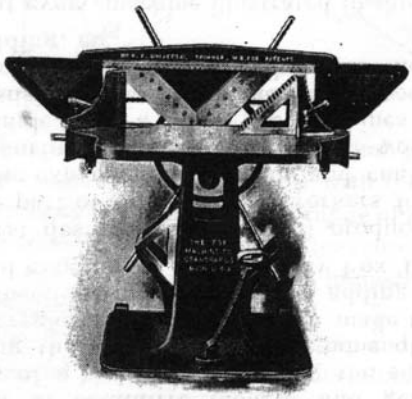
Oct 15, 1907

FOX

Catalog No. 70

UNIVERSAL TRIMMERS



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FOX MACHINE COMPANY

GRAND RAPIDS, MICH., U. S. A.

UNIVERSAL TRIMMERS, MITER MACHINES, BORING MACHINES, DADO or GROOVING HEADS, BAND SAWS, LATHES, SAW BENCHES

COMPLETE PATTERN SHOP EQUIPMENT

A005250

Fox Wood Trimmers were the first trimming machines ever made. They were the original invention of our President, W. R. Fox, the first machine being designed and made while he was working as a pattern maker. While they have been flattered by more or less successful imitations, we are sure that a comparison of other machines with the original, time tested, Fox Trimmers with their latest improvements, will show why ours stand so far ahead of all others. Fox Trimmers were the product of creatative thought and genius coupled with mechanical ability of a high order. During the succeeding years we have worked along the same lines, losing none of the independence and intelligent disregard of precedent which made the first Fox Trimmers an instantaneous success, but rather adding thereto an unapproachable fund of experience. This is why Fox Trimmers excell.

They were first designed, and are still produced, to fill a recognized need on the part of accurate wood workers for a machine which would eliminate the expensive hand fitting and cnable speedy production of a perfect surface on either hard or soft wood either square or at any desired angle. As a result the machines are recognized as practically indispensible wherever any accurate wood work is done and particularly in such work as pattern making, cabinet making, joinery, carpentering, building, etc.

Note well that every machine illustrated in this catalog has valuable new features worthy of consideration which have been added since the last catalog was published. Some of the machines have been redesigned completely.

The cost of replacing trimmers which have not the latest attachments and time saving conveniences, with those which have, is a small item in comparison with the saving that the change makes possible. Take this matter up with us and we will convince you of this.

Fox Universal Trimmers have been repeatedly exhibited at the leading Expositions and Worlds Fairs and have never failed to receive the highest award possible in their class. We point however, to the fact that some individual sizes in our line are used to a greater extent than all other makes of machines combined as being a more tangible proof of their universally recognized superiority.

The large full Universal Machines, such as the Style F are made very strong and heavy, capable of standing the heaviest work it is possible to do upon them. The small machines are made convenient for disposition upon the bench; light enough to be carried about and at the same time, absolutely rigid enough to handle with perfect accuracy, any work coming within their capacity.

We manufacture in the same shop, machine tools of the greatest accuracy and the same skilled labor and high grade equipment is used in the manufacture of Fox Universal Trimmers. "Machine tool construction" is an absolute fact, and not a mere catch phrase, when applied to Fox Trimmers.

TABULATED SPECIFICATIONS

In English Weights and Measures.

MACHINE No.	No. 4 A	No. 5 A	No. 6 A	No. 4 E	No. 6 E	No. 6 F	No. 8 F
Heighth of Cut	4"	4½"	6"	4"	6"	6"	8"
Length of Cut	8"	8"	12½"	9¼"	12½"	19"	24½"
Trimming Area	24 sq. in.	30 sq. in.	57 sq. in.	29 sq. in.	57 sq. in.	96 sq. in.	164 sq. in.
Size of Bed . .	7½"x17½"	9½"x20"	11½"x27½"	13"x20½"	18"x39½"	18"x35"	24"x42"
Net Weight . .	32 lbs.	50 lbs.	118 lbs.	190 lbs.	420 lbs.	470 lbs.	700 lbs.
Dom. Ship. Wt.	50 lbs.	88 lbs.	160 lbs.	220 lbs.	480 lbs.	600 lbs.	910 lbs.
Exp. Ship. Wt.	50 lbs.	88 lbs.	160 lbs.	275 lbs.	550 lbs.	650 lbs.	970 lbs.
Size Exp. Boxes	1 cu. ft.	2 cu. ft.	4½ cu. ft.	8 cu. ft.	17 cu. ft.	33 cu. ft.	50 cu. ft.
CODE WORD	Truth	Troach	Tripp	Trump	Trust	Trail	Treat

TABULATED SPECIFICATIONS

Metric System.

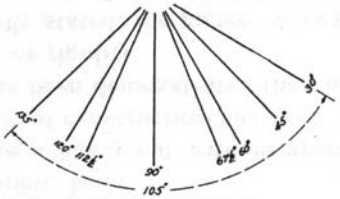
MACHINE No.	No. 4 A	No. 5 A	No. 6 A	No. 4 E	No. 6 E	No. 6 F	No. 8 F
Heighth of Cut	101 mm	120 mm	152 mm	101 mm	152 mm	152 mm	203 mm
Length of Cut	203 mm	203 mm	317 mm	235 mm	317 mm	480 mm	620 mm
Trimming Area	155 sq. cm	193 sq.cm.	368 sq.cm	187 sq. cm.	368 sq. cm.	619 sq. cm.	1058 sq.cm.
Size of Bed . .	190x442mm	241x508mm	293x698mm	330x750mm	455x995mm	455x885mm	608x1060mm
Net Weight . .	15 Kg.	23 Kg.	54 Kg.	86 Kg.	190 Kg.	213 Kg.	317 Kg.
Exp. Ship. Wt.	23 Kg.	40 Kg	72 Kg.	100 Kg.	217 Kg.	272 Kg.	412 Kg.
Dom. Ship. Wt.	23 Kg.	40 Kg.	72 Kg.	125 Kg.	249 Kg.	295 Kg.	440 Kg.
Size Exp. Boxes	.0283 cu. M.	.0566 cu. M.	.1274 cu. M.	.2265 cu. M.	.4814 cu. M.	.9344 cu. M.	1.4158 cu. M.
CODE WORD	Truth	Troach	Tripp	Trump	Trust	Trail	Treat

Comparison of Different Types of Fox Universal Wood Trimmers.

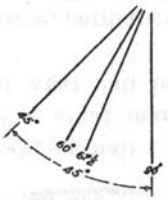
There are three different types of Fox Trimmers now manufactured. Others have been manufactured in the past which have been rendered obsolete by the progressive spirit which holds sway in our works.

The Style A, Style E and Style F machines which are now made are illustrative of three distinct steps in trimmer construction.

The Style A Fox Trimmers were the first trimmers ever made. They are intended for disposition upon a workman's bench or other convenient place. They give the greatest possible capacity and at a low price. That the range of angles which it is possible to trim on the Style A machines is restricted by comparison with the Style E and Style F machines is well shown by the accompanying etching.



Range of angles. Style E and F Trimmers.



Range of angles. Style A Trimmers.

The Style E Fox Trimmer was designed and put on the market because the limited range of angles possible with the Style A machine seemed to be a detriment. That the wider range of angles, larger bed, freedom from obstruction of bench and greater power, furnished in the Style E machines, was needed, was shown immediately by the wide sale the Style E machines enjoyed.

The Style F Fox Trimmer was the next step and this was designed in response to a demand for a greater capacity than was furnished in the No. 6 E; that is, ability to trim a larger area. It was readily seen that it was impossible to trim a greater area with a single lever than is furnished with the No. 6 E machine, hence some new operating mechanism had to be employed. The hand wheel solved the problem in that it gives a chance to trim any width desired, at the same time it provides one of the handles or levers within arm's reach, whether the machine is set for trimming a piece 2 in. wide or 24 in. wide. The power and convenience of this mechanism are enormous. In addition there are many other features which have been added to the Style F machines which are not furnished with the less complete Style E and Style A machines.

Before selecting a trimmer we earnestly recommend a careful reading of the detailed description of each machine.

The Fox Universal Trimmer is built upon the mechanical principle of a shearing cut. This cut is made by the knife shearing against the point of a gauge which is made to swing in the arc of a circle. All the rest of the machine is simply designed to faciliate this shearing operation.

It naturally follows that the gauge and knife are the most vital points in Trimmer construction. While the quality of the Fox Universal Trimmers as a whole is beyond criticism, the exceptional superiority furnished in these two vital parts is particularly noticeable. When purchasing a trimmer, carefully consider the following detailed description of our gauges and the remarks regarding Fox Trimmer Knives on page six.

Fox Universal Trimmer-Gauge Construction.

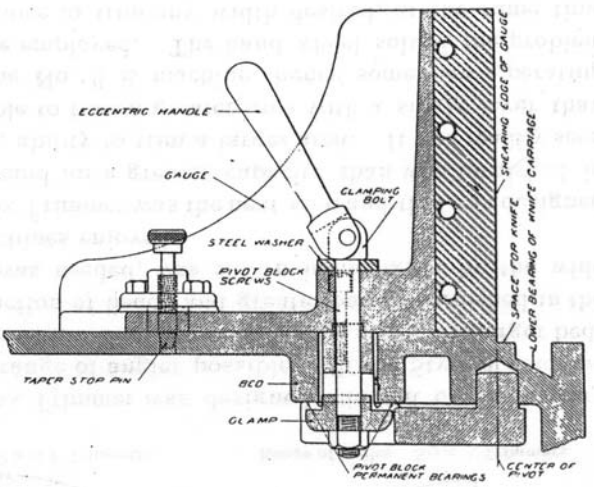
The half tone cut given below shows an 8 F Fox Universal Trimmer gauge removed from the machine. It illustrates at the same time the type of gauge used on all our E and F machines. On the opposite page is a line etching showing the mechanical features of this construction.

A pivot block is fitted to the bottom of the gauge by means of a carefully milled slot and tongue, and is then fastened tight to the gauge by means of two heavy screws, thus practically making the gauge and pivot block one solid piece. The broad bottom of the gauge rests flat on the top of the bed of the machine. The pivot block passes down through the circular slot in the bed, and presents four carefully scraped and fitted bearings to the under side of the bed. The bearing surfaces under the bed are in parallel lines on either side of the circular slot. As the gauge swings it is constantly held rigid by this style of construction. The pivot on the pivot block comes up with its center directly under the spot where the cutting edge of the knife and the point of the gauge meet. The result is that in swinging the gauge you cannot help moving in the true arc of a circle with the gauge point always at the same exact spot.



The results of this construction are far reaching. Swinging from a central pivot

Fox Universal Trimmer-Gauge Construction—Continued.



produces almost no wear. Any other style of construction has a tendency to multiply the error in original manufacture and also that produced by wear. The construction of the gauge is so rigid that it is possible to set it by the spring taper stop pins without locking it by the clamping lever and make a heavy cut without springing the gauge a hair's breadth. This style of construction has been in use by us a great many years and it has been demonstrated that no amount of wear will impair its accuracy or rigidity.

Briefly stated, the gauge swings from a positive, permanent pivot. While swinging, it is held rigid by the flat bottom of the gauge engaging the top of the bed and the four permanent bearings, at the back of the pivot block, engaging the under side of the bed. This rigidity is produced by accurately scraped and fitted surfaces which are adjustable to wear. It swings easily, but cannot tip.

The style of construction used for the gauges of the style A bench trimmers can be seen by looking at the cuts of the machines given on pages 20-22. As the machines are less expensive and cover a more limited range of angles, a different type of construction is used, but here as in the case of the larger and heavier machines, we provide a support at the front of the gauge. The support in this case is the shape of a projection at the top with a bearing surface on the frame so shaped that it keeps the corner of the gauge constantly in shear with the knives. At the same time it never allows the point of the gauge to get into the path of the knives.

It is an impossibility for the point of the gauge on any Fox Universal Trimmer to be sheared off by the knives, yet the point always stands so close to the knives that in cutting a piece of wood a perfect shearing action is produced.

Fox Universal Trimmer Knives.

Trimmer knives are difficult to make, in fact the ordinary knife manufacturer seems absolutely unable to turn out trimmer knives that are satisfactory. They have to be ground slightly concaved on the face. If left absolutely flat the sharpening process would inevitably wear the face away at the cutting edge, thus leaving the knife thicker at the back and causing the wood to crowd away. The concavity overcomes this tendency. On the other hand whatever concavity there is, is duplicated in the end of the wood trimmed and consequently it must be only a trifle. The concavity should not be less than .0015 inches and not more than .003 inches.

The requirements of perfect temper, lying between a knife which is so hard that it will crumble when being used on hard wood, and a knife that is so soft that it will not hold an edge, are so exacting, that nothing short of years of experience in this particular branch of the knife manufacturer's art enables us to turn out our present grade of knives.

Practical experience in the past has proved to us the difficulty and practical impossibility of getting perfect knives from ordinary knife manufacturers. Fox quality knives come only from Fox Machine Co.

Care of Trimmer Knives.

Trimmer knives cannot be handled as ordinary machine knives are, yet they are not hard to sharpen if they are handled with care. They have to be made very hard, much harder than ordinary machine knives. In grinding trimmer knives care should be taken to keep them cool by grinding slowly, otherwise the temper is liable to be destroyed. After once having the temper spoiled on the edge the only remedy is to grind back to the part where the temper has not been drawn. Trimmer knives cannot be re-tempered. In honing or sharpening on an oil stone care should be taken to do all the sharpening on the bevel side and in removing the wire edge only a hard flat stone should be used and even this should only touch the face very lightly. The last time the stone is touched to the knife it should be on the bevel side. If the knife is honed to excess on the face it will be ruined. All the grinding or honing must be done on the bevel side.

It is necessary to bear in mind the fact that the surface of the wood trimmed always duplicates the face of the knife which made the cut. When this is understood it is readily seen why such care should be taken to keep the face in perfect condition. Even the slight concavity referred to above is reproduced in the wood operated upon.

A little care along the lines indicated will give years of satisfactory service.

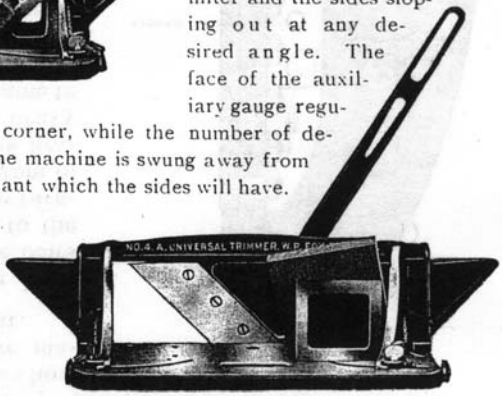
It is always wise to have an extra pair of knives for each machine so that one pair can be kept in condition to replace the pair on the machine. As Fox Trimmers will wear out several pairs of the best knives that can be made, the additional convenience of having an extra pair always ready costs nothing in the end.

Triangle Gauge Attachments.

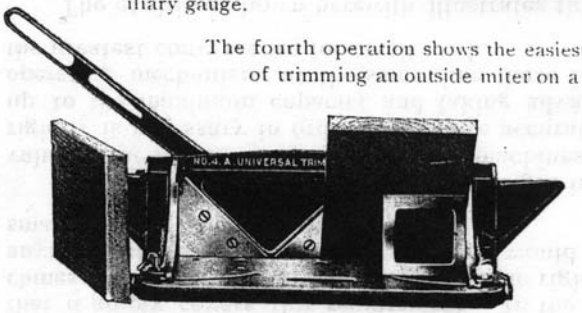
On account of its smaller size we use the No. 4 A bench trimmer as a means of illustrating the utility of the auxiliary gauges now furnished with all Fox Trimmers. The first cut illustrates the trimming of a shoulder on a half lap or tenon, sometimes spoken of as trimming into a check. The knives and gauges both standing at 45° make it possible to trim right down to the bottom leaving an absolutely square smooth surface.



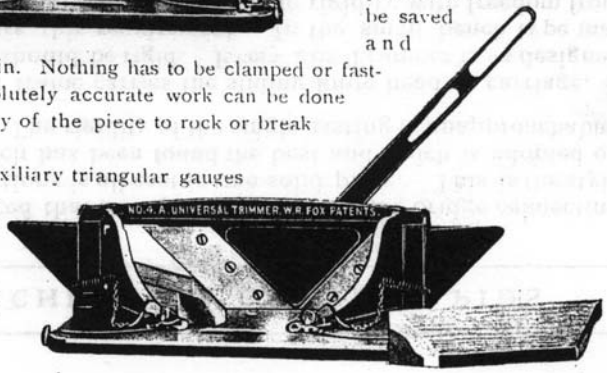
The second operation is cutting a compound angle. A hopper shaped figure can be cut or any four sided figure with the four corners fitted together at a miter and the sides sloping out at any desired angle. The face of the auxiliary gauge regulates the 45 degrees for the miter corner, while the number of degrees which the regular gauge of the machine is swung away from 90 degrees regulates the degree of slant which the sides will have.



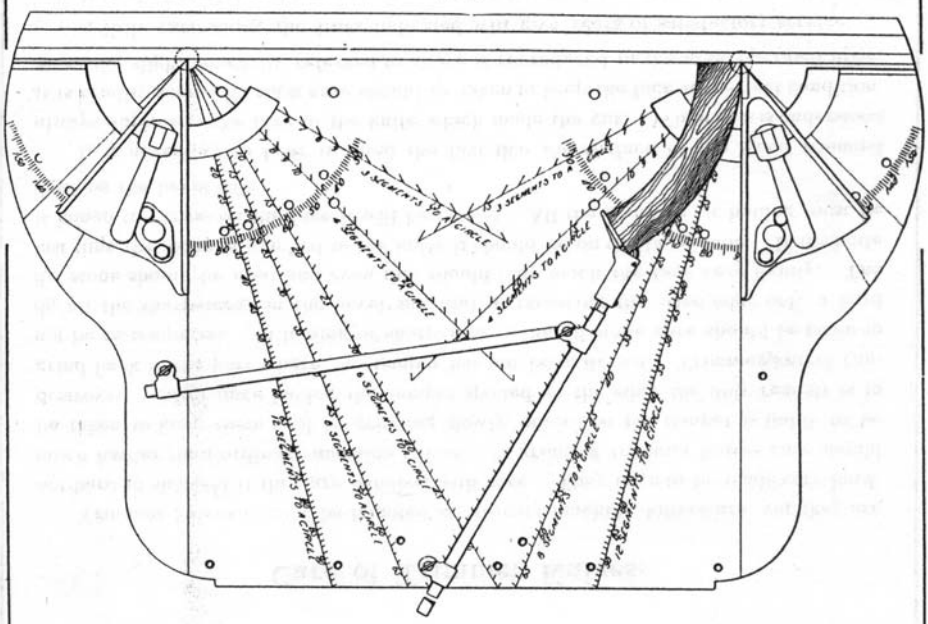
The third operation illustrated is the trimming of a wide miter. It is possible to miter a piece on edge as wide as the machine will cut instead of as high as the machine will cut, as is the case without the auxiliary gauge.



The fourth operation shows the easiest and most satisfactory way of trimming an outside miter on a crown or sprung moulding. A reverse pattern of the piece of moulding 4" or 5" long can be made in a few moments time. One pattern serves for both sides of the machine and the pattern can be saved and used over and over again. Nothing has to be clamped or fastened in position. Absolutely accurate work can be done and there is no tendency of the piece to rock or break away on the edge.



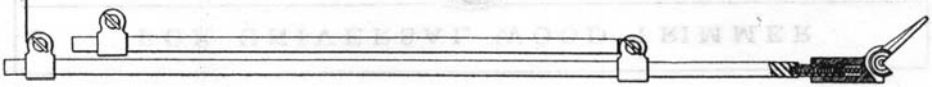
A pair of these auxiliary triangular gauges of a proportionate size accompanies each Fox Universal Trimmer. Their utility on the larger machines is even more striking.



The above cut shows the bed of the No. 8 F Trimmer. The No. 6 F is an exact duplicate, except in size. In swinging the gauges, every individual degree from 25 to 155 is indicated on the bed. The gauges can be instantly located at any unusual angle desired by means of the eccentric clamping lever. All prominent angles are located by taper spring stop pins and tapered holes in the bed.

The cut also shows the way to trim segments for making up circular, or other segmental work. The bed is laid out for 3, 4, 6, 8 and 12 segments to the circle, and of diameters ranging up to 8 ft. on the No. 8 F and 6 ft. on the No. 6 F. The radiating lines indicate different numbers of segments. The graduations on these radiating lines indicate the diameter which the complete circle will have when segments are trimmed to that graduatian.

A patent stop rod as shown for locating and holding the segments in position for trimming is furnished with all Style "F" machines. This is located at the desired graduation by simply fastening two thumb screws. The segment should be long enough to allow for trimming both ends. The head is so arranged that it may be drawn back a short distance, by means of a compression spring, while the first cut is made. As the segment is lifted to reverse ends ready for making the final cut, the head automatically springs to its original position. Every segment will be cut exactly the right length, and the angles between the ends of the segments will also be perfect. "Cut and try" process is eliminated. This patent stop rod makes the final cut on each piece while using the first trimmed end as a basis. Heretofore the inaccuracy of the band sawed edge, from which it was necessary to locate the work, made it impossible to get satisfactory results. The bed is graduated on both sides so that either knife can be used.

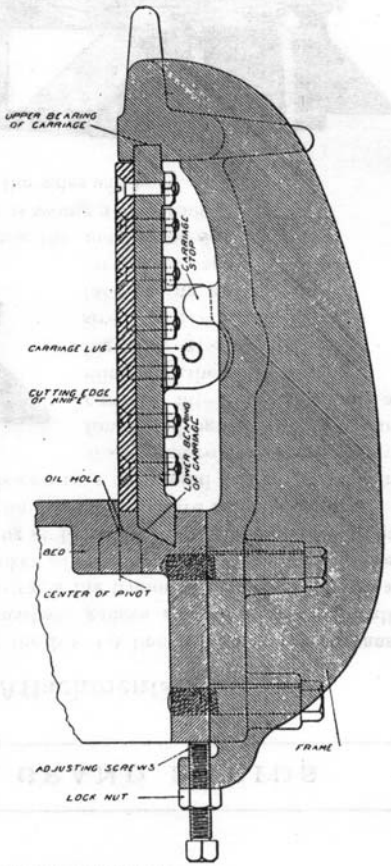


It will be noticed that our upright frame and the bridge connecting the two upright portions is all cast in one solid piece. This is the style of construction which has been found the best and which is adopted on all Fox Trimmers. The rigidity of the single casting is unapproachable.

As the upright frame carries the sliding knife head or carriage, it is essential that it should be rigid. Every Fox Trimmer is so designed that it amply covers this requirement. In the small bench type machines care has been taken to combine ample rigidity with freedom from anything approaching clumsiness which would be objectionable in a small machine for bench use.

Every ounce of the 700 lbs. of net weight in an 8 F Trimmer is of value to the user. In large powerful machines of this type extreme rigidity is necessary in order to produce accurate work when working up to the maximum capacity and taking advantage of the powerful operating mechanism, at the same time these large machines provide the greatest convenience for small work.

The etching shown herewith illustrates the construction used on the Style F Trimmer and shows how it is possible to adjust these machines to compensate for wear.

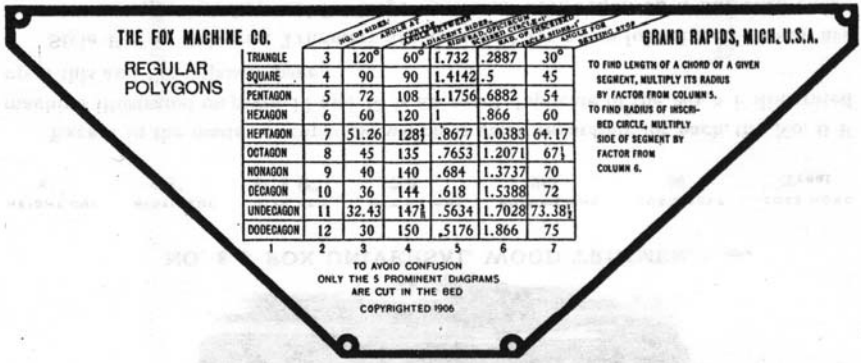


It will be observed that it is possible to simply loosen the bolts which attach the main frame to the bed of the machine and then by turning the set screws in the bottom of the frame a trifle, the frame is lowered to a tight bearing. The heavy bolts or screws holding the frame to the bed are again tightened up and the machine is as good as new as far as this main bearing surface is concerned.

It is essential that this bearing should be tight as whatever inaccuracy there is, is bound to be apparent in the wood trimmed. Accurate work from a loose bearing is impossible.

Wear not only loosens the bearing, but it throws the knife head out of line as well, as practically all of the wear is at the bottom. Our method of taking up the wear brings the knife head back to its original vertical position at the same time and by the same operation that the looseness is removed.

Tabulated Instruction Plate for Wood Trimmers.



The above etching and the one on the opposite page are reproductions of the two engraved plates which are attached to each style F Fox Universal Wood Trimmer, one being on the right hand and the other on the left hand knife guard. They not only save time, but they save the time of the most expensive workman, the one who lays out the work.

The Tabulated Instruction Plate for Wood Trimmers is designed to guide the workman in the accurate adjustment of gauges and stops on Wood Trimmers.

Column No. 1 of this table gives the names of all the regular polygons which also correspond to segments of a circle with an equal number of pieces.

Column No. 2 gives the number of sides which correspond to the names in Column No. 1.

Column No. 3 gives the number of degrees at the center of any regular polygon or triangle of a circle. This would be used when setting the gauge for cutting the two sides of triangles.

Column No. 4 gives the number of degrees between adjacent sides, and would indicate to the workman the angle at which to place the gauge, when it is desirable to trim the long side of a polygon or base of a triangle.

Column No. 5 gives the factors by which a given radius of a segment may be multiplied to find its longest chord, enabling the workman to place the back stop absolutely accurate for length upon the Trimmer's bed plate.

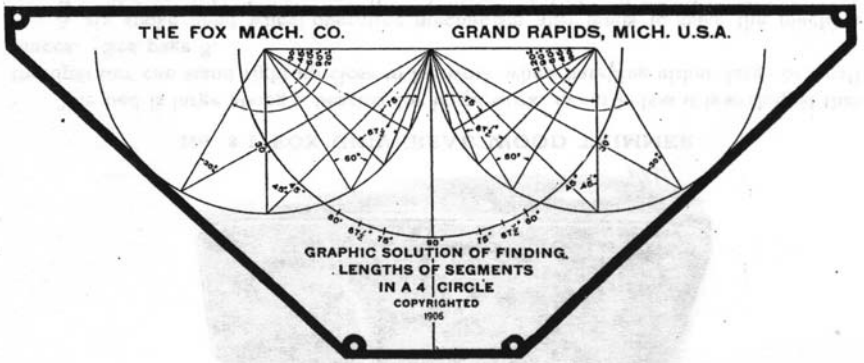
Column No. 6 gives the factors by which the workman is enabled to ascertain the radius at which a certain length of material will form part of a circle or a segment; this is accomplished by multiplying the length of material or its chord by the factor.

Column No. 7 gives the degree upon which to place the back stop when cutting or trimming a segment.

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Graphic Solution of Finding Lengths of Segments in a Circle



The plate containing this diagram is primarily intended to illustrate to a workman the various numbers of degrees of a circle contained in a segment or triangle, and secondly how to obtain a given diameter of a circle from a given number of segments with the aid of his scale, a pair of dividers and a Trimmer.

In explanation it is stated that a Trimmer has marked upon its bed a graduated segment of a circle; around this segment of a circle swings a gauge emanating from its center and forming a chord.

To illustrate an example as shown in the diagram, let us assume that it is desired to find the length of chord required for a circle 4 in. diameter containing say 6 segments of 60° each; set the dividers at 2 in., the radius of a 4 in. circle, place one leg of the divider at the center of the gauge and the other in the path of the knife; using the latter point as the center, strike a circle lightly upon the bed, just enough to make a visible line at a point where it can be intersected by a line drawn from 60° in bed segment, next swing gauge to 60° and measure the distance from gauge point or center to the intersection of 4 in. circle and 60° chord. The result is the required chord length.

It will be observed that the value of the three angles contained in every segment or triangle can be readily read and understood.

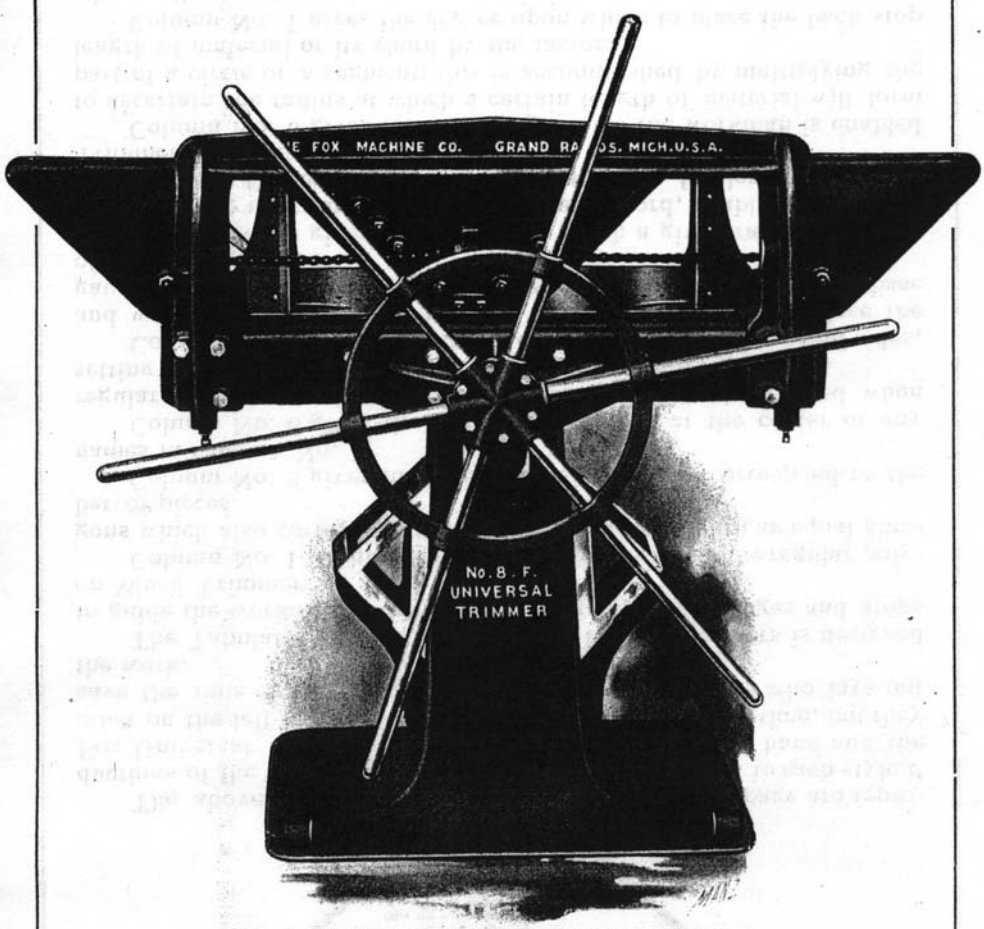
The observer will readily understand the application of this same modus operandi to other and more complicated divisions of the circle.

With the aid of the foregoing a workman who knows little or nothing of mensuration is enabled to successfully operate a Trimmer.

The above is condensed with the design of eliminating all superfluous matter.

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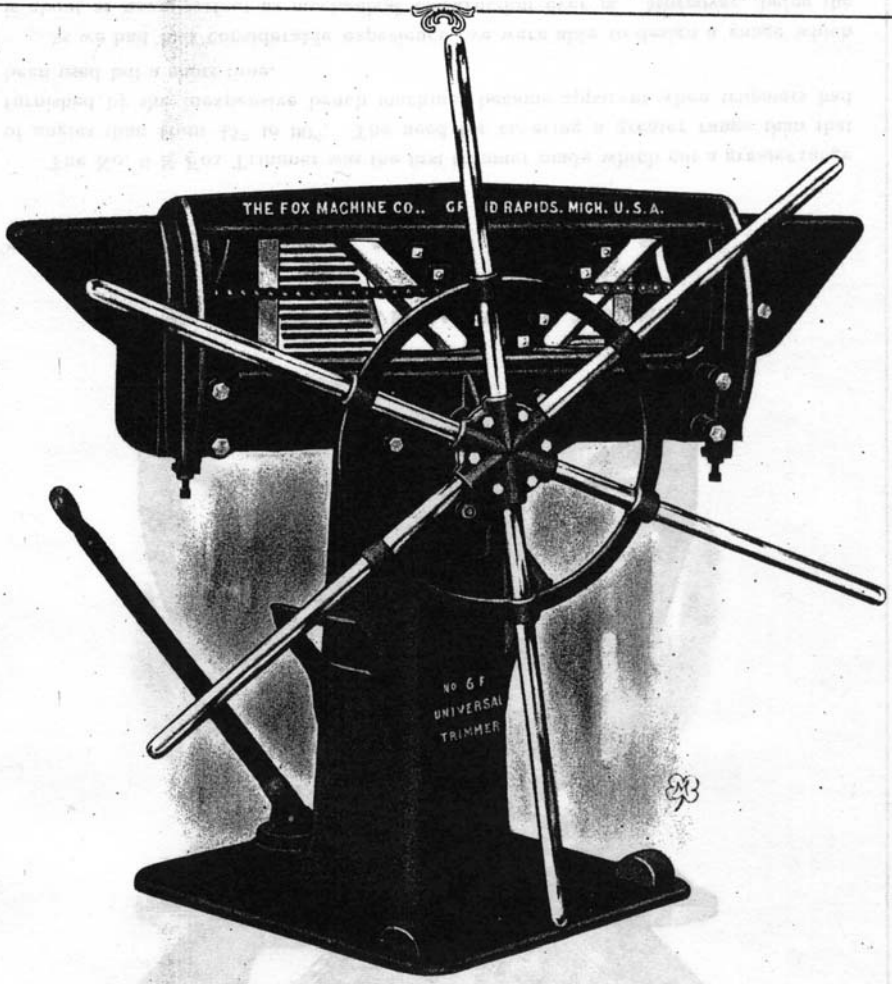


NO. 8 F FOX UNIVERSAL WOOD TRIMMER.

HEIGHT CUT	WIDTH CUT	SIZE BED	NET WEIGHT	SHIP WEIGHT	CUBIC FEET	CODE WORD
8"	24½"	24" x 42"	760	910	50	Treat

Except in the matter of capacity, which is given separately for each, the No. 6 F machine illustrated on pages 12 and 13 is an exact duplicate of the No. 8 F illustrated upon this and the opposite page.

Style F Fox Universal Trimmers are designed for a two fold object. They are intended as a general shop tool for large work and work requiring a universal range of angles, thus supplementing the bench machines with their more restricted range and smaller capacity. But in designing the machines we have deemed it even more important to produce a machine for the small shop with only one or two men and requiring only one trimmer. In this shop it is necessary to combine large capacity with the maximum convenience for small work. The style F machines are designed with this fact kept constantly in mind.



No. 6 F FOX UNIVERSAL WOOD TRIMMER

HEIGHT CUT	WIDTH CUT	SIZE BED	NET WEIGHT	SHIP WEIGHT	CUBIC FEET	CODE WORD
6"	19"	18" x 35"	470	600	33	Trail

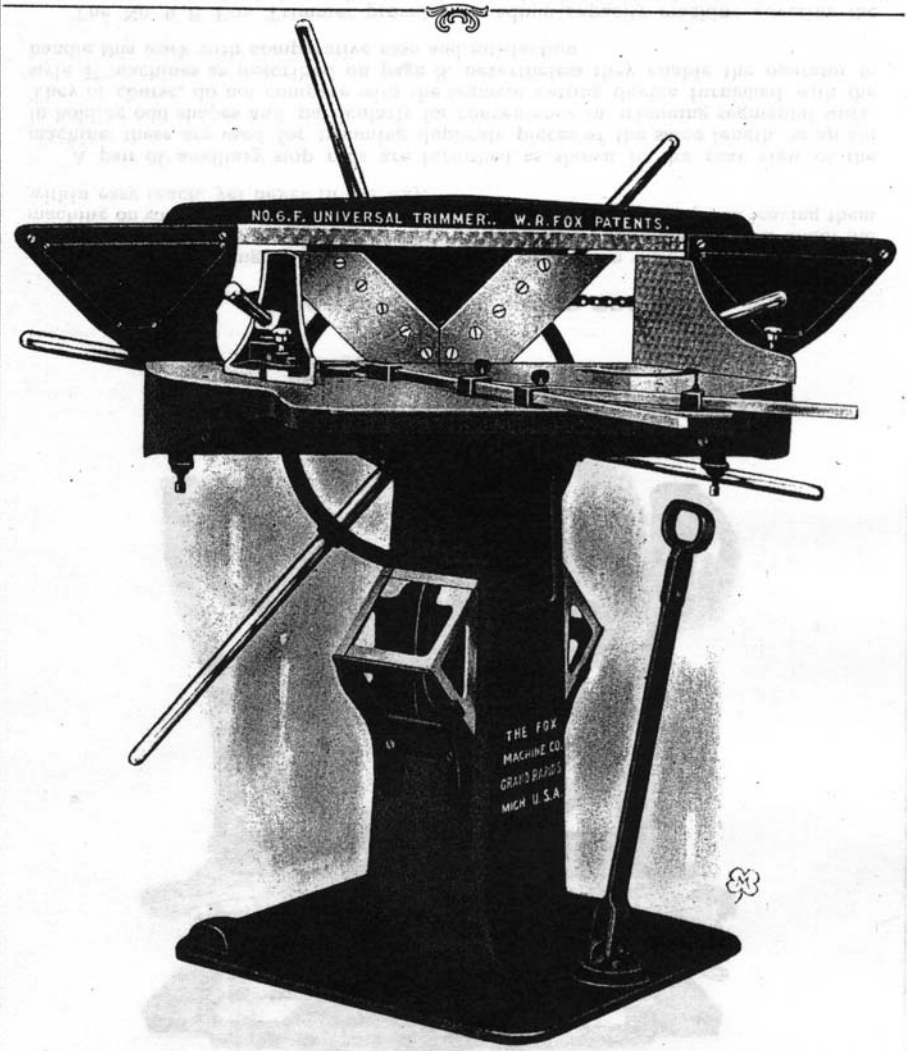
The knife head is operated by means of a heavy roller link steel chain, tested to 4000 lbs. The chain is driven by means of a heavy steel sprocket. This mechanism makes it possible to drive the knife head direct from the center, thus eliminating friction and wear to the greatest extent possible. Breakage is impossible.

The whole top of the machine swivels on the column, but can be locked in position whenever desired. Every bearing surface is adjustable for wear, so that accuracy is permanent.

Note the description of the frame construction as given on page 9.

The swinging gauges furnished are of the time tested type which have been used with such satisfaction on our style E machines for a good many years. They are described in detail on pages 4 and 5.

The knives which are such a vital part of the trimmer construction are also referred to on page 6.



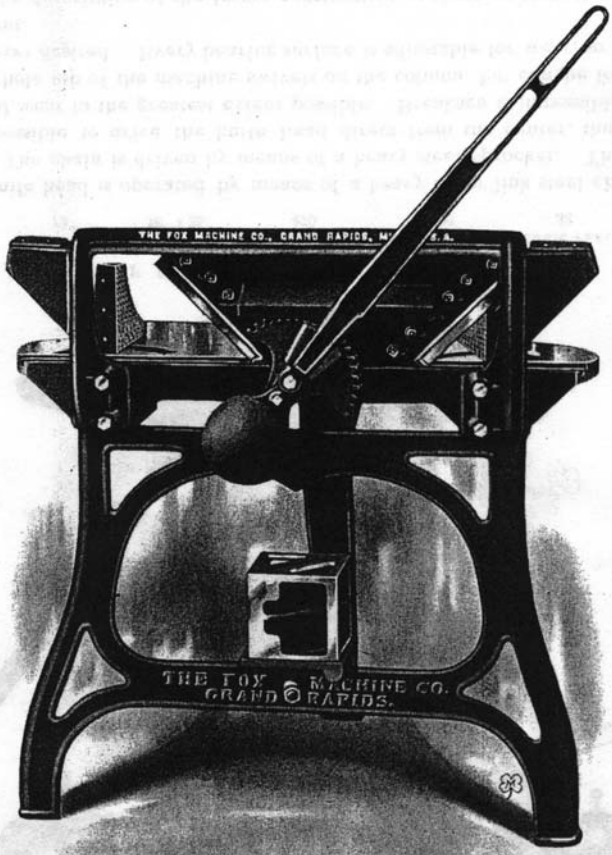
No. 6 F FOX UNIVERSAL WOOD TRIMMER

Auxiliary triangle gauges as illustrated on page 7, but of large size are furnished with style F trimmers. Brackets are also furnished on the main column so that these gauges can be always ready for instant use, yet never be in the way when not in use and there is no danger of their being mislaid.

Engraved plates as described on pages 10 and 11 accompany the style F machines only; their immense value is more apparent after a practical test than it is at first glance. They make possible the saving of a great deal of head work in laying out patterns as well as hand work after they have been laid out.

The knives are continuously protected by a solid guard on both sides. There is no mechanism to become clogged by falling chips.

The eccentric and swivel handle in the base, when it is not in use, is thrown back against the column, thus letting the machine stand rigid on the floor. Throwing it forward into position for a handle, throws the machine onto castors so that it can be moved about the shop by a boy.

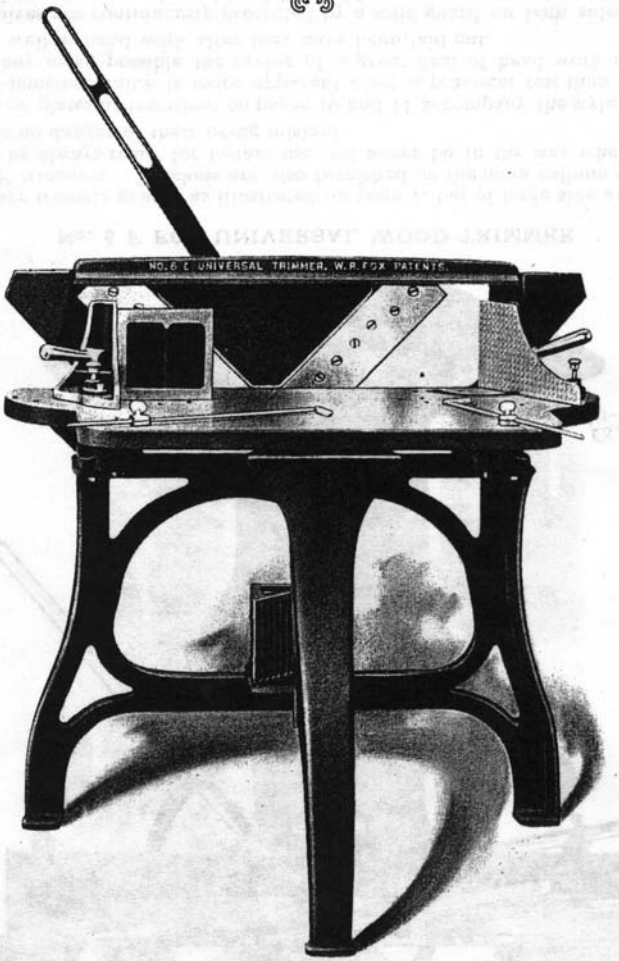


No. 6 E FOX UNIVERSAL WOOD TRIMMER

HEIGHT CUT	WIDTH CUT	SIZE BED	NET WEIGHT	SHIP WEIGHT	CUBIC FEET	CODE WORD
6"	12½"	18" x 39½"	420	480	17	Trust

The No. 6 E Fox Trimmer was the first trimmer made which cut a greater range of angles than from 45° to 90°. The need for covering a greater range than that furnished by the inexpensive bench machines became apparent when trimmers had been used but a short time.

As we had had considerable experience, we were able to design a gauge which is about as near perfect as mechanical construction ever is. Moreover, being the first in the field, we were able to obtain a patent on this style of construction. For a description of these gauges, see pages 4 and 5.

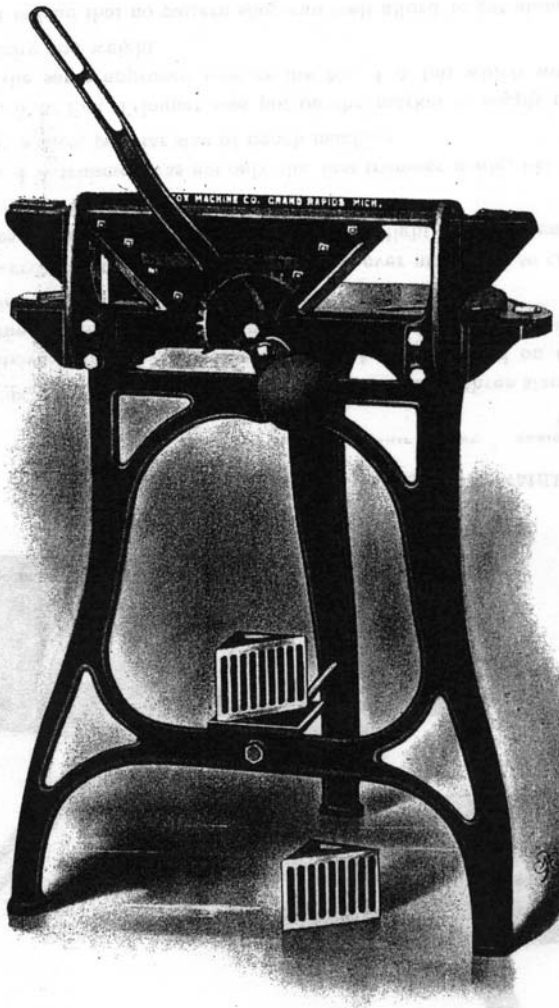


No. 6 E FOX UNIVERSAL WOOD TRIMMER

The Triangle Gauges described on page 7 in connection with the style A machine are furnished with this machine. A convenient bracket or shelf is supplied under the machine on which the gauges can be kept standing when not in use, thus leaving them within easy reach, yet never in the way.

A pair of auxiliary stop rods are furnished as shown in the rear view of the machine; these are used for trimming duplicate pieces of the same length, as an aid in holding odd shapes and particularly for convenience in trimming segmental work. They of course, do not compare with the segment cutting device furnished with the style F machines as described on page 8, nevertheless they enable the operator to handle this work with comparative ease and satisfaction

The No. 6 E Fox Trimmer provides a medium capacity machine covering the widest range of angles it is possible to trim, complete with triangle gauges, taper pins for locating the swinging gauge on all prominent angles and it is a very rigid substantial machine with a convenient operating mechanism. It's popularity is enhanced because it is furnished for a medium price.



No. 4 E FOX UNIVERSAL WOOD TRIMMER

HEIGHT CUT	WIDTH CUT	SIZE BED	NET WEIGHT	SHIP WEIGHT	CUBIC FEET	CODE WORD
4"	9¼"	13" x 29¼"	190	220	8	Trump

No. 4 E Fox Universal Trimmer, illustrated above and on the opposite page, is a duplicate of the No. 6 E described on the two preceeding pages as far as style of construction and equipment is concerned, but it is a smaller size as will be noted by the specifications given above.

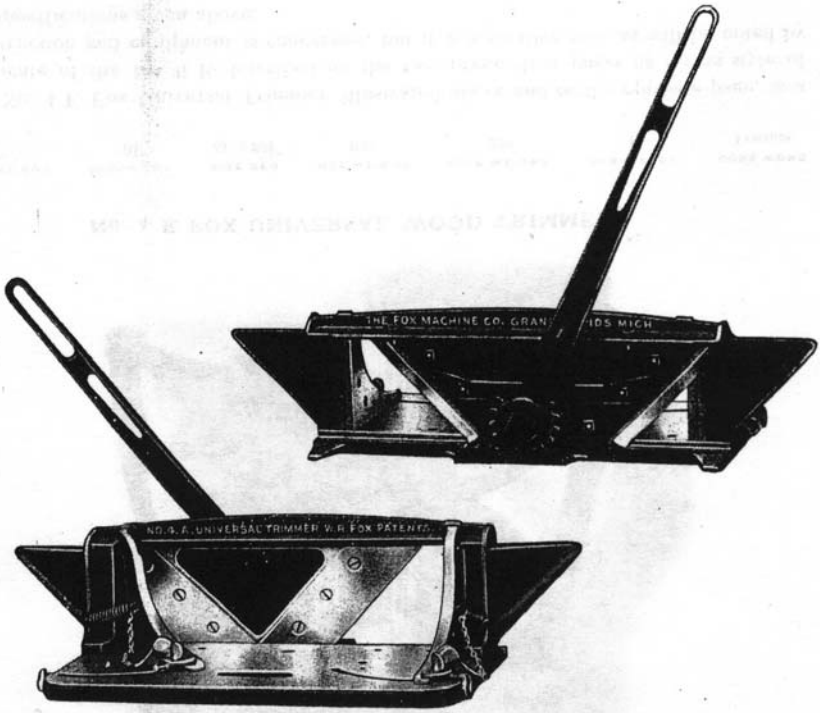
The use of the triangle gauge attachments are exemplified in connection with the small No. 4 A machine on page 7. Their convenience in use is greatly enhanced by the bracket provided under the machine on which they can be kept ready for use at any instant, at the same time out of the way when not required.



No. 4 E FOX UNIVERSAL WOOD TRIMMER

The gauge construction furnished with these machines is described on pages 4 and 5. The gauge is conveniently located at all prominent angles by a taper pin fitting in taper holes in the bed. For certain classes of work where the pieces are very small, the machine is very satisfactory.

Where it is desired to provide the greatest possible efficiency, the No. 4 E machine comes into play as a trimmer for the use of each individual pattern maker. It can be placed at the end of the bench or just back of the workman so that it would be as convenient to reach as would be the case if it stood right on the bench. At the same time it does not take up bench room in any way. It also gives over double the range of angles which it is possible to trim on the ordinary bench machine.



No. 4 A FOX UNIVERSAL WOOD TRIMMER

HEIGHT CUT	WIDTH CUT	SIZE BED	NET WEIGHT	SHIP WEIGHT	CUBIC FEET	CODE WORD
4"	8"	7½" x 17½"	32	50	1	Truth

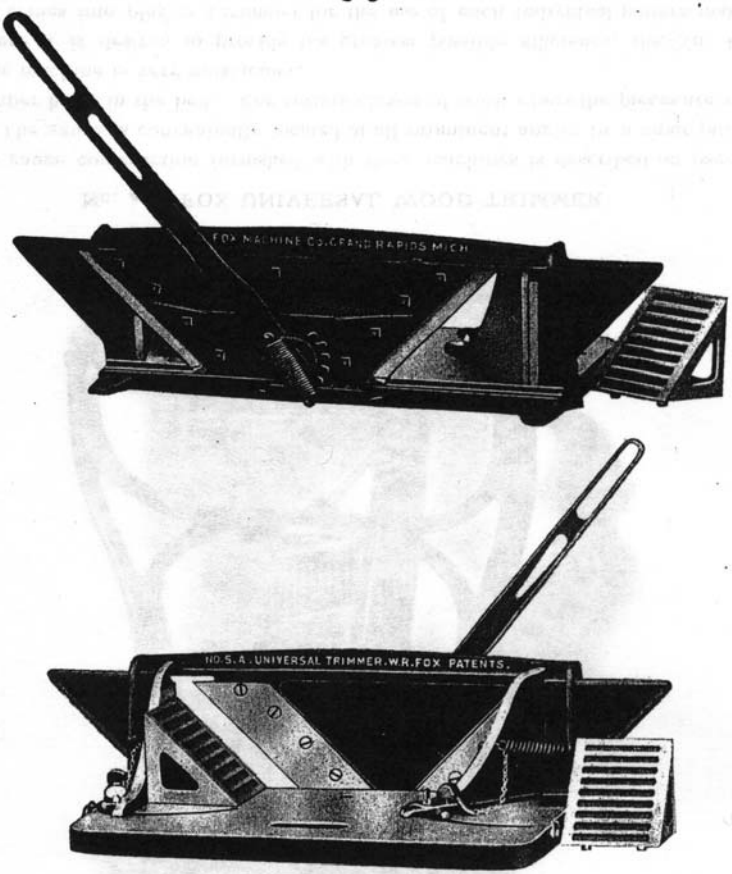
Style A Fox Universal Wood Trimmers are made in three sizes, the No. 4 A as illustrated above and the No. 5 A and No. 6 A as illustrated on the two following pages. As they are exactly similar in construction and vary only in size and capacity, the description will apply equally to all three sizes.

These were the first type of wood trimmers ever made and so carefully were the first machines thought out and designed that only slight improvements over the original machines have been possible.

The No. 4 A trimmer was not only the first trimmer made, but has always been, and is to-day, a most popular size of bench machine.

The No. 5 A Fox Trimmer was put on the market to supply the demand for a machine of the same approved type as the No. 4 A but which would have a little greater capacity and weight.

While it is true that no pattern shop can well afford to get along without at least one of the largest and most complete Style F trimmers, it is equally true that in order to obtain maximum service and value from the use of trimmers there should be an individual trimmer for the use of each individual pattern maker.



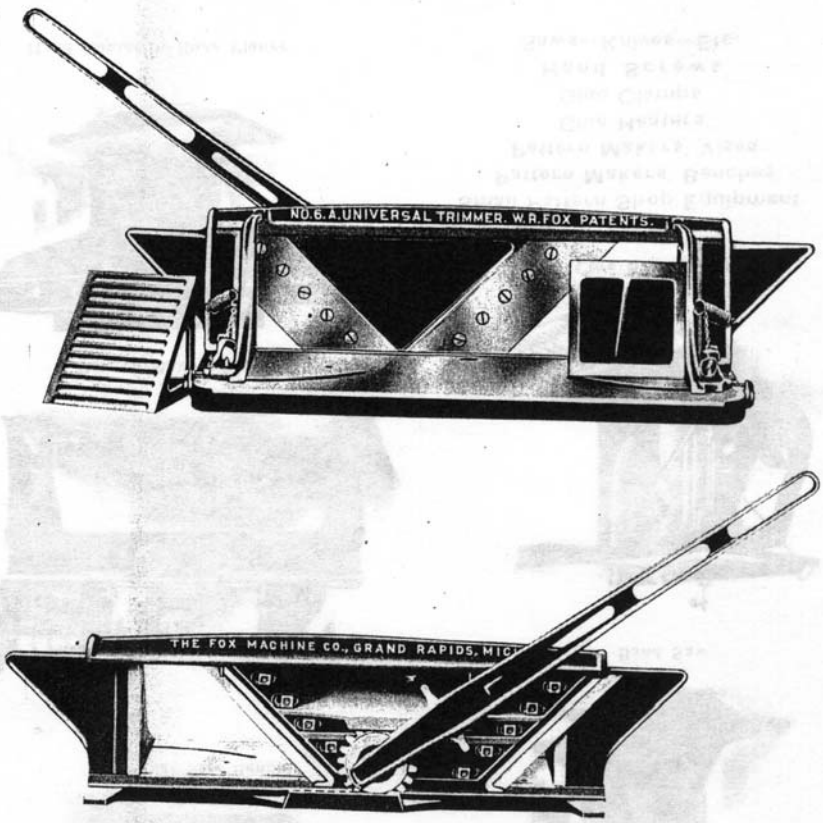
No. 5 A FOX UNIVERSAL WOOD TRIMMER

HEIGHT CUT	WIDTH CUT	SIZE BED	NET WEIGHT	SHIP WEIGHT	CUBIC FEET	CODE WORD
4¾"	8"	9¼" x 20"	50	88	2	Troach

Almost innumerable times each day workmen have occasion to trim little small pieces. These cuts could be made on a trimmer in one-tenth of the time it takes with plane or chisel. If the trimmer is not convenient they will not, and cannot, take the time to walk across the shop to use it. The matter of keeping the machines in perfect working condition is vastly simplified if each workman has a machine for his own individiual service. The No. 4 A or No. 5 A are well suited to this service.

One of the latest improvements is the addition of the auxiliary triangular gauge attachments as illustrated in use on the No. 4 A on page 7. These accompany all Style A trimmers.

It should be particularly noted that on the Style A Fox Trimmers as well as on the large machines the lever and the knife move in unison and in the same direction; drawing the handle towards you draws the knife towards you also and vice-versa.



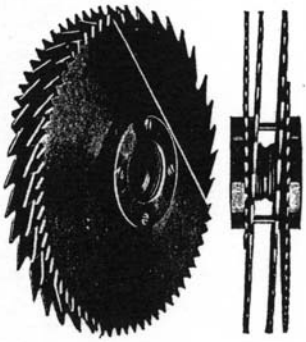
No. 6 A FOX UNIVERSAL WOOD TRIMMER

HEIGHT CUT	WIDTH CUT	SIZE BED	NET WEIGHT	SHIP WEIGHT	CUBIC FEET	CODE WORD
6"	12½"	11½" x 27½"	118	160	4½	Tripp

Steel taper pins are now furnished together with taper holes in the bed. By means of these the gauge can be instantly set at a miter without even looking at it. When the gauge is unclamped or when the steel taper pin is removed the gauge automatically locates itself on a square line ready for a square cut. This is done by means of the patent spring adjustment drawing the gauge against a suitable stop.

The No. 6 A Fox Trimmer illustrated above was the second trimmer to be placed on the market. The demand for greater capacity became apparent before the evolution of the Style E and Style F machines with their wider range of angles. it is today a very popular machine for many classes of work, particularly among builders and general wood workers. It should be noticed that it provides a very large capacity for a very small price. The machine of course does not cover the wide range of angles and it requires wider bench room or other suitable place.

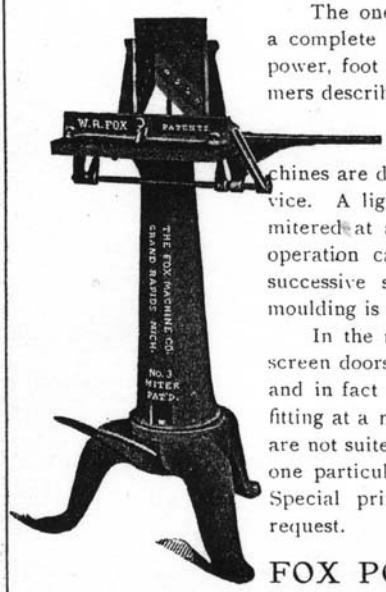
FOX DADO OR GROOVING HEADS.



These heads are mechanically, theoretically and practically superior to all other gaining or grooving devices. We believe that we can prove this if given an opportunity. You ought to have our special Dado catalog and look it over if you ever cut grooves in wood. They are fine for grooving the sides of foundry flasks.



FOX MITERING MACHINES.

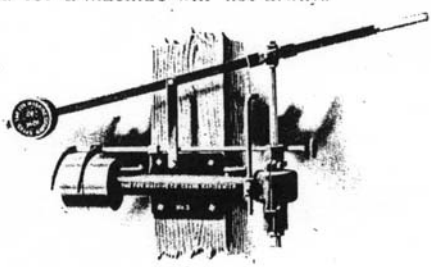


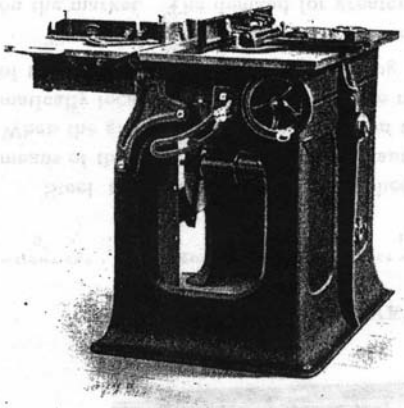
The one machine illustrated is simply a representative of a complete line of these machines. They are made in hand power, foot power and belt power. While Fox Wood Trimmers described in the body of this catalog will all of them cut wood at a miter, they are not especially suited to the mitering of mouldings. Fox Miter Machines are designed and manufactured for this particular service. A light moulding is cut in two and the two ends are mitered at a single stroke of the knives. The same cutting operation can be applied to larger mouldings, two or three successive strokes of the knives being required when the moulding is wide.

In the manufacture of show cases, refrigerators, caskets, screen doors, and moulded doors of all kinds, picture frames, and in fact wherever moulding or similar light strips require fitting at a miter Fox Miter Machines should be used. They are not suited to cutting other angles than a miter but for this one particular class of work they are pre-eminently superior. Special printed matter describing machines gladly sent on request.

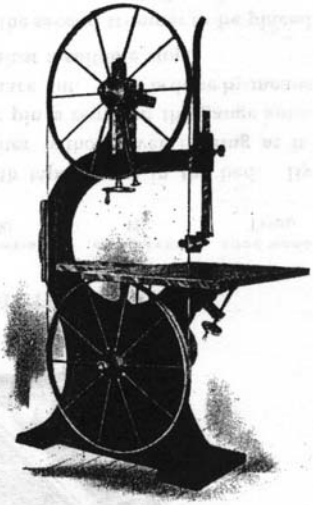
FOX POST BORING MACHINE.

Every pattern and other wood working shop has occasion to bore holes in wood with more or less frequency, yet the need for a machine will not always justify the expense of a large, heavy machine. The Fox Post Boring Machine provides a substantial, well made tool, just fitted for this service. The price is so small that there is no excuse for anyone getting along without a boring machine. Special bulletin describing these machines will be gladly sent to any interested party.

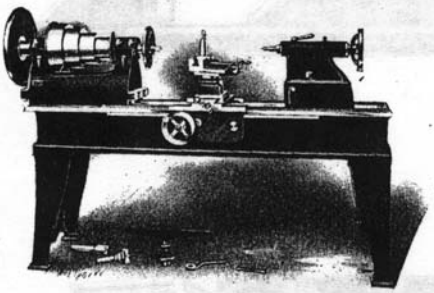




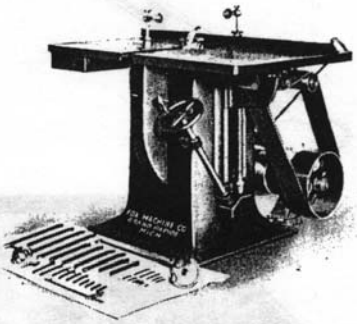
Universal Saw Bench



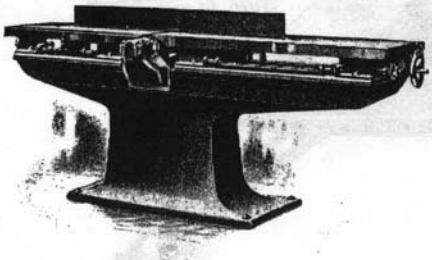
36" Band Saw



Pattern Makers Wood Lathe



Core Box Machine



Hand Jointer or Buzz Planer

Small Pattern Shop Equipment
Pattern Makers' Benches
Pattern Makers' Vises
Glue Heaters
Glue Clamps
Hand Screws
Saws--Knives--Etc.

The machines illustrated above briefly call attention to our general line of pattern shop machinery. We have made a specialty of equipping pattern shops complete for a good many years and should be glad to send a complete pattern shop equipment catalog to anyone interested in same.