BOYNTON & PLUMMER

WORCESTER, MASSACHUSETTS, U. S. A.

Shaping Machines
Drilling Machines

Bolt Cutting Machines
Portable Forges, Etc.

Cable Address: "BOYNTON, WORCESTER"
Codes used:
Lieber's, Western Union, Manufacturers' Export

CATALOGUE and PRICE-LIST

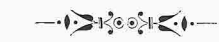
No. 2

OF

IMPROVED SHAPING MACHINES

UPRIGHT, HAND AND POWER DRILLS

Overhead Drills, Horizontal Drills, Breast Drills,
Swivel Clamp Drills, Railroad Track Drills,
Bolt Cutting and Nut Tapping Machines,
Portable Forges, Tire Benders, Tire Shrinkers,
Bolt Headers, Etc., Etc.



MANUFACTURED BY

BOYNTON & PLUMMER,

Office and Works, 52 Lagrange St.,

WORCESTER, MASS., U. S. A.

1903.

OUR TERMS

Are cash in thirty days from date of invoice unless otherwise specified.

We deliver machines free on board cars at Worcester, in good shipping order.

Extra crating or boxing will be charged for at cost of material and labor.

INTRODUCTION.

We take pleasure in offering to our customers our new illustrated catalogue, No. 2, of machinery manufactured by us. It is intended to take the place of all others heretofore issued, and we believe illustrates and describes the most complete list yet presented of desirable machines manufactured for the use of blacksmiths, carriage makers, repair and machine shops. We call special attention to the many improvements which have been made since our last issue, and we shall continue to add such improvements as seem desirable to keep the high standard of excellent workmanship, convenience and durability of our machinery.

We could, if necessary, fill a large volume with references from the thousands using our tools throughout this and foreign countries. Instead of which we guarantee our tools to do all for which we recommend them. All machines of our manufacture are offered to the mechanical public as standard of their class.

We also wish to call special attention to our illustrated list of duplicate parts for repairs to our machines, whereby they may be ordered by name or number, which will be found a great saving to our customers of express and freight charges in returning old parts to be duplicated; and last, but not least, our telegraphic code, for the convenience of our customers abroad.

During our many years of business as manufacturers it has been our constant aim to furnish only tools of standard excellence. This will still be our policy, and we respectfully solicit a continuance of the patronage with which we have been favored.

Respectfully,

BOYNTON & PLUMMER.

Worcester, Mass., U. S. A.

TO OUR CUSTOMERS ABROAD.

We wish to announce that we have added to this our new catalogue a complete telegraphic code, for the convenience of our foreign customers, by which any machine or part may be ordered by the use of one word, thereby saving much expense in cost of cablegrams.

Special attention is always paid to the boxing of export shipments, being careful to pack machines in the least possible space and to put them in as few packages as possible. We are always pleased to include small parcels, ordered from other firms, without extra cost. Any duplicate or repair part may be also included. We have given the dimensions of each machine boxed for export, and the shipping weight, but the same is greatly reduced, as well as the cost of boxing, when two or more machines are packed together. Appreciating the inconvenience to which foreign buyers are put in ordering and obtaining American goods, we have spared neither pains nor expense in making this catalogue as complete as possible and to add to the convenince of our customers abroad.

BOYNTON & PLUMMER,
Worcester, Mass., U. S. A.

Cable address: Boynton, Worcester.

Codes used: Lieber's, Western Union, Manufacturers' Export.

IMPROVED SHAPING MACHINES.

The Shaping Machines illustrated on following pages represent our improved machines; the capacity of each having been increased 50 per cent. or more. They will be found complete in all their appointments, made of the best material, and highest class of workmanship. The driving shafts and feed screws are of the best of steel. The screws and other parts, where necessary, are case hardened. The feed is automatic and reversible. The cutter-bar has a graduated swivel-head.

A large open space through body of machine directly under tool permits the placing of long work, such as shafts for key-setting, etc.

The table is adjusted by means of a screw and wheel under table on the six and eight inch, and by a crank at the side on the ten inch. They will take a stroke to their full capacity, and can easily be adjusted to any less distance required.

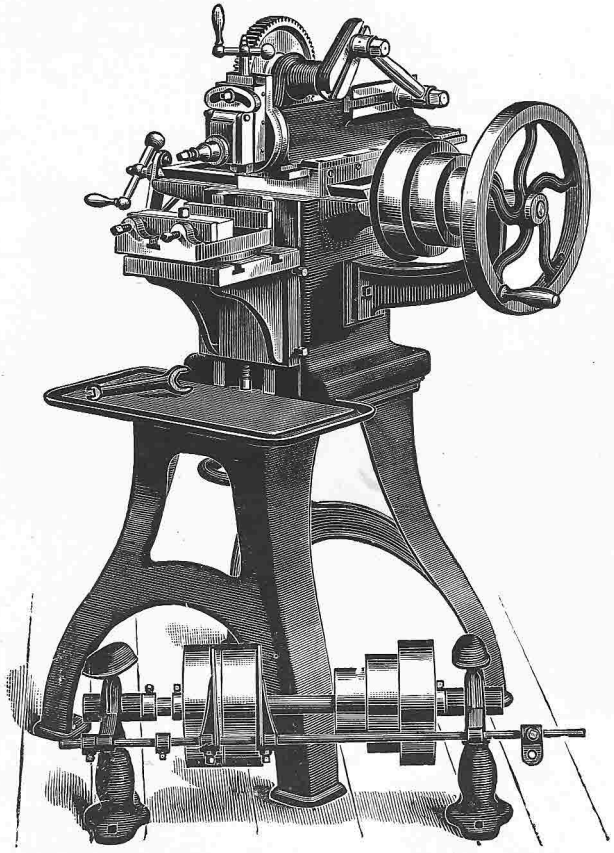
A swivel chuck is furnished with each machine—also a plain chuck—taking work full length of traverse when wanted.

These machines will do accurate work, and are a desirable tool for model makers, die sinkers, railroad, repair, and other shops where there is much short work to be done by filing or planing, thus saving the expense and room of a large planer, besides the large saving in files and labor required on such work.

They are guaranteed to do all that is represented, and for many purposes are preferable to higher-cost machines.

Duplicate parts of all machines furnished at short notice.

6x9-INCH TRAVERSE HEAD SHAPER.



For dimensions see opposite page.

DIMENSIONS, ETC.

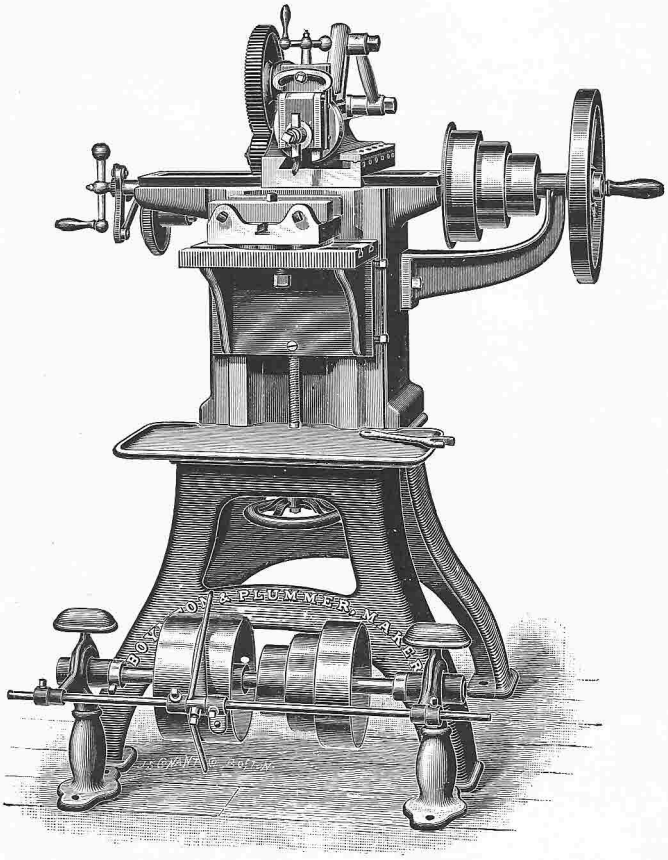
Length of stroke, 6 inches.
Length of traverse, 9 inches.
Greatest distance between tool and table, 8 inches.
Driving pulleys on counter-shaft, 6 inches, for $2\frac{1}{2}$-inch belt.
Cone pulleys, 3 steps, 3, $4\frac{1}{2}$, 6 inches, for $1\frac{3}{4}$-inch belt.
Counter-shaft, revolutions per minute, 220.
Size of swivel chuck, 7 inches long, $4\frac{1}{4}$ inches between jaws, $1\frac{1}{4}$ inches deep.
Weight, 450 pounds.
Boxed for export, 49x28x29 inches, 600 pounds.
Floor space required, 25x25 inches.

Telegraphic Code.		Price.
Traidores.	With swivel chuck complete, as shown in cut,	$135.00
Traillaron.	Hand machine, without cone and counter-shaft,	120.00
Traiments.	Hand machine for bench, without plate and legs,	110.00
Traigan.	Plain chuck, 9 inches long, extra,	9.00

SPECIAL.

Traimois.	Above machine, with counter-shaft and swivel chuck, with length of traverse 14 inches, including plain chuck 14 inches long,	$160.00

8x12-INCH TRAVERSE HEAD SHAPER.



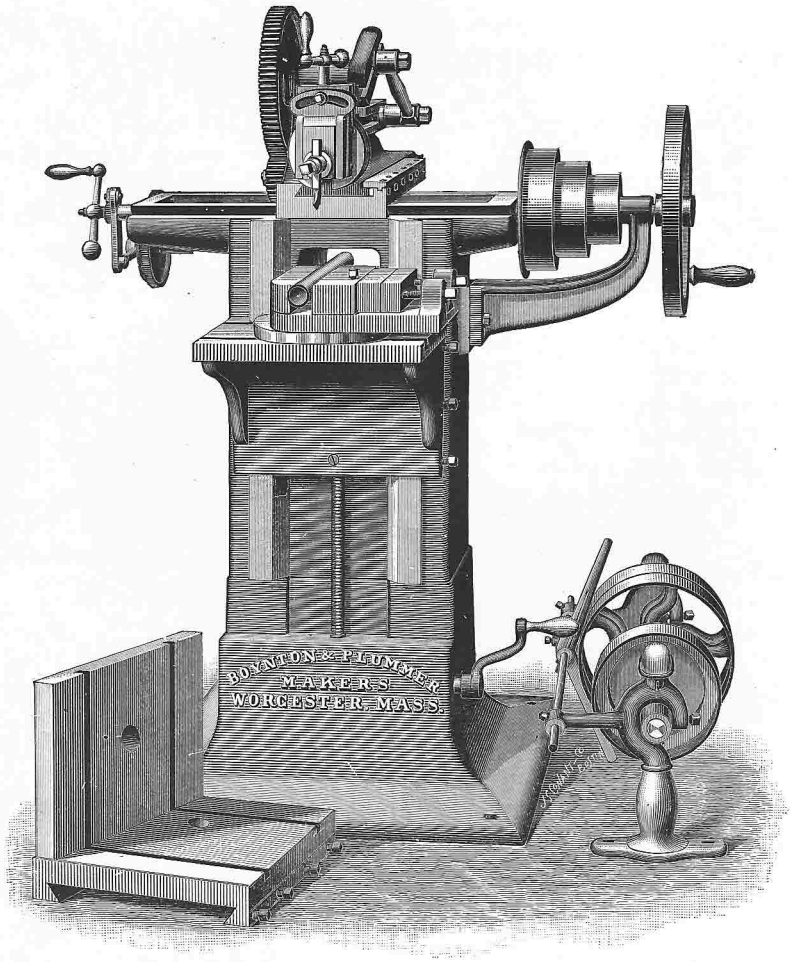
For dimensions, etc., see opposite page.

DIMENSIONS, ETC.

Length of stroke, 8 inches.
Length of traverse, 12 inches.
Greatest distance between tool and table, 10 inches.
Driving pulleys on counter-shaft, 8 inches, for $2\frac{1}{2}$-inch belt.
Cone pulley, 3 step, $4\frac{3}{4}$, $6\frac{3}{8}$, 8 inches, for 2-inch belt.
Counter-shaft, revolutions per minute, 100.
Size of swivel chuck, 8 inches long, $5\frac{1}{2}$ inches between jaws, $1\frac{1}{4}$ inches deep.
Weight, 750 pounds.
Boxed for export, $51\frac{1}{2}$x$28\frac{1}{2}$x$31\frac{1}{2}$ inches, 925 pounds.
Floor space required, 27x27 inches.

Telegraphic Code.		Price.
Traiero.	With swivel chuck complete, as shown in cut,	$200.00
Trail.	Hand machine, without cone and counter-shaft,	184.00
Traillor.	Hand machine for bench, without legs and plate,	172.00
Trailladas.	Plain chuck, 12 inches long, extra,	12.00

10x15-INCH TRAVERSE HEAD SHAPER.



For dimensions, etc., see opposite page.

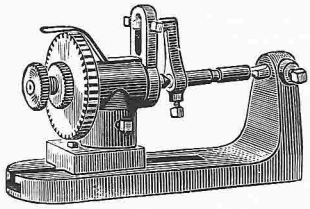
DIMENSIONS, ETC.

The 10-inch machine, being on a pedestal, admits the placing of long work in front of the machine, for which there is provided a face plate, for attaching such work as legs of machines, etc., and to which also may be attached any angle plate, either in a right or left hand position. The swivel chuck may be fastened to either the face plate or angle plate.

Length of stroke, 10 inches.
Length of traverse, 15 inches.
Greatest distance between tool and table, 18 inches.
Distance under tool, after removing table, for long work, 36 inches.
Driving pulleys on counter-shaft, 10 inches, for $2\frac{1}{2}$-inch belt.
Cone pulley, 3 step, $4\frac{3}{4}$, $6\frac{5}{8}$, 8 inches, for 2-inch belt.
Counter-shaft, revolutions per minute, 100.
Size of swivel chuck, $9\frac{1}{2}$ inches long, 6 inches between jaws, $1\frac{1}{2}$ inches deep.
Weight, 1000 pounds.
Boxed for export, 52x35x33 inches, 1200 pounds.
Floor space required, $25\frac{1}{2}$x27 inches.

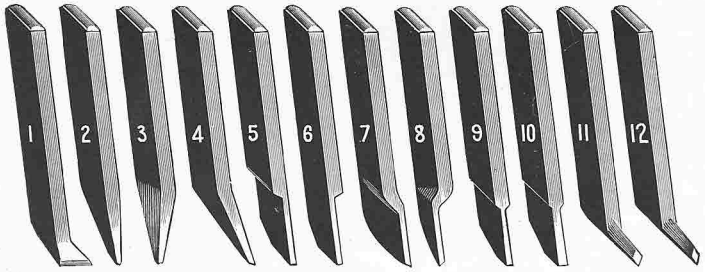
Telegraphic Code.		Price.
Traiezione.	With swivel chuck complete,	$250.00
Train.	Front face-plate, extra,	16.00
Trainage.	Angle-plate, as shown in cut, extra,	30.00
Traillamos.	Plain chuck, 15 inches long, extra,	15.00

SHAPER CENTRES.



The above cut represents a pair of shaper centres to go with shaper when wanted, which will be found very useful in fluting reamers, taps, etc.

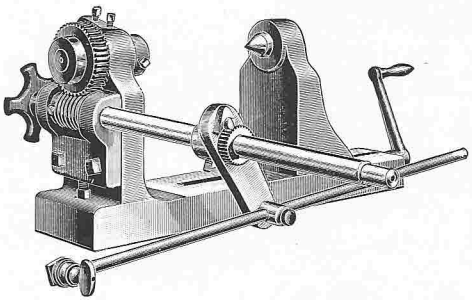
	No. 1.	No. 2.
Distance between centres, -	9 inches.	12 inches.
Diameter of swing, - - -	6 inches.	10 inches.
Weight, - - - - - -	20 pounds.	35 pounds.
Price, - - - - - - -	$12.00.	$18.00.
Telegraphic code, - - -	Trancheur.	Tranchoirs.



Shaper tools, made of the best of steel, furnished when ordered.

Telegraphic Code.		Price.
Tramutanza.	For 6-inch shaper, $\frac{3}{8}$x$\frac{3}{4}$,	30 cents each.
Tramutasse.	For 8-inch shaper, $\frac{1}{2}$x1,	50 cents each.
Tramutata.	For 10-inch shaper, $\frac{1}{2}$x1,	50 cents each.

CIRCULAR ATTACHMENT.



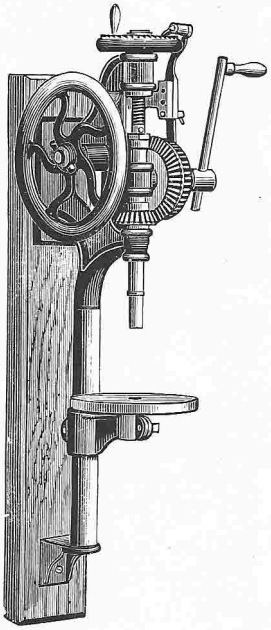
The above cut represents our new circular planing attachment, by the use of which circular or cylindrical work may be planed accurately. It has worm feed, operated by ratchet lever, with which a variety of feeds may be obtained.

Distance between centres, 12 inches.
Diameter of swing, 12 inches.
Weight, 70 pounds.
Price, $26.00.
Telegraphic code, Trancholer.

DRILLING MACHINES.

In our long experience in the manufacture, sale and use of these tools, we have learned that it is not the cheapest machines that sell the best, much less give the best satisfaction. We have, therefore, been particular that all material and workmanship used in their construction should be of the best class. They have all the latest improvements adapted to such tools. In view of this the prices at which we are placing our tools on the market are as low as any machine their equal in these respects. They are considered by the trade and users of such machines as STANDARD in their line. All parts for repairs can be duplicated on receipt of orders. To obviate the necessity and expense of returning old parts to be duplicated, we have spared neither pains nor expense in illustrating and describing, in detail, all parts of our drilling machines, which may be ordered by name, number, or telegraphic code. Particular attention is paid to boxing these machines for export shipment, packing as many in each box as is practicable, thereby saving the purchaser much expense in boxing and shipping.

No. 0. UPRIGHT SELF-FEEDING DRILL.



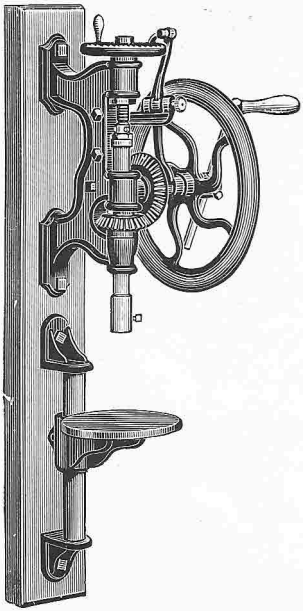
Patented Aug. 16, 1892.

This size is intended for small, accurate work, and is a desirable tool for amateurs, electrotypers, and experimenters. The gearing is turned, finished and accurately cut. Spindle bored to receive $\frac{1}{4}$-inch straight shank drills, and turned tapering on end to receive small chuck for wire drills. Has three grades of feed; has our patent automatic stop on feed, which prevents breaking of feed connection. Tight and loose pulleys, or 3-step cone pulley, for power are added to balance-wheel shaft, when so ordered. Drills 0 to $\frac{3}{8}$-inch hole.

Length, 26 inches.
Weight, 30 pounds.
Boxed for export, 32x12x10 inches, 60 pounds.

Telegraphic Code.		Price.
Traitement.	Hand machine, as per cut,	$20.00
Traitmento.	With tight and loose pulleys,	23.00
Traitmentor.	With 3-step cone and counter-shaft,	35.00

No. 1. UPRIGHT SELF-FEEDING DRILL.



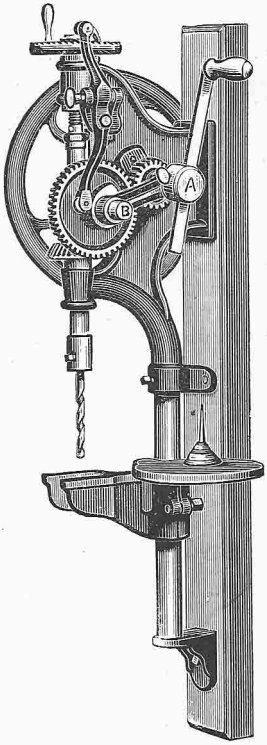
Patented Aug. 16, 1892.

Spindle takes ½-inch straight shank drills, or 41-64-inch if desired, and can be made to take taper or square shank at small advance in cost. Has three changes of automatic self-feed, instantly adjusted from fine to coarse, has our patent automatic stop on feed, which prevents breaking of feed connection. Drills 0 to 1-inch hole.

Length, 42 inches.
Weight, 100 pounds.
Boxed for export, 47x21x15 inches, 160 pounds.

Telegraphic Code.		Price.
Traiteurs.	Hand machine, as per cut,	$28.00
Trajet.	With tight and loose pulleys, 7x2 inches, for power,	31.00
Trajetor.	With 3-step cone and counter-shaft,	53.00

No. 1 1-2. UPRIGHT SELF-FEEDING DRILL.



Patented Aug. 16, 1892.

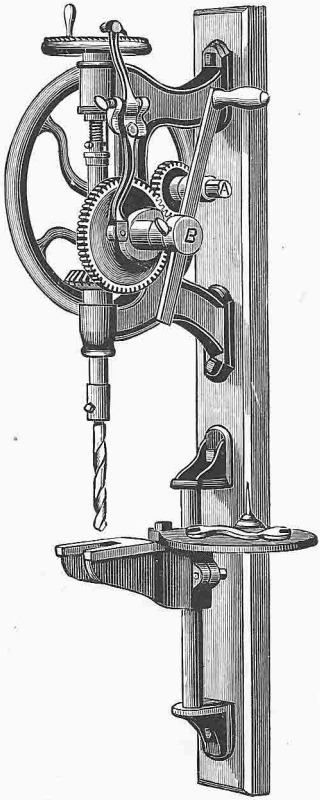
This machine, as also all others of our self-feeding drills, has nearly a continuous feed, which may be quickly adjusted by a thumb-screw to three rates of speed. A fast or slow motion may be given the drill by changing the handle from shaft (A) to shaft (B) as desired by the operator. By this arrangement the capacity of the drill has been increased nearly one-third; has our patent automatic stop on feed, which prevents breaking of feed connection. Drills 0 to 1¼-inch hole, and to centre of 11-inch circle. Spindle takes ½-inch straight shank drills, or 41-64-inch if desired, and can be made to take taper or square shank at small advance in cost.

Length, 44 inches. Weight, 120 pounds.
Boxed for export, 47½x17½x11½ inches, 170 pounds.

Telegraphic Code.		Price.
Traitored.	Hand machine, as shown in cut,	$34.00
Trajetours.	With tight and loose pulleys, 7x2 inches, for power,	37.00
Trakieren.	With 3-step cone and counter-shaft,	59.00

Emery-wheel grinders and wheel-holders furnished for our drills having balance wheel on side when desired.

No. 2. UPRIGHT SELF-FEEDING DRILL.



Patented Aug. 16, 1892.

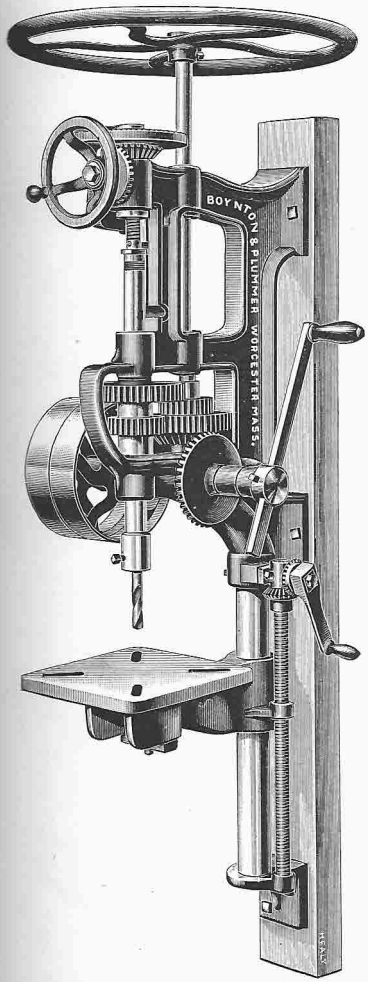
The swing table, as applied to these machines, will be found useful in many ways, and much more convenient than the old method of driving them in and out with a hammer, thereby running the risk of breaking the foot-piece. It is out of the way when not in use, and may be quickly swung into position when wanted.

This machine, as also the No. 1½, is particularly adapted for power by attaching tight and loose pulleys, or cone pulley, to shaft (A) outside of balance wheel. See illustration of No. 7 drill. Spindle takes ½-inch straight shank drills, or 41-64-inch if desired, and can be made to take square or taper shank at small advance in cost. Has our patent automatic stop on feed, which prevents breaking of feed connection. Drills 0 to 1½-inch hole, and to centre of 15-inch circle.

Length, 54 inches. Weight, 160 pounds.

Boxed for export, 56x20½x13 inches, 240 pounds.

Telegraphic Code.		Price.
Traitoring.	Hand machine, as shown in cut,	$48.00
Trajetry.	With tight and loose pulleys, 8x2¼ inches,	52.00
Tralascia.	With 3-step cone and counter-shaft,	73.00



No. 3.

IMPROVED UPRIGHT SELF-FEEDING DRILL.

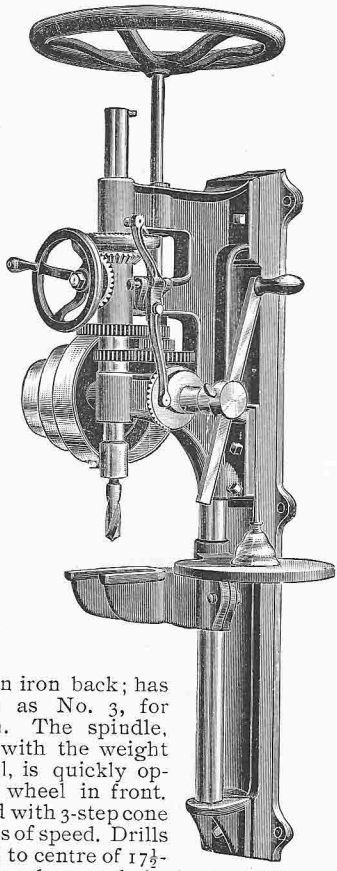
Patented Aug. 16, 1892.

No. 3 has cut gears so arranged that a quick or slow motion may be given the drill, for light and heavy work, making a desirable tool for machine shop or factory, answering as well as higher-cost machines. Spindle takes 41-64-inch straight shank drills, or ½-inch if desired, and can be made to take square or taper shank at small advance in cost. Has our patent automatic stop on feed, which prevents breaking of feed connection. When used with 3-step cone pulley has six changes of speed. It has mechanical device for raising and lowering table. Also wheel on front of machine for hand feed and quick return. Hand machine can be converted into power at any time by the addition of pulleys. Drills 0 to 1½-inch hole, and to centre of 21-inch circle. Speed of pulley for ordinary work, about 180 turns per minute.

Length, 69 inches. Weight, 325 pounds.
Boxed for export, 71x27½x14 inches, 425 pounds.

Telegraphic Code.		Price.
Traitorly.	Hand machine, without pulleys,	$75.00
Traijimos.	With tight and loose pulleys, 10x2½ inches, for power,	79.00
Tralatizio.	With 3-step cone and counter-shaft,	105.00

No. 4. UPRIGHT SELF-FEEDING DRILL.

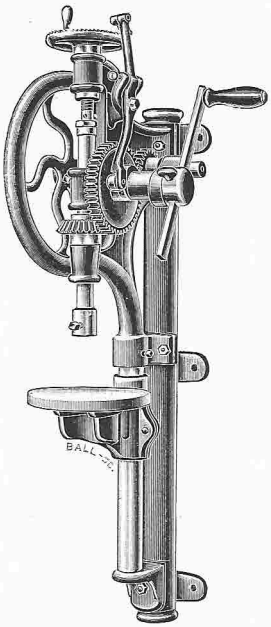


No. 4 is mounted on iron back; has cut gears, arranged as No. 3, for fast or slow motion. The spindle, not being burdened with the weight of the balance wheel, is quickly operated by the hand wheel in front. Like No. 3, when used with 3-step cone pulley, has six changes of speed. Drills 0 to 1½-inch hole, and to centre of 17½-inch circle. Spindle takes 41-64-inch straight shank drills, or ½-inch if desired, and can be made to take square or taper shank at small advance in cost. Hand machine can be converted into power at any time by the addition of pulleys. Speed of pulley for ordinary work, about 170 turns per minute. Size of driving pulley, 10 inches, for 2½-inch belt; cone pulley, 10, 8, and 6 inches, for 2¼-inch belt.

Length, 57 inches.
Weight, 250 pounds.
Boxed for export, 60x22½x13 inches, 325 pounds.

Telegraphic Code.		Price.
Traitres.	Hand machine, without pulleys,	$70.00
Trajinadas.	With tight and loose pulleys, 10x2½ inches, for power,	74.00
Tralatos.	With 3-step cone and counter-shaft,	100.00

No. 5. UPRIGHT SELF-FEEDING DRILL.



Patented March 13, 1883, and Aug. 16, 1892.

The above drill has our patent tubular iron column, by the use of which it is more easily bolted in position to post or wall than those having a wood back, and is much more rigid. Otherwise, it is the same as our No. 1½. Spindle takes ½-inch straight shank drills, or 41-64-inch if desired, and can be made to take taper or square shank at small advance in cost.

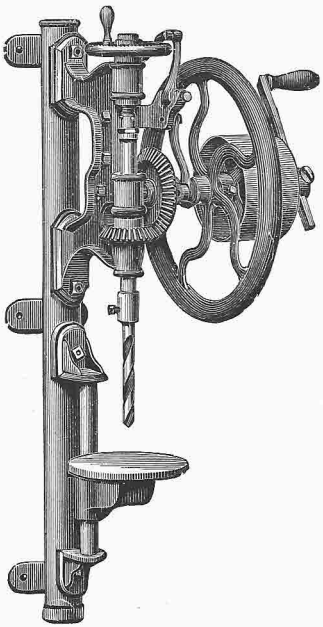
Length, 46 inches.

Weight, 135 pounds.

Boxed for export, 46x19x11 inches, 190 pounds.

Telegraphic Code.		Price.
Traitreux.	Hand machine, as shown in cut,	$36.00
Trajinado.	With tight and loose pulleys, 7x2 inches,	39.00
Trajinador.	With 3-step cone and counter-shaft,	61.00

No. 6. UPRIGHT SELF-FEEDING DRILL.



Patented March 13, 1883, and Aug. 16, 1892.

The above drill has our patent tubular iron column. Otherwise it is the same as our No. 1. Drill from 0 to 1-inch hole, and to centre of 11-inch circle. Spindle takes ½-inch straight shank drills, or 41-64-inch if desired, and can be made to take taper or square shank at small advance in cost.

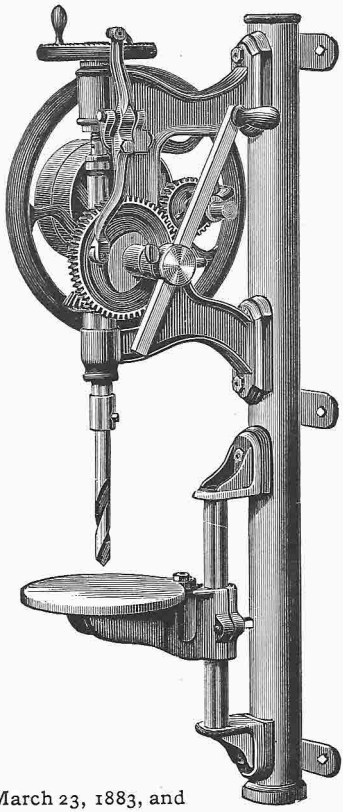
Length, 42 inches.

Weight, 125 pounds.

Boxed for export, 47x15x21 inches, 170 pounds.

Telegraphic Code.		Price.
Traitrise.	Hand machine without pulleys,	$30.00
Trajinamos.	With tight and loose pulleys, 7x2 inches,	33.00
Trajinamora.	With 3-step cone and counter-shaft,	55.00

No. 7. UPRIGHT SELF-FEEDING DRILL.



Patented March 23, 1883, and Aug. 16, 1892.

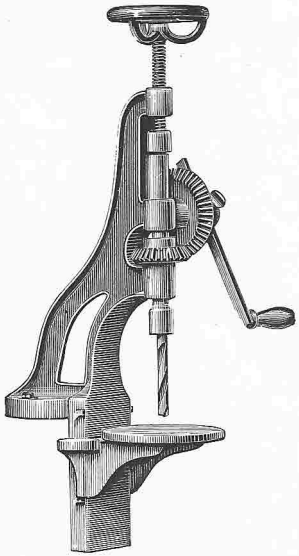
The drill here shown has a tubular iron column, otherwise it is the same as our No. 2 drill, and is especially recommended for use in factories, agricultural works, machine shops, or other places where an upright drill is required, answering the purpose equally as well as the high-cost machine. Spindle is fitted for ½-inch straight shank drills, or 41-64-inch if desired, and can be made to take taper or square shank at small advance in cost. Drills from 0 to 1½-inch hole, and to centre of 15-inch circle.

Length, 54 inches. Weight, 200 pounds.

Boxed for export, 54x23x13 inches, 285 pounds.

Telegraphic Code.		Price.
Trajanos.	Hand machine, without pulleys,	$52.00
Trajinante.	With tight and loose pulleys, 8x2½ inches, for hand and power,	56.00
Trajinantor.	With 3-step cone and counter-shaft,	77.00

No. 8. UPRIGHT BENCH DRILL.



Drills 0 to $\frac{3}{4}$-inch hole, and to centre of 10-inch circle. Spindle fitted for $\frac{1}{2}$-inch straight shank drills, or 41-64-inch, if desired.

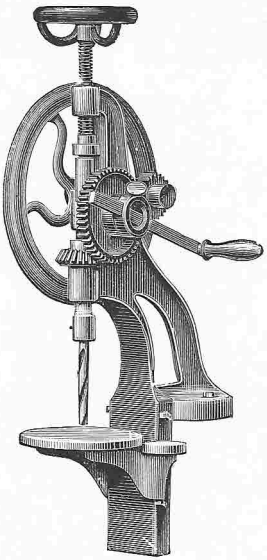
Length, 33 inches.

Weight, 55 pounds.

Boxed for export, 31½x15x10 inches, 85 pounds.

Telegraphic Code.	Price.
Trajar.	$12.00

No. 9. UPRIGHT BENCH DRILL.



Drills 0 to 1-inch hole, and to centre of 10-inch circle. Spindle fitted for ½-inch straight shank drills, or 41-64-inch, if desired.

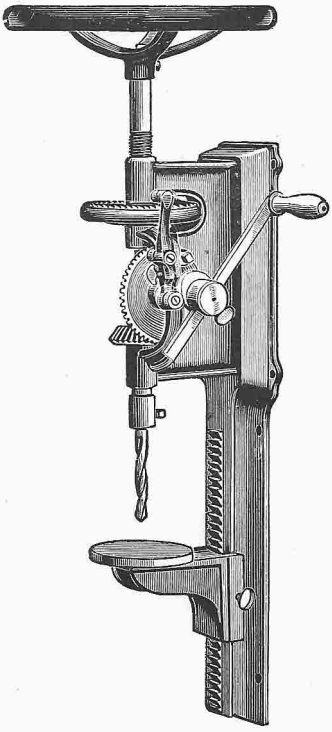
Length, 33 inches.

Weight, 75 pounds.

Boxed for export, 34x19x11 inches, 115 pounds.

Telegraphic Code.	Price.
Trajeabais.	$15.00

No. 10. UPRIGHT SELF-FEEDING DRILL.

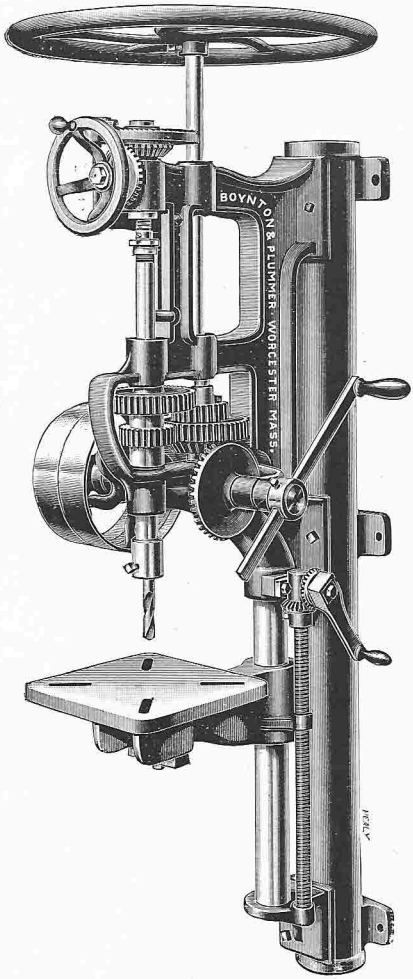


The frame is iron, cast in one piece. It is strong, very light running, and easily handled. The feed has a run of 4 inches, and three rates of speed. Can be used as a horizontal drill if desired. Drills 0 to $\frac{7}{8}$-inch hole, and to centre of 11-inch circle. Spindle is fitted for $\frac{1}{2}$-inch straight shank drills, or 41-64-inch if desired.

Length, 44 inches.
Weight, 100 pounds.
Boxed for export, $26\frac{1}{2}$x$18\frac{1}{2}$x$11\frac{1}{2}$ inches, 150 pounds.

Telegraphic Code.	Price.
Trajeadas.	$25.00

No. 11. IMPROVED UPRIGHT SELF-FEEDING DRILL.



Patented March 13, 1883, and Aug. 16, 1892.

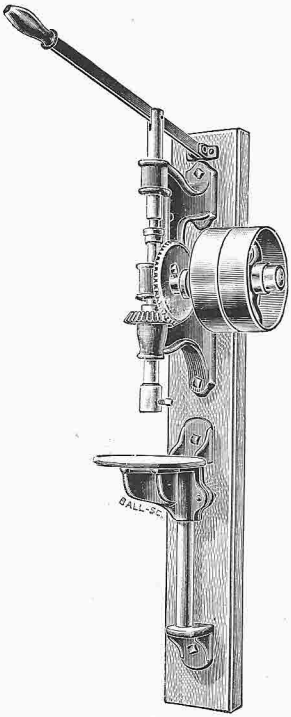
This machine is the same as our No. 3, but is fastened to our patent tubular iron column instead of a wood plank; and is more readily placed in position on post or wall, and is very rigid in position.

Length, 69 inches.
Weight, 355 pounds.
Boxed for export, 69x29½x12 inches, 445 pounds.

Telegraphic Code.		Price.
Trajeado.	Hand machine, without pulleys,	$80.00
Trajinaria.	With tight and loose pulleys, 10x2½ inches,	84.00
Trajinarior.	With 3-step cone and counter-shaft,	110.00

No. 12. UPRIGHT POWER DRILL.

(Lever Feed.)



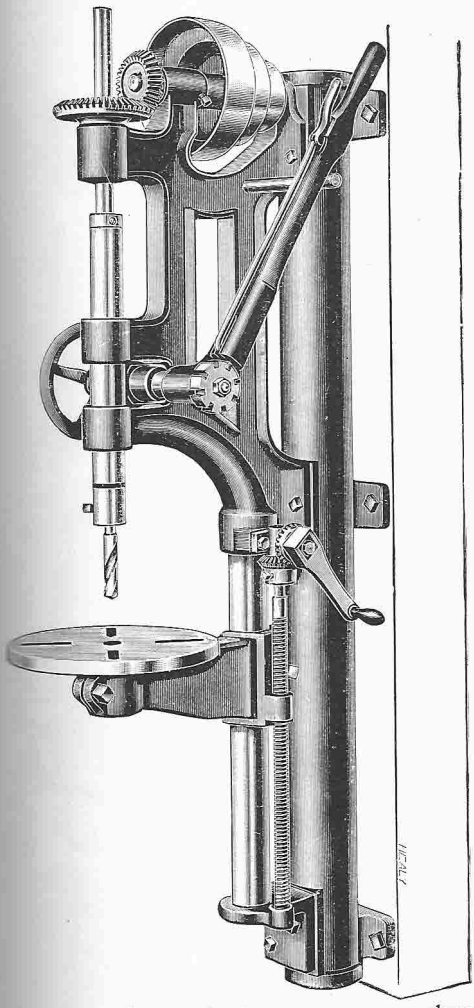
The above drill is arranged for power with lever feed. A very useful tool for quick and light drilling—for carriage and other shops—and is also a very desirable tool for drilling hard wood. Drills from 0 to 1-inch hole, and to centre of 11-inch circle. Spindle is fitted for $\frac{1}{2}$-inch straight shank drills, or 41-64-inch if desired, and can be made to take taper or square shank at small advance in cost.

Length, 43 inches.
Weight, 75 pounds.
Boxed for export, 46x15x8 inches, 125 pounds.

Telegraphic Code.		Price.
Trainard.	With tight and loose pulleys, 7x2 inches, as shown in cut,	$28.00
Trainardor.	With 3-step cone and counter-shaft,	53.00

No. 13. IMPROVED UPRIGHT POWER DRILL.

(Lever Feed.)



Patented March 13, 1883.

The above represents a power drill, with lever feed, fastened to tubular iron column. It is a very suitable machine for blacksmith and other shops where power is used. It is furnished with a square table and forked foot-piece, as shown in cut of our No. 3 drill, or with round table and foot-piece, as shown in above cut, as desired. Drills to the centre of 19-inch circle. Greatest distance between table and spindle, 21 inches; traverse of spindle, 8 inches. Spindle is fitted for 41-64-inch straight shank drills, or ½-inch if desired and can be made to take taper or square shank at small advance in cost. It has mechanical device for raising and lowering table. Three-step cone pulley, 8½, 6½, 4½ inches, for 2¼-inch belt. Tight and loose pulleys on counter-shaft, 10 inches, for 2½-inch belt.

Length, 63 inches. Weight, 330 pounds.

Boxed for export, 64½x28x15 inches, 420 pounds.

Telegraphic Code. **Price.**

Traineau. Complete with counter-shaft, $80.00

No. 14. IMPROVED UPRIGHT POWER DRILL.

(Lever and Screw Feed, 24-Inch Swing.)

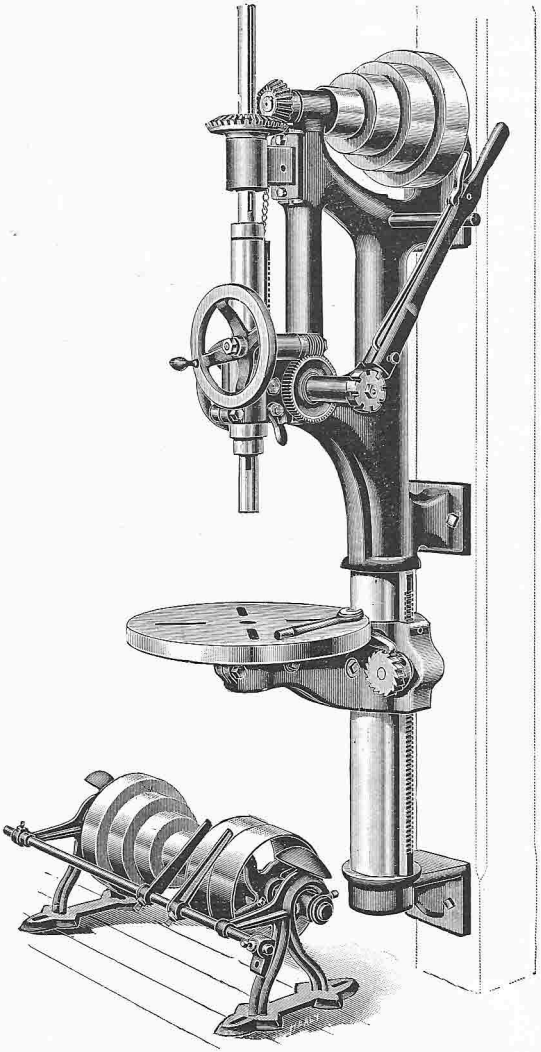


Fig. 1.

For description of above drill see opposite page.

DESCRIPTION OF IMPROVED No. 14 DRILL.

The machine represented by Fig. 1 is adapted to the wants of machine and other shops desiring a first-class drill of large capacity, so constructed as to require the least possible space for its occupancy. It has strong and heavy brackets, and, when bolted to post or wall, is very rigid in position. It is made with screw and lever feed, combined or singly.

It is fitted with 4-step cone pulley of large dimensions for $2\frac{3}{4}$-inch belt, which will give a good variety of speeds. It has a very large revolving table, properly slotted for bolting work to same.

The hole in steel spindle (which is counterbalanced) is fitted for Morse taper No. 3, although sockets for taking chucks, square or straight shank drills are furnished at small advance in cost when desired.

Distance from post to centre of table, 12 inches. Diameter of table, 20 inches. Greatest distance between table and spindle, 24 inches. Vertical traverse of spindle, 11 inches. Diameter of cone pulley, 11, $8\frac{3}{4}$, $6\frac{1}{4}$ and 4 inches, for $2\frac{3}{4}$-inch belt. Diameter of tight and loose pulleys on counter-shaft, 10 inches for 3-inch belt. Revolutions per minute, 230. Entire length of drill, 72 inches.

Weight, 610 pounds.

Boxed for export, 74x34x22 inches, 735 pounds.

Telegraphic Code.		Price.
Trainelle.	With counter-shaft and lever feed,	$125.00
Traineur.	With counter-shaft and screw feed,	130.00
Trainoirs.	With counter-shaft, lever and screw feed combined,	135.00

Add z to code word for wheel-holding attachment (see next page).