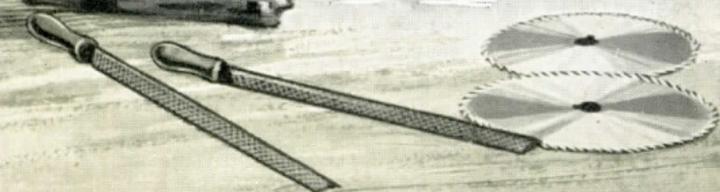


ATKINS SAWS *in the* SHOP



METAL
CUTTING
SAWS



FOREWORD

THE ATKINS FAMILY have been making Saws for about three hundred years. During this period, from one generation to another, they have actually followed the growth of the Saw from its primitive type to its present state of development. They have been students; they are a family of inventors; to them the world is largely indebted for the innovations that have taken place in the Saw World; the commonplace has never satisfied their ambitions—the slogan has ever been, “Atkins Always Ahead.”

This means more than a mere catch phrase. It means that the policy of the Atkins Family has been to maintain the highest standard in all things pertaining to the making of the very finest Saws and Saw Tools.

It means that cost of manufacture is not to be considered where it will add to the result-giving qualities of the product; therefore it is strictly upon the ground of superior quality and unexcelled workmanship that we respectfully solicit the patronage of all users of Metal Cutting Saws and Saw Machines for metal cutting.

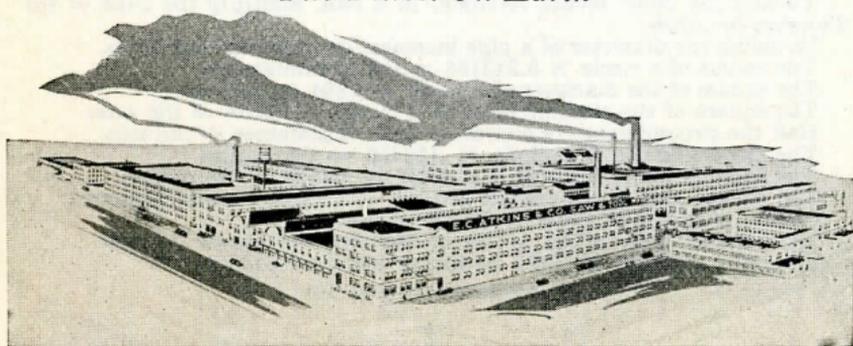
And it is with a feeling of extreme pride that we present this book which represents our Metal Cutting Saws and kindred products.

* * * * *

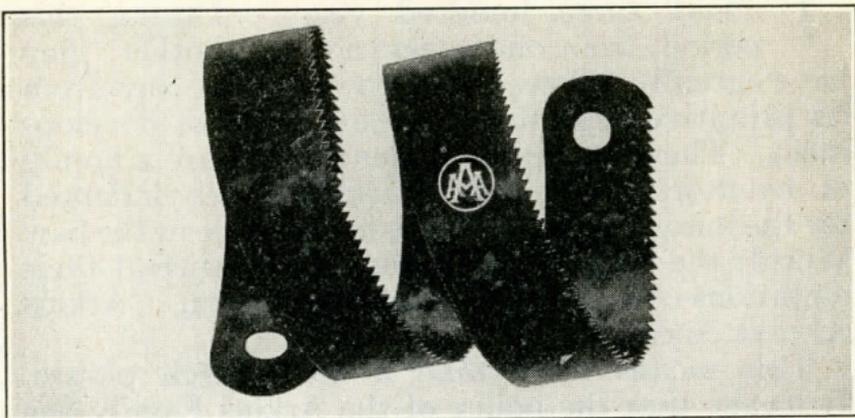
As the man in the shop knows that the cutting of one metal by another is naturally not only a difficult, but a slow process, the necessity of saws of sufficient hardness to enable the teeth to cut their way and at the same time withstand constant wear, but with the proper degree of toughness and ductility to minimize breakage of teeth and even the saws themselves, is apparent.

Thousands of our customers feel that there are no Metal Cutting Saws or Metal Cutting Machines in the world as good as ATKINS; that there are none so scientifically constructed, nor are there others so well adapted to the cutting of different kinds of metal.

We appeal particularly to the shrewd buyer who is desirous of operating Metal Saws at the least possible expense, for we believe that a comparative test will demonstrate that Atkins Metal Saws and Metal Cutting products are, as our slogan implies,
“The Finest On Earth”



ATKINS AAA NON-BREAKABLE HACK SAW BLADES



Our scientific tempering of AAA Non-Breakable Hack Saw Blades insures a greater cutting capacity than that of "All Hard" Blades. Therefore, the Non-Breakable Blade will cut faster and hold its cutting edge longer, and the liability to break or snap off is eliminated. Particularly is this true where it is necessary to use blades in out-of-the-way spots, or in shop use where inexperienced help is employed. If you have suffered losses on account of hack saw blade breakage, our Non-Breakable blades will prove extremely economical.

Since Hack Saw Blades have come into such general shop use, manufacturers are cognizant of the fact that there is a vast difference in blade efficiency. A large percentage of our Hack Saw business in the last three or four years was obtained as a result of actual comparative tests by the buyers themselves. The significance of this will at once be appreciated by every shrewd buyer who is searching for the most economical and serviceable blades.

We wish to impress upon the mind of the reader particularly the importance of selecting the proper type of blade. In order to get satisfactory results, it is most essential that the blade best fitted for a particular kind of work be selected.

Atkins Non-Breakable Hack Saw Blades are of such superior quality that we may emphatically state that wherever specifications and the material on which the blade is to be used are regarded in selection, complete satisfaction and perfect work is rendered. On the following pages you will find lists helpful in determining the proper blade for the work. Or we will send you our AAA Hack Saw Chart listing blades for every use. Convince yourself of the worth of Atkins AAA Non-Breakable Hack Saw Blades. Send us your name and address for a free sample; or purchase a few and test them.

AAA

USEFUL RULES

- To find the circumference of a circle, multiply the diameter by 3.1416.
- To find the diameter of a circle, multiply the circumference by .31831.
- To find the area of a circle, multiply the square of the diameter by .7854.
- To find the surface of a ball (sphere), multiply the square of the diameter by 3.1416.
- To find the side of an equal square, multiply the diameter by .8862.
- To find the cubic inches (volume) in a ball, multiply the cube of the diameter by .5236.
- Doubling the diameter of a pipe increases its capacity four times.
- The radius of a circle $\times 6.283185$ = the circumference.
- The square of the diameter of a circle $\times .7854$ = the area.
- The square of the circumference of a circle $\times .07958$ = the area.
- Half the circumference of a circle \times half its diameter = the area.
- The circumference of a circle $\times .159155$ = the radius.
- The square root of the area of a circle $\frac{1}{2} .56419$ = the radius.
- The square root of the area of a circle $\times 1.12838$ = the diameter.
- Square of radius of circle $\times 3.1416$ = area.
- Diameter of circle $\times .86$ = side of inscribed equilateral triangle.
- Diameter of circle $\times .7071$ = side of inscribed square.

(Continued on page 10)

ATKINS AAA NON-BREAKABLE HACK SAW BLADES



It is only within the past few years that the users of Hack Saw Blades have come to realize the importance of selecting good, durable blades and use as much consideration and judgment in the matter as in the selection of files and twist drills for various kinds of work.

There is no department in our organization in which a more careful study has been made of the proper steel analysis than in the Hack Saw Blade Department. We have selected a steel for this purpose after a most careful and thorough study as to just the proper alloy composition which will lend itself to a hardening and tempering process, giving sufficient hardness and retaining the proper amount of toughness. Atkins Hack Saw Blades have greater durability than any blade on the market, due to the fact that the steel is compounded under our own secret formula. Our process of hardening and tempering the Non-Breakable Blades in patented ovens permits us to present the same degree of heat for the same duration of time to the proper portion of the soft blades as is applied in the furnace when making the "All Hard" Blades. The final oil tempering process is exactly the same in all cases, with the result that we can make a guarantee on our Non-Breakable Blades that no other manufacturer will make, namely—WE GUARANTEE THE ATKINS NON-BREAKABLE BLADE FOR USE IN ANY CLASS OF HAND HACK SAWING, and they will outlast any other. They are made with the usual hard edge but the special tempered back prevents breakage.

AAA

ATKINS "ALL HARD" HACK SAW BLADES FOR HAND FRAMES

Atkins "All Hard" blades have greater durability than any similar blades on the market, owing to the fact that we use a steel which is peculiarly adapted to this service. *These are not Non-Breakable.*

We have also perfected a process of tempering whereby we eliminate any variation in the quality of the blades. The teeth are sharp, and are so milled and set as to insure a free, smooth and rapid cut. Made of a special alloy steel, compounded under our own formula. Tempered in patented ovens, very hard and tough.

ATKINS SILVER STEEL POWER HACK SAW BLADES WILL INCREASE YOUR PRODUCTION



Every machine is limited in its production by the blades it uses. If you are operating one or more power hack saw machines, it will pay you to use ATKINS SILVER STEEL POWER HACK SAW BLADES.

For over a year we have been experimenting with these blades in our own plant, and lately we have sold them to plants in various parts of the country and we have not received a single complaint. A number of these customers have given us accurate detailed records of the amount of work that a SILVER STEEL POWER HACK SAW BLADE will do as compared with other kinds.

Our records and the records of our customers permit us to recommend SILVER STEEL POWER HACK SAW BLADES to do a definite amount of work.

ATKINS SILVER STEEL POWER HACK SAW BLADES are made to cut at least six times as long as any other blade of the same dimensions, and to cut from fifty to one hundred per cent more rapidly than any other hack saw blade, providing the blade is not broken by accident.

They are designed to cut high-speed steel, tool steel, machine steel, shafting, bronze, brass, copper, lead and other solid stock.

Send us your order for some ATKINS SILVER STEEL POWER HACK SAW BLADES. They will increase your production and save you money.

Atkins Silver Steel Power Hack Saw Blades

For Cutting Machine Steel, Bronze, Brass, and Large Sections of Other Metals in a High Speed Positive Feed Machine

Stock No.	Length	Width	Thickness	Teeth Per Inch	List Per Gross
612	12"	1"	.058"	6	\$172.80
614	14"	1"	.058"	6	201.60
617	17"	1"	.065"	6	244.80
618	18"	1"	.065"	6	259.20
621	21"	1½"	.065"	6	453.60
624	24"	1½"	.065"	6	518.40

For Cutting Tool Steel, High Speed Steel, Cast Iron, Thick Wall Pipe, Monel Metal, Heavy Structural Shapes, and Other Metals in a Medium Speed Gravity Feed Machine

Stock No.	Length	Width	Thickness	Teeth Per Inch	List Per Gross
1012	12"	1"	.058"	10	\$172.80
1014	14"	1"	.058"	10	201.60
1017	17"	1"	.065"	10	244.80
1018	18"	1"	.065"	10	259.20
1021	21"	1½"	.065"	10	453.60
1024	24"	1½"	.065"	10	518.40

For Cutting Boiler Tubes, Pipe, Structural Shapes, Tubing in a Medium Speed Gravity Feed Machine

Stock No.	Length	Width	Thickness	Teeth Per Inch	List Per Gross
1412	12"	1"	.058"	14	\$172.80
1414	14"	1"	.058"	14	201.60
1417	17"	1"	.058"	14	244.80
1418	18"	1"	.058"	14	259.20
1421	21"	1½"	.058"	14	453.60
1424	24"	1½"	.058"	14	518.40

ATKINS SILVER STEEL HAND HACK SAW BLADES



After the wonderful success realized from our Silver Steel Power Hack Saw Blades it was only fitting that we should manufacture a hand blade of the same quality. The power hack saw blades revolutionized power metal cutting by reducing costs and speeding up production.

Atkins Silver Steel Hand Hack Saw Blades are made of the same high grade saw steel—Atkins exclusive formula and they will do wonderful cutting.

Atkins Silver Steel Hand Hack Saw Blades are made to cut at least six times as long as any other blade of the same dimensions, for cutting material specified and if used in a first class frame. They cost more than any other blades but are more economical in spite of the higher initial price.

Send us your order for some Atkins Silver Steel Hand Hack Saw Blades. They will increase your production, lower your costs and save your money.

Standard Specifications of Atkins Silver Steel Hand Hack Saw Blades

For Cutting Tool Steel, Machine Steel, Cast Iron, Bronze,
Rail, Copper and Brass

Stock No.	Length	Width	Thickness	Teeth Per List Per	
				Inch	Gross
1808	8"	1/2"	.025"	18	\$28.80
1810	10"	3/8"	.025"	18	36.00
1812	12"	3/8"	.025"	18	43.20

For Cutting Pipe, Angles, Channels, Conduit, Drill Rod,
Metal Trim, Sheet Metal and Tubing

Stock No.	Length	Width	Thickness	Teeth Per List Per	
				Inch	Gross
2408	8"	1/2"	.025"	24	\$28.80
2410	10"	3/8"	.025"	24	36.00
2412	12"	3/8"	.025"	24	43.20

For Cutting Above Materials Thinner Than 18 Gauge

Stock No.	Length	Width	Thickness	Teeth Per List Per	
				Inch	Gross
3208	8"	1/2"	.025"	32	\$28.80
3210	10"	3/8"	.025"	32	36.00
3212	12"	3/8"	.025"	32	43.20

ATKINS CHART OF HACK SAW BLADES

Material To Be Cut	Atkins "All Hard" Hack Saw Blades for Heavy Machine						Atkins Blades for	
	Cat. No.	Pitch	Gauge	Width	Length	Speed in Strokes Per Min.	Cat. No.	Pitch
Aluminum	436	8	18	1	12-18	60	445	8
Angles, Light	423	18	18	1	12-24	70	441	14
Angles, Heavy	423	18	18	1	12-24	70	441	14
Babbitt	430	12	18	1	10-24	70	440	10
Brass	423	18	18	1	12-24	70	441	14
Brass Pipe	423	18	18	1	12-24	70	441	14
Bronze	423	18	18	1	12-24	70	441	14
Cast Iron	430	12	18	1	10-24	70	440	10
Channels, Light	423	18	18	1	12-24	70	441	14
Channels, Heavy	423	18	18	1	12-24	70	441	14
Cold Rolled Steel	435	10	18	1	10-24	80	440	10
Copper	436	8	18	1	12-18	70	445	8
Drill Rod	430	12	18	1	10-24	60	440	10
Machine Steel	435	10	18	1	10-24	80	445	8
Metal Trim, under 18 ga. thick								
Metal Trim, over 18 ga. thick								
Ornamental Iron	423	18	18	1	12-24	70	441	14
Pipe, Iron and Steel	423	18	18	1	12-24	70	441	14
Rails	435	10	18	1	10-24	70	445	8
Rails, Extra Heavy	442	12	16	1	10-24	60	450	10
Sheet Metal								
Solid Stock, Cold Rolled, Machine	435	10	18	1	10-24	80	440	10
Structurals, Light	423	18	18	1	12-24	70	441	14
Structurals, Heavy	423	18	18	1	12-24	70	441	14
Tee Iron, Light	423	18	18	1	12-24	70	441	14
Tee Iron, Heavy	423	18	18	1	12-24	70	441	14
Tool Steel	425	14	18	1	12-24	50	442	12
Tubing, over 18 ga. thick	423	18	18	1	12-24	70	441	14
Tubing, under 18 ga. thick	423	18	18	1	12-24	70	441	14

ATKINS CHART OF HACK SAW BLADES FOR

Material To Be Cut	Atkins "All Hard" Hand Hack Saw Blades					Atkins Non-Flexible Back Saw		
	Cat. No.	Pitch	Gauge	Width	Length	Cat. No.	Pitch	Gauge
Aluminum	220	14	22	$\frac{1}{8}$	8-16	320	14	22
Angles, Light	210	24	23	$1\frac{1}{2}$	8-12	310	24	23
Angles, Heavy	402	18	22	$\frac{5}{8}$	12-20	330	18	22
Babbitt	205	16	23	$\frac{1}{8}$	8-14	305	16	23
Brass	200	18	23	$\frac{1}{2}$	8-12	310	24	23
Brass Pipe	210	24	23	$\frac{1}{2}$	8-12	315	32	23
Bronze	220	14	22	$\frac{1}{8}$	8-16	320	14	22
Cable, Insulated	200	18	23	$\frac{1}{2}$	8-12	300	18	23
Cast Iron	402	18	22	$\frac{5}{8}$	12-20	330	18	22
Channels, Light	210	24	23	$1\frac{1}{2}$	8-12	310	24	23
Channels, Heavy	402	18	22	$\frac{5}{8}$	12-20	330	18	22
Cold Rolled Steel	220	14	22	$\frac{1}{8}$	8-16	320	14	22
Conduit	210	24	23	$1\frac{1}{2}$	8-12	310	24	23
Copper	400	14	22	$\frac{5}{8}$	8-20	325	14	22
Cord Tire Wires	210	24	23	$1\frac{1}{2}$	8-12	310	24	23
Drill Rod	210	24	23	$1\frac{1}{2}$	8-12	310	24	23
Electrical Casings	210	24	23	$1\frac{1}{2}$	8-12	310	24	23
Fibre Paper	220	14	22	$\frac{1}{8}$	8-16	320	14	22
Hard Rubber	220	14	22	$\frac{1}{8}$	8-16	320	14	22
Machine Steel	220	14	22	$\frac{1}{8}$	8-16	320	14	22
Metal Trim, under 18 ga. thick	215	32	23	$1\frac{1}{2}$	8-12	315	32	23
Metal Trim, over 18 ga. thick	210	24	23	$1\frac{1}{2}$	8-12	310	24	23
Ornamental Iron	210	24	23	$1\frac{1}{2}$	8-12	310	24	23
Pipe, Iron and Steel	210	24	23	$1\frac{1}{2}$	8-12	310	24	23
Rails	400	14	22	$\frac{5}{8}$	8-20	325	14	22
Rails, Extra Heavy	410	14	21	$\frac{3}{4}$	12-20	335	14	21
Sheet Metal, under 18 ga. thick	215	32	23	$1\frac{1}{2}$	8-12	315	32	23
Sheet Metal, over 18 ga. thick	210	24	23	$1\frac{1}{2}$	8-12	310	24	23
Solid Stock, Cold Rolled, Machine	200	18	23	$1\frac{1}{2}$	8-12	300	18	23
Structurals, Light	220	14	22	$\frac{1}{8}$	8-16	320	14	22
Structurals, Heavy	220	14	22	$\frac{1}{8}$	8-16	320	14	22
Tee Iron, Light	210	24	23	$1\frac{1}{2}$	8-12	310	24	23
Tee Iron, Heavy	402	18	22	$\frac{5}{8}$	12-20	330	18	22
Tin	210	24	23	$1\frac{1}{2}$	8-12	315	32	23
Tool Steel	200	18	23	$1\frac{1}{2}$	8-12	300	18	23
Tubing over 18 ga. thick	210	24	23	$1\frac{1}{2}$	8-12	310	24	23
Tubing, under 18 ga. thick	215	32	23	$1\frac{1}{2}$	8-12	315	32	23

FOR CUTTING VARIOUS MATERIALS

"All Hard" Hack Saw Extra Heavy Machine				Atkins Hack Band Saw Blades for Slow Speed Machine					Atkins "All Hard" Band Blades for High Speed Machine					
Gauge	Width	Length	Speed in Strokes Per Min.	Width	Gauge	Pitch	Temper	Speed in Feet Per Min.	Width	Gauge	Pitch	Temper	Speed in Feet Per Min.	
16	1	12-18	60						1/2-3/4	21	7	•	1000	
16	1	12-18	70						1/2-3/4	21	9	•	4000	
16	1	12-18	70	5/8	.031	18	B	200	1/2-3/4	21	9	•	4000	
16	1	10-24	70	5/8	.031	8	B	200						
16	1	12-18	70	5/8	.031	18	C	200	1/2-3/4	21	8	•	1000	
16	1	12-18	70	5/8	.031	24	C	200	1/2-3/4	21	9	•	1000	
16	1	12-18	70	5/8	.031	8	C	200	1/2-3/4	21	8	•	1000	
16	1	10-24	70	5/8, 3/4	.031	12	B	150						
16	1	12-18	70	5/8	3/4	.031	18	B	200	1/2-3/4	21	9	•••	4000
16	1	12-18	70	5/8	1	.031	10	B	125					
16	1	10-24	80	5/8	3/4	.031	10	B	200					
16	1	12-18	70	5/8	3/4	.031	8	C	200	1/2-3/4	21	6	•	1000
16	1	10-24	60	5/8	3/4	.031	14	A	100					
16	1	12-18	80	5/8	1	.031	10	B	125					
16	1	12-18	70	5/8	3/4	.031	12	B	150					
16	1	12-18	70	5/8	3/4	.031	14	C	150					
16	1	12-18	70	5/8	1	.031	12	A	100					
16	1	12-36	60	3/4	1	.036	10	A	100					
16	1	10-24	80	5/8	1	.031	10	B	125	1/2-5/8	21	9	•	4000
16	1	12-18	70	5/8	3/4	.031	14	B	150	1/2-5/8	21	9	•	4000
16	1	12-18	70	5/8	3/4	.031	12	B	125					
16	1	12-18	70	5/8	3/4	.031	14	B	150	1/2, 5/8	21	9	•	4000
16	1	12-18	70	5/8	1	.031	14	B	125					
16	1	12-18	50	5/8	1	.031	14	A	100					
16	1	12-18	70	5/8	3/4	.031	18	C	200					
16	1	12-18	70	5/8	3/4	.031	24	C	200	1/2-5/8	21	9	•	4000

*Slow File.

CUTTING VARIOUS MATERIALS—Cont.

Breakable Hand Hack Blades		Atkins "All Hard" Hack Saw Blades for a Light Power Machine						Atkins "All Hard" Hack Saw Blades for a Medium Weight Machine					
Width	Length	Cat. No.	Pitch	Gauge	Width	Length	Speed in Strokes Per Min.	Cat. No.	Pitch	Gauge	Width	Length	Speed in Strokes Per Min.
3/8	8-16	410	14	21	3/4	10-17	50	422	10	18	3/4	10-17	60
1/2	8-12	409	18	21	3/4	10-17	50	405	18	21	3/4	12-24	60
5/8	8-12	409	18	21	3/4	10-17	50	423	18	18	1	12-24	60
15/16	8-14	410	14	21	3/4	10-17	50	422	10	18	3/4	10-17	60
15/16	8-12	409	18	21	3/4	10-17	50	415	14	18	3/4	10-17	60
15/16	8-12	409	18	21	3/4	10-17	50	423	18	18	3/4	12-24	60
15/16	8-16	409	14	21	3/4	10-17	50	422	10	18	3/4	10-17	60
15/16	8-12	409	18	21	3/4	10-17	50	415	14	18	3/4	10-17	60
15/16	8-12	409	18	21	3/4	10-17	50	409	18	21	3/4	10-17	60
15/16	8-12	410	14	21	3/4	10-17	50	423	18	18	1	12-24	60
15/16	8-16	410	14	21	3/4	10-17	50	422	10	10	3/4	10-17	60
15/16	8-12	409	18	21	3/4	10-17	50	422	10	18	3/4	10-17	60
15/16	8-12	410	14	21	3/4	10-17	50	422	10	18	3/4	10-17	60
15/16	8-12	409	18	21	3/4	10-17	50	422	10	18	3/4	10-17	60
15/16	8-12	409	18	21	3/4	10-17	50	415	14	18	3/4	10-17	50
15/16	8-12	409	18	21	3/4	10-17	50	415	14	18	3/4	10-17	50
15/16	8-16	410	14	21	3/4	10-17	50	422	10	18	3/4	10-17	60
15/16	8-12	409	18	21	3/4	10-17	50	423	18	18	1	12-24	60
15/16	8-12	409	18	21	3/4	10-17	50	415	14	18	3/4	10-17	60
15/16	8-12	409	18	21	3/4	10-17	50	423	18	18	1	12-24	60
15/16	8-12	409	18	21	3/4	10-17	50	423	18	18	1	12-24	60
15/16	8-14	410	14	21	3/4	10-17	50	415	14	18	3/4	10-17	50
15/16	12-20	415	14	18	3/4	10-17	50	430	12	18	1	10-24	50
15/16	8-12	409	18	21	3/4	10-17	50	422	10	18	3/4	10-17	60
15/16	8-12	410	14	21	3/4	10-17	50	422	10	18	3/4	10-17	60
15/16	8-16	409	18	21	3/4	10-17	50	423	18	18	1	12-24	60
15/16	8-16	410	14	21	3/4	10-17	50	415	14	18	3/4	10-17	60
15/16	8-12	409	18	21	3/4	10-17	50	409	18	21	3/4	10-17	60
15/16	8-12	409	18	21	3/4	10-17	50	423	18	18	1	12-24	60
15/16	8-12	410	14	21	3/4	10-17	50	415	14	18	3/4	10-17	50
15/16	8-12	409	18	21	3/4	10-17	50	409	18	21	3/4	10-17	60
15/16	8-12	409	18	21	3/4	10-17	50	423	18	18	1	12-24	60
15/16	8-12	410	14	21	3/4	10-17	50	415	14	18	3/4	10-17	50
15/16	8-12	409	18	21	3/4	10-17	50	409	18	21	3/4	10-17	60
15/16	8-12	409	18	21	3/4	10-17	50	423	18	18	1	12-24	60

NON-BREAKABLE BLADES FOR HAND USE

No. 300—For Cutting Tool Steel and Light Structural Shapes

$\frac{1}{2}$ -in. wide, .025 or 23 gauge thick, 18 teeth per in.				
8-in.	9-in.	10-in.	12-in.	
\$8.00	\$9.00	\$10.00	\$12.00	

No. 305—For Large Sections of above Materials

$\frac{1}{4}$ -in. wide, .025 or 23 gauge thick, 16 teeth per in.			
12-in.	14-in.	16-in.	
\$12.00	\$14.80	\$17.00	

No. 310—Regular Tubing, Wrought Iron Pipe, Brass, Copper, Drill Rod, Electrical Casings, Extra Light Structural Shapes, Sheet Metal 16 to 18 Gauge, Metal Trim.

$\frac{1}{2}$ -in. wide, .025 or 23 gauge thick, 24 teeth per in.			
8-in.	9-in.	10-in.	12-in.
\$8.00	\$9.00	\$10.00	\$12.00

No. 315—Thin Wall Copper and Brass Tubing, Sheet Metal 19 Gauge or Thinner and Metal Trim.

$\frac{1}{2}$ -in. wide, .025 or 23 gauge thick, 32 teeth per in.			
8-in.	9-in.	10-in.	12-in.
\$8.00	\$9.00	\$10.00	\$12.00

No. 320—Cast Iron.

$\frac{1}{8}$ -in. wide, .028 or 22 gauge thick, 14 teeth per in.					
8-in.	9-in.	10-in.	12-in.	14-in.	16-in.
\$10.80	\$12.00	\$13.08	\$15.24	\$17.52	\$19.80

No. 325—For Cutting Heavy Rail, Bars, and Structural Shapes.

$\frac{3}{8}$ -in. wide, .028 or 22 gauge thick, 14 teeth per in.		
12-in.	14-in.	17-in.
\$16.80	\$19.44	\$23.40

No. 330—For Cutting Rail, Iron Pipe, and Light Structural Shapes.

$\frac{3}{8}$ -in. wide, .028 or 22 gauge thick, 18 teeth per in.		
12-in.	14-in.	17-in.
\$16.80	\$19.44	\$23.40

No. 335—For Cutting Extra Heavy Rail.

$\frac{3}{4}$ -in. wide, .032 or 21 gauge thick, 14 teeth per in.				
12-in.	14-in.	17-in.	18-in.	20-in.
\$21.36	\$24.36	\$29.04	\$30.48	\$33.72

Above Prices are per Gross

"ALL HARD" BLADES FOR HAND USE

No. 200—For Cutting Tool Steel and Light Structural Shapes.

$\frac{1}{2}$ -in. wide, .025 or 23 gauge thick, 18 teeth per in.			
8-in.	9-in.	10-in.	12-in.
\$8.00	\$9.00	\$10.00	\$12.00

No. 205—For Large Sections of above Materials.

$\frac{1}{8}$ -in. wide, .025 or 23 gauge thick, 16 teeth per in.		
12-in.	14-in.	16-in.
\$12.00	\$14.80	\$17.00

No. 210—Regular Tubing, Wrought Iron Pipe, Brass, Copper, Drill Rod, Electrical Casings, Extra Light Structural Shapes, Sheet Metal 16 to 18 Gauge, Metal Trim.

$\frac{1}{2}$ -in. wide, .025 or 23 gauge thick, 24 teeth per in.			
8-in.	9-in.	10-in.	12-in.
\$8.00	\$9.00	\$10.00	\$12.00

No. 215—Thin Wall Copper and Brass Tubing, Sheet Metal 19 Gauge or Thinner; also Metal Trim.

$\frac{1}{2}$ -in. wide, .025 or 23 gauge thick, 32 teeth per in.			
8-in.	9-in.	10-in.	12-in.
\$8.00	\$9.00	\$10.00	\$12.00

No. 220—Cast Iron, Cold Rolled Stock, Soft Steel, Hard Rubber, Fibre Paper, Bronze or Aluminum.

$\frac{1}{8}$ -in. wide, .028 or 22 gauge thick, 14 teeth per in.					
8-in.	9-in.	10-in.	12-in.	14-in.	16-in.
\$10.80	\$12.00	\$13.08	\$15.24	\$17.52	\$19.80

Above Prices are per Gross

ALL HARD AAA BLADES FOR HAND USE AND LIGHT GRAVITY POWER MACHINES, SLOW SPEED

No. 400—For Cutting Stock under 2 inches, Tool Steel, Wrought Iron, Cast Iron, Copper and Brass Solids.

$\frac{3}{8}$ -in. wide, .028 or 22 gauge thick, 14 teeth per in.			
10-in.	12-in.	14-in.	17-in.
\$14.40	\$16.80	\$19.44	\$23.40

No. 402—Iron Pipe, Copper and Brass Tubing, not under 16 Gauge or over 2 inches in size.

$\frac{3}{8}$ -in. wide, .028 or 22 gauge thick, 18 teeth per in.		
12-in.	14-in.	
\$16.80	\$19.44	

No. 409—Material same as No. 402 but over 2 inches in size.

¾-in. wide, .032 or 21 gauge thick, 18 teeth per in.	
12-in.	14-in.
\$21.36	\$24.36

No. 410—For Cutting same Material as No. 400 but over 2 inches in size.

¾-in. wide, .032 or 21 gauge thick, 14 teeth per in.				
12-in.	14-in.	17-in.	18-in.	29-in.
\$21.36	\$24.36	\$29.04	\$30.48	\$33.72

**ALL HARD AAA BLADES FOR POWER MACHINES
REGULAR GRAVITY FEED**

No. 415—For Cutting Stock under 2 inches, Tool Steel, Wrought Iron, Cast Iron, Copper and Brass Solids.

¾-in. wide, .049 or 18 gauge thick, 14 teeth per in.			
10-in.	12-in.	14-in.	17-in.
\$24.72	\$28.92	\$33.12	\$39.72

No. 422—For Cutting Cast Iron, Machine Steel and Bronze.

¾-in. wide, .049 or 18 gauge thick, 10 teeth per in.			
10-in.	12-in.	14-in.	17-in.
\$24.72	\$28.92	\$33.12	\$39.72

**ALL HARD AAA BLADES FOR POWER MACHINES
HEAVY GRAVITY OR POSITIVE FEED**

No. 423—Structural Shapes, Brass and Copper Tubing.

1-in. wide, .049 or 18 gauge thick, 18 teeth per in.			
14-in.	17-in.	18-in.	
\$43.56	\$51.72	\$54.36	

No. 425—For Tool Steel.

1-in. wide, .049 or 18 gauge thick, 14 teeth per in.			
12-in.	14-in.	17-in.	18-in.
\$37.92	\$43.56	\$51.72	\$54.36

No. 430—For Cutting Tool Steel.

1-in. wide, .049 or 18 gauge thick, 12 teeth per in.				
12-in.	14-in.	16-in.	17-in.	18-in.
\$37.92	\$43.56	\$49.08	\$51.72	\$54.36
	20-in.	24-in.		
	\$59.52	\$70.32		

No. 435—For Cold Rolled Steel and Shafting.

1-in. wide, .049 or 18 gauge thick, 10 teeth per in.					
12-in.	14-in.	17-in.	18-in.	20-in.	24-in.
\$37.92	\$43.56	\$51.72	\$54.36	\$59.52	\$70.32

No. 436—Cold Rolled Steel or Shaftings over 2-inch Sections.

1-in. wide, .049 or 18 gauge thick, 8 teeth per in.					
12-in.	14-in.	17-in.	18-in.	20-in.	24-in.
\$37.92	\$43.56	\$51.72	\$54.36	\$59.52	\$70.32

**ALL HARD AAA BLADES FOR POWER MACHINES
EXTRA HEAVY GRAVITY OR POSITIVE FEED**

No. 440—For Cast Iron, Machine Steel and Bronze.

1-in. wide, .065 or 16 gauge thick, 10 teeth per in.					
14-in.	16-in.	17-in.	18-in.	19-in.	20-in.
\$50.88	\$56.88	\$59.52	\$62.04	\$65.04	\$67.92
21-in.	22-in.	23-in.	24-in.	30-in.	32-in.
\$70.44	\$73.32	\$76.44	\$79.32	\$98.64	\$105.00

No. 441—For Cutting Pipe and Structural Shapes.

1-in. wide, .065 or 16 gauge thick, 14 teeth per in.			
14-in.	17-in.	18-in.	24-in.
\$50.88	\$59.52	\$62.04	\$79.32

No. 442—For Cutting Tool Steel, High Speed Steel, Rail and Hard Materials.

1-in. wide, .065 or 16 gauge thick, 12 teeth per in.			
14-in.	17-in.	18-in.	24-in.
\$50.88	\$59.52	\$62.04	\$79.32

No. 445—For Cold Rolled Steel and Shaftings under 2-inch sections.

1-in. wide, .065 or 16 gauge thick, 8 teeth per in.			
17-in.	18-in.	24-in.	30-in.
\$59.52	\$62.04	\$79.32	\$98.64

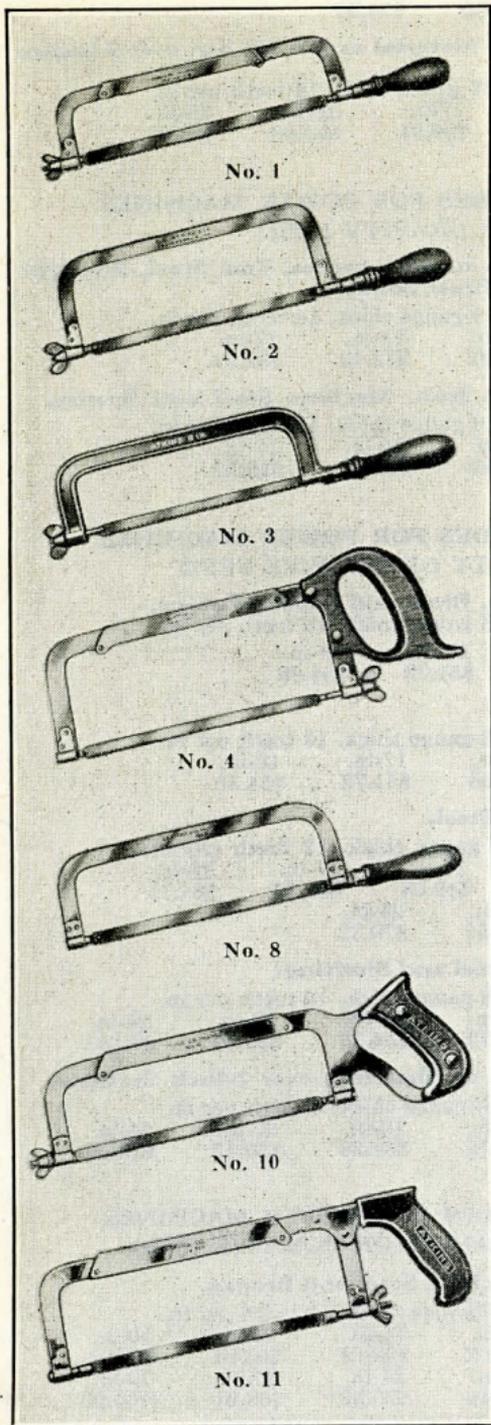
No. 447—For Large Sizes of Cold Rolled Steel and Shaftings.

1½-in. wide, .065 or 16 gauge thick, 6 teeth per in.					
17-in.	18-in.	20-in.	24-in.	30-in.	36-in.
\$85.32	\$90.24	\$99.84	\$119.04	\$147.84	\$176.76

No. 450—Cold Rolled Steel or Shaftings over 2-inch Sections.

1½-in. wide, .065 or 16 gauge thick, 10 teeth per in.					
18-in.	20-in.	24-in.	30-in.	33-in.	36-in.
\$90.24	\$99.84	\$119.04	\$147.84	\$162.36	\$176.76

ATKINS HACK SAW FRAMES



ATKINS HOOSIER EXTENSION, No. 1

High grade steel; heavily nicked, highly polished. Takes blades 8 inches to 12 inches, inclusive. Blade can be used in four different positions. Fine enameled handle.

ATKINS INDIANA SOLID STEEL, No. 2

Nicked and polished. Blade can be faced four different ways. Enameled handle, fine finish. Made to take 8", 9", 10" and 12" blades.

ATKINS 8-INCH IRON FRAME, No. 3

Frames are iron, black japanned, with black wood handles. Light, graceful in appearance, strong and rigid. Blade is held by stationary pins, which cannot be lost, and the blade can be used in four different positions. Made to accommodate blades 8", 9", 10" and 12" long.

ATKINS No. 4 GRIP HANDLE

A handle that gives the user not only greater ease of operation, but a much better control of the saw.

Frame is $4\frac{1}{2}$ inches high, adjustable, blades from 8 to 12 inches may be used. Made of extra high-grade steel, $\frac{3}{4}$ inch wide and $\frac{3}{8}$ inch thick, very strong and stiff, but light. Even when extended to full length, frame is stiff and rigid, because the adjusting features are sufficiently large and strong to make it so.

It is heavily nickel-plated, polished and buffed, so that it will not easily rust. Blade may be turned to cut at four different angles.

ATKINS No. 8

Like No. 7, without extension features. Made for an 8, 9, 10 and 12-inch

blade. Very stiff and rigid, $\frac{11}{16}$ inch wide, $\frac{3}{16}$ inch thick, rounded edge, three inches deep.

Finely finished hardwood handle.

ATKINS No. 10

Hard Rubber Handle, "easy grip" pattern; hung low, thus directing entire force of stroke on a line with the cutting edge of blade. This increases the cutting power of every stroke, gives the operator better control, and prevents injury to the hand should blade break. Frame of cold rolled steel $\frac{1}{8}$ inch thick and $\frac{3}{4}$ inch wide. Nicked and highly polished; adjustable to 8, 9, 10, 11 and 12-inch blades. Peg on under side of frame fits into a series of holes in the upper or outside frame, making it strong and rigid. Depth under back to cutting edge of blade 3 inches.

ATKINS No. 11

This frame is made of extra high grade steel, three-fourths inch wide and five-thirty-seconds inch thick. Light, strong and stiff. Adjustable from 8 inches to 12 inches, nickel plated and highly polished.

The handle is made of hard fibre with open grip and will fit the hand comfortably. It is so constructed that it enables the operator to do fast, accurate cutting. Packed 1 in a box with 8 inch blade.

ATKINS METAL CUTTING SAWS

ATKINS METAL CUTTING HAND SAW

No. 21

This blade is made of Silver Steel straight breast and back and will cut all classes of ordinary metal with ease. In 18-inch size it is $1\frac{1}{2}$ inches wide at the point and $4\frac{1}{2}$ inches wide at the butt. It is 18 gauge on the toothed edge, 20 gauge on the back and gradually tapers to 23 gauge on the point. 15 points.

The teeth are specially milled, straight across, tempered hard and tough. Made in lengths of 18 to 26 inches.

No. 22

This saw is of the same general specifications as No. 21, excepting that it is supplied with an adjustable handle. Handle of applewood, carved and polished, fastened to the blade by nickel-plated lever, bolt and nickel-plated screw.

By the use of the turn screw attachment, the handle may be moved up and down to cut at various angles as shown in the illustration.

ATKINS PLUMBERS' SAW

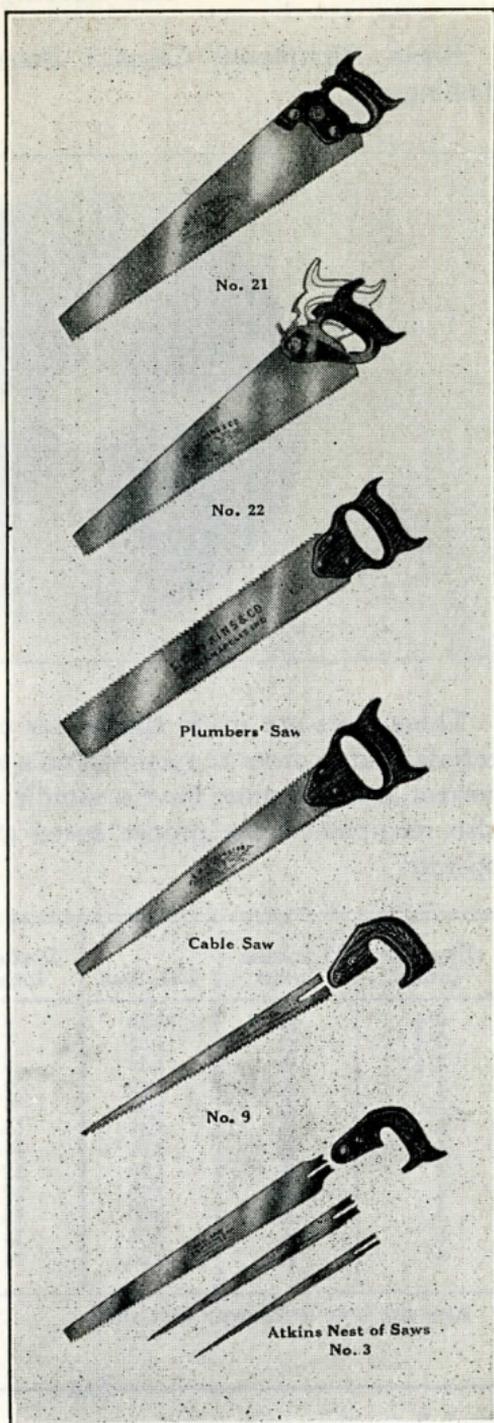
A very useful saw for cutting flooring; teeth on both edges; handle large, roomy; attached with two screws. Blade toothed on both edges. Made in lengths of 12 to 18 inches.

ATKINS CABLE SAW

Blade 16 inches long, 11 points to the inch on one side and 14 points to the inch on the opposite side. Teeth on 11 point side set only. Atkins High-Grade Special Steel. Beech handle,

No. 9 INTERCHANGEABLE COMPASS SAW

Carved beech handle, varnished and polished. Made in lengths of 10 to 20 inches.



ATKINS No. 3 NEST OF SAWS

This set has been in great demand wherever shown. It includes a handle, which is detachable and adjustable at three different angles, a 12-inch compass blade, a 14-inch keyhole blade and an 18-inch Silver Steel Metal Cutting Blade, all of which are interchangeable. The nail cutting blade is tempered exceedingly hard for cutting nails, pipe or conduit; in fact, any kind of metal. It is Taper Ground from the toothed edge to the back, so that it clears itself readily.

No. 3 nest is equipped with an adjustable handle of the latest Improved Pattern, with a tightening adjustment consisting of a heavily nickel-plated screw, which may be operated from either side of the handle by reversing the screw permitting the blade to be used at any desired angle.

AAA

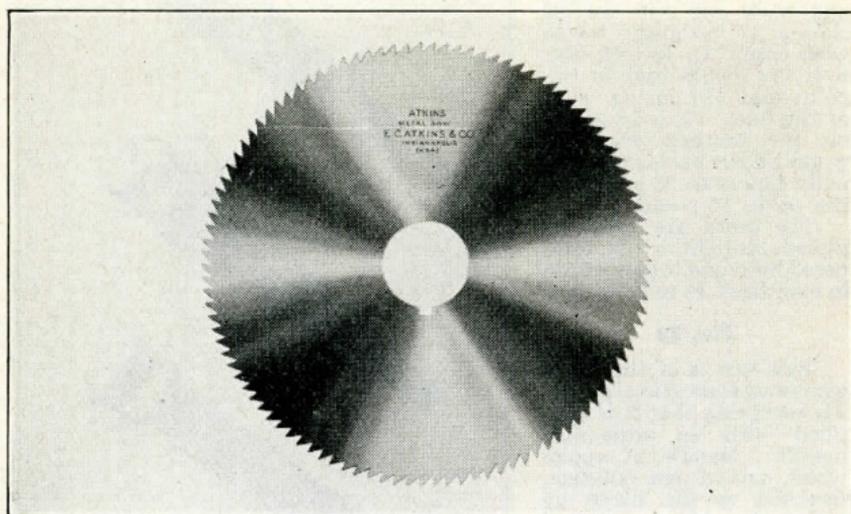
MARINE GLUE

1 part of india rubber, 12 of mineral naphtha or coal tar, heat gently, mix, and add 20 of powdered shellac. Pour out on a slab to cool—when used to be heated to about 250° .

ATKINS CIRCULAR METAL SAWS

For Cutting

Brass, Aluminum; Copper; Brass, Aluminum and Steel Tubing.



These saws are made special for cutting any of these materials, and in order to recommend a saw of proper temper and correct style we must have a sample of the material. We will also recommend the proper speed at which the saw should operate.

Diameter Inches	Thickness Inches	List, Each	Diameter Inches	Thickness Inches	List Each
2½	⅜	\$1.25	6	⅜	\$2.50
2½	⅝	1.25	7	⅜	2.90
2½	⅞	1.25	8	⅜	4.00
3	⅞	1.40	9	⅜	5.25
3	1	1.40	9	⅝	5.50
3	1	1.40	10	⅝	6.50
4	1	1.70	10	⅞	6.75
4	1	1.70	12	⅞	8.00
4	1	1.70	12	1	8.00
5	1	2.05	12	1	8.50
5	1	2.05	14	1	9.75
6	1	2.50	14	1	9.75

Any size hole or keyway furnished.

—AAA—

USEFUL RULES

(Continued from page 2)

Circumference of circle $\times .225 =$ side of inscribed square.

Circumference of circle $\times .282 =$ side of equal square.

Base of triangle $\times \frac{1}{2}$ altitude = area.

Both diameters $\times .7854 =$ area of ellipse.

Surface of sphere $\times \frac{1}{6}$ diameter = solidity.

Square of diameter of sphere $\times 3.1416 =$ surface.

Area of its base $\times \frac{1}{3}$ altitude = solidity of cone, or pyramid, whether round, square or triangular.

Circumference of sphere \times diameter = surface.

A gallon of water (U. S. standard) weighs $8\frac{1}{2}$ pounds and contains 231 cubic inches. A cubic foot of water contains $7\frac{1}{2}$ gallons, 1728 cubic inches, and weighs $62\frac{1}{2}$ pounds at a temperature of about 39 degrees Fahrenheit. The weight changes slightly above and below this temperature.

To find the pressure in pounds per square inch of a column of water, multiply the height of the column in feet by .434.

Steam rising from water at its boiling point (212 degrees F.) has a pressure equal to that of the atmosphere at sea level (14.7 pounds per square inch).

ATKINS CIRCULAR SLITTING AND MILLING SAWS

Metal Slitting Saws are thin milling cutters or small diameter circular milling saws used for a variety of operations in machine shops.

Atkins Metal Slitting Saws are made from both Genuine High Speed Steel and Semi-High Speed Steel. High Speed Steel Slitting Saws will stand a speed 25% faster than Semi-High Speed Steel Saws, and consequently a higher feed.

The plates from which Atkins Slitting Saws are made, are rolled to the approximate gauge at the mill—not cut from a solid bar. This does away with any chance of internal imperfections that cannot be detected on the surface.

They are first straightened by smithing and any twist or torsion that might be caused by tempering is removed. The final grinding operation is to the thousandth of an inch and they can be depended upon to do accurate work.

Atkins Metal Slitting Saws are carried in stock with standard holes, keyways and teeth.

We make special slitting saws to order with odd teeth, holes, or keyways. Send us a sample or a blueprint and the quantity you require and we will be very glad to quote our lowest current prices.

ATKINS METAL SLITTING SAWS

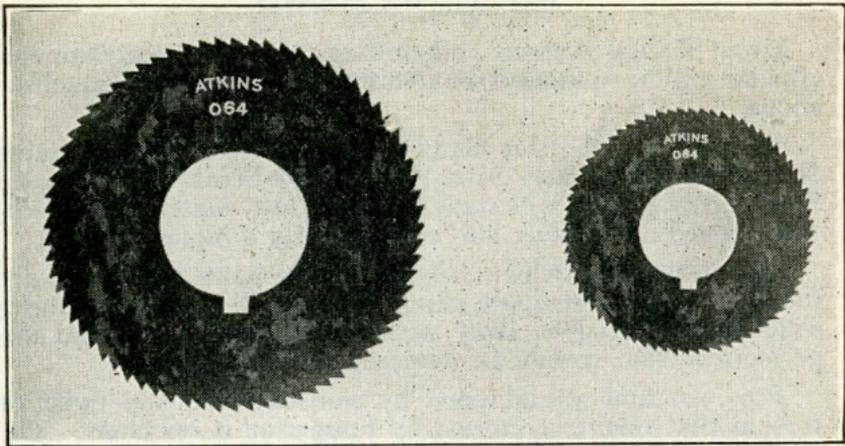
Diameter Inches	Thickness Inches	Hole Inches	Number of Teeth	Semi-High Speed Steel	High Speed Steel
2½	⅜	⅞	28	\$1.30	\$2.50
2½	⅜	⅞	28	1.20	2.40
2½	⅜	⅞	28	1.15	2.35
2½	⅜	⅞	28	1.15	2.35
2½	⅜	⅞	28	1.15	2.35
2½	⅜	⅞	28	1.40	2.60
3	⅜	1	32	1.60	2.95
3	⅜	1	32	1.45	2.60
3	⅜	1	32	1.30	2.50
3	⅜	1	32	1.30	2.50
3	⅜	1	32	1.30	2.50
3	⅜	1	32	1.50	2.85
4	⅜	1	36	2.85	4.60
4	⅜	1	36	1.85	3.15
4	⅜	1	36	1.60	2.95
4	⅜	1	36	1.55	2.85
4	⅜	1	36	1.55	2.85
4	⅜	1	36	1.80	3.45
4	⅜	1	36	2.10	3.45
5	⅜	1	40	2.30	3.85
5	⅜	1	40	2.00	3.35
5	⅜	1	40	2.00	3.35
5	⅜	1¼	40	2.00	3.35
5	⅜	1½	40	2.00	3.35
5	⅜	1	40	2.45	4.30
5	⅜	1	40	2.90	4.30
6	⅜	1	42	5.10	7.50
6	⅜	1	42	3.85	5.85
6	⅜	1	42	3.45	5.35
6	⅜	1¼	42	3.45	5.35
6	⅜	1½	42	3.45	5.35
6	⅜	1	42	4.45	6.45
7	⅜	1	44	9.50	11.00
7	⅜	1	44	5.70	8.35
7	⅜	1	44	4.85	7.20
7	⅜	1¼	44	6.50	9.05
7	⅜	2	44	6.50	9.05
8	⅜	1	46, 66	7.30	12.00
8	⅜	1¼	46, 66	7.30	12.00
8	⅜	1¼	46, 66	8.90	12.30
8	⅜	1½	46, 66	8.90	12.30

Standard Keyways for Above Saws

⅞" — ⅜" wide, ⅛" deep; 1" — ⅝" wide, ⅜" deep; 1¼" — ⅝" wide, ⅜" deep; 1½" — 1¼" wide, ⅜" deep.

The above are standard sizes. Any different specifications are special, and price will be quoted on receipt of complete specifications, giving the quantity required.

ATKINS SCREW SLOTTING SAWS



Atkins Screw Slotting Saws or cutters are made from a Tungsten-Alloy Steel which gives them a keen, tough cutting edge. They are carefully milled with the correct shape tooth and furnished black—no polish.

They run at a speed of 350 to 400 R.P.M., depending on the operation on which they are used. High Speed Steel Screw Slotting Saws can be run between 400 and 600 R.P.M.

The lists cover black screw slotting saws with standard teeth and standard keyway. We can furnish them ground on the sides with special teeth and special keyways. Send us complete specifications and the quantity you require and we will quote.

ATKINS SCREW SLOTTING SAWS

Diameter Inches	Thickness Inches	Hole Inches	Teeth	Semi-High Speed Steel		High Speed Steel		Diameter Inches	Thickness Inches	Hole Inches	Teeth	Semi-High Speed Steel		High Speed Steel	
1 3/4	.006	1 1/2, 5/8	90	\$0.15	\$0.75	2 1/4	.064	5/8	60	\$0.20	\$1.00				
1 3/4	.008	1 1/2, 5/8	90	.15	.75	2 1/4	.072	5/8	60	.20	1.00				
1 3/4	.010	1 1/2, 5/8	90	.15	.75	2 1/4	.081	5/8	60	.30	1.50				
1 3/4	.012	1 1/2, 5/8	90	.15	.75	2 1/4	.091	5/8	60	.35	1.75				
1 3/4	.014	1 1/2, 5/8	90	.15	.75	2 1/4	.102	5/8	60	.40	2.00				
1 3/4	.016	1 1/2, 5/8	90	.15	.75	2 3/4	.006	3/4, 1	72	.20	1.00				
1 3/4	.018	1 1/2, 5/8	90	.15	.75	2 3/4	.008	3/4, 1	72	.20	1.00				
1 3/4	.020	1 1/2, 5/8	90	.15	.75	2 3/4	.010	3/4, 1	72	.20	1.00				
1 3/4	.023	5/8	90	.20	1.00	2 3/4	.012	3/4, 1	72	.20	1.00				
1 3/4	.025	5/8	90	.20	1.00	2 3/4	.014	3/4, 1	72	.20	1.00				
1 3/4	.028	5/8	90	.20	1.00	2 3/4	.016	3/4, 1	72	.20	1.00				
1 3/4	.032	5/8	90	.20	1.00	2 3/4	.018	1/2, 5/8, 3/4, 1	72	.20	1.00				
1 3/4	.035	5/8	90	.20	1.00	2 3/4	.020	1/2, 5/8, 3/4, 1	72	.20	1.00				
1 3/4	.040	5/8	90	.20	1.00	2 3/4	.023	1/2, 5/8, 3/4, 1	72	.20	1.00				
1 3/4	.045	5/8	90	.20	1.00	2 3/4	.025	1/2, 5/8, 3/4, 1	72	.20	1.00				
1 3/4	.051	5/8	90	.20	1.00	2 3/4	.028	1/2, 5/8, 3/4, 1	72	.20	1.00				
1 3/4	.057	5/8	90	.20	1.00	2 3/4	.032	1/2, 5/8, 3/4, 1	72	.20	1.00				
1 3/4	.064	5/8	90	.20	1.00	2 3/4	.035	1/2, 5/8, 3/4, 1	72	.20	1.00				
2 1/4	.006	5/8	60	.20	1.00	2 3/4	.040	1/2, 5/8, 3/4, 1	72	.20	1.00				
2 1/4	.008	5/8	60	.20	1.00	2 3/4	.045	1/2, 5/8, 3/4, 1	72	.20	1.00				
2 1/4	.010	5/8	60	.20	1.00	2 3/4	.051	1/2, 5/8, 3/4, 1	72	.20	1.00				
2 1/4	.012	5/8	60	.20	1.00	2 3/4	.057	1/2, 5/8, 3/4, 1	72	.20	1.00				
2 1/4	.014	5/8	60	.20	1.00	2 3/4	.064	1/2, 5/8, 3/4, 1	72	.30	1.50				
2 1/4	.016	5/8	60	.20	1.00	2 3/4	.072	3/4, 1	72	.30	1.50				
2 1/4	.018	5/8	60	.20	1.00	2 3/4	.081	3/4, 1	72	.35	1.75				
2 1/4	.020	5/8	60	.20	1.00	2 3/4	.091	3/4, 1	72	.40	2.00				
2 1/4	.023	5/8	60	.20	1.00	2 3/4	.102	3/4, 1	72	.45	2.25				
2 1/4	.025	5/8	60	.20	1.00	2 3/4	.114	3/4, 1	72	.50	2.50				
2 1/4	.028	5/8	60	.20	1.00	2 3/4	.128	3/4, 1	72	.55	2.75				
2 1/4	.032	5/8	60	.20	1.00	2 3/4	.144	1	72	.65	3.25				
2 1/4	.035	5/8	60	.20	1.00	2 3/4	.162	1	72	.75	3.75				
2 1/4	.040	5/8	60	.20	1.00	2 3/4	.182	1	72	.90	4.50				
2 1/4	.045	5/8	60	.20	1.00										
2 1/4	.051	5/8	60	.20	1.00										
2 1/4	.057	5/8	60	.20	1.00										

ATKINS CIRCULAR MILLING SAWS

For Cutting Cold Metal at Slow Speed

Diameter Inches	Thickness Inches	Semi-High Speed Steel	High Speed Steel	Diameter Inches	Thickness Inches	Semi-High Speed Steel	High Speed Steel	Diameter Inches	Thickness Inches	Semi-High Speed Steel	High Speed Steel
9	$\frac{1}{16}$	\$5.25	\$13.25	18	$\frac{7}{32}$	\$16.25	\$105.00	36	$\frac{1}{2}$	\$75.50	575.50
9	$\frac{3}{32}$	5.50	16.00	18	$\frac{1}{4}$	17.25	116.00	36	$\frac{3}{8}$	77.00	622.00
9	$\frac{1}{8}$	5.80	19.00	18	$\frac{5}{16}$	18.75	138.00	36	$\frac{1}{2}$	80.00	715.00
9	$\frac{3}{16}$	6.15	22.00	20	$\frac{3}{8}$	17.50	101.00	36	$\frac{1}{2}$	102.50	810.00
9	$\frac{1}{4}$	6.45	25.00	20	$\frac{7}{16}$	18.10	115.00	38	$\frac{3}{8}$	80.50	.....
9	$\frac{5}{16}$	6.90	28.00	20	$\frac{1}{2}$	19.30	128.00	38	$\frac{1}{2}$	88.50	.....
9	$\frac{3}{8}$	7.35	31.00	20	$\frac{3}{4}$	20.50	142.00	38	$\frac{3}{8}$	92.50	.....
9	$\frac{1}{2}$	7.80	36.00	20	$\frac{5}{8}$	22.30	170.00	38	$\frac{1}{2}$	96.50	.....
10	$\frac{1}{16}$	6.50	15.50	21	$\frac{3}{16}$	21.50	126.00	38	$\frac{1}{2}$	121.00	.....
10	$\frac{3}{32}$	6.70	18.50	21	$\frac{1}{4}$	22.90	140.00	40	$\frac{3}{32}$	97.50	.....
10	$\frac{1}{8}$	7.10	22.50	21	$\frac{1}{4}$	24.30	156.00	40	$\frac{1}{8}$	108.50	.....
10	$\frac{3}{16}$	7.70	26.50	21	$\frac{5}{16}$	26.40	158.00	40	$\frac{3}{16}$	114.00	.....
10	$\frac{1}{4}$	7.90	30.00	22	$\frac{1}{2}$	21.50	137.00	40	$\frac{1}{4}$	119.50	.....
10	$\frac{5}{16}$	8.30	33.00	22	$\frac{3}{8}$	22.90	152.00	40	$\frac{1}{2}$	143.00	.....
10	$\frac{3}{8}$	8.70	36.50	22	$\frac{1}{2}$	24.30	170.00	42	$\frac{1}{2}$	107.50	.....
10	$\frac{1}{2}$	9.30	44.00	22	$\frac{3}{4}$	26.40	205.00	42	$\frac{3}{8}$	114.50	.....
11	$\frac{1}{8}$	8.50	32.00	24	$\frac{3}{16}$	26.25	161.00	42	$\frac{1}{8}$	121.50	.....
11	$\frac{3}{16}$	9.25	36.00	24	$\frac{1}{4}$	27.85	179.00	42	$\frac{1}{2}$	157.50	.....
11	$\frac{1}{4}$	9.50	40.00	24	$\frac{5}{16}$	29.45	200.00	44	$\frac{3}{8}$	117.50	.....
11	$\frac{3}{8}$	10.00	44.00	24	$\frac{3}{4}$	31.85	240.00	44	$\frac{1}{2}$	126.50	.....
11	$\frac{1}{2}$	10.50	48.00	25	$\frac{1}{2}$	32.50	219.00	44	$\frac{3}{8}$	135.50	.....
11	$\frac{3}{4}$	11.00	54.00	25	$\frac{3}{4}$	35.50	260.00	44	$\frac{1}{2}$	172.00	.....
12	$\frac{1}{8}$	8.50	36.50	26	$\frac{3}{16}$	28.50	190.00	46	$\frac{3}{8}$	127.50	.....
12	$\frac{3}{16}$	9.25	41.50	26	$\frac{1}{4}$	32.50	235.00	46	$\frac{1}{8}$	138.50	.....
12	$\frac{1}{4}$	9.50	46.50	26	$\frac{5}{16}$	35.50	280.00	46	$\frac{1}{4}$	149.50	.....
12	$\frac{3}{8}$	10.00	51.00	28	$\frac{3}{8}$	35.50	252.50	46	$\frac{1}{2}$	187.50	.....
12	$\frac{1}{2}$	10.50	56.00	28	$\frac{1}{2}$	38.00	275.00	48	$\frac{3}{8}$	142.50	.....
12	$\frac{3}{4}$	11.00	62.00	28	$\frac{3}{4}$	41.75	320.00	48	$\frac{1}{2}$	155.50	.....
14	$\frac{1}{8}$	9.75	47.00	30	$\frac{1}{4}$	43.30	315.00	48	$\frac{3}{8}$	168.50	.....
14	$\frac{3}{16}$	10.80	54.00	30	$\frac{5}{16}$	47.50	366.00	48	$\frac{1}{2}$	210.50	.....
14	$\frac{1}{4}$	11.15	60.50	30	$\frac{3}{8}$	47.80	400.00	50	$\frac{3}{8}$	194.00	.....
14	$\frac{3}{8}$	11.85	67.00	30	$\frac{1}{2}$	48.90	435.00	50	$\frac{1}{4}$	209.50	.....
14	$\frac{1}{2}$	12.55	74.00	31	$\frac{3}{4}$	53.00	335.00	50	$\frac{1}{2}$	236.00	.....
14	$\frac{3}{4}$	13.60	84.00	31	$\frac{1}{2}$	58.25	396.00	52	$\frac{3}{8}$	214.00	.....
15	$\frac{1}{8}$	12.15	57.00	31	$\frac{1}{4}$	59.00	434.00	52	$\frac{1}{8}$	232.00	.....
15	$\frac{3}{16}$	12.55	68.00	31	$\frac{3}{8}$	60.00	470.00	52	$\frac{1}{4}$	250.00	.....
15	$\frac{1}{4}$	13.35	76.00	32	$\frac{1}{2}$	53.00	346.00	54	$\frac{3}{8}$	224.00	.....
15	$\frac{3}{8}$	14.15	84.00	32	$\frac{3}{4}$	58.25	422.00	54	$\frac{1}{2}$	244.00	.....
15	$\frac{1}{2}$	15.35	96.00	32	$\frac{1}{2}$	59.00	460.00	54	$\frac{3}{4}$	264.00	.....
16	$\frac{1}{8}$	12.15	67.00	32	$\frac{3}{8}$	60.00	498.00	56	$\frac{3}{8}$	244.00	.....
16	$\frac{3}{16}$	12.55	76.00	34	$\frac{1}{4}$	58.50	400.00	56	$\frac{1}{8}$	266.00	.....
16	$\frac{1}{4}$	13.35	85.00	34	$\frac{5}{16}$	64.50	450.00	56	$\frac{1}{4}$	288.00	.....
16	$\frac{3}{8}$	14.15	94.00	34	$\frac{3}{4}$	65.50	520.00	58	$\frac{1}{2}$	274.00	.....
16	$\frac{1}{2}$	15.35	108.00	34	$\frac{1}{2}$	66.50	560.00	58	$\frac{3}{8}$	299.00	.....
18	$\frac{3}{16}$	14.75	83.00	36	$\frac{1}{4}$	65.00	427.00	60	$\frac{1}{8}$	299.00	.....
18	$\frac{1}{8}$	15.25	94.00	36	$\frac{5}{16}$	74.00	529.00	60	$\frac{1}{2}$	327.00	.....

Pitch of Teeth

Diam. Inches	Points to Inch	Distance Pt. to Pt.	Diam. Inches	Distance Pt. to Pt.	Diam. Inches	Distance Pt. to Pt.
8 and 9	5, 6, 7, 8	.....	14	$\frac{1}{4}, \frac{3}{8}, \frac{1}{2}$	24 to 36	$\frac{3}{8}$ to $\frac{7}{8}$
10	4, 5, 6, 7	16, 18, 20	$\frac{1}{8}$ to $\frac{1}{4}$	24 to 36	$\frac{1}{8}$ to $\frac{1}{2}$
12	$\frac{1}{8}, \frac{1}{16}, \frac{1}{4}, \frac{1}{8}$	21	$\frac{1}{8}$ to $\frac{1}{4}$	38 to 60	$\frac{1}{2}$ to 1

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(Continued from page 13)

Liquid Measure

- 31½ gallons = 1 barrel.
- 42 gallons = 1 tierce.
- 2 barrels or 63 gallons = 1 hogshead.
- 84 gallons or 2 tierces = 1 puncheon.
- 2 hogsheads or 126 gallons = 1 pipe or butt.
- 2 pipes or 3 puncheons = 1 tun.
- 7.4805 U. S. gallons = 1 cubic foot.
- 1 British Imperial gallon = 1.20032 U. gallons.

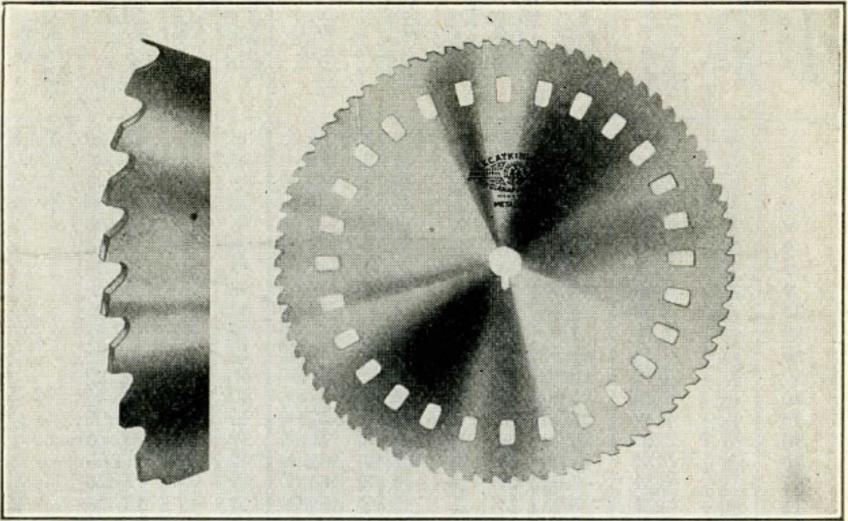
Measures of Weight—Avoirdupois or Commercial Weights

- 16 drachms, or 437.5 grains = 1 ounce, OZ.
- 16 ounces, or 7,000 grains = 1 pound, LB.
- 28 pounds = 1 quarter, QR.
- 4 quarters = 1 hundred weight, cwt. = 112 Lbs.
- 20 hundred-weight = 1 ton of 2240 pounds, or long ton.
- 2000 pounds = 1 net, or short ton.
- 2204.6 pounds = 1 metric ton.
- 1 stone = 14 pounds. 1 quintal = 100 pounds.

(Continued on page 15)

ATKINS CIRCULAR MILLING SAWS

For Lea Simplex and Higley Machines



Circular Milling Saw Blades for the above machines are driven by a sprocket wheel which meshes in the slots in the blade.

Atkins Circular Milling Saws for these machines are made from a special alloy steel or from genuine high speed steel. They are carefully heat treated to give a tough hard temper that will hold a keen cutting edge.

The edges of the slots are carefully finished in our tool room as they must be exact size so that the sprockets will mesh easily and snugly. They are Hollow ground.

The same feed, speed, style or teeth apply to these saws as apply to arbor driven low speed milling saws.

Diam. In.	Thick. In.	Pitch of Teeth Inches	List Each	Diam. In.	Thick. In.	Pitch of Teeth Inches	List Each
11	$\frac{1}{8}$	$\frac{1}{4}, \frac{5}{16}, \frac{3}{8}, \frac{7}{16}$	\$9.25	24	$\frac{3}{16}$	$\frac{1}{2}, \frac{5}{8}, \frac{3}{4}, \frac{7}{8}$	\$26.25
12 $\frac{1}{2}$	$\frac{1}{8}$	$\frac{1}{4}, \frac{5}{16}, \frac{3}{8}, \frac{7}{16}$	9.75	24	$\frac{1}{32}$	$\frac{1}{2}, \frac{5}{8}, \frac{3}{4}, \frac{7}{8}$	27.85
13 $\frac{1}{2}$	$\frac{1}{8}$	$\frac{5}{16}, \frac{3}{8}, \frac{7}{16}, \frac{1}{2}$	10.55	24	$\frac{1}{4}$	$\frac{1}{2}, \frac{5}{8}, \frac{3}{4}, \frac{7}{8}$	29.45
13 $\frac{1}{2}$	$\frac{5}{32}$	$\frac{5}{16}, \frac{3}{8}, \frac{7}{16}, \frac{1}{2}$	11.00	26	$\frac{3}{16}$	$\frac{3}{8}, \frac{1}{2}, \frac{5}{8}, \frac{3}{4}, \frac{7}{8}$	28.50
13 $\frac{1}{2}$	$\frac{3}{16}$	$\frac{5}{16}, \frac{3}{8}, \frac{7}{16}, \frac{1}{2}$	11.40	26	$\frac{1}{32}$	$\frac{3}{8}, \frac{1}{2}, \frac{5}{8}, \frac{3}{4}, \frac{7}{8}$	30.50
14	$\frac{5}{32}$	$\frac{5}{16}, \frac{3}{8}, \frac{7}{16}, \frac{1}{2}$	11.00	26	$\frac{1}{4}$	$\frac{3}{8}, \frac{1}{2}, \frac{5}{8}, \frac{3}{4}, \frac{7}{8}$	32.50
14	$\frac{3}{16}$	$\frac{5}{16}, \frac{3}{8}, \frac{7}{16}, \frac{1}{2}$	11.40	28	$\frac{3}{16}$	$\frac{3}{8}, \frac{1}{2}, \frac{5}{8}, \frac{3}{4}, \frac{7}{8}$	35.50
15	$\frac{3}{32}$	$\frac{1}{4}, \frac{5}{16}, \frac{3}{8}, \frac{7}{16}, \frac{1}{2}$	13.10	28	$\frac{1}{32}$	$\frac{3}{8}, \frac{1}{2}, \frac{5}{8}, \frac{3}{4}, \frac{7}{8}$	36.50
15	$\frac{1}{8}$	$\frac{1}{4}, \frac{5}{16}, \frac{3}{8}, \frac{7}{16}, \frac{1}{2}$	13.50	28	$\frac{1}{4}$	$\frac{3}{8}, \frac{1}{2}, \frac{5}{8}, \frac{3}{4}, \frac{7}{8}$	37.50
15	$\frac{1}{16}$	$\frac{1}{4}, \frac{5}{16}, \frac{3}{8}, \frac{7}{16}, \frac{1}{2}$	15.10	30	$\frac{3}{16}$	$\frac{3}{8}, \frac{1}{2}, \frac{5}{8}, \frac{3}{4}, \frac{7}{8}$	45.00
16	$\frac{1}{8}$	$\frac{3}{8}, \frac{5}{16}, \frac{1}{2}, \frac{5}{8}, \frac{3}{4}, \frac{7}{8}$	13.50	30	$\frac{1}{4}$	$\frac{1}{2}, \frac{5}{8}, \frac{3}{4}, \frac{7}{8}$	50.60
18	$\frac{3}{16}$	$\frac{3}{8}, \frac{5}{16}, \frac{1}{2}, \frac{5}{8}, \frac{3}{4}, \frac{7}{8}$	15.50	31	$\frac{1}{4}$	$\frac{1}{2}, \frac{5}{8}, \frac{3}{4}, \frac{7}{8}$	53.00
18	$\frac{3}{32}$	$\frac{3}{8}, \frac{5}{16}, \frac{1}{2}, \frac{5}{8}, \frac{3}{4}, \frac{7}{8}$	16.50	33	$\frac{1}{4}$	$\frac{1}{2}, \frac{5}{8}, \frac{3}{4}, \frac{7}{8}$	58.50
18	$\frac{1}{4}$	$\frac{3}{8}, \frac{5}{16}, \frac{1}{2}, \frac{5}{8}, \frac{3}{4}, \frac{7}{8}$	17.50	36	$\frac{9}{32}$	$\frac{1}{2}, \frac{5}{8}, \frac{3}{4}, \frac{7}{8}$	69.50
20	$\frac{3}{16}$	$\frac{3}{8}, \frac{5}{16}, \frac{1}{2}, \frac{5}{8}, \frac{3}{4}, \frac{7}{8}$	18.50	36	$\frac{11}{32}$	$\frac{1}{2}, \frac{5}{8}, \frac{3}{4}, \frac{7}{8}$	79.50
20	$\frac{3}{32}$	$\frac{3}{8}, \frac{5}{16}, \frac{1}{2}, \frac{5}{8}, \frac{3}{4}, \frac{7}{8}$	19.70	36	$\frac{5}{8}$	$\frac{1}{2}, \frac{5}{8}, \frac{3}{4}, \frac{7}{8}$	82.50
20	$\frac{1}{4}$	$\frac{3}{8}, \frac{5}{16}, \frac{1}{2}, \frac{5}{8}, \frac{3}{4}, \frac{7}{8}$	20.90	40	$\frac{5}{16}$	$\frac{1}{2}, \frac{5}{8}, \frac{3}{4}, \frac{7}{8}$	106.75
21	$\frac{3}{16}$	$\frac{1}{4}, \frac{3}{8}, \frac{1}{2}, \frac{5}{8}, \frac{3}{4}, \frac{7}{8}$	21.50	40	$\frac{11}{32}$	$\frac{1}{2}, \frac{5}{8}, \frac{3}{4}, \frac{7}{8}$	112.75
21	$\frac{1}{4}$	$\frac{1}{4}, \frac{3}{8}, \frac{1}{2}, \frac{5}{8}, \frac{3}{4}, \frac{7}{8}$	24.30	50	$\frac{1}{2}$	$\frac{5}{8}, \frac{3}{4}, \frac{7}{8}$	207.75

For High Speed Steel Higley Saw Blades use list on page 14.

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(Continued from page 14)

Troy Weight

- 24 grains = 1 pennyweight, dwt.
- 20 pennyweights = 1 ounce, oz. = 480 grains.
- 12 ounces = 1 pound, lb. = 5760 grains.

Apothecaries' Weight

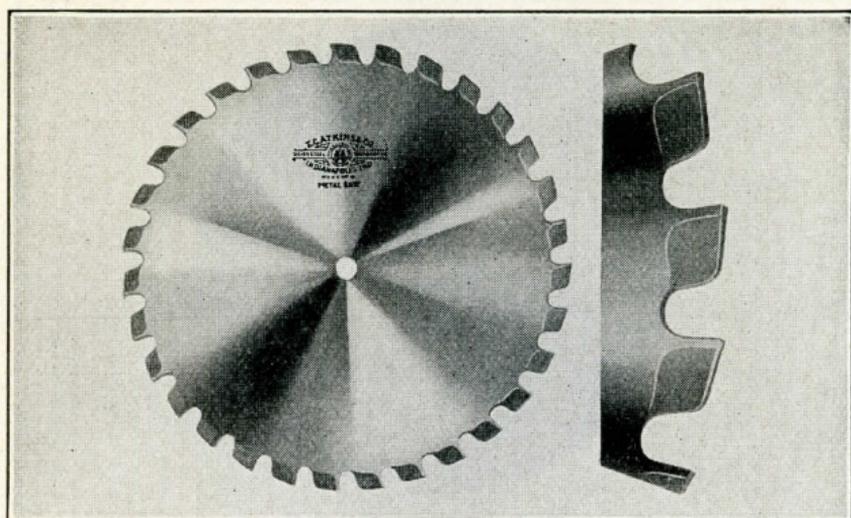
- 20 grains = 1 scruple.
- 3 scruples = 1 drachm = 50 grains.
- 8 drachms = 1 ounce = 480 grains.
- 12 ounces = 1 pound = 5760 grains.

Circular Measure

- 60 seconds " = 1 minute '.
- 60 minutes ' = 1 degree °.
- 90 degrees = 1 quadrant.
- 360 degrees = 1 circumference.

ATKINS CIRCULAR MILLING SAWS

For Bryant or Q. & C. Machines



Circular Milling Saws for use on these machines are driven by a pinion that meshes with the back and gullet of the saw teeth, therefore, the teeth must be tooled very accurately.

Atkins Circular Milling Saws for these machines are made from a special alloy steel or from genuine high speed steel. They are given a tough hard temper that will hold a keen cutting edge.

The same speeds, and feed that apply to arbor driven low speed milling saws apply to these saws. They must be very carefully sharpened so as not to destroy the shape of the teeth or change the pitch.

Diam. Inches	Thickness Inches	Size of Hole Inches	Style of Machine	No. of Teeth	Price Each	B-P No
16	$\frac{9}{16}$	$\frac{7}{8}$	5	31	\$13.50	.....
16	$\frac{9}{16}$	$\frac{7}{8}$	5A	31	13.50	.....
16	$\frac{3}{16}$	$\frac{7}{8}$	5	31	13.50	.....
16	$\frac{3}{16}$	$\frac{7}{8}$	5A	31	13.50	.....
18	$\frac{3}{16}$	$1\frac{3}{4}$	1M	44	15.50	.....
18	$\frac{3}{16}$	$1\frac{1}{8}$	7P Rail	35	15.50	.....
20 $\frac{1}{2}$	$\frac{3}{16}$	$1\frac{1}{4}$	6, 6A, 10	38	21.95	.....
20 $\frac{1}{2}$	$\frac{1}{4}$	$1\frac{1}{4}$	6, 6A, 10	38	24.75	.....
20 $\frac{1}{2}$	$\frac{5}{16}$	$1\frac{1}{4}$	6, 6A, 10	38	26.85	.....
21	$\frac{1}{4}$	2	Universal Saw	118	24.75	1 AU
21	$\frac{1}{4}$	2	Cut-off Type	88	24.75	1 ACO
23 $\frac{1}{2}$	$\frac{1}{4}$	$1\frac{3}{4}$	2B	44	30.50	.....
25	$\frac{1}{4}$	$1\frac{3}{4}$	15	46	34.00	.....
27	$\frac{1}{4}$	$2\frac{1}{2}$	Universal Saw	150	37.50	2 AU
27	$\frac{5}{16}$	2	Cut-off Type	114	37.50	2 ACO
28	$\frac{1}{4}$	$1\frac{3}{4}$	3B	52	37.50	.....
28	$\frac{5}{16}$	$1\frac{3}{4}$	3B	52	38.75	.....
31 $\frac{1}{4}$	$\frac{1}{4}$	$1\frac{3}{4}$	20	58	53.00	.....
31 $\frac{1}{4}$	$\frac{17}{64}$	$1\frac{3}{4}$	20	58	54.75	.....
31 $\frac{1}{4}$	$\frac{1}{4}$	$1\frac{3}{4}$	4B	58	53.00	.....
31 $\frac{1}{4}$	$\frac{17}{64}$	$1\frac{3}{4}$	4B	58	54.75	.....
33	$\frac{3}{8}$	$2\frac{1}{2}$	Universal Saw	138	67.00	3 AU
33	$\frac{3}{8}$	$2\frac{1}{2}$	Cut-off Type	118	59.00	3 ACO
36	$\frac{9}{32}$	2	20	67	69.50
36	$\frac{9}{32}$	2	51	67	69.50

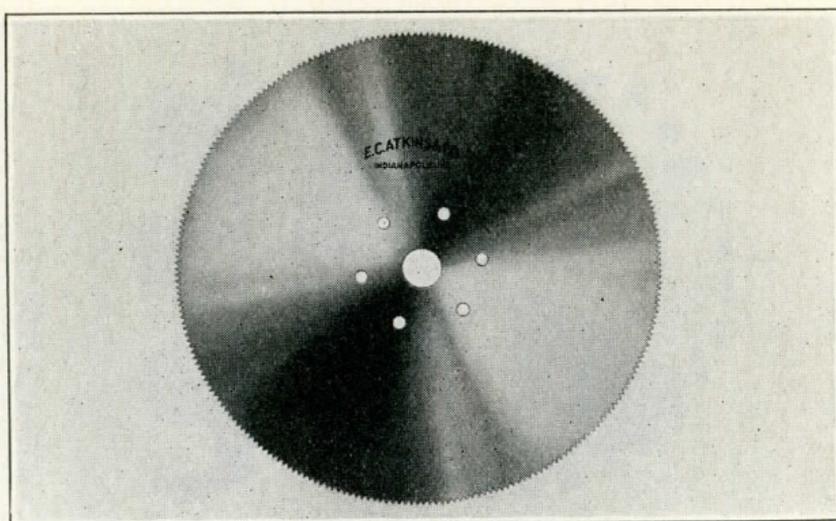
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FLUXES FOR SOLDERING OR WELDING

Iron or steel.....	Borax or sal ammoniac
Tinned iron.....	Resin or chloride of zinc
Copper and brass.....	Sal ammoniac or chloride of zinc
Zinc.....	Chloride of zinc
Lead.....	Tallow or resin
Lead and tin pipes.....	Resin and sweet oil

ATKINS CIRCULAR METAL SAWS

For Cutting Hot or Cold Metal at High Speed



These saws are used at the mill for cutting off rails, structural steel, billets, tubes, bars, etc., just as they come from the rolls on their final pass.

Atkins Circular Saws for cutting hot or cold metal are made from a special alloy steel, tempered to resist wear. They are carefully hollow ground for clearance and smithed for balancing. They should be operated at 18,000 to 20,000 feet per minute, periphery speed.

When cutting heavy sections of high carbon and tool steels apply a stream of water to the cutting points of the teeth before or after the cut to keep the teeth cool.

When ordering give complete specifications; we make blades for all types of hot or cold sawing high speed machines.

Diam Inches	Thick. Inches	List Price Each	Each $\frac{1}{2}$ " Heavier Additional
36	$\frac{3}{8}$	\$37.00	\$2.30
38	$\frac{7}{32}$	42.00	2.55
40	$\frac{1}{4}$	49.00	2.85
42	$\frac{1}{4}$	53.00	3.15
44	$\frac{1}{4}$	56.00	3.45
46	$\frac{1}{4}$	60.00	3.75
48	$\frac{1}{4}$	64.00	4.10
50	$\frac{5}{16}$	77.00	4.45
52	$\frac{5}{16}$	84.00	4.80
54	$\frac{5}{16}$	90.00	5.00
56	$\frac{3}{8}$	106.00	5.55
58	$\frac{3}{8}$	113.00	5.95
60	$\frac{3}{8}$	121.00	6.40

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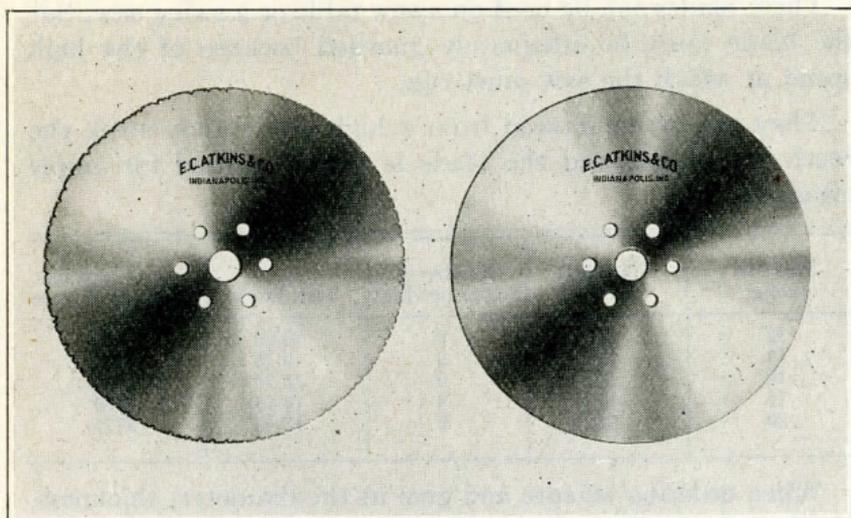
PATTERN VARNISH

Patterns intended for repeated use are varnished to protect them against moisture, especially when in the damp molding sand. The varnish used should dry quickly to give a smooth surface that readily draws from the sand. Yellow shellac varnish is generally used. It is made by dissolving gum shellac in grain alcohol. Wood alcohol is sometimes substituted, but is inferior. The color of the varnish is commonly changed for covering core prints, in order to readily distinguish the prints from the body of the pattern. Black shellac varnish (which is the color generally used) is made by the addition of lamp black. This should be of good quality and free from grit. Red varnish can be made by adding Chinese vermilion. All coloring powders should be well pulverized. At least three coats of varnish should be applied to patterns, the surfaces being rubbed down with sand paper after applying the preliminary coats, in order to obtain a smooth surface.

ATKINS FRICTION DISCS

(without teeth)

For Cutting Cold Metal at High Speed



Friction Discs are used at the mills and in structural shops for cutting off rails, steel bars, and structural shapes. Sometimes they are used with a plain edge, but better results can be secured with an upset or nicked edge, because these discs pass through the metal by creating heat with friction, and the nicked edge secures a better contact with the metal.

Atkins Friction Discs are made from a special steel, carefully heat-treated, slightly hollow ground, and smithed for balancing.

Friction Discs are run at a speed of 20,000 to 25,000 feet per minute, and one can readily see that a blade made as ours, will save power, remove less material, and cut faster than an ordinary flat, common steel, unbalanced disc.

Give us the diameter, thickness, size of arbor, number, size, and location of pinholes, diameter of collar, whether you require a nicked edge, and the speed at which you run your machine.

We can furnish discs for all types of friction sawing machines.

Diam. Inches	Thick. Inches	List Price Each	Each $\frac{1}{32}$ " Heavier Addi- tional	Net Price Each for Nicked Edge
36	$\frac{1}{4}$	\$30.00	\$1.90	\$.95
38	$\frac{1}{4}$	32.00	2.15	1.00
40	$\frac{1}{4}$	35.00	2.40	1.05
42	$\frac{1}{4}$	37.00	2.60	1.10
44	$\frac{1}{4}$	40.00	2.85	1.20
46	$\frac{1}{4}$	43.00	3.15	1.25
48	$\frac{1}{4}$	46.00	3.45	1.30
50	$\frac{5}{16}$	57.00	3.70	1.35
52	$\frac{5}{16}$	63.00	4.00	1.45
54	$\frac{3}{8}$	68.00	4.30	1.55
56	$\frac{3}{8}$	82.00	4.60	1.65
58	$\frac{3}{8}$	88.00	4.95	1.80
60	$\frac{3}{8}$	95.00	5.30	1.95

AAA

TO KEEP MACHINERY FROM RUSTING

Take an ounce of camphor, dissolve in it one pound of melted lard; take off the scum and mix with as much fine black lead as will give it an iron color. Clean the machinery and smear it with this mixture, after twenty-four hours rub clean with soft linen cloth.

ATKINS PIPE SAWS

**For Cutting Pipe, Boiler Tubes, Angles,
Metal Moulding, Etc.**

These blades can be used on a saw table or a swing saw, but the blade must be adequately guarded because of the high speed at which the saw must run.

They are manufactured from a high grade alloy steel, the teeth are milled, and the blade is hollow ground for ample clearance.

Diameter Inches	Thickness Inches	Number of Points per Inch	List, Each	Speed Revolu- tions per Minute
12	$\frac{3}{16}$	9	\$8.00	6250
14	$\frac{1}{8}$	9	9.75	5260
16	$\frac{1}{8}$	9	11.75	4760
18	$\frac{1}{8}$	9	14.75	4165
20	$\frac{1}{8}$	9	17.50	3775

When ordering be sure and give us the diameter, thickness, size hole, and tell us what material you propose to cut.

—AAA—

CIRCUMFERENCES AND AREAS OF CIRCLES

Dia.	Circum- ference	Area	Dia.	Circum- ference	Area	Dia.	Circum- ference	Area
$\frac{1}{16}$	0.1964	0.0031	13 $\frac{1}{2}$	42.4115	143.14	52	163.363	2123.7
$\frac{1}{8}$	0.3927	0.0123	14	43.9823	153.94	53	166.504	2206.2
$\frac{3}{16}$	0.5890	0.0276	14 $\frac{1}{2}$	45.5531	165.13	54	169.646	2290.2
$\frac{1}{4}$	0.7854	0.0491	15	47.1239	176.71	55	172.788	2375.8
$\frac{5}{16}$	0.9817	0.0767	15 $\frac{1}{2}$	48.6947	188.69	56	175.929	2463.0
$\frac{3}{8}$	1.1781	0.1105	16	50.2655	201.06	57	179.071	2551.8
$\frac{7}{16}$	1.3745	0.1503	16 $\frac{1}{2}$	51.8363	213.82	58	182.212	2642.1
$\frac{1}{2}$	1.5708	0.1964	17	53.4071	226.98	59	185.354	2734.0
$\frac{9}{16}$	1.7672	0.2485	17 $\frac{1}{2}$	54.9779	240.53	60	188.496	2827.4
$\frac{5}{8}$	1.9635	0.3068	18	56.5487	254.47	61	191.637	2922.5
$\frac{11}{16}$	2.1598	0.3712	18 $\frac{1}{2}$	58.1195	268.80	62	194.779	3019.1
$\frac{3}{4}$	2.3562	0.4418	19	59.6903	283.53	63	197.920	3117.2
$\frac{13}{16}$	2.5525	0.5185	19 $\frac{1}{2}$	61.2611	298.65	64	201.062	3217.0
$\frac{7}{8}$	2.7489	0.6013	20	62.8319	314.16	65	204.204	3318.3
$\frac{15}{16}$	2.9452	0.6903	20 $\frac{1}{2}$	64.4026	330.06	66	207.345	3421.2
1	3.1416	0.7854	21	65.9734	346.36	67	210.487	3525.7
$\frac{1}{8}$	3.5343	0.9940	21 $\frac{1}{2}$	67.5442	363.05	68	213.628	3631.7
$\frac{1}{4}$	3.9270	1.2272	22	69.1150	380.13	69	216.770	3739.3
$\frac{3}{8}$	4.3197	1.4849	22 $\frac{1}{2}$	70.6858	397.61	70	219.911	3848.5
$\frac{1}{2}$	4.7124	1.7671	23	72.2566	415.48	71	223.053	3959.2
$\frac{5}{8}$	5.1051	2.0739	23 $\frac{1}{2}$	73.8274	433.74	72	226.195	4071.5
$\frac{3}{4}$	5.4978	2.4053	24	75.3982	452.39	73	229.336	4185.4
$\frac{7}{8}$	5.8905	2.7612	24 $\frac{1}{2}$	76.9690	471.44	74	232.478	4300.8
2	6.2832	3.1416	25	78.5398	490.87	75	235.619	4417.9
$\frac{1}{4}$	7.0686	3.9761	26	81.6814	530.93	76	238.761	4536.5
$\frac{1}{2}$	7.8540	4.9087	27	84.8230	572.56	77	241.903	4656.6
$\frac{3}{4}$	8.6394	5.9396	28	87.9646	615.75	78	245.044	4778.4
3	9.4248	7.0686	29	91.1062	660.52	79	248.186	4901.7
$\frac{1}{4}$	10.2102	8.2598	30	94.2478	706.86	80	251.327	5026.5
$\frac{1}{2}$	10.9956	9.6211	31	97.3894	754.77	81	254.469	5153.0
$\frac{3}{4}$	11.7810	11.045	32	100.531	804.25	82	257.611	5281.0
4	12.5664	12.566	33	103.673	855.30	83	260.752	5410.6
$\frac{1}{2}$	14.1372	15.904	34	106.814	907.92	84	263.894	5541.8
5	15.7080	19.635	35	109.956	962.11	85	267.035	5674.5
$\frac{1}{2}$	17.2788	23.758	36	113.097	1017.9	86	270.177	5808.8
6	18.8496	28.274	37	116.239	1075.2	87	273.319	5944.7
$\frac{1}{2}$	20.4204	33.183	38	119.381	1134.1	88	276.460	6082.1
7	21.9911	38.485	39	122.522	1194.6	89	279.602	6221.1
$\frac{1}{2}$	23.5619	44.179	40	125.664	1256.6	90	282.743	6361.7
8	25.1327	50.265	41	128.805	1320.3	91	285.885	6503.9
$\frac{1}{2}$	26.7035	56.745	42	131.947	1385.4	92	289.027	6647.6
9	28.2743	63.617	43	135.088	1452.2	93	292.168	6792.9
$\frac{1}{2}$	29.8451	70.882	44	138.230	1520.5	94	295.310	6939.8
10	31.4159	78.540	45	141.372	1590.4	95	298.451	7088.2
$\frac{1}{2}$	32.9867	86.590	46	144.513	1661.9	96	301.593	7238.2
11	34.5575	95.033	47	147.655	1734.9	97	304.734	7389.8
$\frac{1}{2}$	36.1283	103.87	48	150.796	1809.6	98	307.876	7543.0
12	37.6991	113.10	49	153.938	1885.7	99	311.018	7697.7
$\frac{1}{2}$	39.2699	122.72	50	157.080	1963.5	100	314.16	7854.0
13	40.8407	132.73	51	160.221	2042.8			

NUMBER OF TEETH IN MILLING SAWS FOR A GIVEN DIAMETER AND PITCH

Teeth Recommended for Various Materials

These Materials Are General	Thin Small Shapes Tubing Pipe	Medium Sections, Thin Shapes Pipe Tubing	Large Sections, Thin Shapes Tubing Pipe	Small Sections, Thick Wall Pipe Tubing	Thick Wall Pipe	Small Sections Hard Material	Medium Sections Hard Material	Large Sections, Hard Material, Structural	Extra Large Sections Hard Material, Small Sections Soft Material	Medium Sections Soft Materials	Large Sections Soft Materials	Extra Large Sections Soft Material
	1/8	3/16	1/4	5/16	3/8	7/16	1/2	9/16	5/8	3/4	7/8	1
9	224	150	112	90	76	64	56	.....	.....	.....	.....	.....
10	250	168	124	100	84	72	62	.....	.....	.....	.....	.....
11	276	184	138	110	92	78	70	.....	.....	.....	.....	.....
12	200	150	120	100	86	76	68	.....	.....	.....	.....
13	162	130	108	94	82	72	66	.....	.....	.....
14	174	140	116	100	88	78	70	58	.....	.....
15	150	124	108	94	84	76	62	54	.....
16	160	134	114	100	90	80	68	58	.....
18	150	130	112	100	90	76	64	.....
20	168	144	124	112	100	84	72	.....
22	184	158	138	122	110	92	80	.....
24	200	172	150	134	120	100	86	76
26	218	186	162	144	130	108	94	82
28	234	200	176	156	140	118	100	88
30	250	214	188	168	150	124	108	94
32	268	230	200	178	160	134	112	100
34	244	212	190	170	142	122	106
36	258	226	200	180	150	130	114

Higley Milling Saw Blade Specifications

Diam. of Blade Inches	Radial Slots			Arbor Inches	Keyway Inches	Collar Inches	Number Machine
	Number	Size Inches	Out to Out Inches				
11	21	5/8x 3/4	8 3/4	1 1/4	5/16 x 7/16	3	11 1/2 B
12 1/2	32	1 1/2 x 1 1/2	10 3/8	1 1/4	5/16 x 7/16	3 1/2	10
13 1/2	32	3 1/2 x 5/8	11 1/2	1 1/4	5/16 x 7/16	3 3/4	11
14	28	1 1/8 x 3/4	11 3/4	1 1/4	5/16 x 7/16	3 3/4	11 1/2-12 B
15	28	5/8 x 3/4	12 1/2	1 1/4	5/16 x 7/16	4 1/4	12
18	28	5/8 x 1	14 3/4	1 1/4	5/16 x 7/16	4 1/2	14
20	28	5/8 x 1	14 3/4	1 1/4	*	5	15
20	28	5/8 x 1	14 3/4	1 1/4	5/16 x 7/16	5	16
21	25	3/4 x 1 3/16	16 1/2	1 1/4	5/16 x 7/16	5	17
26	36	3/4 x 1 1/8	22	1 1/2	5/16 x 7/16	6	19
28	36	1 1/8 x 1 1/4	23	1 1/2	5/16 x 7/16	6	25
31	38	3/4 x 1 1/8	26	1 1/2	5/16 x 7/16	7	18-20-21
33	38	7/8 x 1 5/16	27 3/4	1 1/2	5/16 x 7/16	7	26
36	36	1 x 1 3/8	30 1/2	1 1/2	5/16 x 7/16	7	20 1/2-21 1/2
40	46	1 x 1 3/8	34	1 1/2	5/16 x 7/16	7	22

*No keyway but 8—3/8" pinholes with 2 3/4" centers for fillister head screws.

Lea-Simplex Milling Saw Blade Specifications

Diam. of Blade Inches	Radial Slots			Arbor Inches	Keyway Inches	Collar Inches	Number Machine
	Number	Size Inches	Out to Out Inches				
15	28	1 1/8 x 3/4	12 1/2	1 1/4	5/16 x 7/16	4 1/4	15
18	28	5/8 x 1	14 3/4	1 1/4	5/16 x 7/16	4 1/2	18
21	28	5/8 x 1	14 3/4	1 1/4	5/16 x 7/16	5	21
24	28	5/8 x 1	14 3/4	1 1/4	5/16 x 7/16	6	24

Burke Milling Saw Blade Specifications

Diam. of Blade Inches	Arbor Inches	Pinholes			Collar Inches	Number of Teeth
		Number	Diam. Inches	Centers Inches		
12	2	6	5/16	3 3/4	5	76
20	3	6	5/16	5 7/8	7	126

Nutter-Barnes Milling Saw Blade Specifications

Diam. of Blade Inches	Arbor Inches	Pinholes			Collar Inches	Number of Machine
		Number	Diam. Inches	Centers Inches		
14	1 3/8	1 3	3/16 3/32	3 3/32 2 13/32	3 3/4	4
16	1 3/8	1 3	3/16 17/32	3 11/16 2 13/32		
22	1 3/8	1 4	1/8 17/32	3 3/32 2 13/32	5	8
26	2	1 4	1/4 3/32	4 1/4 4 1/4	5 1/2	10

Newton Milling Saw Blade Specifications

Diam. of Blade Inches	Arbor Inches	Pinholes			Collar Inches	Number of Machine
		Number	Diam. Inches	Centers Inches		
12 1/2	1 1/2	6	1/2	4	5	U-0
18	1 1/4	6	9/16	5	6 1/2	U-1
20	1 1/4	6	9/16	5	6 1/2	U-1
24	2 1/2	6	5/8	7 3/8	8 1/2	U-2
26	2 1/2	6	5/8	7 3/8	8 1/2	U-2
30	2 1/2	6	5/8	8 7/8	10 1/2	U-3
32	2 1/2	6	5/8	8 7/8	10 1/2	U-3
36	3 1/2	6	7/8	10	11 1/4	U-4

Burr Milling Saw Blade Specifications

Diam. of Blade Inches	Arbor Inches	Pinholes			Collar Inches	Number of Machine
		Number	Diam. Inches	Centers Inches		
10	7/8	3	3/8	1 3/4	3	1
14	1 1/4	3	17/32	2 3/8	4	2
16	1 1/2	4	17/32	2 3/4	4 1/2	3

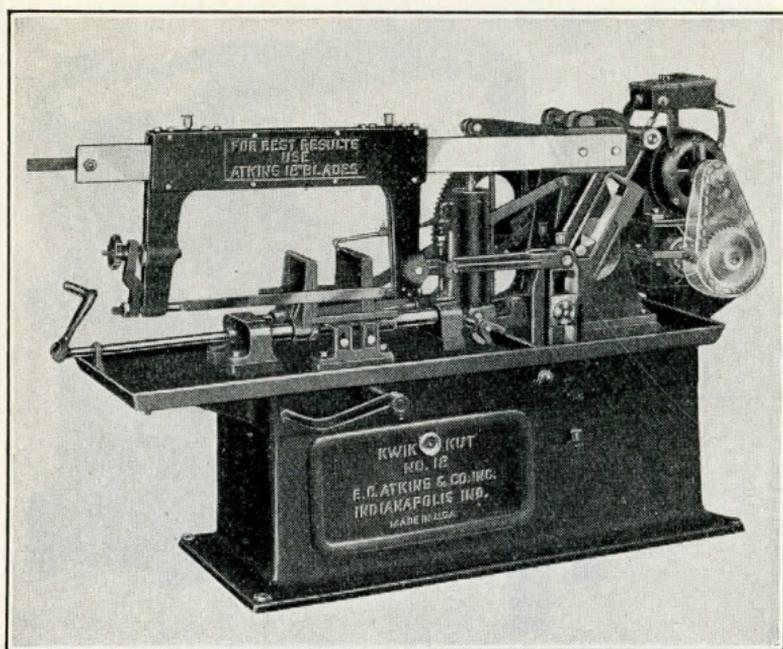
Cochrane-Bly Milling Saw Blade Specifications

Diam. of Blade Inches	Arbor Inches	Pinholes			Collar Inches	Number of Machine
		Number	Diam. Inches	Centers Inches		
12	1 1/2	3 1	9/16 1/8	2 5/8 2 11/16	5	1
13 1/2	1 1/2	3 1	9/16 3/16	2 5/8 2 11/16		
15	1 1/2	3 1	9/16 3/16	2 5/8 2 11/16	5	2B
18	1 1/2	3 1	9/16 3/16	2 5/8 2 11/16	5	4B
20	1 1/2	3 1	11/16 3/16	3 2 11/16	6	5
24	1 1/2	3 1	11/16 3/16	3 2 11/16	6	6

Q. & C. Bryant Milling Saw Blade Specifications

Number Machine	Diam. of Blade Inches	Arbor Inches	Number of Teeth	Pinholes				Collar Inches
				Number	Diam. Inches	Centers Inches	Counter-sunk	
5-5A	16	7/8	31	.....	.....	.....	.....	2 1/8
1-M	18	1 3/4	44	.....	.....	.....	.....	3 5/8
6-6A	20 1/2	1 1/4	38	.....	.....	.....	.....	4
2-B	23 1/2	1 3/4	44	3	1 1/2 2 3/2	3	R.H.	5 1/8
15	25	1 3/4	46	3	1 1/2 2 3/2	3	R.H.	5 3/8
3-B	28	1 3/4	52	3	1 1/2 2 3/2	3	R.H.	5 3/8
20	30	1 3/4	40	3	1 1/2 2 3/2	3	R.H.	5 3/8
4-B	31 1/4	1 3/4	58	3	1 1/2 2 3/2	3	R.H.	5 3/8
51	36	2	67	3	1 1/2 2 3/2	3	R.H.	5 3/8

No. 18 KWIK-KUT METAL CUTTING MACHINES, MOTOR DRIVEN MACHINES COMPLETE



**No. 18 Kwik-Kut Machine
(Motor Driven)**

All voltages mentioned are standard but will operate on motors rated at 15% higher or lower. The prices on DC Variable Speed Motor Driven Machines include 110, 220 and 550 volts. The AC Constant Speed prices include either single or polyphase 25 or 60 cycles. All Constant Speed Motor Driven Machines are regularly equipped with our special sprocket, pinion and chain drive, with a jackshaft.

The AC Motors have the same characteristics as our DC Motors, with a three speed gear box, or jackshaft.

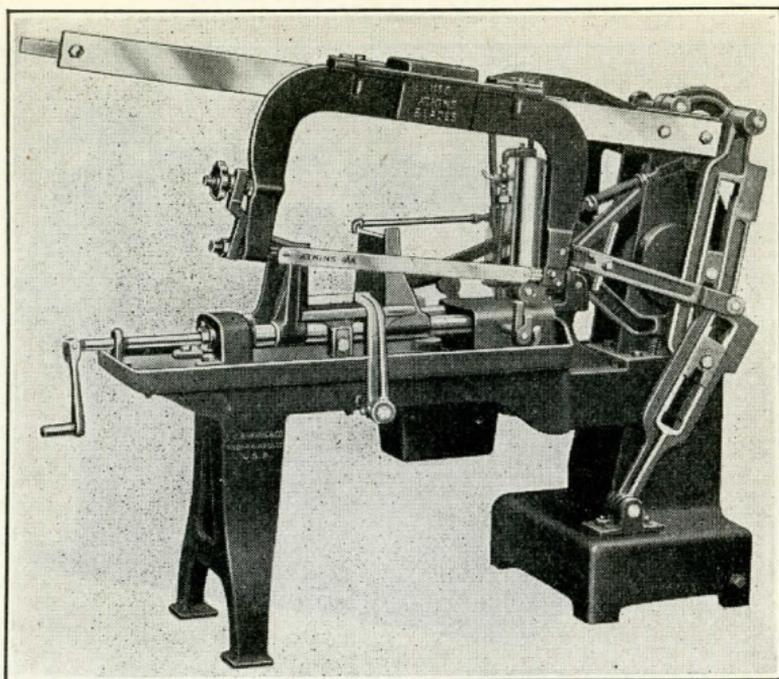
If different motor equipment from any mentioned is required, write for prices and information.

Number	Description	Shipping Weight Pounds	Net Weight Pounds	List Price Each
18-KCA	Solid Vise, Constant Speed with Jackshaft; without motor or switch.....	1450	1150	\$437.50
18-KCV	Solid Vise, Variable Speed, with Three-Speed Gear Box; without motor or switch	1525	1225	550.00
18-EKA	Solid Vise, Constant Speed, with Jackshaft and with motor and switch.....	1475	1175	537.50
18-EKV	Solid Vise, Variable Speed, with Three-Speed Gear Box, and with motor and switch	1550	1250	650.00
18-GB	Three-Speed Gear Box for No. 18 Machine: Low—45 Strokes Medium—60 Strokes High—75 Strokes	75	65	125.00
18-M	1 ½ H. P., 1750 R. P. M. Motor, either A.C. or D.C., 60 cycle, 3-phase.....	25	20	100.00
18-SCA	Swivel Vise, Constant Speed, with Jackshaft, without motor or switch.....	1450	1150	443.75
18-SCV	Swivel Vise, Variable Speed, with Three-Speed Gear Box, without motor or switch	1525	1225	556.25
18-ESA	Swivel Vise, Constant Speed, with Jackshaft, and with motor and switch.....	1475	1175	543.75
18-ESV	Swivel Vise, Variable Speed, with Three-Speed Gear Box, and with motor and switch	1550	1250	656.25

For other specifications of No. 18 "Kwik-Kut" Motor Driven Machines, send for special catalog.

For installing customer's motor a charge of \$15.00 Net will be made.

ATKINS KWIK-KUT METAL CUTTING MACHINES



Atkins Kwik-Kut Machine No. 7, a Draw Cut Machine

These machines are not ordinary hack saw machines, Atkins Kwik-Kut Metal Cutting Machines, by their exclusive design and improved construction are in a class by themselves for rapid and economical metal cutting.

They are unequalled by any power hack saw, not only in speed and simplicity of operation, but what is more important, the savings they effect in hack saw blades by reason of the long full stroke, our exclusive patent.

In view of the fact that other makes of hack saw machines have a fixed stroke of approximately six inches, it is necessary to increase the speed of such machines, to 120 strokes per minute, which gives a blade travel of 720 inches. This excessive speed destroys and makes necessary the purchase of a great many hack saw blades.

On the other hand, Atkins Kwik-Kut Metal Cutting Machines, with the full stroke, say 12 inches or over on a 17-inch or 18-inch blade, cutting stock approximately 3 inches in diameter at 75 strokes per minute, really cuts much faster. This method is not only easy on the machine but on the blade as well. The long stroke at 75 strokes per minute gives the Kwik-Kut Metal Cutting Machine a blade travel of 900 inches per minute, or 180 inches greater than the short stroke machines. This means that the Kwik-Kut is 25% faster on average cuts.

MANY EXCLUSIVE FEATURES

The driving mechanism consists of a beveled rim friction wheel securely fastened to the shaft so that, by the use of a rod starter, this wheel is forced against the pulley, thus furnishing the most reliable and durable driving power.

A raising device slightly raises the saw arm on the return, or non-cutting stroke, thus avoiding unnecessary wear on the blade.

An automatic stop cuts off the power when desired.

An outside rest holds the stock in cut, thus preventing the damage to material which often occurs on other machines when cutting short pieces.

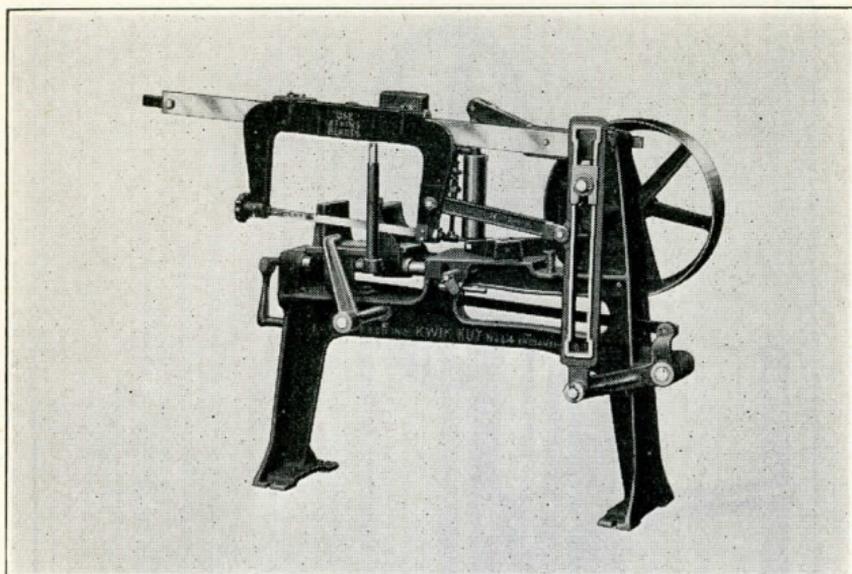
Compensating bearings are used on the saw frame, all of which are direct and finished, and no babbitt metal is used. Gibs on side and top are provided to take up any possible wear.

A depth gauge provides for automatically stopping the machine at any desired depth in the cut.

Let us send you a booklet describing these machines in detail.

ATKINS KWIK-KUT METAL CUTTING MACHINES

Belt Driven Machines



Atkins Kwik-Kut Machine, Nos. 14 and 12 (Push-Cutting)

SPECIFICATIONS OF ATKINS BELT DRIVE MACHINES.

No.	Description	Capacity Inches	Shipping Weight	Net Price Each
12-K	Solid Vise	4 x 4	350	\$140.00
12-S	Swivel Vise	4 x 4*	350	145.00
14-K	Solid Vise	6 x 6	400	150.00
14-S	Swivel Vise	5 x 6*	400	155.50
7-K	Solid Vise	8 x 8	750	250.00
7-S	Swivel Vise	7 x 8*	750	256.25
18-K	Solid Vise	8 x 8	1250	370.00
18-S	Swivel Vise	7 x 8*	1250	376.25

(*) The capacity given is the size of stock which the vise will accommodate when cutting straight. When turned to an angle of 45 degrees the capacities are No. 12-S, 2½ x 4 inches; No. 14-S, 3½ x 6 inches; No. 7-S, 4½ x 8 inches; No. 18-S, 4½ x 8 inches.

No. 7 and No. 18 are draw-cut, and No. 12 and No. 14 are push-cut machines. No. 7 and No. 18 are equipped for wet-cutting. No. 12 and No. 14 cannot be equipped for wet-cutting or motor drive.

SPECIFICATIONS No. 7 MOTOR-DRIVEN MACHINES, COMPLETE

All voltages mentioned are standard but will operate on motors rated at 15% higher or lower. The prices on DC Variable Speed Motor Driven Machines include 110, 220 and 550 volts. The AC Constant Speed prices include either single or polyphase 25 or 60 cycles. All Constant Speed Motor Driven Machines are regularly equipped with our special sp.ocket, pinion and chain drive, with a jackshaft.

The AC Motors have the same characteristics as our DC Motors, with a three speed gear box, or jackshaft.

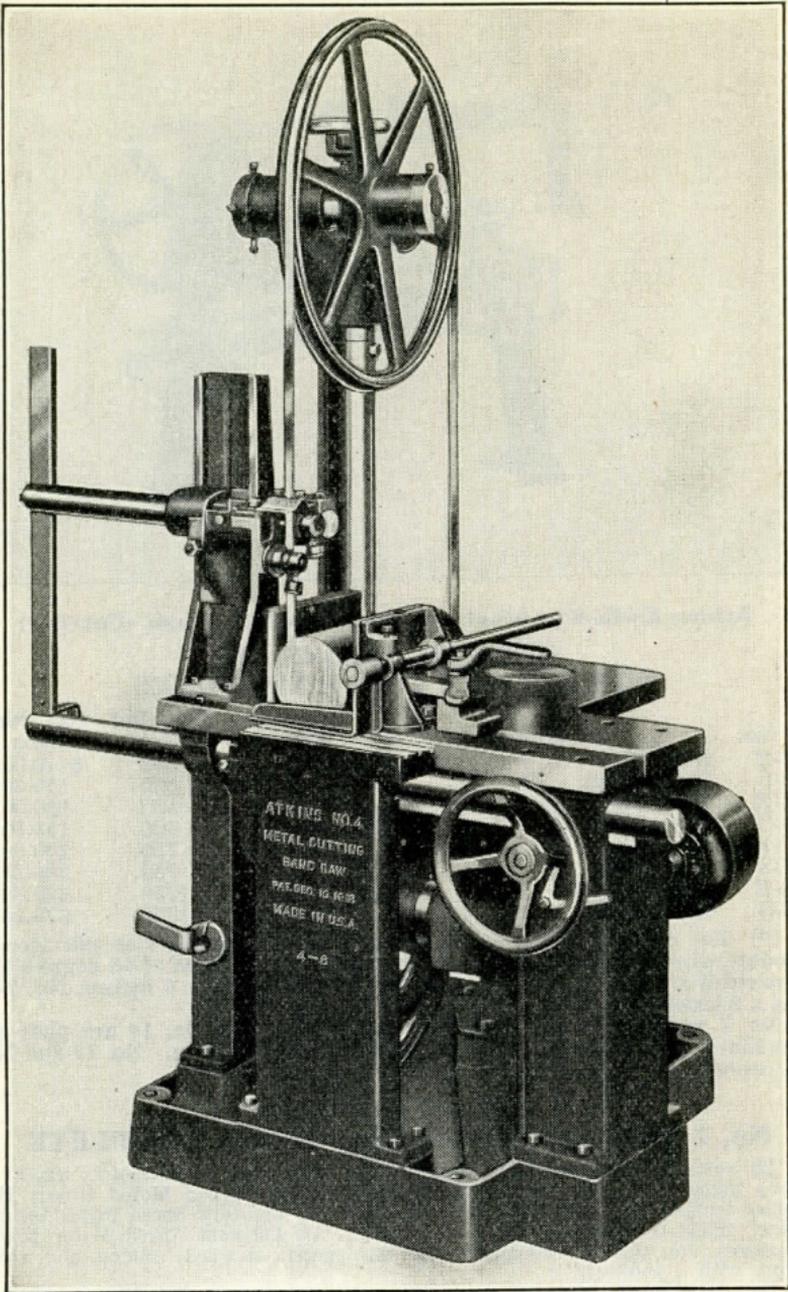
If different motor equipment from any mentioned is required, write for prices and information.

For other specifications of No. 7 "Kwik-Kut" Motor Driven Machines, send for complete catalog.

For installing customer's motor a charge of \$15.00 Net will be made.

Number	Description	Shipping Weight Pounds Approx.	List Price Each
7-KCA	Solid Vise, Constant Speed, with Jackshaft; without motor or switch.....	750	\$312.50
7-KCV	Solid Vise, Variable Speed, with Three-Speed Gear-Box; without motor or switch.....	825	425.00
7-EKA	Solid Vise, Constant Speed, with Jackshaft and with motor and switch.....	850	412.50
7-EKV	Solid Vise, Variable Speed, with Three-Speed Gear Box, and with motor and switch.....	925	500.00
7-GB	Three-Speed Gear Box for No. 7 Machine: Low—45 Strokes Medium—60 Strokes High—75 Strokes.....	75	125.00
7-M	¾ H. P., 1750 R. P. M. Motor, either A.C. or D.C., 60 cycle, 3-phase.....	25	50.00
7-SCA	Swivel Vise, Constant Speed, with Jackshaft; without motor or switch.....	750	318.75
7-SCV	Swivel Vise, Variable Speed, with Three-Speed Gear Box; without motor or switch.....	825	431.25
7-ESA	Swivel Vise, Constant Speed, with Jackshaft and with motor and switch.....	850	418.75
7-ESV	Swivel Vise, Variable Speed, with Three-Speed Gear Box, and with motor and switch.....	925	506.25

ATKINS No. 4 METAL BAND SAW MACHINE



As a machine tool for cutting metal, Atkins No. 4 Metal Band Saw Machine is unsurpassed for efficient, economical production.

Its superiority has been proven many times in competitive tests. It will cut any kind of metal more economically, more quickly and straighter than any other metal cutting machine on the market. It is more economical because it only removes a .04 inch kerf—it uses the entire length of the blade and very little power is required to operate it. It is faster because it is a continuous cut and is easily adjusted to any angle.

This tool is distinctly a production machine. It will pay for itself in a short while, wherever there is a cutoff operation in manufacturing; in a tool room where a machine is required to cut constantly, or in a steel warehouse or stockroom.

The Atkins Band Saw Machine is not a one operation machine but can be used for many purposes such as: Cutting slots, roughing out dies, slotting screws and doing other operations in less time and at less expense than it could be done on a shaper, slotter or miller.

It is heavily constructed to reduce vibration, and is carefully built for accurate work. The material is held firmly in a quick acting vise or on the angle plate, and the saw is fed into the material by gravity, so that there is no strain on the blade or any vibration that will cause the blade to run crooked or to break. It has cut gears and all principal moving parts are ball-bearing.

Write for a booklet explaining in detail the many important features of this machine.

ATKINS No. 4 METAL BAND SAW MACHINE

Exclusive Mechanical Features

Gravity Feed controlled by weights concealed in the hollow column leg and connected by chain directly to the Guide and Saw Arm, has proven the simplest and best mechanical construction.

The Quick Acting Vise Jaws can be instantly adjusted to any desired angle up to 45 degrees. The Saw blade travels in a straight plane which guarantees a vertical cut up to the capacity of the machine.

The new adjustable Saw Guides insure accuracy and permit easy adjustment of the blade while the saw is running.

A feature of the machine is the Tension Gauge which accurately indicates and automatically holds the correct tension for the blade. This provision assures efficient cutting and eliminates unnecessary strain on all the working parts.

A Positive Automatic Stop overcomes the very annoying and expensive breakage of blades by stopping the blade the instant the teeth have completed the cut, but before the back of the blade passes through the cut. Most blade breakage on Band Saw Machines is due to a burr or imperfect alignment which the back of the blade strikes on reversing, after it has passed through the cut.

SPECIFICATIONS OF ATKINS No. 4 METAL BAND SAW MACHINE

Size of Table: 13"x32"
Diameter of Wheels: 24"
Height over all: 74"

Floor Space required:

Motor-Driven,	50"x36"
Belt-Driven,	60"x36"
Power Required,	¾ H. P.

Approximate Net Weight:

Motor-Driven,	1500 lbs.
Belt-Driven,	1500 lbs.

Approximate Shipping Weight:

Crated, Boxed (For Export)	Motor-Driven	Belt-Driven
	1770 lbs.	1770 lbs.
	1970 lbs.	1970 lbs.

Dimensions, Crated for Shipment:

		Boxed for Export
Length,	50"	56"
Width,	36"	42"
Height	78"	75"

Capacity:

On straight cut, any size up to 12"x18"
At 45° 9"x18"

Standard Speed of Gear Box:

Low, 90 F. P. M.; Medium, 125 F. P. M.; High, 150 F. P. M.

Height of Table:

The top of the table is 28" above the floor

Feed Weights:

1, 44 lbs.; 3, 12½ lbs.

Size of Blades:

14' long x 5/8" or 3/4" or 1" wide.

We furnish no countershaft with the machine, as in most cases when Belt Driven it can be arranged for attachment directly to line-shaft, and when countershaft is required, the user is often prepared to make his own at a slight expense.

Equipment:

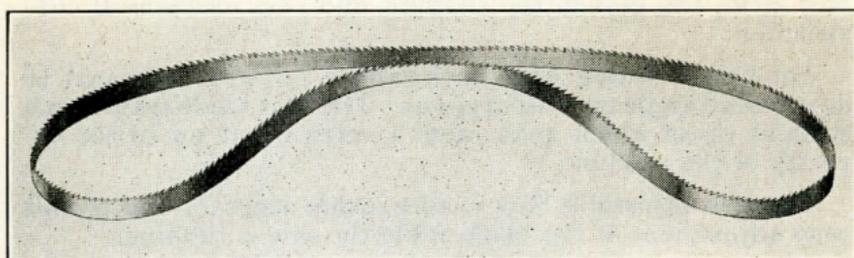
We furnish free with each machine three saw blades 3/4" wide with 8, 10 or 12 teeth to one inch, and three blades 5/8" wide with 14 teeth to one inch, unless otherwise specified. Additional blades furnished at prices quoted upon application.

LIST PRICES EACH

Belt Driven.....	\$937.50
Motor Driven, ¾ H. P., 1125 R. P. M.....	937.50
Stock Rest.....	25.00
Angle and Face Plate.....	30.00

ATKINS METAL CUTTING BAND SAW BLADES

Flexible Back Hack Band Saws



These blades are made from an Alloy Steel similar to the steel used in Atkins celebrated AAA Non-Breakable Hack Saw Blades. The teeth are milled with deep gullets and with keen cutting edges. The cutting edge of the tooth is kept straight, so that the entire width of the blade is engaged in the cut instead of a sharp point, this offers great resistance to wear.

The blade is tempered by machines of our own design, only to the base of the tooth. The remainder of the blade, though stiff enough to cut straight, is flexible and tough so that it will withstand bending around the wheels of the machine and twisting through the guides.

This exclusive process of manufacture produces a saw with an exceptionally hard edge, a strong fast cutting tooth, and a back that will hold the teeth and not check or break.

Width Inches	Gauge	Ft. per Lb. (Approx.)	Price per Foot Cut to Length	Price per Lb. in Coils
$\frac{3}{16}$	.025	80	\$0.14	\$11.20
$\frac{1}{4}$	.025	60	.14	8.40
$\frac{3}{8}$	.025	35	.14	5.26
$\frac{1}{2}$	.025	25	.14	4.00
$\frac{5}{8}$	.031	16	.16	2.88
$\frac{3}{4}$	.031	12	.18	2.40
1	.036	9	.22	2.16

Brazing extra $\frac{1}{4}$ " to $\frac{3}{8}$ " \$0.30 per saw list
 $\frac{3}{4}$ "40 per saw list
 $\frac{7}{8}$ " to 1"60 per saw list

Saws are made with 8, 10, 12, 14, 18, 24, or 32 teeth per inch.
 In ordering state the kind of material to be cut and size.

Temper to Order

Temper A—Cast Steel, High Speed Steels, Nickel, Chrome, Vanadium, and similar alloy steels.

Temper B—Cold Rolled Steel, Machine Steel, Cast and Wrought Iron, Structural, Manganese and Government Bronze.

Temper C—Aluminum, Brass, Soft Bronze, Fibre, Pressed Raw Hide, Sheet Steel, Brass and Copper Tubing, and thin gauge materials.

ATKINS ALL HARD BAND SAW BLADES

These are made from friction temper stock, for cutting soft metal, thin sheets and metal trim, at high speed. In ordering state the kind of material to be cut, and size, and also number and style tooth. "B" tooth furnished in 7 points only.

$\frac{1}{4}$ " wide, 22 ga.13c per foot
 $\frac{3}{8}$ " wide, 22 ga.14c per foot
 $\frac{1}{2}$ " wide, 21 ga.15c per foot
 $\frac{5}{8}$ " wide, 21 ga.16c per foot
 $\frac{3}{4}$ " wide, 21 ga.18c per foot
 1" wide, 20 ga.22c per foot
 1 $\frac{1}{4}$ " wide, 20 ga.26c per foot

BRAZING

$\frac{1}{4}$ " to $\frac{1}{2}$ " each \$0.50 list
 $\frac{5}{8}$ " to $\frac{7}{8}$ " each .60 list
 1" each .70 list

ATKINS "AAA"

Hack Saw Blades and
Frames

Metal Band Saws

Metal Saw Machines
and Circular Metal
Saws



"Finest on Earth"

E. C. Atkins & Co.

The Silver Steel Saw People

Established 1857

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Machine Knife Factory, Lancaster, N. Y.

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