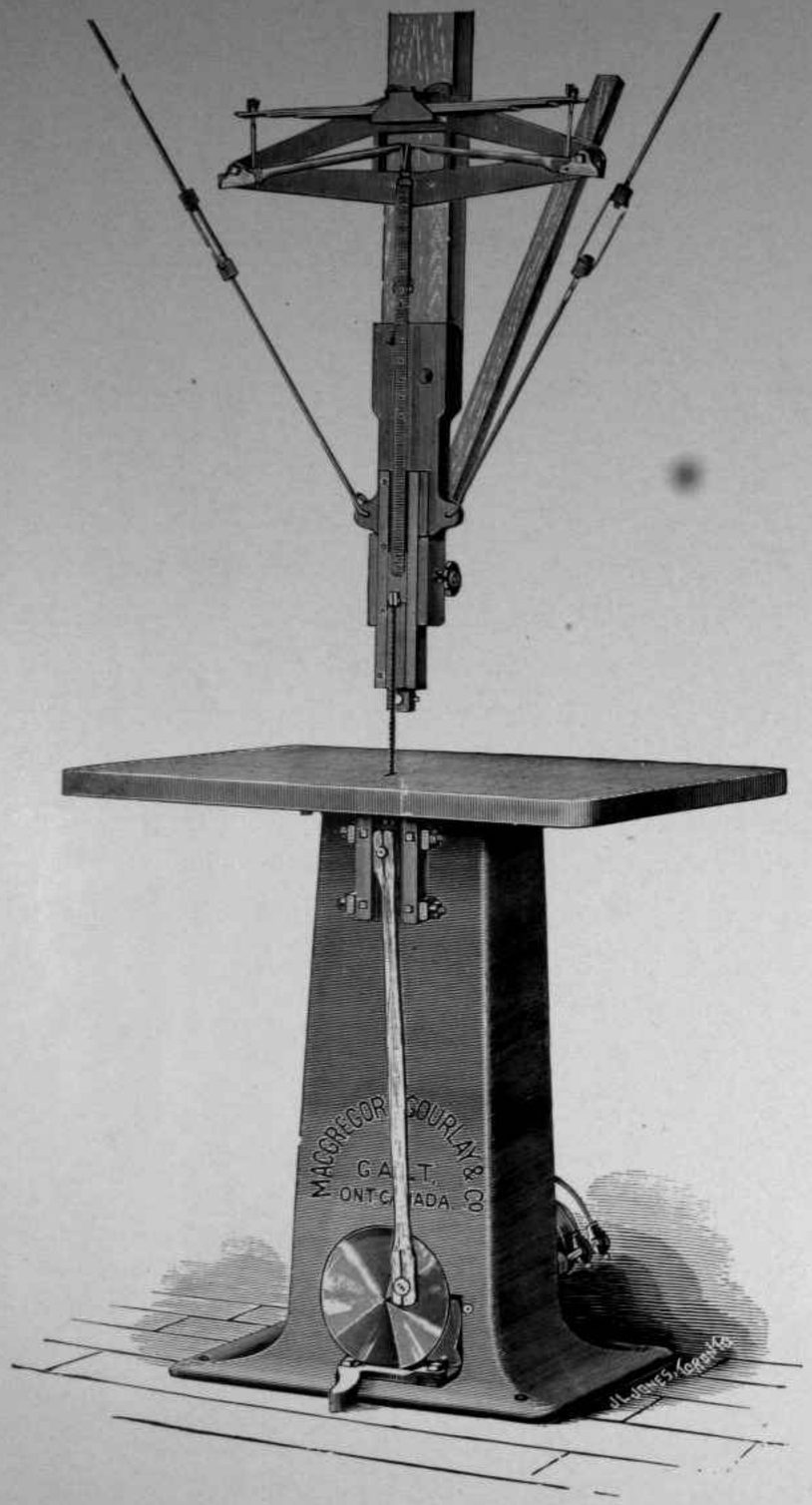


U. F. Improved Scroll Sawing Machine

ALL JOURNALS MACHINE-GROUND PERFECTLY TRUE

This is one of the most successful and popular Scroll Sawing Machines for all general purposes constructed. It is strong and substantial, built wholly of metal, and is in extensive use in Sash and Door, Chair, Furniture and Pattern Shops, where its simplicity and great efficiency make it a general favorite.

The reciprocating parts are durable and light. The crosshead is made light, and runs between slides which are arranged to adjust to take up any wear, and also are provided with oiling devices for maintaining a constant lubrication.

The deflecting strain is produced by two steel springs, constructed of a series of plates of graduated lengths, and requires only a movement of $\frac{3}{8}$ inch on the point of spring to give the saw the full 4 inch stroke. The strain can be increased or diminished at will of operator.

The frame is a pedestal and is cored out and stands on a large base, ensuring a good floor support,

The combined shifter and brake acts in a very perfect manner, and both shifts the belt and stops the motion at the same time.

The machine in all its parts is perfectly fitted and built in the most improved manner, the material used being the best.

The saws are quickly adjusted and the machine easy to keep in order.

Tight and loose pulleys, 6 inches by 3 inches each, and should run 1,000 revolutions per minute.

Weight of machine, 720 lbs.

We also build a very large line of all kinds of Metal-Working Machine Tools, Punches and Shears, Presses, etc.

Telegraphic Cipher:—CHARITY

U. G. Eureka Scroll Saw Machine

ALL JOURNALS MACHINE-GROUND PERFECTLY TRUE

This is undoubtedly the best Scroll Saw in the market, as it will do fine work with greater facility than any other machine, and will saw as heavy work as practicable with a reciprocating saw. We build them with iron or wooden tops as required. They have improved clamps, by which saws without holes or pins may be instantly fastened securely in their place, and changes made with very little loss of time. The belt shifter and brake are combined, and easily operated with the foot without the loss of time. We furnish four saws with each machine.

Fast and loose pulley, 6 inch diameter and 3 inch face, and should run 900 or 1,000 revolutions per minute.

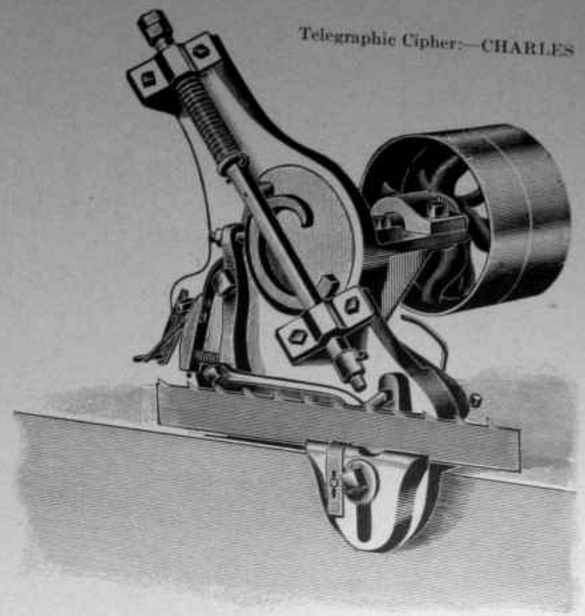
Weight of machine, 600 lbs.

We also build a very large line of all kinds of Metal-Working Machine Tools, Punches and Shears, Presses, etc.

Telegraphic Cipher:—CHARM

U. H. Band Saw Set

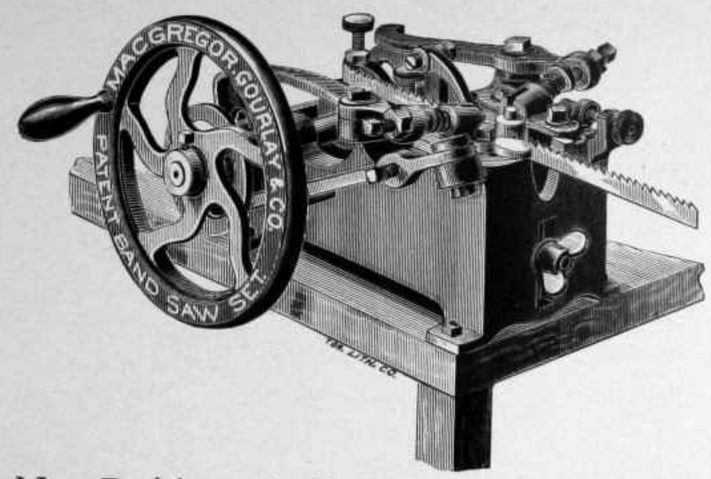
Telegraphic Cipher:—CHARLES



U. I. Band Saw Swage

This Machine will swage saws from ¼ inch to 2 inches perfectly. Speed from 80 to 100 teeth per minute.

Telegraphic Cipher:—CHARMER



Q. N. Robinson's "Eureka" Band Saw Set

SAW SETS.—Nothing contributes so much to the true and effective working of a Band Saw as True Setting. The styles represented by above cuts have been thoroughly tested, and have been extensively approved and adopted by the trade.

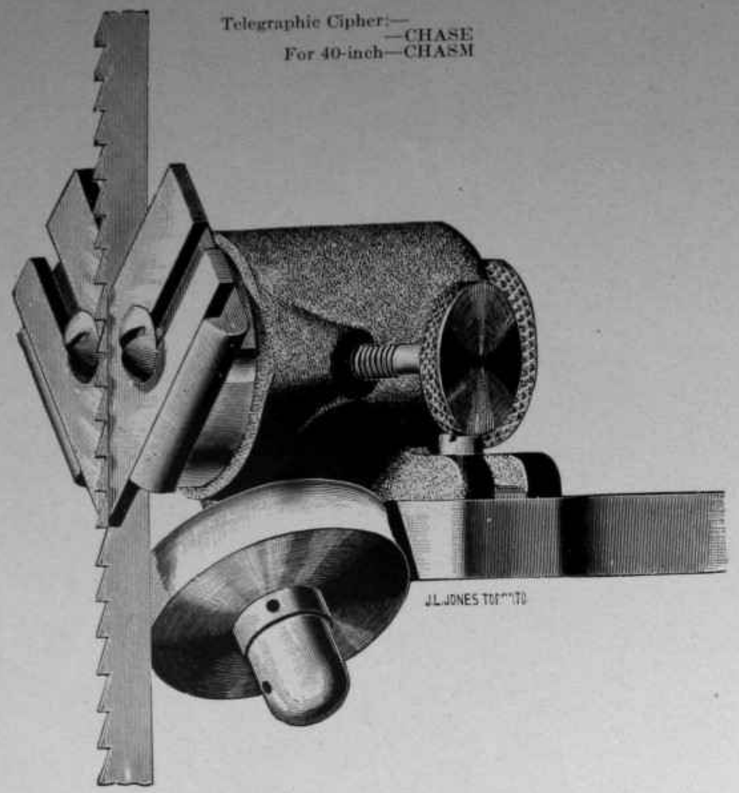
DIRECTIONS FOR JOINING SAWS

Bevel each end of the saw the length of two teeth to form a neat scarf joint. Fasten the saw in the brazing frame, with the back against the shoulder; wet the joints with solder water, or cover them with pulverized borax; put the solder the size of the braze between the joints, and clamp the joint with tongs heated to a light red heat. As soon as the solder fuses, blacken the tongs with water and take them off. Remove the saw and hammer it if necessary and file it down to an even thickness, finishing lengthways, and the saw is ready for use.

SOLDER WATER.—Feed Muriatic Acid all the small pieces of zinc it will eat; dilute with equal quantity of water, and it is ready for use.

We also build a very large line of all kinds of Metal-Working Machine Tools, Punches and Shears, Presses, etc.

Telegraphic Cipher:—
—CHASE
For 40-inch—CHASM

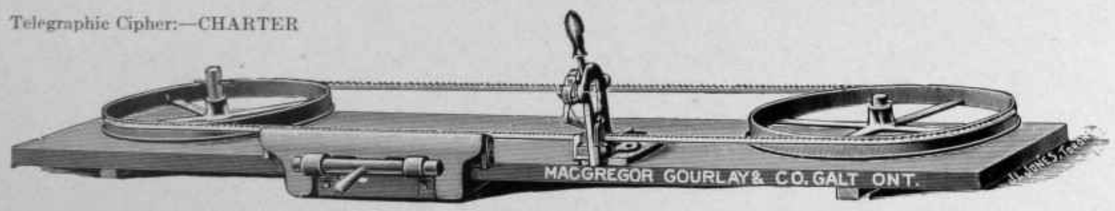


Mohawk Dutchman Band Saw Guide

Simple, Durable, Economical

The saw in its downward motion revolves the wheel forming the back guide, which is set on an angle and absolutely prevents cramping and twisting of the blade. The wheel runs on a ball bearing, requires no oiling, never heats and is always in proper adjustment, greatly reduces friction, will not crystallize the saws, and insures the most satisfactory results. Wood and metal side pieces are provided with each Guide and are readily set for different gauge saws. The adjustment for saws of different widths is very simple. Can be applied to machine of any make.

Telegraphic Cipher:—CHARTER

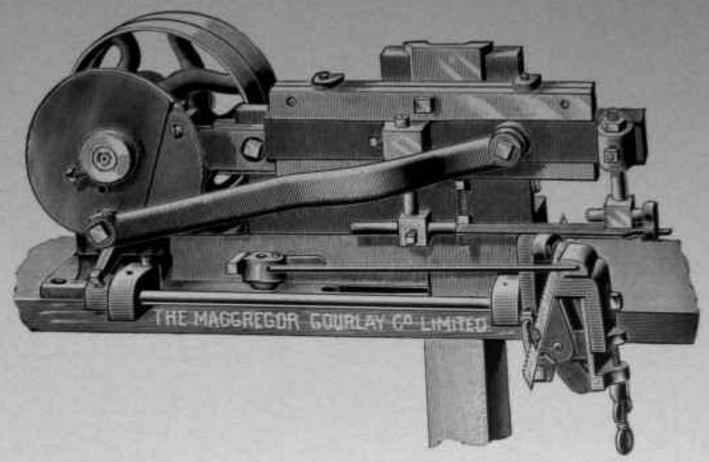


U. K. Band Saw Setting and Filing Machine

This Machine is indispensable where large Band Saws have to be sharpened, and for setting the teeth with accuracy and speed. The saw, while being sharpened, is stretched on a pair of pulleys—one wheel of which is adjustable so that any length of saw can be filed and set. A Filing Vise is attached to it, which holds the saw firmly while being filed by hand.

The Setting Machine is worked by pushing the handle forward as far as it will go, when one tooth of the saw is moved to the right; while by pulling the handle as far back as it will go, the next tooth is moved to the left. It can be adjusted to the different pitches of teeth, and is adapted for the various sizes of saws.

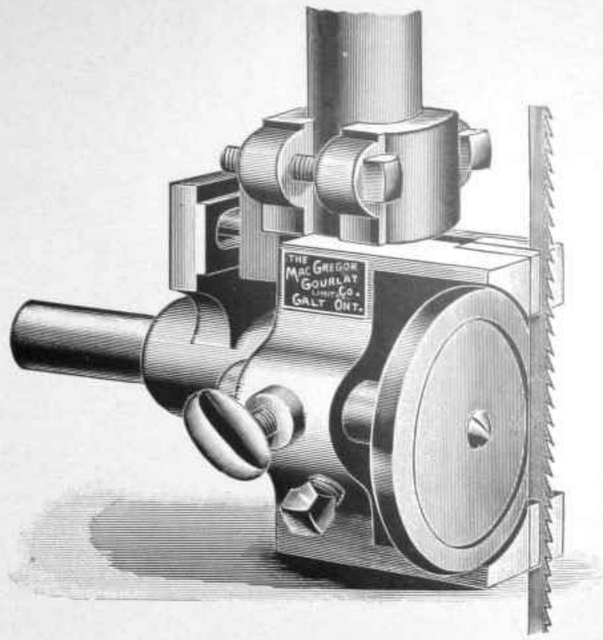
Telegraphic Cipher:—CHART



U. J. Eureka Band Saw Filing Machine

Will pay for itself in a month's time.
Files Band Saws better than by hand.
Directions for using go with each Machine.

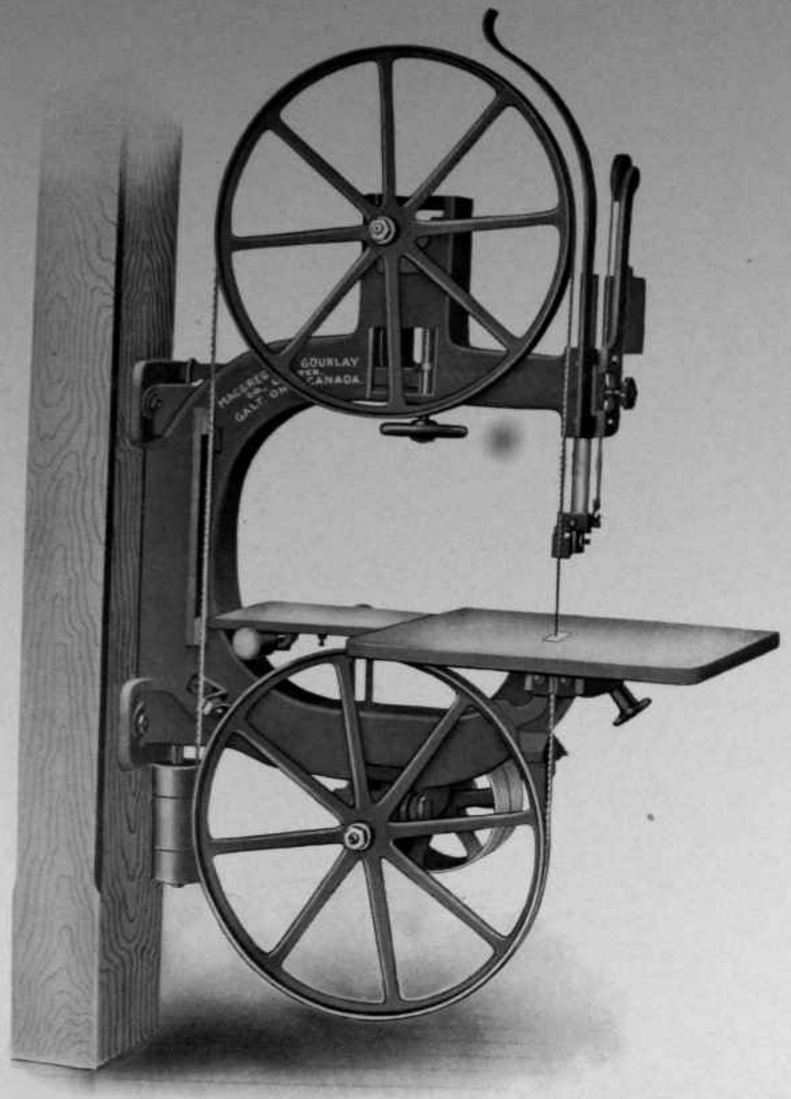
Telegraphic Cipher:—CHASTISEMENT



Wright's Pattern Band Saw Guide

We also build a very large line of all kinds of Metal-Working Machine Tools, Punches and Shears, Presses, etc.

Telegraphic Cipher:—CHASTE



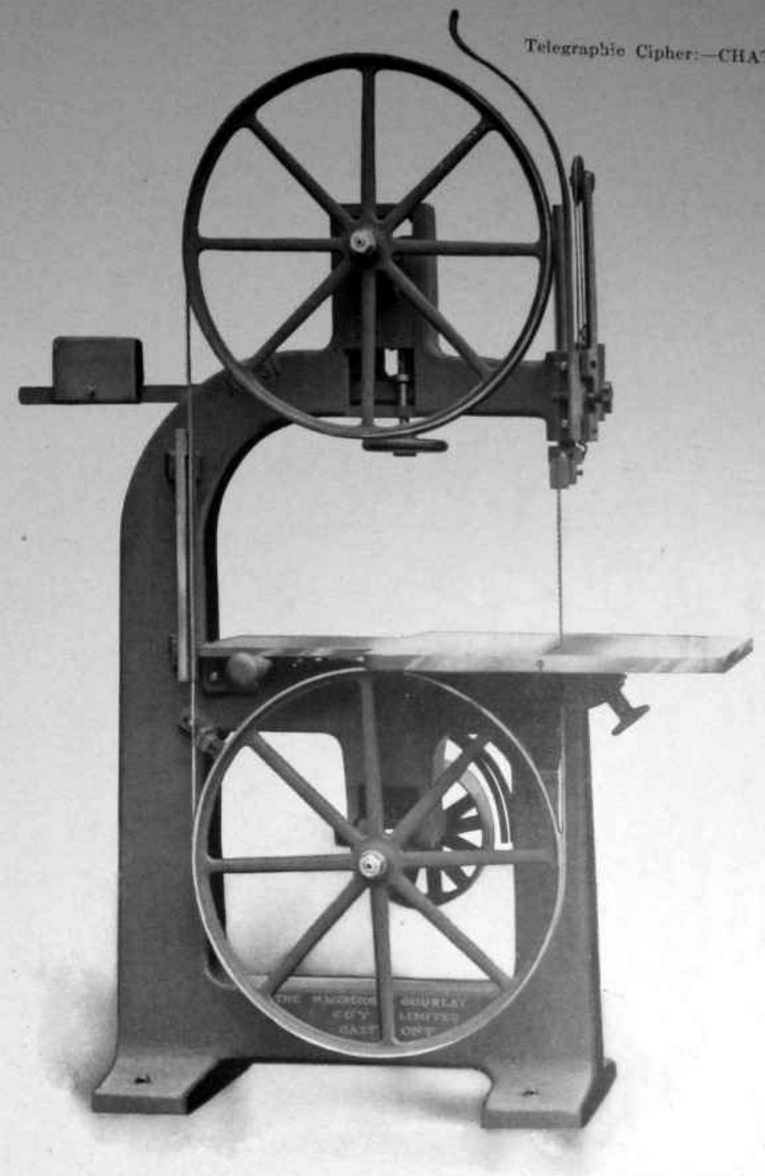
X.A. New Bracket Band Saw

With Tilting Table. 30-inch Wheels. All Journals Machine-Ground perfectly true.

The above cut represents our new Bracket Band Saw. The frame is very strong and of a new design, being cast in one piece. The wheels are 30 inches in diameter, rubber faced, the lower one being heavier than the upper one. The strain on saw is regulated with weights, which will provide for expansion and contraction in saw. The driving shaft and wheels are made to adjust, so as to insure the saw being kept in line. The table is of iron of large size, planed true, and is made to tilt. Machine is supplied with one saw blade, brazing vise, tongs and wrenches.

Fast and loose pulleys are 12 inches by 3 inches, and should make 500 revolutions per minute. Weight of machine, 800 lbs.

Telegraphic Cipher:—CHAT



X.I. Band Saw

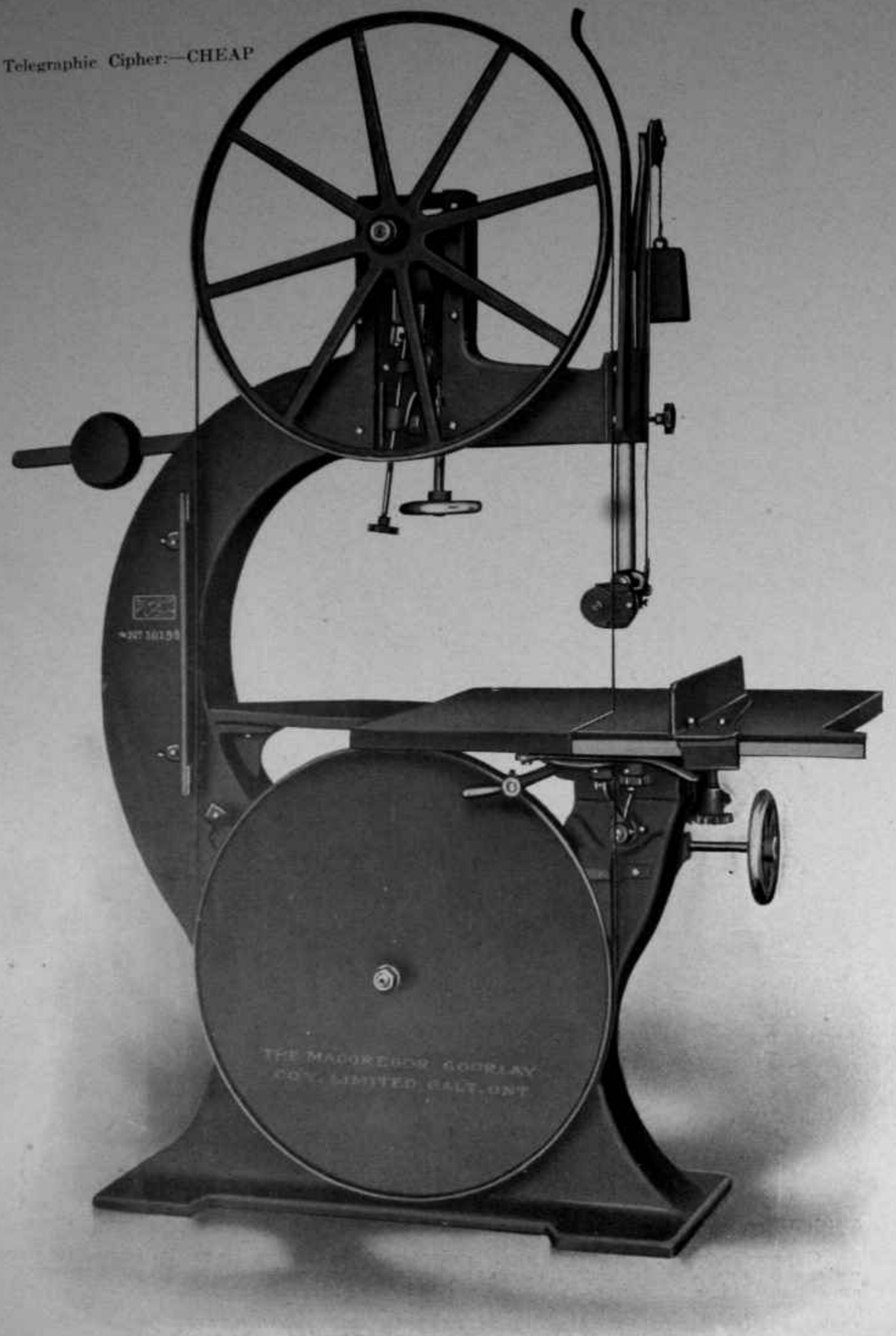
With Wheels 30 inches in Diameter. All Journals Machine-Ground perfectly true.

Our new Improved X.I. 30-inch Band Saw is of improved construction and is designed for general work, and its parts are extra strong, simple and durable, and embraces all the latest advantages that are obtainable in a Band Saw. The frame is cast in one piece, and cored hollow, which adds to the strength without increasing the weight. The table is of iron, 28 x 28 inches, and can be instantly angled, and the blade will run true to the centre of the cut. The wheels are 30 inches diameter, the top wheel having weighted lever to give the saw proper tension. The saw is held by anti-friction guides as shown on cut.

Tight and loose pulleys are 12 inches by 3 inches, and should make 500 revolutions per minute. Weight of machine, 1,250 lbs.

We also build a very large line of all kinds of Metal-Working Machine Tools, Punches and Shears, Presses, etc.

Telegraphic Cipher:—CHEAP



U.N. Band Saw

With Wheels 36 Diameter

ALL JOURNALS MACHINE-GROUND PERFECTLY TRUE

The Band Sawing Machine represented in the accompanying engraving embraces many new and valuable improvements which adapt it alike to light and heavy work. The frame is of the column form and is cored out and cast in one piece; the iron is evenly distributed, and the base being wide gives the machine a good floor support and also prevents any vibration, so that when once properly adjusted it is not easily disarranged.

The table is of iron, braced so as to make it very stiff. It is planed perfectly true and rests in a semi-circular bearing on frame. For sawing bevel the table can be adjusted by turning hand-wheel, without slackening bolts or stopping machine, and will stay in any position left.

There is also a guide fitted to the table for sawing straight or bevelled work. The adjustments of this machine are perfect; the upper wheel can be adjusted vertically by means of the hand-wheel shown in cut. The smaller hand-wheel is for operating our new canting arrangement for the upper wheel for adjusting to different widths of saws, and for directing their course on the wheels. The lower wheel has web instead of spokes, circulates no dust, and being heavier than upper wheel, controls the movements of the same.

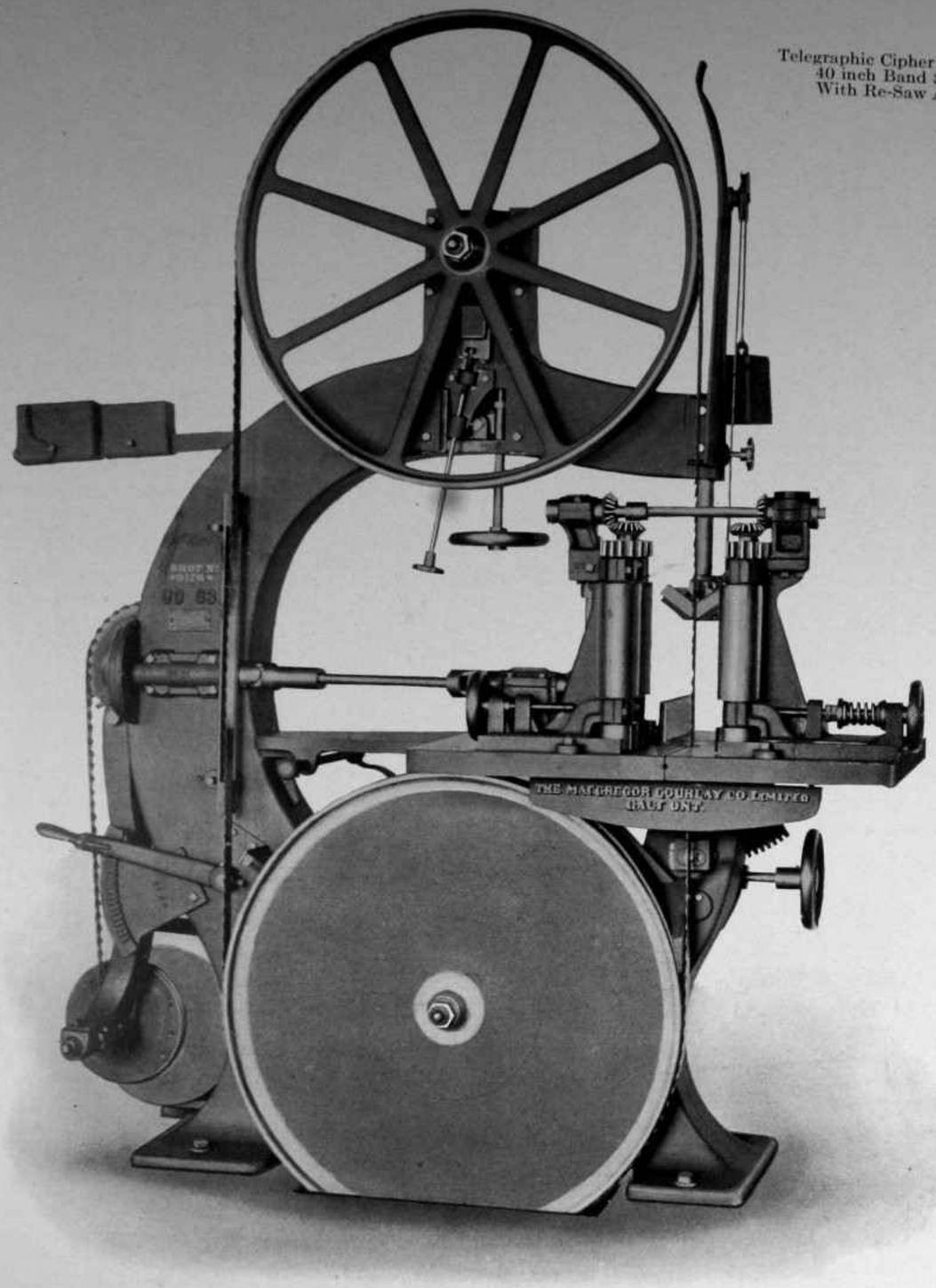
The guides for receiving the back thrust of the saw are anti-friction hardened steel rolls with adjustable side guides, so that a wide or narrow blade can be used. The weighted tension lever provides for the expansion and contraction of saw. The weight on lever can be adjusted to give more or less strain according to width of the saw.

Fast and loose pulleys are 14 inches by 4½ inches, and should make 600 revolutions per minute.

Weight of machine, 2,200 lbs.

We also build a very large line of all kinds of Metal-Working Machine Tools, Punches and Shears, Presses, etc.

Telegraphic Cipher:—
40 inch Band Saw - - —CHEAPEN
With Re-Saw Attachment—CHEAT



U. O. Band Saw Re-Saw

ALL GEARS CUT FROM THE SOLID

ALL JOURNALS MACHINE-GROUND PERFECTLY TRUE

This is a heavy, powerful machine, frame cast in one piece, extra heavy steel shafts, long bearings and large pulleys, intended for the heavy work of car shops, agricultural implement makers, furniture factories, etc.

This machine has all modern improvements, such as swinging table, weighted lever to give the saw proper tension, improved guides for receiving the back thrust of the saw.

The **NEW CANTING** arrangement for the upper wheel for adjusting to different widths of saws, and for directing their course on the wheels, will be found very convenient. The guide can be raised to saw 18 inches thick.

The **FEED MOTION** is variable and capable of instantaneous adjustment, from slow to fast, or may be stopped altogether; and the driving belt and all connections are under the operator's hand. Rates of feed from 10 to 80 feet per minute. The table can be tilted for cutting weather boarding, etc.

The **WHEELS** are 40 inches in diameter, the upper with spokes, the lower heavy with solid web, circulating less dust and giving increased momentum to the lower wheel, so that its speed governs that of the upper.

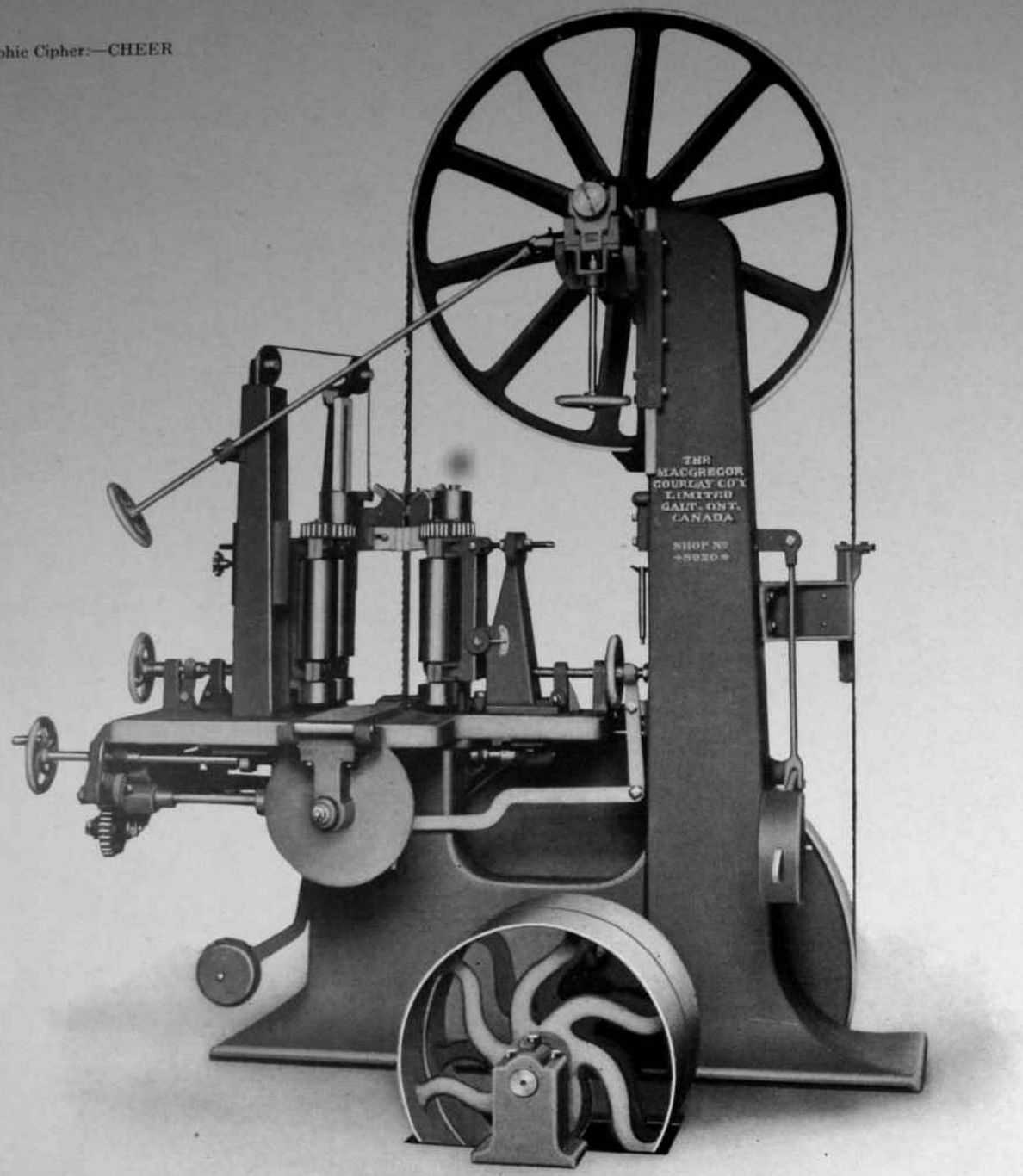
The **FEED WORKS** can be removed from the table in two or three minutes.

We furnish with each machine one scroll saw, and one 2½ inch saw blade, brazing clamp and tongs and necessary wrenches.

Fast and loose pulleys are 18 x 6¼, and should make 500 revolutions per minute.

Weight, 3,520 lbs.

We also build a very large line of all kinds of Metal-Working Machine Tools, Punches and Shears, Presses, etc.



P.S. Band Re-Sawing Machine

Wheels 48 Inches

ALL GEARS CUT FROM THE SOLID

ALL JOURNALS MACHINE-GROUND
PERFECTLY TRUE

In designing it has been our object to build a Re-saw first-class in all respects, convenient and accurate in adjustment, durable, powerful and economical to operate. It is well suited to all sorts of re-sawing, such as picture-backing and veneers, where accuracy is required, as well as re-sawing panels, box-boards, etc. It will re-saw bevelled siding, and, in fact, do every kind of work demanded of a first-class re-saw. It is especially adapted to the requirements of sash and door factories, furniture factories, planing mills, etc. Saws as thin as 23 gauge or thinner may be used, removing a saw kerf of less than 1-20th of an inch. It is provided with every appliance which our experience has shown to be needed, such as our improved saw guides, which save hammering the saw; devices for keeping the gum from the wheel; cross line; variable friction feed, the rate of feed being controlled by a single lever within convenient reach of the operator.

The **FEED WORKS** consist of four heavy gear driven feed rollers, each side adjustable to or from each other, or they can be angled for bevel sawing. The feed works can be made self-centering, or one side can be made rigid, the change being made by removing a bolt. The feed is graduated by a face friction, and by the change of one gear has rates of feed from 10 to 100 feet per minute.

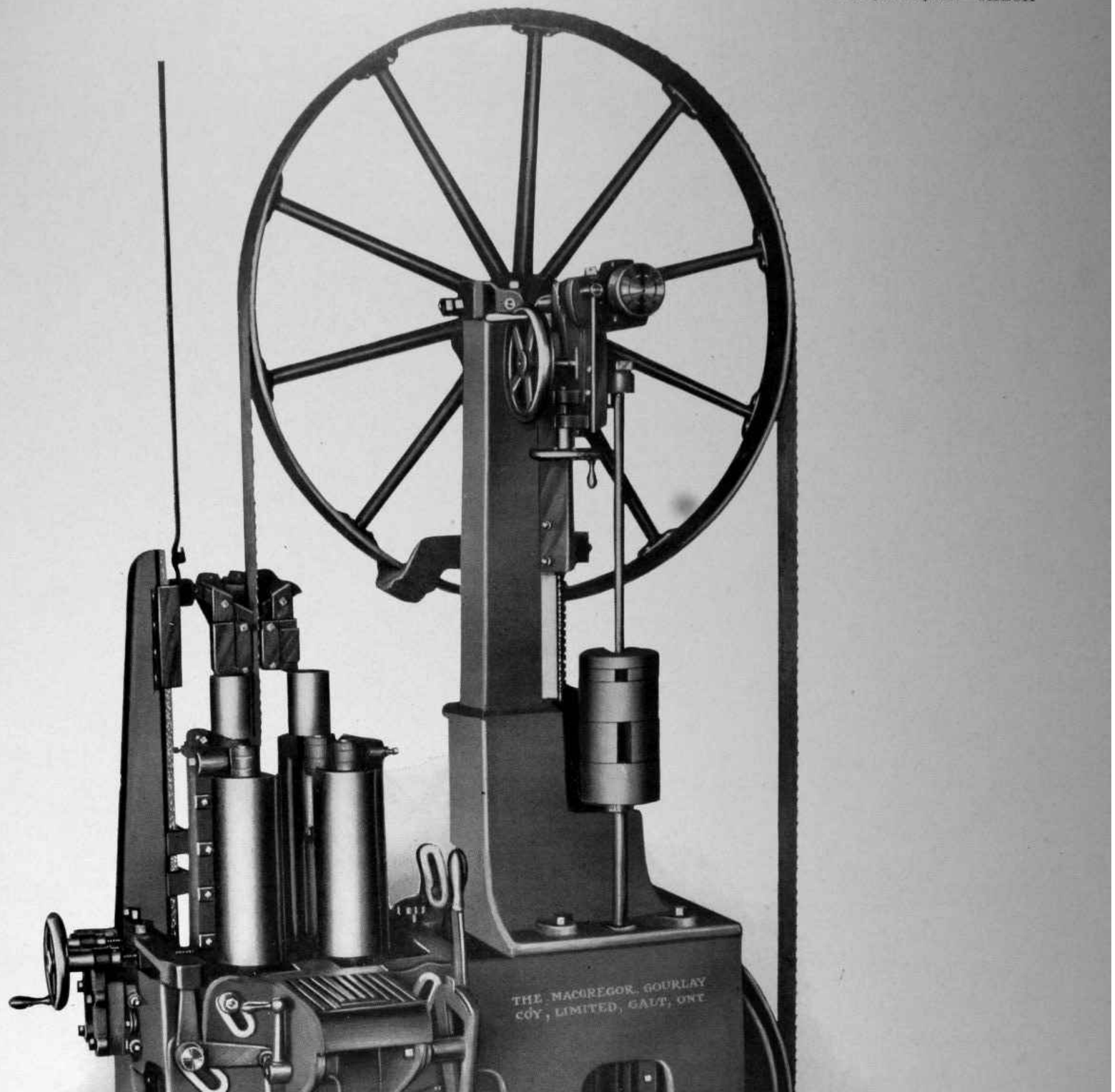
The **WHEELS** are 48 in. in diameter, the upper with spokes, the lower heavy with solid web, circulating less dust and giving increased momentum to the lower wheel, so that its speed governs that of the upper. Extra heavy steel spindles ground perfectly true. Both wheels are ground on the face after being placed in position.

We furnish with each machine one 3½ or 4 inch saw blade, brazing clamp and tongs and necessary wrenches.

Fast and loose pulleys are 24 x 8½ inches and should make 500 revolutions per minute.

Weight, 5,000 lbs.

We also build a very large line of all kinds of Metal-Working Machine Tools, Punches and Shears, Presses, etc.


THE MACGREGOR, GOURLAY
CO'Y, LIMITED, GALT, ONT.

X. C. Band Re-Sawing Machine

WHEELS 54 INCHES, AND WILL CARRY 5 INCH SAW. ALL GEARS CUT FROM THE SOLID
ALL JOURNALS MACHINE-GROUND PERFECTLY TRUE

The accompanying cut represents the Mershon Standard Perfected Band Saw as made by us.

This machine is especially suited to box makers, Planing Mills, etc., where a re-saw of exceptionally large capacity is required, as well as one capable of doing all classes of work. The adjustments are accurate and convenient. It is simple in construction, compact and symmetrical in design, and all the working parts are remarkably easy of access. The lower wheel is solid. The upper one is a very light but strong arm wheel, with steel locomotive tire for rim; the lightest and strongest wheel in existence. Each is finished on its shaft, the latter being the best hammered steel 2½ inches in diameter. The wheels are 54 inches in diameter. All adjustments to be made to the upper wheel are within easy reach of the operator. The position of the saw on the wheels can be instantly controlled at all times, the cross line device for this purpose being the quickest and most accurate of anything of which we know. Devices are provided for positively removing pitch and gum from the face of the wheels. This is very essential, as it insures the correct amount of strain on each portion of the Saw, and at the same time prevents the accumulation of pitch on the sides of the blade.

The Re-Saw is so constructed that the saw blade, when placed on the wheels, encircles the journal boxes, thus doing away with the necessity of an outside bearing. This mode of construction admits a much lighter and more substantial cross head, thus giving more sensitive tension than could otherwise be provided, as well as enabling us to provide the most convenient cross-line yet devised. The rate of feed is controlled instantly by one lever, and a foot lever is provided for releasing the feed rollers, which is found convenient in case of accident, etc.

The feed works are very strong, three of the rolls being driven, which gives ample power and simplifies the gearing, the fourth being solid or broken as preferred. The two entering rolls are 6 inches in diameter while the delivery rolls are four inches. This is done so that they can be placed very close to the saw, which is very important, especially when sawing crooked lumber. There is no cast iron anywhere near the cutting edge of the saw, the 4 inch rolls referred to above being the part of the machine nearest the teeth. By this arrangement we have no difficulty in feeding blocks as short as 9 inches in length. We do not rely entirely upon the feed rolls for presenting the lumber properly to the saw, but attached to the frame carrying the rolls are suitable projecting arms, arranged one above the other, and by extending these, they can be made to support the lumber until it has passed entirely beyond the saw, making it possible to do perfect work on either short or crooked lumber. Owing to their peculiar construction, there is absolutely no danger of the saw coming in contact with them, even though the machine is set to slice off the thinnest veneer. The feed works can be made self-centering or one side can be made rigid, the change can be made by removing one bolt. They can be tilted to re-saw bevel siding, etc. A special feature of the self-centering device is that it will divide up the surplus thickness of the stock being re-sawed, should any of it prove of too scant thickness to furnish two pieces of the required thickness, one pair of feed rolls will automatically become rigid, thus insuring one perfect piece. By the arrangement of the Saw Guides and bed, it is impossible for a knot to wedge against the saw, which causes so much annoyance in other machines. Should there, from any unforeseen cause, be an undue strain against either side of the saw blade, by the use of our patented yielding guides it is impossible for this strain to cause any injury to the saw. Because of this fact, as well as the sensitive tension applied to the upper wheel, we are enabled to use with safety the thinnest saw blades. The wheels have their faces ground to fit a steel templet, and are of such form that very little hammering is necessary to keep the saws in order. The saws used on this machine are from 19 to 23 gauge or thinner, and we recommend a saw from 3½ to 4½ inches in width, according to the gauge and to the kind of sawing to be done. The wheels have a wide enough face and the journals are of ample diameter to carry a 5-inch saw if so desired; but after using both wide and narrow blades, it has been our experience that a comparatively narrow saw works best and the first cost is less.

A 19 or 20 gauge saw will remove a saw kerf of a scant 16th of an inch, and will work equally well slicing off a piece of a 16th of an inch thick or re-sawing in the middle, no change of filing or setting being required. These gauges of saws are suitable for general re-sawing purposes. Saws 22 gauge or thinner are often used in re-sawing panel lumber, bevelled siding, etc., in which case a saw kerf of 1-20th of an inch is ample. A great objection to Band Re-Saws has been that they fill the factory with fine sawdust, thus increasing the fire risk, causing the belt to slip and annoying the workmen. This machine is so built that it can be easily piped so as to remove practically all the sawdust without overtaxing the blower.

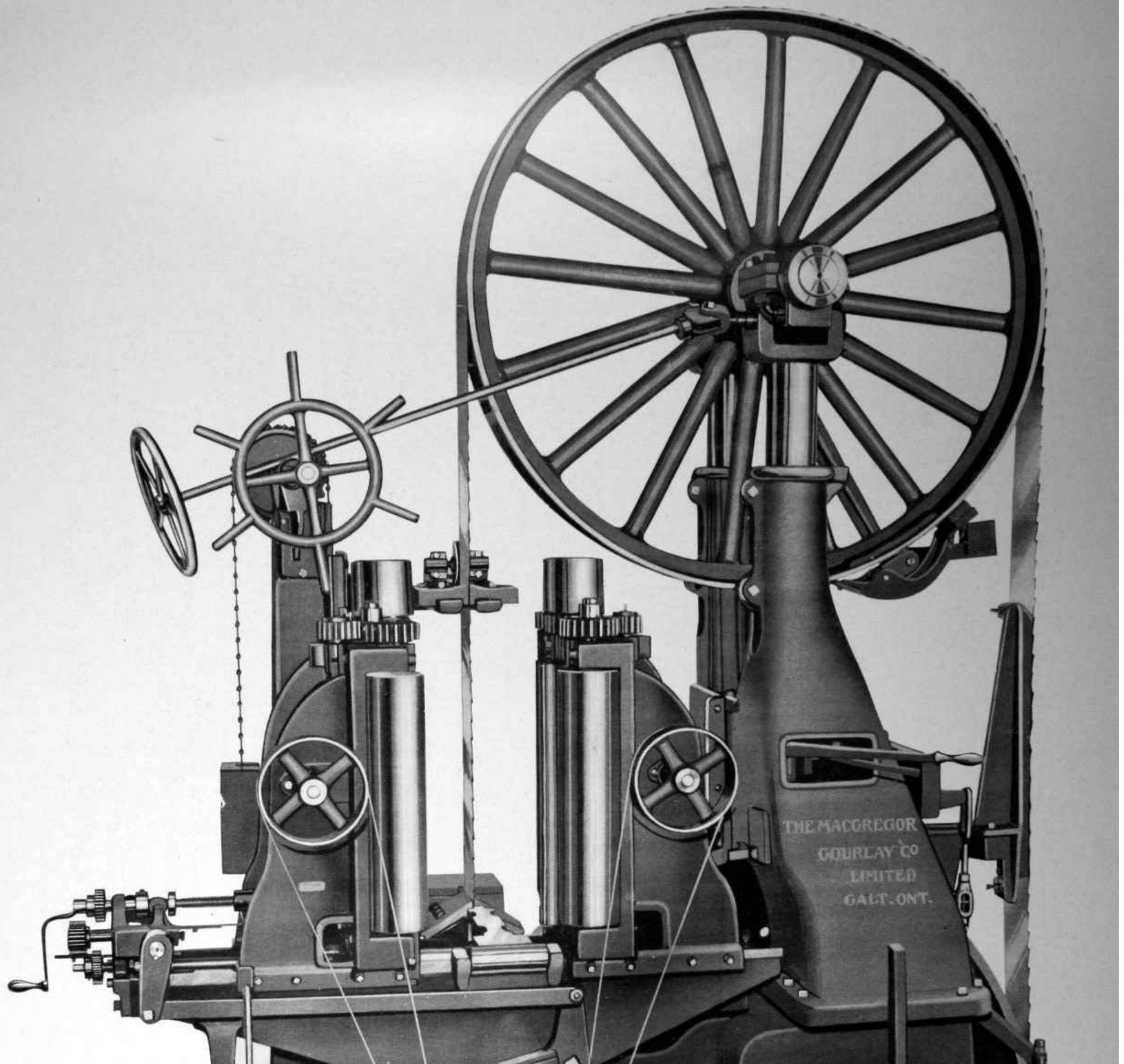
To all purchasers of our machines we send blue prints and full directions for setting up and operating, including the best mode of piping to blower, suggestions as to transmission of power, and hints as to arrangement and requirements of filing room.

As constructed the Standard Perfected will re-saw stock 6 inches in thickness by 26 inches or more in width.

TABLE OF DIMENSIONS, SPEED, ETC., OF STANDARD PERFECTED BAND RE-SAW

Weight, 6,100 pounds.
Floor space required, about 6 feet by 6 feet.
Extreme height of machine, 9 feet 6 inches.
Diameter of wheels, 54 inches.
Width of saw blades, 5 inches.
Size of belt pulley, 24 inches in diameter, and should make 550 revolutions per minute.
Size of driving belt, 6 to 8 inches, light double.
Capacity, 20 to 40 M feet of 1 x 12 inch pine in ten hours.
Rate of feed, 25 to 100 feet per minute.
No loose pulley is furnished unless ordered, as the tight and loose pulleys are usually placed on the countershaft as required.

We also build a very large line of all kinds of Metal-Working Machine Tools, Punches and Shears, Presses, etc.


THE MACGREGOR
GOURLAY CO
LIMITED
GALT. ONT.

X. M. 60-Inch Band Re-Saw

This machine will be found on examination to embody all the conveniences and attachments that are necessary or desirable for any kind of re-sawing in hard or soft wood, and has ample power both on the blade and in the feed works for any reasonable demand.

The **FRAME** is cast hollow with cross struts and heavy flanges, and it has a broad base which, when properly set, does not permit of vibration of the machine when running.

The **SHAFTS** are 4 inches and 4½ inches in diameter, of hammered crucible steel, having bearings from 12 to 16 inches long, with automatic oiling devices and return channels. The upper bearings are 12 inches in length, with similar self-oiling attachments, and are self-adjusting and adjustable.

The **WHEELS** are of a form and dimensions which have been found correct in experience, and hang between heavy vertical columns which are rigidly bolted to the base. Each column has a central straining screw, and the two are connected by gearing so as to work in exact unison, or they may be adjusted independently when necessary to level the upper shaft. The lower wheel is very heavy, with a central web, and the upper one is as light as possible consistent with strength. The faces of both wheels are accurately finished and ground on their own journals by a special machine, and every wheel is tested for running accuracy before shipping. A cross-line screw is provided on one upper main box to regulate the travel of the saw on the wheels, also a tilting screw for use when preferred.

The **FEED WORKS** are driven by belts and adjustable expansion cones, which varies the feed from 16 feet to 125 lineal feet or more, if ordered, per minute, and the arrangement is the most simple possible, every adjustable part being within easy reach of the operator at his post. The rolls are driven by spur gears and steel worms running in oil with ball end bearings, and the motion is smooth and noiseless even at the fastest speed.

SIX FEED ROLLS carry the stock to the saw, all of which are driven by gearing. The right hand set of rollers is rigid in their boxes but the left hand set is elastic so as to grasp uneven stock and hold it fairly up against the rigid rolls, thus making a powerful feed even on very unevenly sawed lumber. The rolls tilt to an angle to saw clap-boards, and the blade runs within one inch of the center of the last feed rolls; thus very crooked stock may be sawed, and pieces as short as 6 inches or even less. All of the rolls are adjustable to the blade and wheels in case of wear.

The **SELF-CENTERING ATTACHMENT** is so arranged that by slacking a set-screw and adjusting a collar the right hand rolls become rigid but may be adjusted to thickness by the lower screw and hand crank.

BLADES up to 8 inches wide, 30 feet 3 inches long, and No. 17 to No. 22 gauge are used, and they are strained by a compound balance lever, with weights which may be changed according to the work and width of the blade.

The **GUIDE** has large hardened steel rear or safety roller and independent side guides which are adjustable by screws. The lower guide forms a work table for the lumber passing through, and the upper one is counterbalanced and adjusted vertically by a large pilot wheel; thus the guide can be instantaneously shifted as the lumber varies in width.

GLEANERS are provided on both wheels, and a packing box is attached to the lower wheel guard, which can be kept filled with oily waste to soften the gum which often collects.

The **CAPACITY** is from ⅛ inch to 26 inches wide horizontally and 36 inches vertically; a veneer can be cut from 14 inch timber, and a 24 inch timber can be split in the center. From 30,000 to 60,000 feet can be cut in ten hours with blades in good order.

The **WORKMANSHIP** is superior to that of any other machines of the kind now made, and we shall be glad to show any prospective buyer our methods. We scrape all sides carefully to exact bearing, and grind or "lap" all journals and scrape the boxes to them; all principal bearings are self-oiling.

The **DRIVING PULLEY** is 30 x 12½ inches, and should run 500 revolutions to the minute.

No loose pulley is furnished unless ordered as the tight and loose pulleys are usually placed on the countershaft as required.

We furnish with each machine one blade 8 inches wide, 30 feet 3 inches long; also floor plans and directions for setting up and operating.

Floor space 6 ft. 3 in. x 9 ft. 6 in. x 11 ft. high. Weight 12,000 pounds.

We also build a very large line of all kinds of Metal-Working Machine Tools, Punches and Shears, Presses, etc.