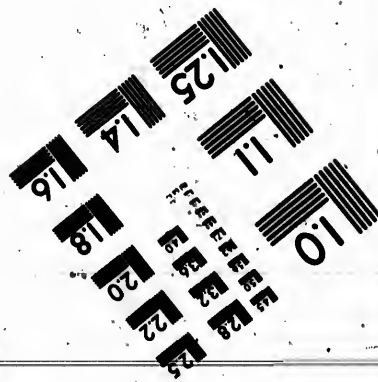
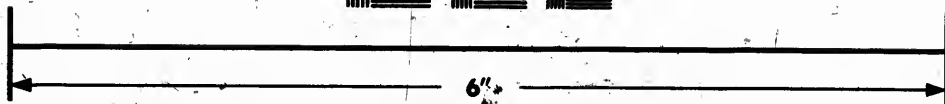
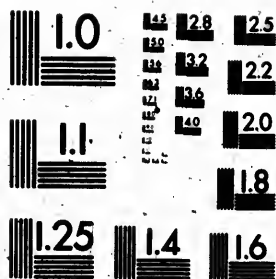


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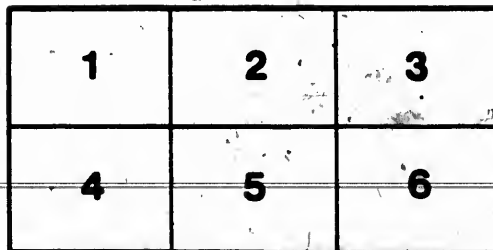
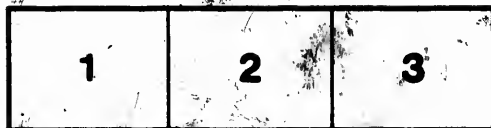
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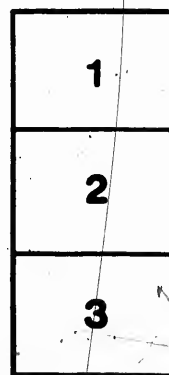
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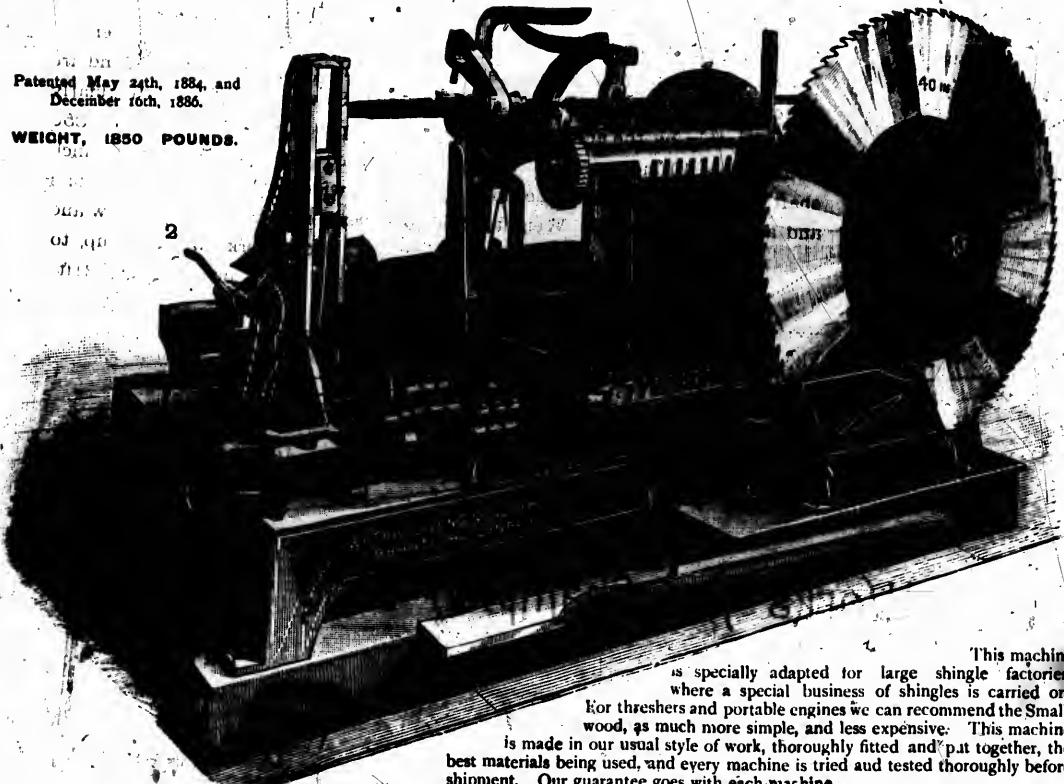
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The "Boss" Shingle Machine.

Patented May 24th, 1884, and
December 16th, 1886.

WEIGHT, 1850 POUNDS.



This machine is specially adapted for large shingle factories, where a special business of shingles is carried on. For threshers and portable engines we can recommend the Smallwood, as much more simple, and less expensive. This machine is made in our usual style of work, thoroughly fitted and put together, the best materials being used, and every machine is tried and tested thoroughly before shipment. Our guarantee goes with each machine.

THE MACHINE HAS A FRICTION FEED very smooth and positive. With the saw running at 1,400 revolutions per minute—the feed for the whole length of cut, or, say, 12 in. shingle, will be 42 cuts per minute.

THE SEVEN TRIP DOGS for shortening the stroke, each shorten the stroke about five strokes per minute, so that at the shortest stroke for narrow shingles the machine will cut from 75 to 85 shingles per minute according to the speed of saw.

A VERY IMPORTANT ADVANTAGE—By using the foot lever shown in front of machine the top jaw of carriage, for holding and dogging the block, can be raised with the foot, so as to give the operator the free use of both hands to handle the block.

BUTTS OR TIPS CAN BE MADE CONTINUOUSLY at either end of the block, by simply throwing a small trip (2) shown at the end of cut and within easy reach of the Sawyer. This enables a knot or defect in the timber to be run into the points till sawed out, keeping shingles first class, while if butts and tips alternately 50 per cent. with the knot in the butt would be culls.

THE CAPACITY OF THIS MACHINE depends to a very large extent on the quality of material out of which shingles are being cut, the usual run for ordinary blocks is from 20,000 to 30,000 shingles per day, but with good blocks this can be exceeded 20 to 30 per cent. Full directions for setting up furnished with each machine.

In making this machine we have adapted to it many of the good points of the Smallwood machine, which our many years of experience have proved to be necessary and essential. Instead of toothed disks to set out bolt, held in place by gas pipe thimbles, all tightened up by a nut at one end of shaft, we use a solid shaft turned to shape so that it is impossible for toothed disks to get loose and refuse to set block out perfectly. Recognizing the fact that the set wheels or pinions cannot be too true we use cut gear, cutting them out of solid turned wheels by machinery, making each tooth perfectly true and thin edged instead of irregular and rough as they are sure to be when cast gear. A spring has been put on the top set paul to hold it to place. We use hard leather board frictions in place of straw board, and collars to hold mandrel to place instead of grooves cut in bearings. The box that supports outer end of friction pinion shaft is cast separate from frame to cheapen repairs in case of accident. Seven trip dogs in place of six giving more range to feed of machine. It is impossible to give all the minor details, but we can say that this machine is built conscientiously to sustain our reputation for first class work and can be thoroughly relied on.

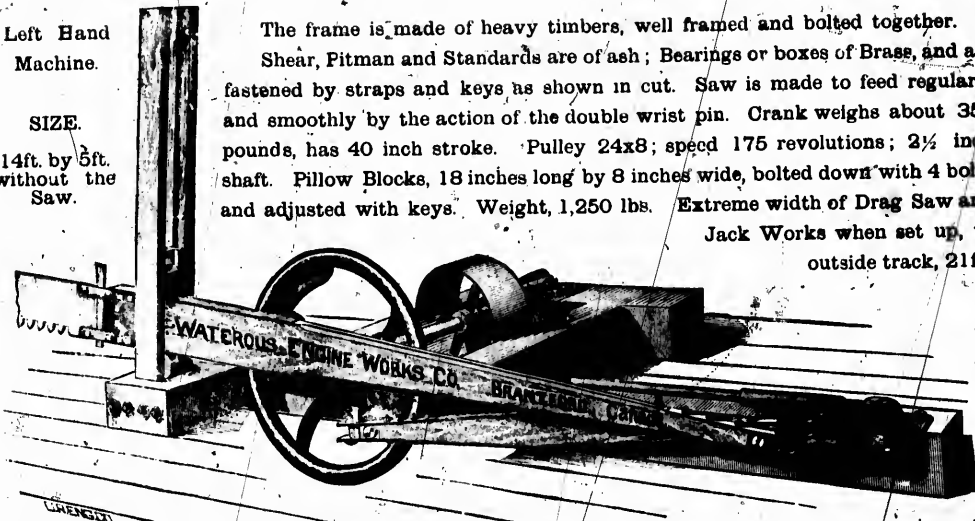
Champion Drag Saw Machine.

Best Machine for the Purpose Made in Canada.

Left Hand
Machine.

SIZE.

14ft. by 5ft.
without the
Saw.



The frame is made of heavy timbers, well framed and bolted together. Shear, Fitman and Standards are of ash; Bearings or boxes of Brass, and are fastened by straps and keys as shown in cut. Saw is made to feed regularly and smoothly by the action of the double wrist pin. Crank weighs about 350 pounds, has 40 inch stroke. Pulley 24x8; speed 175 revolutions; 2 1/2 inch shaft. Fallow Blocks, 18 inches long by 8 inches wide, bolted down with 4 bolts and adjusted with keys. Weight, 1,250 lbs. Extreme width of Drag Saw and Jack Works when set up, to outside track, 21ft.

Jack Works for Champion Drag Saw.

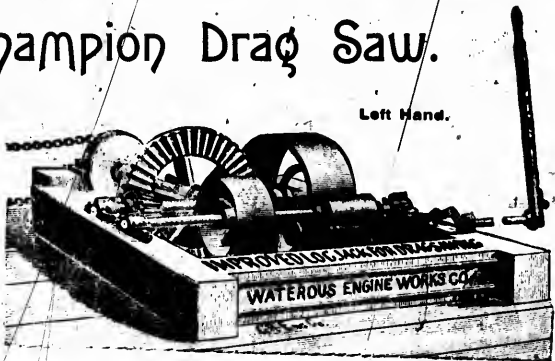
For baling logs into mill and moving them the length of shingle blocks to drag saw.

Using a 3/4 inch cable chain or a 6 inch link chain, same weight, with a grab hook to fasten in end of log.

Ewart's Giant Chain, No. 600 with log special as desired, makes the best arrangement. Logs are simply rolled into a trough, and first special catching log takes it along without further attention. Does not twist or slip, and runs on sprocket wheels.

Pulley, 20in. x 8in. Speed, 250 revolutions per minute.

Weight, 1,050 exclusive of chain. Size 5ft. x 4ft.



Shingle Manufacturers Save your Timber.

Sapping with an axe wastes from 25 to 30 per cent.

Split Bolts require several cuts to be made before a perfect shingle is cut. Nothing wasted and a perfect shingle first cut, where Knee Bolter is used.

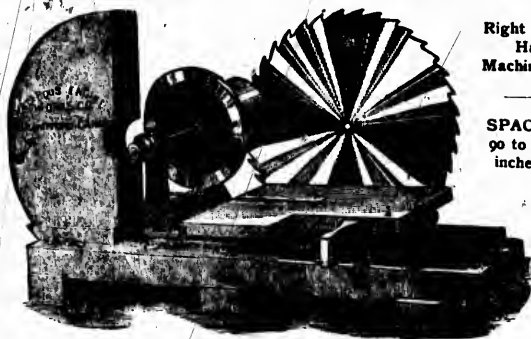
Saw, 50 inches; pulley, 16x10 inch face; speed 800. Steel arbor, solid yoked boxes. Guard easily removed to sharpen or remove saw. Weight, 1,100 lbs.

Carriage covered with sheet iron. Runs on wheels, and is gibbed down to keep it on the track. Has a foot on centre which raises bolt to adjust it. Is light and strong.

Advantages

Both hands are at liberty to manage block. Feed controlled by motion of sawyer's body. Will bolt & sap from 4 to 6,000 blocks per day.

CHAMPION KNEE BOLTER & SAPPER



Right
Hand
Machine.

SPACE:
90 to 92
inches.

THE WATEROUS ENGINE WORKS CO., LTD.

BRANTFORD, CANADA, AND ST. PAUL, MINNESOTA, U. S. A.

The Farmers and Threshers Saw Mill

KEEP YOUR ENGINE AT WORK.

INCREASE YOUR EARNINGS

BY RUNNING

A Saw Mill, Shingle Mill or Grain Chopper

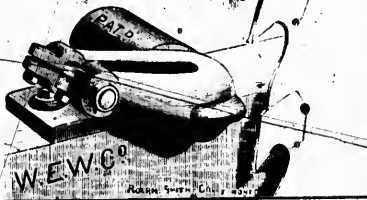
No. 0 SAW IRONS.

A Strictly First Class Mill in every Particular.

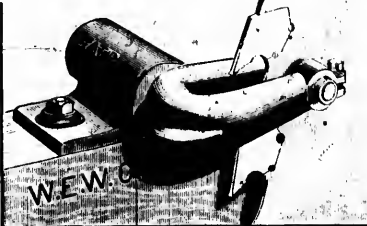
THIS new frame and carriage was brought out last year to meet a long felt want of a cheap but a thoroughly good saw mill attachment for farm and threshing engines, which would come within the reach of farmers and threshers, and at the same time be capable of manufacturing lumber equal in quality to any circular machinery built.



Saw Guide turned back to permit the saw being removed without disturbing the Guide.



Saw Guide in position to saw: can be adjusted while saw is in motion.

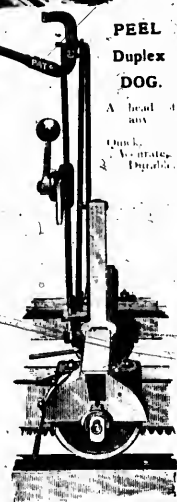


The Grooved Stop, shown handle up, is moved to any desired thickness, and turned down and roller grasped by handle and run back to it when the roller is the desired distance from saw. When not in use it is turned down out of the way.



PEEL
Duplex
DOG.

A head
and
hook,
Ventilate,
Durable.



IT IS NOT A CHEAP MILL in the popular sense of the word, that is, badly built of poor materials, but a first class mill with special points and improvements, but at a low price. The mill can be furnished complete as shown in cut, with track ribbon and sills built in sections so as to be easily moved and set up again. Or it can be complete to the track iron only. When desired the mandrel can be lengthened to suit any special position, or to enable two engines to be attached to the one saw. The carriage can be made any desired length and in section, to be attached and used when wanted.

PRICE LIST.

- No. 0 Saw Iron, complete as shown in cut (to timbers track iron is laid out but not including timber and sills) with wooden frame, Patent Saw Guide, Patent Timber Gauge, 2 Peels, feed belt, pulley 24x16in. face with tighter frame and pulley, splitter and binder roller connected. Carriage with two log seats 10 feet apart, with V and flat wheels running in reservoir dust proof brass boxes, solid knees, 2 Peel Duplex Dogs, that grab a round log top, and a square log top and bottom, patent friction set works, setting over the log, working carriage either way; extra pinion on dog shaft to enable one log seat to be moved up nearer to cut shorter than 10 feet; woodwork of carriage, 26 feet of rack, sick, 35 feet of back track and of V steel front track planed true, and screws for same, all set up complete, knocked down and delivered f. o. b. cars, without saw, no main belt and no framework under track. \$ 400
- Track, Ribbon and Sills, as shown in cut, framed in 12ft. sections with splicing plates arranged so that it can be readily taken up and reset. 75c. per foot, or. 27
- Extra Mandrel per foot, to enable a second engine to be attached, \$1.50 or say 5ft. and sill box fabricated. 12
- Extra Pulley, 24x16in. face bored and key seated. 9

Timber Gauge,
Roller turned down.

Dotted line shows

Gauge in position to Cost to Increase the Length of Carriage can be Estimated from the following:

- Each extra log seat, knee piece and slide, wheels, boxes and pinion \$35 00
- Peel Dog, complete, each one (smallest size) 15 00
- Segment, each 3 feet long by 1 1/2 wide round tooth, and bolts. 2 75
- Track, V steel track planed true in 10ft lengths, per foot and screws 75
- Flat Track, drilled and counter sunk with screws, per foot. 10
- Woodwork of carriage for each extra foot in length. 1 00
- Dog Shaft, turned, includes couplings, per foot. 75
- Patent Timber Gauge, small size same as used on No. 0 Irons. 25 00
- Patent Timber Gauge, same style, large size. 35 00
- Patent Saw Guide, adjustable. 8 00
- Sawdust Carrier, 20 feet centres using No. 35 chain. 25 00

EXTRA FOR SAWS.

Diameter of Saws.....	40in	42in	44in	46in	48in	50in
Canadian Solid.....	\$25	\$30	\$36	\$42	\$50	\$55
American Solid.....	30	35	42	50	55	65
Emerson's Clipper.....	50	57	62	70	80	88
Emerson's Planer.....	75	80	85	95	105	115
Hoe Chisel Tooth.....	85	90	95	105	120	140
American Brooke Bit.....	60	65	70	75	90	100
Diston Chisel Tooth.....	75	80	85	95	100	110

SELF-ACTING SHINGLE MACHINES

NO RACK OR GEAR FEED, BUT PATENT



Lever Feed Slow Feed to Saw,
Quick Return.

**Cuts Shingles,
Box Stuff or Heading**
IN SHINGLES,

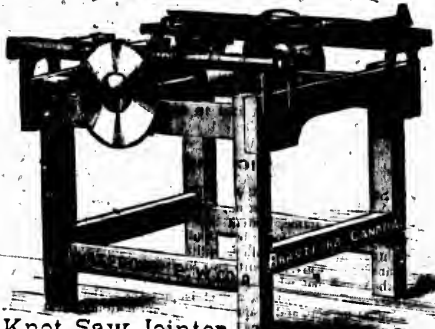
20 Tooth Pinion cuts for Canadian Market, scant $\frac{3}{4}$ butts, or with
15 gauge saws, 3 shingles cut of 1 $\frac{1}{2}$ thick.

18 Tooth Pinion cuts for American Market plump $\frac{3}{4}$ butts.

TO CHANGE FOR

Heading or Parallel Stuff.

With Improved Feed Works is more Simple than Before.



Knot Saw Jointer.
should run 2,500 rvt

Shingle Packer,
Makes Square Bunches



**Improvements in the Smallwood
Shingle Machine.**

WE have lately changed entirely the feed works of our Smallwood Shingle Mill, and added patented improvements by which the operator can now, by a simple device, make the machine cut all tips and all points at either end of block continuously. By this arrangement knots or other imperfections can be put into the points of shingles, keeping them No. 1; and when this is worked out, the feed is reversed and points made at the other end till block is evened up, and then machine can be made to work butts and tips alternately as before.

As this adds considerably to the cost of making the machine and very much to its value, we have been forced to advance the price as above.

	HEADING, BOXBOARD and PICTURE BACK STUFF.
16 Double Tooth Pinion cut $\frac{3}{4}$ inch thick
22 do do do $\frac{1}{2}$ do
12 Shingle do do $\frac{1}{2}$ do
14 do do do $\frac{3}{4}$ do
15 do do do $\frac{1}{2}$ do

No. 1 Machine uses 36 and 38 inch saws. Cuts 14 to 18 inches long by 14 wide; weight, including Jointer, as shown in cut 2,300 lbs. Fully, 1228 $\frac{1}{2}$; should run 1,400 to 1,600 revolutions per minute.

No. 2 Machine uses 40 and 42 inch saws; cuts 14 to 20 inches long with 40 inch saw, and 14 to 22 inches with 42 inch saw, by 24 inches wide. Weight, including Jointer, as shown in cut 2,800 lbs. Pulley, 1228 $\frac{1}{2}$; should run 1,400 to 1,700 revolutions per minute.

Smallwood's No. 1 (small size) Patent Self-Acting Lever Feed Shingle Mill—With improved feed works all iron with the exception of three braces including all late improvements, (mentioned below) making the machine heavier and more durable as illustrated. We generally use American shingle saws of the best make—has 16 inch saw

taper ground to 14 or 15 gauge at rim, with 100 teeth. Capacity 10,000 to 20,000 per day. Cost of Machine complete, with Jointer and Belt to Jointer as shown in cut..... \$250 00
No. 1 Machine with 38 inch saw, including Jointer and Jointer Belt..... 260 00

Smallwood's No. 2 (large size) Patent Self-Acting Lever Feed Shingle Mill—With improved feed works same as No. 1, but much larger, heavier, and with larger blocks of much greater capacity—15,000 to 30,000 per day; made for extra large and wide blocks, with table to set block on while being doctored. Uses 40 inch saw, taper ground to 14, 15 or 16 gauge at rim. 100 teeth. Includes Belt to Jointer and Jointer

No. 2 Machine with 42 inch saw, including Jointer and Jointer Belt..... 300 00
Smallwood's No. 1 Machine, without Jointer; weight, 1,800..... 320 00

Smallwood's No. 2 Machine, without Jointer; weight, 2,400..... 280 00
If Improved set works are not wanted in above machine deduct \$30.

"Boss" Shingle Machine, with 40 inch saw without Jointer..... 300 00
"Boss" Shingle Machine, with 42 inch saw, without Jointer..... 310 00

Waterous Lath Mill, 1 saw..... 125 00
Waterous Lath Mill, 2 saws..... 135 00
Waterous Lath Mill, 3 saws..... 140 00

Waterous Lath Bolter, each..... 55 00
Six Knife Jointer, illustrated above; Iron and Wood Frame; weight, 400..... 35 00

Six Knife Jointer, as above arranged for two boys or one to joint, with reversible shield
Belt Knife 40 inch Wheel Jointer, Iron Frame..... 70 00
Double 40 inch Wheel Jointer, 4 sets of knives, Wood Frame, with reversible shield, for one or two operators..... 75 00

Single Knot Saw Jointer; one spare 14 inch saw. One carriage and one saw..... 100 00
Double Knot Saw Jointer. Illustrated above. Two Carriages and Saws, including 2 spare 14 inch saws..... 35 00

Shingle Packers. Illustrated above, 18, 20, 22 or 25 inches wide..... 50 00
Champion Drag Saw, two saws 6 $\frac{1}{2}$ feet a 12 inch, and tightener, without Carriage..... 20 00

Jack Works, or Carriage, for Champion Drag Saw. With plain straight linked chain..... 140 00

The same with No. 600 Giant Chain..... 90 00
The Waterous Drag Saw, with carriage and fast and loose pulley, 6 to 6 $\frac{1}{2}$ foot saw..... 120 00

The Bruce Drag Saw Rig. Illustrated above. Includes Carriage, as above and fast and loose pulley for power, 5 to 5 $\frac{1}{2}$ foot saw..... 90 00

Champion Knee Bolter and Sapper. Includes 50 inch saw..... 70 00
Driving Pulley is put on Mandrel on outside of frame to make connections easy, and springs are attached to pulleys to hold them firmly to place on set wheels.

Friction clutch attached to cone pulley to start and stop carriage keeping feed pinion and wheel always in gear. Wheel and pinion are both turned on face and side.

