you is well adapted for the purpose I bought it, and comes fully up to your representations. For power, strength, good workmanship and beauty, I have yet to see it eclipsed by any other that I have seen. It runs a 60-saw cotton gin, and does all my hoisting of cotton to the third floor of my gin-house. Its merits are unsurpassed, and I would cheerfully recommend it to those wanting to purchase an engine.

Yours truly,

C. C. ALLEN.

TOBACCO STICK, DORCHESTER CO., MD., Dec. 6, 1876.

Joshua Thomas, Agent, Baltimore, Md.

Dear Sir—The eight-horse Frick & Co. "Eclipse" Engine which I bought of you has

given entire satisfaction, and I consider it the best finished engine within the bounds of my knowledge. The consumption of fuel is comparatively small compared with other engines I know of.

Yours truly,

JOSEPH W. BROOKS.

Messrs. Frick & Co., Waynesboro, Pa.

CHESTER, S. C., June 23, 1876.

Gentlemen—In yours of 20th inst., you ask my opinion of the "Eclipse" Engine. I have a six-horse power and run a 60-saw cotton gin and condenser, and do not use half our power. I think it has no superior, takes less wood and water than any I ever saw. I think the wheels on which it is mounted cannot be excelled. One of my neighbors has sold the engine he has been running, and will buy an Eclipse this fall.

Yours truly,

JOHN ROSS.

Messrs. Frick & Co.

LOCUST GROVE, GA., Nov. 5, 1876.

Gentlemen—Yours to hand, asking how I liked my engine. I think the "Eclipse" is the very best engine in use. It has more than the power you claim for it. In short, it is in every respect the most complete engine in the market. Yours truly,

L. TARPLEY.

Joshua Thomas, Agent, Baltimore, Md.

MANSON, N. C., Nov. 29, 1876.

Dear Sir—My six-horse power "Eclipse" Portable Engine bought of you in May, is going O. K. It is certainly a first-class machine in every particular. I have for this cotton season been doing the work of a twenty-horse engine with it without any trouble. Besides paying for itself last wheat season, it has ginned nearly five hundred heavy bales of cotton up to date. To people who know the economy in paying a good price for a good article, I can cheerfully recommend the little "Eclipse" engine.

Yours very respectfully,

L. B. WHITE.

Messrs. Frick & Co.

GREENCASTLE, PENNA., Dec. 25, 1877.

Gentlemen—The two-horse Eclipse Engine I purchased of you in September last is working well and gives *more power* than you sold it for. It runs all my machinery, circular saw, band saw, shaper, and lathe, with only 225 lbs. of coal per day. Yours truly,

H. S. WALCK.

Messrs. Frick & Co.

SPARTA, GA., Oct. 4, 1877.

Gentlemen—We are well pleased with the "Eclipse" Engine; it gives perfect satisfaction, running one 80-saw gin, capacity 15 bales of cotton per day, and at the same time operating the press and a cut-off saw. The above is all done with perfect ease to the engine. We have long since concluded if we had a thousand engines to build, Messrs. Frick & Co. would have to build them all. Yours truly,

J. W. TREADWELL,
Cotton Belt Ginning Co.*Messrs. Frick & Co.*

ROCK HILL, S. C., July 13, 1877.

Gentlemen—The Eclipse Engine so far is entirely satisfactory. I can not find the least fault with the engine. It does its work well, without the least trouble, and I believe it will continue to do so.

Yours truly,

JNO. R. LONDON.

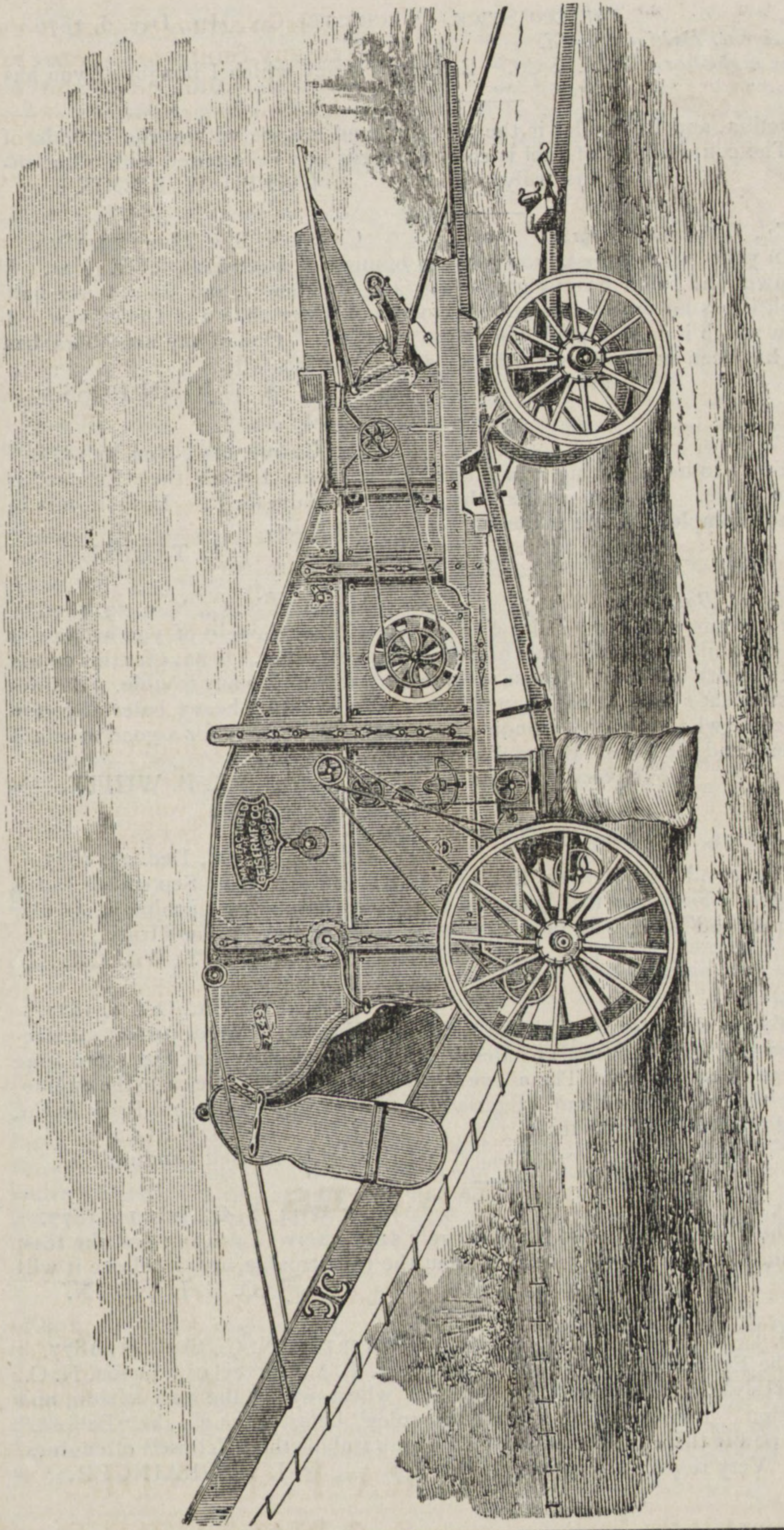
Messrs. Frick & Co.

HOOKERTON, N. C., Sept. 21, 1877.

Gentlemen—The Eclipse 4-horse power engine (Mr. T. A. Harvey, of Kinston, N. C., ordered for me) works perfectly splendid. I threshed wheat with it the past season, and am now ginning cotton. I was using an 8-horse "Shapley" before I bought the "Eclipse." According to horse power there is no comparison. Yours truly is the "Eclipse" of engines.

Very respectfully yours,

J. W. GRAINGER.



THE GEISER SELF-REGULATING GRAIN SEPARATOR, CLEANER, AND BAGGER.

The Most Successful at the Great Field Trial at the Centennial, July 18-25, 1876.

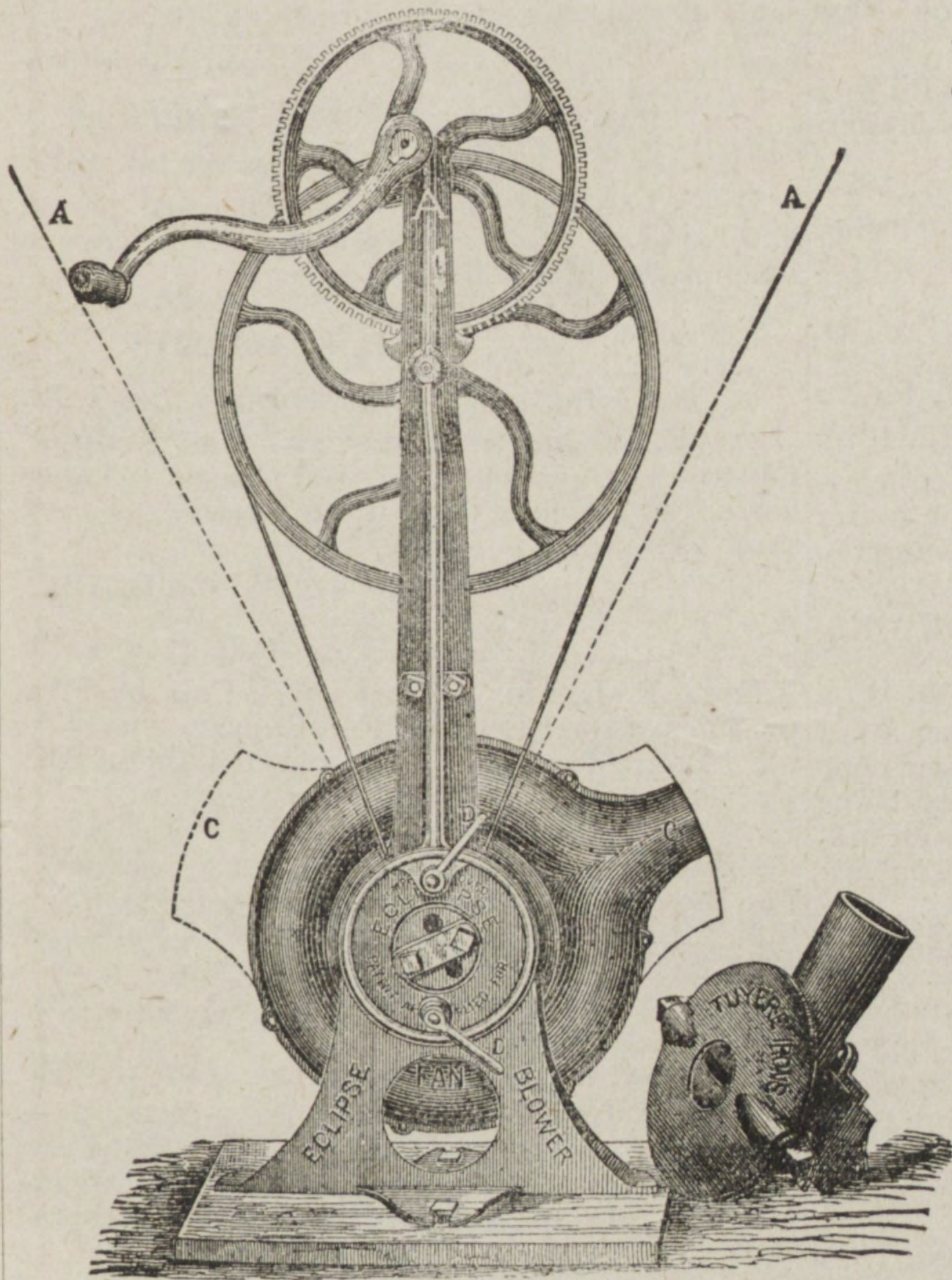
The only Separator containing all the Geiser patents—consequently the only Genuine Geiser Separator in the market. Adapted for either steam or horse power.

SOLD WITH THE "ECLIPSE" ENGINE.

Manufactured only by THE GEISER MANUFACTURING COMPANY, Waynesboro, Franklin County, Pa.

THE IMPROVED "Eclipse" Fan Blower

PATENT SECURED.



Is so arranged that it can be set to any Smith or Forge Fire, right or left hand side; the Fan Case, with outlet c, can be thrown to the right or left, and in any desired position, as shown in dotted line c, and turned in either direction with the same results—a good, strong blast. By loosening handle nuts, D D, the upright A can be thrown back or forward to dotted lines A A, to be used with or without a helper.

This Fan has been put to the most severe tests on very heavy, as well as light work, and always proving itself to be just what has long been wanted by the mechanic. I invite a careful consideration of the following points of superiority over all others, and the old-fashioned Bellows:

1st. They give a perfect, even and steady blast, which can be regulated at will by the operator; hence it is adapted to all kinds of work, from the lightest carriage to the heaviest wagon work.

2d. They require only 12x20 inches floor space, giving more shop room.

3d. The gearing is made from a

machine cut pattern; runs quiet. A boy of ten years can work it with ease all day.

4th. Are not liable to get out of order, being made entirely of iron and steel, with good babbit bearings.

5th. No danger of exploding from gas, as bellows often do.

6th. There can be a greater amount of work done with less expense of time, labor and coal.

These Fans are also adapted for Ventilating Mines, Artificial Drafts, Fruit Cooling, Drying, &c.

SHOP PRICES:

Improved "Eclipse" Fan Blower, complete, only . . . \$27.00. Weight, 120 lbs.

The above includes a Patent Adjustable Elbow and Pipe, Oil Can, &c.

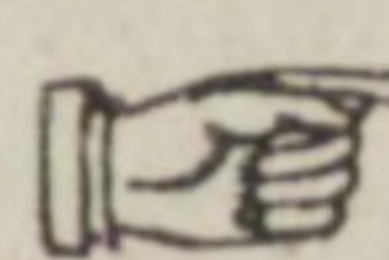
Tuyere Iron for "Eclipse" Fan, only . . . \$3.00. Weight, 25 lbs.

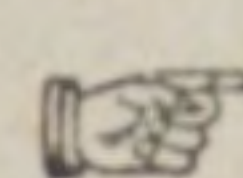
Improved "Eclipse" Tire Bender, . . . \$30.00. Weight 190 lbs.

Manufactured Exclusively by

EZRA F. LANDIS,

LANCASTER, PA.

 A Liberal Discount to the Trade.

 For Testimonials, &c., see other side.

TESTIMONIALS.

NEW ORLEANS, LA., March 30th, 1876.

MR. EZRA F. LANDIS. *Dear Sir:*—I am well satisfied of the advantages of the "Eclipse" Fan over the Bellows. Please send me fifty more, with Tuyere Irons. Enclosed draft on New York. Yours Respectfully,

JOS. SCHWARTZ,
Coach Maker.

SAN FRANCISCO, CAL., January 28th, 1875.

E. F. LANDIS. *Dear Sir:*—Please send us immediately Seven "Eclipse" Fan Blowers and 7 of your Tire Benders.

T. H. KING & CO

BUFFALO ROADS, UNION CO., PA.,

August 17th, 1874.

MR. EZRA F. LANDIS. *Dear Sir:*—We received the Blower on Thursday; like it much better than the Bellows. Send us ten Blowers and ten Tuyere Irons. Yours Truly,

HAUCK & HENDRICKS.

SUMMIT BRIDGE, DEL., April 28th, 1875.

MR. E. F. LANDIS. *Dear Sir:*—After a fair trial of one of your Blowers, I took out two bellows and replaced them with Fans, they being far superior in every respect. I have seen others, but consider the "Eclipse" the best out.

Yours Truly,

A. P. CARNAGY, Wagonmaker.

OFFICE OF SANTIAGO C. LOHSE,

No. 4 Calle De D., Juan Manual, Mexico.

E. F. LANDIS. *Dear Sir:*—I am well pleased with the "Eclipse" Fan Blower, and think there will be a great many sold. Yours Truly,
July 18, 1876.

SANTIAGO C. LOHSE

UNION, W. VA., Oct. 21st, 1876

E. F. LANDIS. *Dear Sir:*—I saw one of your Fans at work at the Centennial, and am more than pleased with it. Herewith please find P. O. money order for one Fan and Tuyere Iron.

Yours Truly,

IRVIN B. HULL.

OSHKOSH, WIS., Dec. 6th, 1875.

E. F. LANDIS, Esq. *Dear Sir:*—The "Eclipse" Fan Blower gives a good, regular blast.

Yours Truly,

K. M. HUTCHISON.

ALBANY, OREGON, Sept. 9th, 1876.

EZRA F. LANDIS. *Dear Sir:*—I received the "Eclipse" Fan Blowers in good order; am using them, and really I cannot see how any smith can use a bellows after seeing the Fan work. It will not be long till the advantage is fully seen and appreciated. I am Yours Truly,

FRANK WOOD.

POTTSVILLE, PA., Feb. 14, 1878.

E. F. LANDIS.—You have a good machine.

Yours &c.,

BRIGHT & CO.

CATSKILL, N. Y., Jan. 28th, 1875.

MR. E. F. LANDIS. *Dear Sir:*—I find after several severe tests that the "Eclipse" Fan Blower is the "Boss." I desire to put in two more, same as you sent me. Yours Respectfully,

T. W. BELL, Machinist.

RAWLINS SPRING, WYO. TERRITORY.

September 1st, 1875.

E. F. LANDIS. *Dear Sir:*—Enclosed please find amount, for which please send me one "Eclipse" Fan and Tuyere Iron.

Yours truly,

R. H. WILSON.

GAINSVILLE, GA., February 7th, 1878.

EZRA F. LANDIS, Lancaster, Pa.—The "Eclipse" Fan Blower is all right, am well pleased. Takes better and quicker heats than anything I ever saw. Yours Respectfully,

G. W. WALKER.

CHICAGO, ILL., Feb. 13th, 1878.

EZRA F. LANDIS. *Dear Sir:*—I am pushing the sales of the "Eclipse" Fan Blower on its merits. Yours Truly,

S. D. KIMBARK.

SACRAMENTO, CAL., Feb. 2, 1878.

EZRA F. LANDIS, Lancaster, Pa.—"Eclipse" Fan Blowers all sold and giving the best of satisfaction. Send soon as possible six more Fans and nine Tuyere Irons.

HUNTINGTON, HOPKINS & CO.

SYDNEY, N. S. W. AUSTRALIA, Jan. 2, 1878

EZRA F. LANDIS, Lancaster, Pa. *Dear Sir:*—The third shipment of fourteen "Eclipse" Fans have arrived safely, and my sales are steadily increasing. I hope soon to give you better orders.

Yours Truly,

T. MOORE.

OSKALOOSA, IOWA, Jan. 31st, 1878.

EZRA F. LANDIS.—Enclosed draft amount due you. The "Eclipse" Fan gives the most unbounded satisfaction. Yours Very Truly,

CARY COOPER.

SALT LAKE CITY, UTAH, Jan. 1st, 1878.

EZRA F. LANDIS, Lancaster, Pa. *Dear Sir:*—Please send us three more "Eclipse" Fan Blowers. Yours Truly,

GEO. M. SCOTT & CO.

Office of THE ADAMS & PERRY WATCH CO., }
LANCASTER, PA., August 27th, 1874. }

MR. EZRA F. LANDIS. *Dear Sir:*—The "Eclipse" Blower we purchased of you is giving entire satisfaction. We shall take great pleasure in showing it to any one who may wish to see a first-class Blower. Very respectfully yours,

ADAMS & PERRY WATCH COMPANY,

J. C. ADAMS, Manager.

The above are only a few of the hundreds of testimonials of a similar kind in our possession.

[Testimonials continued from page 47.]

HANCOCK, MD., May 31, 1876.

Messrs. Frick & Co.

Gents—The fifteen-horse power Eclipse Engine I purchased of you last August and attached to my grist mill, has given entire satisfaction. I can run two pair of burrs, grinding from ten to fifteen bushels of grain per hour. The most important part, however, is the small amount of fuel required to run it and do the work. *Everything works like clock work!*
Yours respectfully,
S. BOWLES.

Frick & Company.

JANUARY 14, 1874.

Gentlemen—Mr. William Coffman (to whom we sold a ten-horse Portable last summer) is running his saw mill with the Engine, and can cut six thousand (6,000) feet per day, which is beyond anything I thought was in the Engine. He is highly pleased. I expect a good trade this season. Yours, &c.,
Woodstock, Shenandoah County, Va.
R. C. HUGHES.

Messrs. Frick & Co.

BUCKEYSTOWN, MD., Jan. 1, 1878.

Gentlemen—The 8-horse Eclipse engine I bought at your works in July last, has been used for threshing and has given entire satisfaction. I have used it on farms where steam engines were never trusted, and the same parties have engaged me to do their threshing next season. I prefer the "Eclipse" to any other mounted engine I have ever seen.
Yours truly,
T. C. SUMAN.

Messrs. Frick & Co.

CHESTER, S. C., Oct. 8, 1877.

Gentlemen—I intended writing you before but neglected to do so, until we used your engine for threshing wheat. We are now ginning cotton. All that I have to say is, I believe they are everything you claim for them. They will perform more than the horse-power you rate them at. I am running a gin with my four-horse "Eclipse," with 70 pounds of steam, which a friend of mine, who is running an engine of another make, could not run with his six-horse engine. The truck of your engine is far superior to anything I ever saw. I cannot find a defective piece about my engine.
Yours truly,
R. A. LOVE.

Frick & Co.

FUNKSTOWN, MD., Jan. 30, 1878.

Gentlemen—Yours of 28th inst. at hand. In regard to the engines I bought of you, will say: The first engine, ten-horse, I am still running, and has been in use for threshing and grinding for eight years past, and with comparatively small expense. The second, ten-horse, has been in similar use for the past seven years, with small expense. The third, an eight-horse engine, has been in use for four years, with no expense up to this time. The fourth, a ten-horse "Eclipse," has been in use for three years, and has done its work well. The fifth, an eight-horse "Eclipse," in use two seasons and working well. The sixth, an eight-horse "Eclipse," bought of you last year, has done its work well up to this time. I am using now three of those engines bought of you, first, third and sixth, all in like good order, and I must say that, in comparison with other engines, they are more economical, and for general utility, they far exceed any others in the market. The way they are mounted on the wagon is worth one hundred and fifty dollars more than any others not fixed as yours are to get over all kinds of roads. Yours truly,
JOHN WELLER,
Tresherman and Farmer.

Parties wishing to buy steam engines, will be furnished with a large list of testimonials and names of persons using the "Eclipse engines" in almost every State in the Union.

Send for Catalogues and Price Lists of Stationary Steam Engines, Boilers, Shafting, Pulleys, Hangers, etc., to

FRICK & CO.,
WAYNESBORO, FRANKLIN CO., PA.

