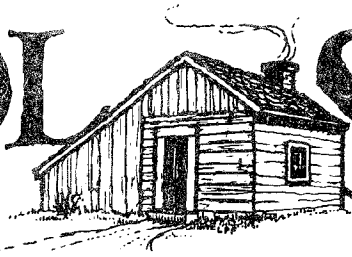


The TOOL SHED

Number 12



June 1980

A Journal of Tool Collecting published by CRAFTS of New Jersey

SOME TOOL COMPANIES AT THE 1876 CENTENNIAL EXPOSITION by Carl E. Bopp

In 1876 the largest World's Fair that man had ever seen was held in Philadelphia. Its purpose was to celebrate the one-hundredth anniversary of the United States. The entire world was invited to participate in this "Centennial Exposition," and everything from a giant Corliss engine to a thimble was displayed.

The Exposition ran from May 10 to November 10, 1876. Five major buildings and nearly 200 other structures were built to house it. The largest of these, the Main Building, was 1880 ft. long by 464 ft. wide and had 21 acres of floor space. Machinery Hall, the next in size, was 1402 ft. by 360 ft., with an annex 210 ft. by 208 ft. There were over 30,000 exhibitors, and some 12,000 awards were given out. During its 159 days, the fair attracted more than nine million visitors.

We are now 104 years too late to attend this exhibition; but by stepping into a time machine, we can go back just long enough to check some of the tool displays (And boy, what a "Show and Tell" this was!).

The American tool exhibit was in the Main Building. According to J. S. Ingram's The Centennial Exposition Described and Illustrated (1876), from which the accompanying illustration and descriptions were taken, "it occupied quite a large space, and the goods were tastefully and attractively arranged." Also, says Ingram, "the display of tools for carpenters surpassed any other display of the kind in the Exhibition, and was worthy of special attention."

Most tools were arrayed in elaborate settings or display cases. The McCaffrey & Brother file exhibit gives some

idea of what they looked like. According to Ingram, the company "had a very handsome exhibit of their specialties, files and rasps, of which they manufacture every description." McCaffrey not only exhibited the smallest file, one-half inch, but the largest, over six feet, "on which was etched the figures 1776, with (continued on page 5)

LAST MEETING OF 1979-1980 YEAR TO BE HELD JUNE 8th

CRAFTS of New Jersey will hold its final meeting of the 1979-1980 year on Sunday, June 8, from 2:00 to 5:00 p. m., at the Jeremiah Field Homestead, 260 River Road (Rte. 18), in Piscataway. As there will be a full agenda, the meeting will begin promptly at 2:00.

The business portion of the meeting will include the annual election of directors and officers and the appointment of the standing committees. Harry O'Neill and Herb Kean will report on the May 17th auction.

The program for the afternoon will feature Barret Dalrymple, of Branchville, who will speak on "Agricultural Tools."

The latter portion of the program will be devoted to "Whatsit?" identification, and the committee again asks members to bring no more than one mystery item.

The meeting will conclude with informal tool talk and the "Swap & Sell."

Please remember that these are open meetings. If you know anyone interested in old tools (rare or familiar!), invite them to attend. Or better yet, bring them with you.



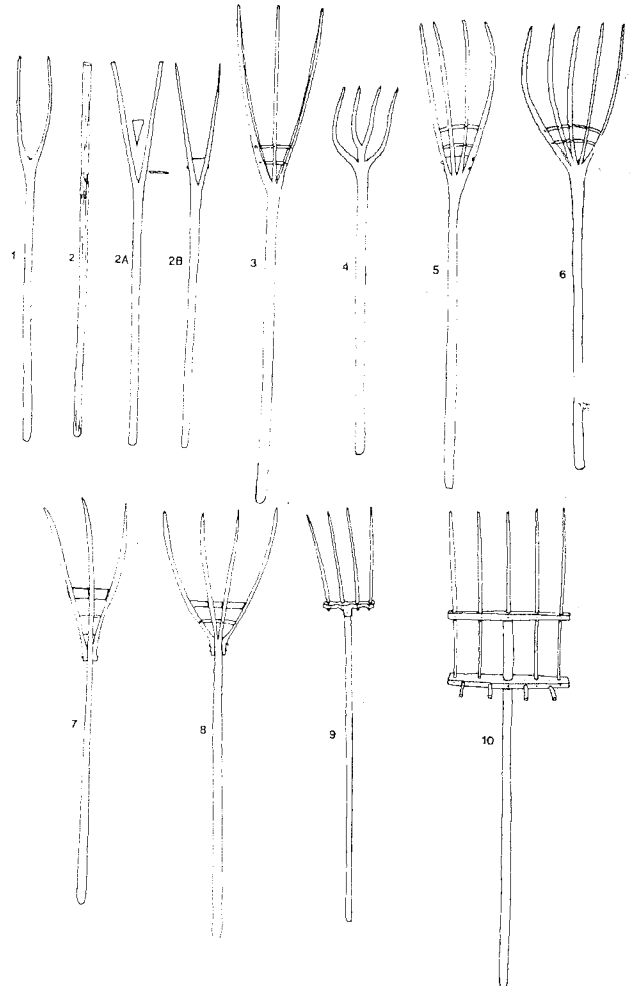
Collectors of Rare and Familiar Tools Society
of New Jersey

PRESIDENT _____ Stephen Zluky, Whitehouse
VICE PRESIDENT _____ Harry J. O'Neill, Annandale
SECRETARY _____ Robert Fridlington, Cranford
TREASURER _____ C. Carroll Palmer, Plainfield

Membership in CRAFTS is open to anyone interested in early trades and industries, and the identification, study, and preservation of tools and implements used and made in New Jersey. Annual dues are five dollars for the membership year of July 1 to June 30. Membership fees may be sent to the Treasurer: C. Carroll Palmer, 725 Pemberton Ave., Plainfield, N.J. 07060.

The Tool Shed

Published five times per year for members of CRAFTS of New Jersey. Editors: Larry Fuhro, 417 Bartlett St., Roselle, N.J. 07203; Robert Fridlington, 8 Keith Jeffries Ave., Cranford, N.J. 07016. Contributions, especially about New Jersey tools and trades, are welcomed.



WOODEN HAY FORKS

by R. James Aber

1. An early form of a 2-tine fork made from a forked tree with the bark removed.
2. A 2-tine fork made from a tree: strip bark, split and insert a wooden wedge which is secured with a dowel.
3. A 3-tine fork made by splitting a piece of wood and using through dowels and nails to keep them apart.
4. A natural 4-tine fork made from a small tree trunk.
- 5 & 6. Four and 5-tine forks split from a single piece. Examples with six and seven tines exist.
7. A commercially produced 3-tine fork. The center tine and handle are one piece. A separate tine has been applied to each side.
8. A 4-tine fork with the handle split and a tine applied on each side. This reduced manufacturing breakage and added to the profit.
9. A metal casting which has wooden tines and handle fastened in. This is another attempt to reduce manufacturing costs.
10. An all-wooden fork with inserted tines. Wooden pins in the top of the fork hold hay as it is lifted up onto a wagon.

Letters

(Remember Jim Durochia? Jim was the 100th member of CRAFTS. Unfortunately, he only attended one meeting before being transferred to Colorado. He has maintained his membership, however, and in April sent in his dues for 1980-81, enclosing the following note. — Ed.)

"Just finished reading the April issue of The Tool Shed. I sure do enjoy getting it. We are sort of out in the country here. Fort Morgan is about 80 miles northeast of Denver, which is about one and one-half hours by car.

"Have had very little contact with tools here. The big thing here is farm auctions, and they are mostly machinery. I saw an Ortho book, 'Home Repair,' with a beautiful group of pictures of an old tool chest and all the woodworking tools. It really made me miss CRAFTS and New Jersey."

— James P. Durochia
Fort Morgan, Colorado

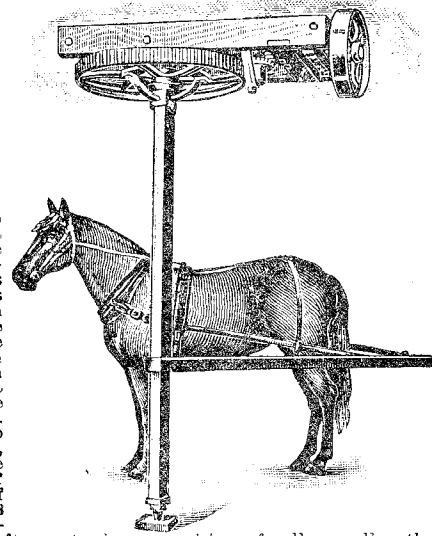
SPEAKING THE LANGUAGE
by Herb Kean

Although the Space Program engineers will forever hold the record for confounding our language, we antiquers come close when it comes to saying things that really have different meanings. Perhaps it is the politeness of our breed. Below are ten such sayings you may recognize— from either the buying or the selling end.

- 1- "Mmmm, it is an interesting piece." Real meaning: My god, is it gly!
- 2- "I can't come down any further, that's what I paid for it." Real meaning: Take it or leave it, you're starting to bug me.
- 3- "This is a very early piece." Real meaning: It was bought at English-town at 4 o'clock in the morning.
- 4- "They are a set." Real meaning: They came to the sale in the same box.
- 5- "It's a shame you didn't come by this morning, I had all kinds of good tools." Real meaning: I had one jack-plane (no wedge), one rusty drawknife and two monkey wrenches.
- 6- "I know it doesn't have a lever cap, that's why my price is so low." Real meaning: What's a lever cap?
- 7- "Oh, I heard about that sale, but I'm not going. Everything is too high." Real meaning: I hope he forgets about it, so I don't bump into him there.
- 8- "Sure it looks rough, but I bought it for parts only." Real meaning: How could I have made such a mistake?
- 9- "You'll never believe what I paid for it." Real meaning: Eat your heart out!
- 10- "Maybe I did think it was ebony, but it's still better than putting money in the bank." Real meaning: If I don't get these woods right, I'm going to kill myself!

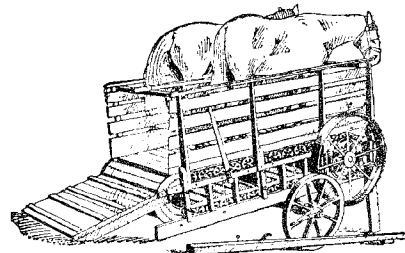
Our Overhead One-Horse Power.

This style of horse power is very convenient and popular, because, owing to its construction, it has many advantages not found in down powers. It is especially adapted for use in a barn where several horses are kept, or in small livery stables. The power can be bolted to the timbers above the driveway and machines can be set on the floor either above or below the power. When not in use the center post can be lifted from its socket and put out of the way, leaving the floor clear for other purposes. Then when power is to be used again all that is necessary is to set the post in place, hitch the horse to the sweep and go ahead. The center post which we furnish is made of 6-inch by 6-inch timber and is 12 feet long. It is amply strong and can be cut to any desired length. The 1 1/2-inch driving shaft, to which the pulley is attached, is regularly made so that the measurement from center of master wheel to center of pulley face is 3 feet 3 inches, but additional shafting can be coupled to this shaft so as to change position of pulley or allow the use of other pulleys. The driving pulley is 18 inches in diameter with 3-inch face and makes 37 1/2 revolutions to one round of the horse, or about 135 revolutions per minute. Additional shafting or change in size of pulley is extra. Length of sweep from center of post to eye-bolt is 7 feet 6 inches. For driving small feed cutters, corn shellers, feed grinders, wood saws, etc., this power cannot be excelled. Weight, 450 pounds. Shipped direct from factory in Southeastern Wisconsin.



No. 32R1823 Overhead Horse Power. Price.....\$18.45
No. 32R1824 Extra Line Shaft, per foot..... .32

Acme Tread Horse Powers.



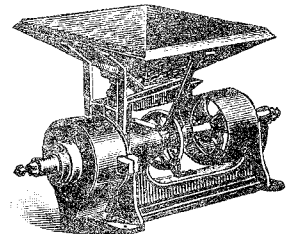
Our Acme Tread Horse Powers are especially designed for farm and shop use. They are adapted to run various farm machines, wood saws, etc., and for operating light machinery in blacksmith or jobbing shops. These powers are built in the best possible manner out of first class materials. The treads are of best seasoned maple. Power can be set at any desired pitch so as to develop more or less power as needed. We make these powers in two sizes, either of which can be

mounted on two wheel trucks so that they can be easily moved about. The speed is right for feed grinders, fodder cutters, wood saws, etc. All of these powers are furnished complete with a governor, which regulates the speed perfectly, and with brake for stopping the machine. Trucks are extra, but will be furnished at prices quoted below. Shipped direct from factory in Southeastern Wisconsin.

No. 32R1825 One-Horse Double Geared Tread Power, with speed regulator. Weight, 1600 pounds. Price.....\$62.00
No. 32R1826 Two-Horse Double Geared Tread Power, with speed regulator. Weight, 2800 pounds. Price.....\$73.30
No. 32R1829 Two-Wheel Trucks, complete with pole for above powers. Weight, 350 pounds. Price.....\$15.90

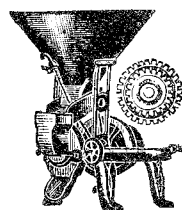
Our \$9.35 Little Wonder Grinding Mill.

This little mill fully warrants the name by which it is known. It is compact, occupying a very small amount of floor space; weighs but 90 pounds, and is fitted with 5 1/2-inch burrs of the most approved design, an extra set of burrs being furnished with the mill. The driving pulley is 7 inches in diameter, with 4-inch face and should make from 700 to 1300 revolutions per minute. Capacity of grinder, at these speeds, is from 8 to 15 bushels of mixed feed per hour. The burrs are arranged so that they cannot run together when hopper is empty and consequently they will last much longer than burrs used in ordinary mills. Shipped direct from factory in Northern Illinois.



No. 32R1858 Little Wonder Grinding Mill. Price.....\$9.35
No. 32R1859 Extra burrs, per pair; weight, 4 pounds. Price..... .70

Acme Windmill Feed Grinder.



The illustration shows this mill with the pulley attachment, and the smaller illustration shows the sprocket wheel attachment. The sprocket grinder was gotten up especially for windmills and is adapted to 12 to 16 feet geared wheels. The sprocket wheels are 6 and 10 inches in diameter, fitted for No. 52 link chain belt. We can also furnish the driving sprocket with spring clutch complete for line shaft on windmill which taken together makes a complete outfit at a very reasonable price. Capacity, 8 to 15 bushels per hour according to the velocity of the wind and size of wheel used. In ordering this kind of a mill be sure to give the diameter of the line shaft if driving sprocket and spring clutch are wanted.

The pulley grinder is similar in all respects to the sprocket grinder, as described above, only it is furnished with a 6-inch pulley with a 6-inch face. Furnished with three sets of 6-inch right hand burrs. Weight, 125 pounds. Shipped direct from factory in Eastern Minnesota.

No. 32R1860 Acme Windmill Feed Grinder. Price.....\$13.45
No. 32R1861 Price of extra burrs, per pair..... 1.00
No. 32R1862 Price for 6 and 10-inch double driving sprocket with spring clutch complete, for line shaft of windmill..... 1.95
State whether grinder is wanted with pulley or with sprocket wheel.

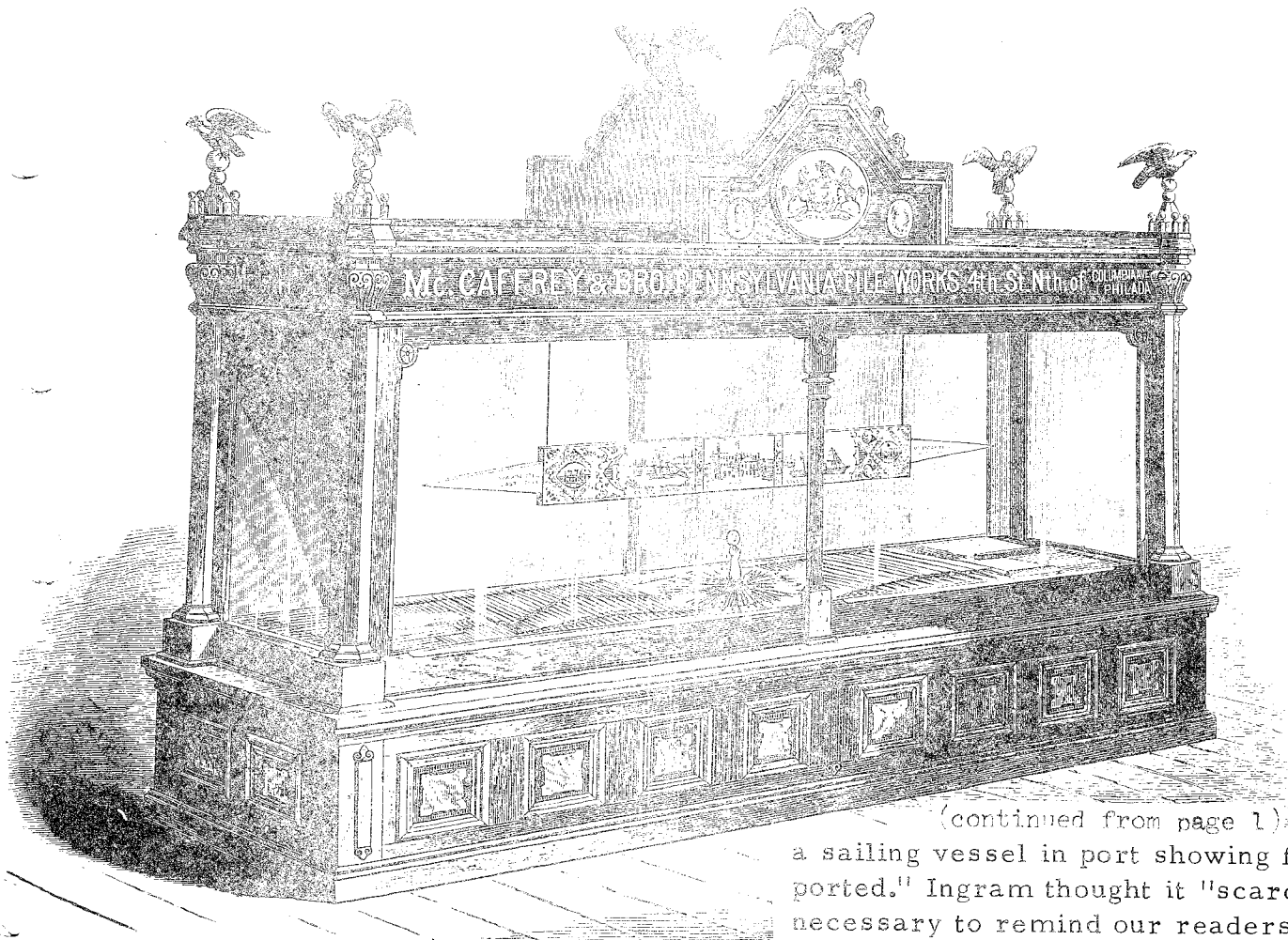
TWO NEWARK TOOLMAKERS OF THE 1880's

(The two articles on this page are reprinted from Industries of New Jersey, Part V, Essex County, Including City of Newark, published in 1882)

"Henry Foerster, Manufacturer of Hardware and Mechanics' Tools, Hedenberg Works. — This house, with a national reputation, is of a representative class and merits a more extended description than our limited space will permit. Founded in 1864 by Foerster & Kraeuter, it was not until 1879 that Mr. Foerster became the sole proprietor. He has since conducted the business in a highly successful manner and gained an enviable reputation both at home and abroad for the character of his manufactures. These comprise a general line of hardware and mechanics' tools, curling tongs and irons, fluting scissors, pinking machines and irons, sardine and champagne knives, oyster knives, cigar-box openers, spring and eyelet punches, belt and button-hole punches, gas plyers, plumbers' tools, box scrapers and chisels, saw sets and washer cutters, dividers and compasses, calipers of all descriptions, hammers of all kinds, carpet vises and stretchers, shears and presses, etc. Two floors of the Hedenberg Works are occupied, which are amply equipped with all the necessary machinery adapted to the work in hand and operated by steam power. Employment is given to thirty skilled workmen and the trade extends throughout the United States, Canadas, and a considerable export trade. Mr. Foerster is a native of Germany, coming to this country when quite young, and has made Newark his home for the past thirty-six years. He has a thoroughly practical knowledge of the business, is a very expert and skillful workman, and learned his trade with Henry Sauerbier in this city. All work here turned out is still under his personal supervision and the utmost care is exercised in its manufacture and finish. The goods are manufactured from the best of materials and are especially salable and attractive in general style, finish, and durability, and

unexcelled by any similar house in the world."

"H. F. Osborne, Designer and Manufacturer of Tools and Machinery for Saddle and Harnessmaking, Nos. 44 and 46 Hill Street. — This extensive factory is one of the leading branches of Newark's manufacturing institutions, and was established seven years ago (after an experience of eighteen years in the same line of business) for the manufacture of every class of saddles and harnessmakers' tools and machinery, and has built up one of the most extensive trades. The factory is a brick building, and is 30x200 feet in extent, and a large force of experienced workmen find constant employment. The stock carried is one of the largest in this line of goods in the United States, and the sales are extensive, the trade done extending over the United States, Australia, and Canada. Mr. Osborne is a native of New Jersey, and entirely devotes himself to the development of the business of which he is a perfect master in all its branches. A beautiful and illustrated work, entitled The American Saddler, issued quarterly in pamphlet form of fifty-four pages, splendidly executed, and bound in flexible covers for mailing, is designed and published by Mr. Osborne, and all harnessmakers should have it, if for no other use than the cuts and illustrations of tools and implements for the trade of saddle and harnessmaking, while its letter-press matter is of the most interesting and important class to harness men. The reputation of this establishment is almost world-wide, and its enterprising and popular proprietor is highly esteemed."



FILE EXHIBIT.

(continued from page 1)

a sailing vessel in port showing files imported." Ingram thought it "scarcely necessary to remind our readers that there were no files manufactured in the colonies in 1776." But in the Centennial year, things were considerably different. "On a mammoth file was the inscription on one side--'One Hundred Years of Liberty,' and showing a steamship departing in 1876, exporting files."

Many standard tools were fancied-up for the occasion, such as those included in the "curious and interesting" display of J. J. Tower of New York. Tower had "a handsome line of iron bench planes, with handles finished, some in nickel and others gold plated, presenting a very showy appearance." Boardman's combination wrenches, in a wide variety of sizes, were also shown in nickel and gold plate and with a highly polished steel finish.

The following list of participants who displayed tools at the Exposition was compiled from the "Official Catalogue" and the "Reports and Awards." The designation "A" indicates that the exhibitor received an award.

It is hoped that this list will provide at least one date for some of the companies and will expand dates for others.

GET READY FOR SUMMER

BATHING SUITS.



Our One-Piece Best Cotton Bathing Suit is made like a Union Suit (with buttons in front). It is like an ordinary shirt and knee pants, but all in one piece, made in solid colors and fancy stripes, and ranging in size from 32 to 44 inches chest measure. When ordering give chest measure.

No. 6R7208 Cotton One-Piece Suit, in solid color black or navy blue; give chest measure.

Price.....75c

No. 6R7210 Cotton One-Piece Suit, in fancy stripes, assorted patterns; give chest measure.

Price.....\$1.00

No. 6R7212 Cotton One-Piece Suit. Same as No. R7210, for boys, 24 to 32-inch chest. Price.....75c

If by mail, postage extra, 12 cents.

Our Ladies' Two-Piece Bathing Suits.

No. 6R7214 Ladies' Union Suit with skirt, made from good quality navy blue cotton fabric, with sailor collar, blouse effect, with the collar and skirt trimmed with white braid. Give waist and bust measure when ordering. Our special price per suit \$2.50

No. 6R7215 Ladies' Union Suit with skirt, made from good quality blue mohair or brilliantine, sailor collar, V shape front, the collar and skirt trimmed with braid, button front. Give waist and bust measure when ordering.

Our special price.....\$3.50

Postage, 20 to 50 cents.



ADDIS, J.B., & SONS. (ARCTIC WORKS) SHEFFIELD, GREAT BRITAIN.
TOOLS FOR CARVING STONE AND WOOD; TURNING TOOLS FOR IRON, BRASS,
IVORY, HARDWOOD, ETC.; CARPENTERS' TOOLS.
A__ CARVER'S TOOLS.

ASHEVAN & WALSH. OTTAWA, ONT. CANADA.
A__ LUMBERMAN TOOLS.

AMERICAN FILE CO. PAWTUCKET, R.I.
FILES, FILE-TESTING MACHINE.
A__ MACHINE - MADE FILES & HAND - CUT RASPS.

AMERICAN SAW CO. TRENTON, N.J.
MOVABLE TOOTH CIRCULAR, PERFORATED, & SOLID SAWS.
A__ MILL & CROSS - CUT SAWS.

BACKUS, Q.S. WINCHENDON, MASS.
BIT BRACES, RATCHET BRACES, TACK HAMMERS, ETC.

BAILEY LEONARD & CO. HARTFORD, CONN.
BENCH PLANES, TRY SQUARES, BEVELS.
A__ IRON PLANES, TRY-SQUARES & BEVELS.

BAILEY WRINGING MACHINE CO. (BAILEY TOOL CO.) NEW YORK, N.Y.
METALLIC BENCH PLANES, SPOKESHAVES, BOX SCRAPERS, ETC.
A__ IRON PLANERS & SPOKESHAVES.

BAKER, WILLIAM. LONDON, GREAT BRITAIN.
AWLS, BODKINS, NEEDLES FOR SADDLERS, PACKERS, AND UPHOLSTERERS;
SCREWDRIVERS.
A__ TURNSCREWS, BITS AND MATTRESS AND BALING NEEDLES.

BARNETT, G. & H. (BLACK DIAMOND WORKS) PHILA., PA.
FILES AND RASPS.
A__ HAND CUT FILES & RASPS.

BARTON, D.R., TOOL CO. ROCHESTER, N.Y.
MECHANICS' EDGE TOOLS.
A__ CHISELS, DRAW - KNIVES, AXES, HATCHETS, & PLANES.

BEDELL, OTIS T. NEW YORK, N.Y.
SCREW WRENCH.

BEMIS & CALL HARDWARE & TOOL CO. SPRINGFIELD, MASS.
MACHINISTS' TOOLS.

BILLINGS & SPENCER CO. HARTFORD, CONN.
DROP FORGINGS, MACHINISTS' SMALL TOOLS, SEWING MACHINE SHUTTLES.

BOIVIN & CO. NEW LIVERPOOL, Q. CANADA.
AXES AND EDGE TOOLS.

BOOTH, G., TORONTO, ONT. CANADA.
ENGINE AND PIPE WRENCH.

BOOTH, JOHN, & SON. PHILA., PA.
CARPENTERS' TOOLS AND SUNDRIES.
A__ BRACES & BITS, SPOKESHAVES, TURNSCREWS, & CHAIR BITS.

BRANCHE, H. PARIS FRANCE.
MACHINES AND TOOLS (TYPE ?)

BRAND, E. MILLTOWN, N.B. CANADA.
AXES, EDGE TOOLS, HAMMERS.

BROOKS & COOPER (MOUSEHOLE FORGE) SHEFFIELD, GREAT BRITAIN.
ANVILS, VISES, HAMMERS, SHEAR STEEL, ETC.

BROWN, J. FREDERICTON, N.B. CANADA.
AXES.

BROWN & SHARPE MFG. PROVIDENCE, R.I.
MACHINERY AND TOOLS.

BUCK BROS. (RIVERLIN WORKS) MILBURY, MASS.
SHANK AND SOCKET FIRMER CHISELS AND GOUGES, PLANE IRONS, SCREW
DRIVERS, NAIL SETS, ETC.
A__ FIRMER & SOCKET CHISELS, PLANE IRONS, & PUNCHES.

BUCK, CHARLES MILBURY, MASS.
A__ FIRMER CHISELS & GOUGES, PLANE IRONS, & DRAW-KNIVES.

CARPENTER, J.M. PAWTUCKET, R.I.
A__ STOCKS WITH TAPS & DIES.

CARTER, EDWD. TROY, N.Y.
NICKEL PLATED GOODS, PLANES, MECHANICS' TOOLS.

CARTER, HENRY NEW YORK, N.Y.
MOULDERS AND PLASTERERS TOOLS.

CHAPLEAU, GODFROI MONTREAL, Q. CANADA.
LIMESTONE CUTTERS' TOOLS.

CHIPMAN BROS. HALIFAX, N.S. CANADA.
EDGE TOOLS.

CLARK, WM. A. WESTVILLE, CONN.
EXPANSIVE BITS, MEAT TENDERERS, SCREW DRIVERS.

COES, A. G. & CO. WORCESTER, MASS.
A__ SCREW WRENCHES.

COLLINS, THE CO. HARTFORD, CONN.
A__ AXES, HATCHETS, PICKS, ADZES, WRENCHES, & CANE KNIVES.

COLLINS & CO. NEW YORK, N.Y.
CAST STEEL TOOLS, SLEDGES.

CONARD, A.J. WHITEMARSH, PA. (FORT WASHINGTON, PA.)
CAST STEEL WOOD BORING IMPLEMENTS.
A__ AUGERS & BITS.

COLTON, ALFRED J. PHILA, PA.
STAIR HAND RAIL PLANES AND DOUBLE EDGE ROUTERS, CARPENTERS'
MOULDING PLANES.
A__ PLANES.

COX & SONS. BRIDGETON, N.J.
STEAM AND GAS FITTERS' TOOLS, SUPPLIES, ETC.

CROSSMAN, A.W. & SON. WEST WARREN, MASS.
CARPENTERS HAND TOOLS
A__ CHISELS & DRAW KNIVES.

DATES PATENT STEEL CO. TORONTO, ONT. CANADA.
EDGE TOOLS.
A__ AXES & EDGE TOOLS.

DAUSCH, J.G. MUNICH, GERMANY.
WATCHMAKERS' TOOLS.

DAVIS LEVEL AND TOOL CO. SPRINGFIELD, MASS.
ADJUSTABLE LEVELS AND PLANES (PLUMBS ?) AND IRON PLANES.
A__ LEVELS & PLUMBS.

DE WITT, MORRISON, & KELLEY. PHILA, PA.
CARPENTERS', MILLWRIGHTS', GASFITTERS', PUMP, AND CAR BUILDERS'
MACHINE AND AUGER BITS.
A__ AUGERS, AUGER-BITS & FLOUR-TRIERS.

DISSTON, HENRY & SONS. PHILA, PA.
SAWS AND SAW TOOLS, TROWELS, CARPENTERS' TOOLS, FILES, KNIVES,
BUTT HINGES, SHEET STEEL.
A__ SAWS, TROWELS, PLUMBS, & LEVELS, SQUARES, HINGES AND
TURNSCREWS.

DOUGLAS AXE MFG. CO. BOSTON (EAST DOUGLASS), MASS.
AXES, HATCHETS, ADZES, PICKS, ETC.
A__ AXES, HATCHETS, PICKS, & ADZES.

DOUGLASS, THE, MFG. CO. SEYMOUR, CONN.
MECHANICS' EDGE TOOLS AND BORING IMPLEMENTS.
A__ CHISELS, AUGERS, AUGER-BITS, & DRAW-KNIVES.

DUGOUJON, SENIOR. PARIS, FRANCE.
SAWS.

EBEN MOODY BOYNTON. NEW YORK, N.Y.
A__ SAWS SPECIAL IMPROVEMENT IN SHAPE OF TEETH CALLED "PAT
LIGHTING SAWS".

ELGIN NATIONAL WATCH CO. ELGIN, ILL.
WATCHMAKERS' TOOLS.

EISENFUHR, WILHELM. BERLIN, GERMANY.
TOOLS.
A__ STOCKS, DIES, & REAMERS.

ELMIRA NOBLES MFG. CO. ELMIRA, N.Y.
CARPENTERS & SHIPWRIGHTS TOOLS.
A__ AXES, DRAW-KNIVES, & AUGERS.

EMOND, V.A. QUEBEC, Q. CANADA.
BENCH TOOLS.

FAGERSTA IRON & STEEL WORKS (FAGERSTA MFG. CO.) FAGERSTA, WESTANFORS,
SWEDEN.
SAWS.
A__ MILL, CROSS-CUT, CIRCULAR, & PIT SAWS, & STONE-HAMMERS.

FLANAGIN, W.J. & CO. PHILA, PA.
A__ WRENCHES NAMED "SAMSON WRENCHES".

FORSTNER, BENJAMIN. SALEM, OREGON. (? OREGON)
A__ PATENT PERPETUAL LIP AUGER-BITS.

GILMOUR, G. COTE ST. PAUL, Q. CANADA.
AUGERS AND BITS.
A__ AUGERS & BITS.

GUELPA-PIAZZA BROTHERS. BIELLA, NOVARA, ITALY.
GIMLETS.

HAASE, JOHN A. PHILA., PA.
FLOOR & DOOR CLAMPS, RATCHET DRILLS.

HAMPTON, CHAS. F. ARDMORE, PA.
AUGERS AND BITS.

HARRIGAN, J. & SON. DUNDAS, ONT. CANADA.
AXES.

HARRISON & KELLOGG. TROY, N.Y.
SCREW WRENCHES & CASTINGS.
A__ CASTINGS OF MALLEABLE IRON & SCREW WRENCHES.

HART, BLIVEN, AND MEAD MFG. CO. KENSINGTON, CONN. & NEW YORK, N.Y.
CARPENTERS' TOOLS - CARPENTERS', SADDLERS', & CARRIAGE HARDWARE.
A__ BUILDING & HOUSEHOLD HARDWARE, FURNITURE TRIMMINGS' & CAR-
PENTERS' TOOLS.

HESENBRUCH, T. & CO. RONSDORF, GERMANY.
A__ TOOLS & SCISSORS.

HAWKSWORTH, ELLISON, & CO. (CARLISLE WORKS) SHEFFIELD, GREAT BRITAIN.
STEEL, & ARTICLES MADE THEREFROM (TOOLS ?)

HOPKINS, C. WALTHAM, MASS.
WATCHMAKERS' TOOLS.

HORN, W. R., & BRO. PHILA., PA.
TANNERS, CURRIERS', AND SHOEMAKERS' TOOLS, AND MACHINERY.

HOTCHKISS'S SONS. BRIDGEPORT, CONN.
HAND DRILLS, SAW SETS, CURRYCOMBS.
A__ CURRY-COMBS, ANIMAL TRAPS, BREAST DRILLS & SAW SETS.

IVES, W.A., & CO. NEW HAVEN, CONN.
WOOD BORING IMPLEMENTS, BIT BRACES.
A__ BRACES, AUGER HANDLES, TAP-BORES, AND AUGERS.

JOHNSON, WM. (HEDENBERG WORKS) NEWARK, N.J.
CARPENTERS' AND OTHER MECHANICS' TOOLS AND HARDWARE.
A__ CARPENTERS' & MECHANICS' TOOLS AND OTHER HARDWARE.

KING, J.M. & CO. WATERFORD, N.Y.
STOCKS & DIES, PLUG & TAPER TAPS, PLIERS, ETC.

KING, JOSIAH, & SON. NEW YORK, N.Y.
PLANES & TOOLS FOR WOOD WORKERS.
A__ PLANES OF ALL VARIETIES.

KLEIN, LOGAN, & CO. (BIRMINGHAM TOOL MANUFACTORY) BIRMINGHAM, PA.
PICKS, MATTOCKS, FIRESHOVELS, ETC.
A__ PICKS, MATTOCKS, STONE-HAMMERS & SLEDGES.

KNIGHT, EDWARD H. PHILA., PA.
A__ ADJUSTABLE PATENT WRENCH.

KRUMBHAAR, ALEXANDER. PHILA., PA.
HAND-CUT FILES & RASPS.
A__ HAND-CUT FILES & RASPS.

LA QUINTINIE, A. & CO. PARIS, FRANCE.
MACHINES & TOOLS FOR GOLDSMITHS.

LAFERIS, FRANZ. VIENNA, AUSTRIA.
CUTTING TOOLS (TYPE ?)

LAMBERT, A.de. LIEGE, BELGIUM.
FILES FOR WATCHMAKERS & JEWELERS.
A__ WATCHMAKERS' & JEWELERS TOOLS.

LANGDON MITRE BOX CO. THE. MILLER'S FALLS, MASS.
A___ MITRE-BOXES WITH FIXED SAWS.

LIBERG, B.&O. ROSENFORS, SWEDEN.
EDGE TOOLS.
A___ SHEARS, SCISSORS, CHISELS, PLANE-IRONS, GOUGES & SKATES.

LICHTENFELDER. PARIS, FRANCE.
LOCKSMITH TOOLS.

LIMET - LAPAREILLE & CO. PARIS, FRANCE.
FILES.
A___ FILES & RASPS.

LLOYD, SUPPLEE, & WALTON. PHILA., PA.
HOLLOW AUGER, SPOKESHAVE & LOCKS.
A___ JAIL & SPRING PADLOCKS, HOLLOW AUGERS, & FLUTING MACHINES.

LOWENTRAUT, P. NEWARK, N.J.
MECHANICS' TOOLS & HARDWARE.
A___ CALLIPERS, COMPASSES, HAMMERS, PUNCHES, & SHOE-RASPS.

MALTYBY, CURTISS & CO. NEW YORK, N.Y.
NAIL PULLER.

MAYDOLE, D., & CO. NORWICH, N.Y.
CAST STEEL HAMMERS.
A___ HAMMERS ALL SIZES & FOR ALL PURPOSES.

MAYO, M.C. BOSTON, MASS.
PLANES.
A___ BOSS PLANES & ADJUSTABLE PLOWS.

METALLIC PLANE CO. AUBURN, N.Y.
IRON PLANES.

Mc CAFFREY & BROTHER. PHILA., PA.
HAND-CUT FILES & RASPS.
A___ HAND-CUT FILES & RASPS.

MIDDLETOWN TOOL CO. MIDDLETOWN, CONN.
PLANE IRONS, HARNESS SNAPS, WASHER CUTTERS, HITTING CHAINS,
PLANE MAKERS HARDWARE, ETC.
A___ PLANE IRONS.

MILLER'S FALLS CO. MILLER'S FALLS, MASS.
MECHANICS' TOOLS & HARDWARE.

MILLS, E. & CO. PHILA., PA.
BRACES, BITS, BEVELS, SCREW-DRIVERS, SPOKESHAVES, SQUARES &
SAW PADS.
A___ BRACE - BITS, SAW-PADS, SCREW-DRIVERS, SPOKE-SHAVES &
BRUSH-BITS.

MONK, CHAS. BROOKLYN, N.Y.
IRON MOULDERS' STEEL FINISHING TOOLS.

MOORE, THOMAS. COOKSVILLE, ONTARIO, CANADA.
AXE & TOOL HANDLES.
A___ AXE & TOOL HANDLES.

MORSE TWIST DRILL & MACHINE CO. NEW BEDFORD, MASS.
DRILLS, REAMERS, CHUCKS, MILLS, GAUGES, TAPS, DIES, SCREW PLATES,
TAP WRENCHES.
A___ SCREW PLATES, WRENCHES, STOCKS, DIES & CHUCKS.

MORRIS, JOHN. ST. JOHN, N.B. CANADA.
AUGERS.

MORLEY. VICTORIA, BR. COL. CANADA.
CARPENTERS MALLETS, YEW & ARBUTS.

NICHOLSON FILE CO. PROVIDENCE, R.I.
FILES FINISHED, GROUND, & FORGED: FILE STEEL.
A___ FILES & RASPS.

NYA FILE MANUFACTORY. ESKILSTUNA, SWEDEN.
FILES.

OBBERG, C.O. & CO. ESKILSTUNA, SWEDEN.
FILES.

OHIO TOOL CO. COLUMBUS, OHIO.
PLANES, SCREWS, EDGE TOOLS, PLANE IRONS, HANDLES, ETC.
A___ PLANES, BENCH-SCREWS, CHISELS, DRAW-KNIVES & PLANE-IRONS.

OSBORNE, C.S. & CO. NEWARK, N.J.
SADDLERS' & HARNESS MAKERS TOOLS.

PALMER, WM. F. SAN FRANCISCO, CAL.
EDGE TOOLS.
A___ SHIP-CARPENTERS', HOUSE-CARPENTERS', COOPERS' &
BUTCHERS' EDGE TOOLS.

PRICE, M. NEWARK, N.J.
AXES AND EDGE TOOLS.

PUGH, JOB. T., PHILA., PA.
SCREW AUGERS & AUGER BITS.
A___ AUGERS, BITS & FLOUR-TRIERS.

RISTEEN, J. FREDERICTON, N.B. CANADA.
EDGE TOOLS.

ROBERTSON, JAMES. MONTREAL, Q. CANADA.
SAWS.

ROBERTSON, PETER. OTTAWA, ONT. CANADA.
LUMBERMAN & STONECUTTERS' TOOLS.
A___ LUMBERMANS' & STONECUTTERS' TOOLS.

ROSE, WM. & BROS. PHILA., PA.
BRICKLAYERS, PLASTERERS', MOULDERS', & SADDLERS' TOOLS.
A___ BRICK, PLASTERING & MOULDERS' TROWELS.

ROUS, EDMOND. PARIS, FRANCE.
TOOLS OF PRECISION.

RUTSCHMANN BROS. PHILA., PA.
SELF-FEEDING HAND DRILL.

SANDUSKY TOOL CO. SANDUSKY, OHIO.
PLANES, PLANE IRONS, BENCH & HAND SCREWS, CHISEL & FILE HANDLES.
A___ CARPENTERS', JOINERS' & WOODTURNERS' TOOLS.

SEGANT. PARIS, FRANCE.
SHOEMAKERS' TOOLS.

SELSOR, GEORGE, & CO. PHILA., PA.
HAMMERS, EDGE & RAILROAD TOOLS, COFFEE MILLS, SLAW CUTTERS,
TACKS & NAILS.
A___ HAMMERS, HATCHETS, HAND-AXES, & BOX COFFEE MILLS.

SERVET, J. MARC. GENEVA, SWITZERLAND.
A___ TOOLS & INSTRUMENTS FOR WATCHMAKERS.

SHAW, THOMAS. PHILA., PA.
LATHE TOOLS.

SHEPARDSON, H. S. & CO. SHELBURNE FALLS, MASS.
A___ GIMLET BITS, REAMERS, GARDENERS' SETS & GOUGES.

SINSZ, PHILP. BALTIMORE, MD.
GLAZIERS' DIAMONDS, MACHINERY FOR CIRCULAR & OVAL CUTTING,
ENGRAVERS' POINTS, ARBOR TOOLS.

SMITH, J. BARTON, & CO. PHILA., PA.
RASPS & FILES FOR SHOEMAKERS AND MANUFACTURERS.

SMITH, JOHN & SAMUEL (LOW BRIDGE WORKS) KEIGHLEY, YORKSHIRE, GREAT
BRITAIN.
ENGINEERS' & MACHINISTS' TOOLS & WORSTED MACHINERY.

SMITH, R.H., & CO. ST. CATHERINE, ONT. CANADA.
SAWS.
A___ SAWS - MILL, CROSS CUT, CIRCULAR, HAND, BUCK & OTHER
HEAVY SAWS & TROWELS.

SMITH, WILLIAM & SONS. WARRINGTON, ENGLAND.
A___ PLIERS, NIPPERS, VISES, & DIVIDERS.

SKYTH & PENNINGTON. PATERSON, N.J.
FILES & RASPS.

SNELL MANUFACTURING CO. FISKDALE, MASS.
AUGERS, AUGER BITS, & BORING MACHINES.
A___ AUGERS, AUGER BITS, & BORING MACHINES.

SPILUR BROS. (SPILLER ?) ST. JOHN, N.B. CANADA.
EDGE TOOLS & CUTLERY.
A___ EDGE TOOLS.

SPILLMANN, HEINRICH. UNTERSTRASS, SWITZERLAND (NEAR ZURICH).
ENGINEERING TOOLS.

STANLEY RULE & LEVEL CO. NEW BRITAIN, CONN.
RULES, LEVELS, SQUARES, AND CARPENTER'S TOOLS.

STAR TOOL CO. MIDDLETON, CONN.
MACHINISTS' & CARPENTERS' TOOLS; SQUARES, BEVELS, GAUGES,
RULES ETC. BLIND TRIMMINGS.
A___ SQUARES, BEVELS, CALLIPERS, GAUGES, & MACHINISTS' TOOLS.

STRANDBERG & BJORK. THORSTRALLA, SWEDEN.
SAWS, PLANING IRONS, ETC.

TOWER, JOHN J. NEW YORK, N.Y.
CARPENTERS PLATES, WRENCHES, ADJUSTABLE CLAMPS. - HAIRCUFFS &
POLICE IMPLEMENTS, PADLOCKS.
A___ PRISON LOCKS, PADLOCKS, WRENCHES & PLANES.

TREMBLE, JOS. ST. JOHN, N.B. CANADA.
BENCH TOOLS.

TYZICH, JAMES. ST. JOHN, N.B. CANADA.
SAW GRINDER.

UDDEHOLMS STOCK CO. RADA, SWEDEN.
HAND TOOLS.

VATTERLEIN, JOHN. PLAINFIELD, N.J.
CARPENTERS' GAUGES - GATE HARDWARE.

VAUTIER, SL. & SONS. CAROUGE, SWITZERLAND.
A___ WATCHMAKERS' & JEWELERS TOOLS.

VORSTER, R. & H. HAGEN, GERMANY.
EDGE - TOOLS, ETC.
A___ EDGE TOOLS.

WARD & PAYNE. SHEFFIELD, GREAT BRITAIN.
TOOLS FOR CARPENTERS, JOINERS, COACHMAKERS, SHIPWRIGHTS,
MILLWRIGHTS, MASONS, BRICKLAYERS, TAINERS, CURRIERS, ENGRAVERS,
DIESIMMERS, PLASTERERS, WOOD, STONE, & METAL CARVERS & TURNERS,
ETC. ALSO SHEEP SHEARS & STEEL.
A___ CHISELS, BRACES & BITS, CARVERS' TOOLS, & SHEEP SHEARS.

WARNOCK, JOSEPH, & CO. GALT, ONT. CANADA.
EDGE TOOLS FOR WOOD, IRON, & STONE.
A___ AXES & EDGE TOOLS FOR WOOD, IRON, & STONE.

WARREN, H.H. BRIDGETOWN, ONT. CANADA.
HAMMERS.

WERTHEIM, FRANZ. VIENNA, AUSTRIA.
COMPLETE REPRESENTATION OF THE AUSTRIAN TOOL MANUFACTURE.

WESTERN FILE WORKS (WESTERN FILE CO. LIMITED) BEAVER FALLS, PA.
MACHINE - CUT FILES.
A___ FILES & RASPS.

WHITE, WM. NEWARK, N.J.
AXES, HATCHETS ADZES, BUSH HOOKS, STONE HAMMERS, PICKS,
ETC., CARRIAGE SHAFT COUPLINGS.

WHITNEY MFG. CO. SOUTH ASHBURNAM, MASS.
TOOLS USED IN MANUFACTURING CHAIRS.

WILLS, EDWIN S., PHILA., PA.
TOOLS. - WOOD SCREWS ETC.

WILSON HAWKSWORTH, ELLISON & CO. SHEFFIELD, ENGLAND.
A___ POCKET & TABLE CUTLERY, SCISSORS, BUTCHERS' KNIVES,
STEBLS & CHISELS: MANUFACTURED STEEL FILES & WIRE.

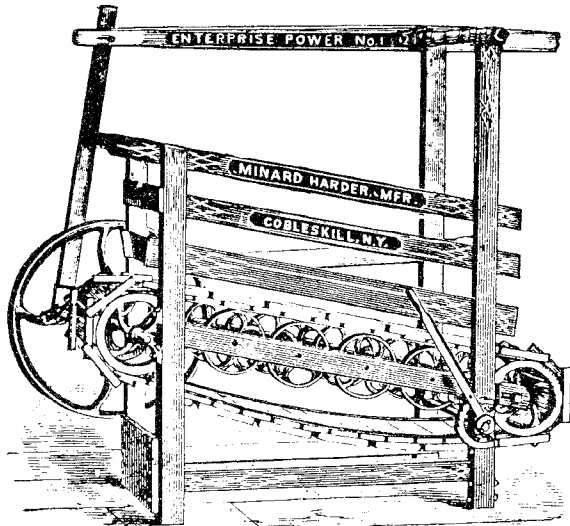
WRIGHT, PETER, & SONS. (CONSTITUTION HILL WORKS) DUDLEY, WORCESTER-
SHIRE, GREAT BRITAIN.
ANVILS, VICES, TOOLS OF VARIOUS KINDS, HAMMERS.

YERKES & PLUMB. PHILA., PA.
EDGE TOOLS, HAMMERS; RAILROAD, MINING, & BLACKSMITHS SLEDGES.
A___ HAND-AXES, HATCHETS, CLEAVERS, & HAMMERS.

A power of this kind is "a joy forever" to the Farmer's household. Try it.

Enterprise Dog and Sheep Powers.

For Churning and other kindred uses.



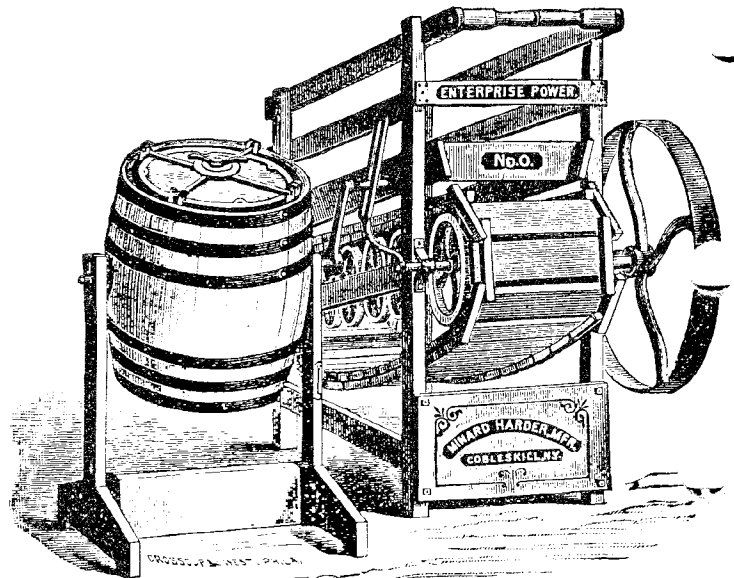
ENTERPRISE POWER No. 1.

For 50 cents extra our Patent Crank-coupling can be added to this power, and then it can also be used to run a Revolving-churn, Cream-separator, Pump, Fanning-mill, small Corn-sheller, Grind-stone, Sausage-cutter, or anything of a similar nature.

The elevation of the bridge, upon which the animal travels, can be instantly changed, that is, raised or lowered, to any degree desired, by simply pulling or pressing the lever shown on outside of post near lower end of Power, thus giving it the right elevation for the different weights of animals.

The cut shows the Enterprise Power No. 1, with pitman and walking-beam, all complete, except that the beam does not, in the cut, run back its full or necessary length for attaching to a churn. This Power, with walking-beam, is the one used with upright dash churns, and hence it is the one sold and used most largely. It will also operate a swing-churn, by connecting a pitman direct from the churn to the wrist-pin on arm of balance-

ENTERPRISE POWER No. 0.



This cut shows Power No. 0, with our Patent Crank-coupling, which makes the best arrangement possible for running a Revolving-churn, Cream-separator, Pump, Grind-stone, Fanning-mill, small Corn-sheller, Sausage-cutter, or any similar implement requiring no greater amount of power. It will also operate a Swing-churn by connecting a pitman direct from the churn to a wrist-pin on the balance-wheel, and the length of swing can be varied as may be desired.

The elevation of the bridge in this power is also instantly changed, that is, raised or lowered, to any degree desired, as stated elsewhere, in order to make it right for the different weights of animals that may be used upon it.

Great Perfection in Dog and Sheep Powers.

Two Enterprise Dog Powers Joined together with our New Universal Joint.

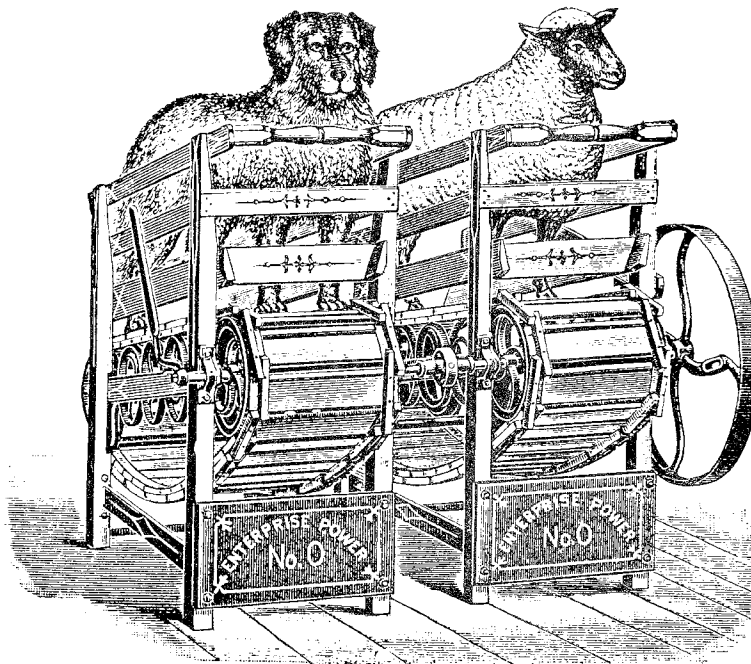
PROTECTED BY LETTERS PATENT.

THOUSANDS of farmers have in use one of the Enterprise Powers operated by a dog or a sheep. One such power is sufficient for a great many uses. There are, however, many times when more power is desirable, and to meet this want, we have brought out this new device for connecting two Enterprise Powers together by means of our new Universal joint. By this arrangement a double amount of Power is sent out to the machine driven, thus adapting these Powers to uses where, as heretofore, one Power could not be used, because insufficient. These Powers can be used separately, if desired, as there are easily and very quickly disconnected. The No. 1 and the No. 0 Power can be joined together just as well and in precisely the same manner as two of the same number; and by having one of each joined, a dash-churn can be run from the No. 1 at the same time that a barrel-churn, cream-separator or some other implement is being run from the No. 0 Power. In buying two Powers for running together, in this way, it is most desirable, for all the different uses the purchaser may have, for him to take one Power of each of the two numbers, that is, one No. 1 and one No. 0; thus adapting them to any and every kind of work in which it is possible to use Powers of this kind.

It is also a decided advantage to be able to use either one Power or two at a time, as may be best suited to the work to be performed. The animals being on two separate Powers is better than if they were standing together on one bridge, as it matters little, when separated in this way, whether the animals agree or not.

If desired, three of these Powers can be coupled together in the same manner as two; and by this means heavier machinery can be successfully operated and the usefulness of these splendid little Powers, the best of the kind ever built, still further increased.

The balance-wheel, which is 25 inches in diameter, and has a 2-inch face, usually makes about 42 revolutions per minute. The face of it being flat, it can be used, if wanted, for a belt-wheel. If a smaller size pulley than the belt-wheel is wanted, we are prepared to attach it. Occasionally it is desired to run with a rope belt. For that purpose we can attach a grooved pulley. These pulleys, which are extras, are not included in the price of the Powers,



With the coming into general use of Cream-separators, this arrangement, whereby one, two or three Powers can be used at one and the same time, we trust will be appreciated because of its furnishing a reliable power for the running of Separators at a moderate cost.

If a purchaser does not know whether one of these Powers will answer his purpose or not, he can buy one at first, and then if that does not prove sufficient, he can afterward procure the second one, and couple the two together, which can be done in a very few minutes' time, that without the aid of an expert mechanic.

When two of the Enterprise Powers are bought at one and the same time, for the purpose of coupling together, there is but one fly-wheel goes with them, as is shown by the cut on this page, and instead of a second fly-wheel, the Universal joint for connecting the two Powers is given free of charge.

These powers are adapted to running the following machines, namely:—

- Dash-churns, Ice Cream Freezers,
- Revolving-churns, Pumps,
- Swing-churns, Fodder-cutters,
- Cream-separators, Corn-shellers,
- Washing-machines, Fanning-mills,
- Sausage-cutters, Grind-stones,
- Coffee-Grinders, Gymnasiums,
- Spice-mills, Overhead-fans.