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Bench Plane Type Study



lever cap that is from the T15 era ...

There is also what is called a Frankenplane.. That is a plane that someone took two or more planes and made one out of left over parts.

But there are also planes that some old timer might have replaced a part as it wore or broke or just wanted the new styled part for his old plane. I would not call a nice old plane with a replaced part a Frankenplane but you have to keep an open mind and not see one part and say it has to be a Type**

Remember this is just a guide to help you understand about how old your plane might be...

I will be adding a lot more images soon of the different type and hope to make a test page with some pictures so you can quiz your self and see if your at least close. The best user planes are said to me Type 10 to 15 ... I would add Type 9 as it has the same basic frog design as the planes made today but lacks a adjusting screw.. Since you don't adjuster the frog often if you find a nice T9 at a fair price I would grab it as a good user..

ENJOY



How Old is My Bench Plane? This question gets asked a lot..

So a lot of good people got together and made what's called a Flow Chart or Type Study..

Now you have to remember Stanley did not make or use a Flow Chart when they made planes, they used up all the old parts as they came up with new designs and plane made near the beginning of a new design style might have some of the older parts.. Example is Type 16 No.8 planes often have keyhole

Hand Planes 101

- **Type Study**
- **Tune Up**
- Refinishing
- Sharpening
- **Tool Making**
- **Blade Making**
- **Photo Gallery**
- **Heat Treating**

Tool Makers I've Done Work For... Ron Brese Planes Norse Woodsmith Brian Buckner **Bob Zajicek** Steve Knight Tools Greg Droz Handles

Friends With Sites of Interest... Patrick Leach* Cian Perez Links Karl Holtey Master Paul Hamler Tools Sauer & Steiner Phlip Marcou Mike Wenzloff Saw



How to Date or Type Stanley Bailey Benchu Planesam not

taking any more work ...

With the help of Jay Southerland's Type Study Page I added pictures and cam up with this Pictorial Type Study. 5APR07 I just finished the first major update of this page in years, it was long over due.. I hope you enjoy using it..

Text in Red Bold is what I check when typing a Bench Plane.. Also I made a Text File that very Helpful, Click Here To Pop Up Window.

Type 1 1867-1869



Solid Brass Depth Adjusting Knob Solid Back on Lever Cap Banjo Shaped Spring on Lever Cap

- Rosewood knob is shaped like a hot air balloon, and has a distinct bead turned into its base.
- The brass depth adjustment nut is solid (sometimes of a two-piece construction), with "BAILEY, WOODS & CO." "BOSTON" "PATENTED" "AUG. 31, 1858, AUG. 6, 1867" stamped into it. Only the lower portion of the name "WOODS" is visible. The nut has a right-hand thread.
- "L. BAILEY'S" "PATENT" "DEC. 24, 1867" is stamped on the top of the iron and cap iron. The back of the lever cap is solid and has a banjo-shaped spring.
- The frog has a rounded back (the top of it where it faces the (tote)). It is held into place by screws with round heads.
- The bottom casting's receiver for the frog is shaped like the letter "I".
- The size of the plane (stock #, e.g. #4, #6, etc.) is incised into the underside of the frog and the lever cap. This isn't listed in the book I reference, but every example of these early planes I've examined has it.



The back of the lever cap is solid and has a Banjo-Shaped Spring..



Solid Blade Adjusting Nut (sometimes of a two-piece construction), with "BAILEY, WOODS & CO." "BOSTON" "PATENTED" "AUG. 31, 1858, AUG







Earliest models do not have Bailey's name, nor Boston, on the brass adjusting nut.



H-Shaped Frog Seat



Lever cap spring is now rectangular.



Most models have "BAILEY'S PATENT" "AUG. 31, 1858, AUG. 6, 1867" stamped into the brass adjusting nut.



Read Nut on Handle Studs is Longer than Front











Type 3 1872-1873



All of the features of the previous, except:

Unique Frog Design No Lateral Lever Recessed Brass Depth Adjusting Knob

- A total redesign of the frog, where it became smaller and is held to the bottom casting by a vertical rib between the sides of the casting. This was a short-lived production, and is practically identical to the "Victor" planes Bailey later produced. This new design is found on sizes #3-#8, but the frog is of a #3 size for all planes. This was probably an attempt to make interchangable parts for most of the bench planes, instead of having a frog sized for each size of plane. A lot of these planes are broken about the vertical rib, so it was a weak design that was soon dropped.
- "STANLEY RULE" (in an arc) "& LEVEL Co." is now stamped on the iron. The cap iron still has the logo of Type 1 stamped into it.
- The brass adjusting nut in now recessed, with the patent stuff stamped inside.
- The back of the lever cap is recessed.
- Plane number no longer incised into back of lever cap or underside of frog.





All New Frog Design, The mouth opening is Non-Adjustable and fixed



Pretty hard to tell a T3 unless you see a picture with blade off..



Bed on front knob





Hole is still at top not bottom, patent date on cap iron (chip breaker)

Type 4 1874-1884



All of the features of the previous, except:

No Lateral Lever Recessed Brass Depth Adjusting Knob

- The whole frog design is abandoned, with the old-style re-introduced.
- The frog receiver is now a broad, rectangular area, with an arched rear (the portion nearest the tote). It is machined flat.
- Many examples have a foundry number ("73", "71") cast into the bed, between the frog receiver and the tote.
- Square head replace the round head screws that hold the frog in place.



Type 3's style frog design is abandoned andthe old-style re-introduced.



- Many examples have a foundry number ("73", "71") cast into the bed, between the frog receiver and the tote.
- -



1885-1888



All of the features of the previous, except:

Lateral Lever, Two Piece with out Round Disc

- The lateral adjustment lever makes its debut. It has two patent dates, "2-8-76" and "10-21-84", stamped into it, along with the word "STANLEY". The lateral lever is a one-piece construction, with its portion that engages the slot in the iron being straight across.
- Top of the frog no longer rounded as before. The top is more a flattened arch-shape.
- The number is now cast into the main casting; i.e. on the smaller planes, at the toe, and on the heel, #5 and up.
- The trademark stamped into the iron is the same as before, except that "STANLEY" is in a straight line, in large letters, and the rest of the logo immediately below, in small letters.





Three Patent Date on Lateral Lever Old Style Frog

- Lateral adjustment lever now is a two-piece construction, with a circular disk replacing the straight portion at the point where it engages the slot in the iron. "7-24-88" is also stamped into the lever, with the rest of the dates, as before.
- The brass adjusting nut now has a left-hand thread.
- New iron design, where the circular hole is now located toward the cutting edge, instead of the top. Stanley claimed:
- Bead eliminated from the front knob.
- Frog receiver has two shallow grooves, parallel to the plane's sides, cast into it. The screw holes are located in the grooves.
- "STANLEY" "PAT. AP'L 19, 92" (in two lines) stamped on the iron. The original type study doesn't mention this, but some of these irons can be found with just "STANLEY" and not the patent date.
- "The improved form of this Plane Iron renders it unnecessary to detach the Cap Iron, at any time, as the connecting screw will slide back to the extreme end of the slot in the Plane Iron, without the danger of falling out. The screw may then be tightened, by a turn with thumb and finger; and the Cap iron will serve as a convenient handle, or rest, in whetting or sharpening the cutting edge of the Plane Iron."

There you have it, in all its glory, why the circular hole was repositioned, after it being at the top of the blade for some 100 years. At least that's how Stanley described the change. However, the patent drawing for the change shows what I believe is the real reason for the change - the circular disk, on the lower end of the lateral adjustment lever, loses its ability to engage the slot provided for it (in the cutter) when the iron is nearly used up. By relocating the circular hole toward the bottom of the cutter, the iron can be used right up to the slot, without sacrificing the advantage gained from the lateral adjustment lever.



Lateral adjustment lever now is a two-piece construction, with a circular disk replacing the straight portion at the point where it engages the slot in the iron. "7-24-88" is also stamped into the lever, with"2-8-76" and "10-21-84" the previous dates.



Trade Mark P New iron design, where the circular hole is now located toward the cutting edge, instead of the top. Stanley claimed:

"STANLEY" "PAT. AP'L 19, 92" (in two lines) stamped on the iron. The original type study doesn't mention this, but some of these irons can be found with just "STANLEY" and not the patent date.



The brass adjusting nut now has a left-hand thread.



New NO Bead on Base



Frog receiver has two shallow grooves, parallel to the plane's sides, cast into it. The screw holes are located in the grooves. You can't see in this image



Type 5 and before Beaded at Base



Last Year for Bailey's name and Patent Dates on Brass Adjustment Knob



1893-1899

All of the features of the previous, except:

No Patent Dates on Brass Depth Adjusting Knob Old Style Frog

- Bailey's name and patent dates eliminated from the brass adjustment nut and cap iron.
- The number designation, cast into the toe ("No 4", etc.), is now spaced farther apart; i.e. "No" is about 1" from "4", whereas the earlier models had the two right next to each other.
- Most examples have the letter "S" cast into the frog, lever cap, and/or bed. This is likely the mark of the Sessions Foundry, who contracted with Stanley to produce their castings.



Sessions Foundry Mark under Lever Cap



Sessions Foundry Mark under Frog



Sessions Foundry Mark under Tote



Sessions Foundry Mark behind Frog Seat





Type 8 1899-1902



All of the features of the previous, except:

One Patent on Lateral Lever Old Style Frog

- S" casting marks eliminated, and replaced with "B", another foundry mark.
- "7-24-88" is the only patent date found on the lateral adjustment lever. "STANLEY" is still there.









Last Year for this style Frog



Last Year for this style Frog

Type 9 1902-1907



All of the features of the previous, except:

Two Patent Dates Cast Into Bed NO Frog Adjusting Screw

- Frog receiver undergoes a major redesign. (This is the frog that is I still used today in all Baliey Models) From here on make the best user type planes in my opinion.. This Type can be picked up cheaper than a Type 10 and is only missing the frog adjusting screw that you seldom use.. A smaller bearing surface is now cast into the bed, toward the tote. Two circular bosses, to receive the screws are located just ahead of this bearing surface, toward the mouth. A rib runs from the mouth to bearing surface, over which the frog rests. This is to align the frog laterally, to keep it square to the sides of the plane, and, thus, make the iron parallel to the mouth. The frog has a slot at its bottom (the portion nearest the mouth) to fit over the rib cast in the bed.
- "B" casting marks on Bed and Frog eliminated.

- No patent date is found on the lateral lever.
- "BAILEY" now cast into to toe, as homage to the inventor of Stanley's cash cow. The number designation is now cast just behind the knob.
- The original type study doesn't mention this It's about this time that the brass nuts used to secure the knob and tote to the rods undergo a change. They now have a waist to them whereas the earlier ones are cylindrical over their length.









The Patent dates "Mar.-25-02" "Aug.-19-02" are cast into the bed, immediately behind the frog.

This begins the start of patent dates cast in the bed till Type 14s..

Type 10 1907-1909



All of the features of the previous, except:

Two Patent Dates Cast Into Bed Frog Adjusting Screw





Type 12 1919-1924





All of the features of the previous, except:

Large Depth Adjuster Three Patent Dates First Tall Front Knob

First Sweetheart Type

- The knob undergoes a change in height, and is now much taller than the previous style. This is referred to as a "high knob" in toolie dialect.
- The brass depth adjustment nut is now larger and measures 1.25" in diameter. The lever cap has a subtle change in its shape - it is not as rounded about the edges as the earlier style is. The lever cam is a bit longer than the old - 1 3/16" vs. 1 3/32".
- A series of logo changes are found on these planes. All 3 of the logos are the result of the merger between Stanley Rule and Level, the tool producer, and The Stanley Works, the hardware producer. A notched rectangle, in which the word "STANLEY" is stamped, sits over a heart-shaped design, in which the letters "S.W." are stamped. The "S.W." stands for The Stanley Works, and "STANLEY", obviously, stands for the rule and level firm. The heart-shape is a memorial to The Stanley Works long-time president, William Hart. The first version of the logo has "NEW BRITAIN," "CONN. U.S.A." in two lines under the heart, and dates from around 1920. The next version, dating from 1921-1922, just has "MADE IN U.S.A." below the heart, in one line that is longer than the length of the notched rectangle. The final logo, dating from 1923-1935, is identical to the second, but the "MADE IN U.S.A." line is a hair shorter than the length of the notched rectangle. These new logos are know as the "sweetheart" logo in the tool collecting biz.
- This isn't in the original type study Some of the lever caps can be found with the outline of the sweetheart logo cast into the backside. I've only noted one of these planes, a #5, with this lever cap. Its iron is stamped with the first sweetheart trade- mark. Another tool pal of mine, from longuyland, has seen one before. These two examples are the only ones I know of in tooldom. So far, that is.
- Again, not found in the original type study it's about this time that the backs of the cap iron are no longer blued, but are just finished like the fronts, with nothing.



Three Patent Dates on Bed



First YearSweethreat TM Logo on Blade





First Year Larger Brass Depth Adjuster Knob



Three Patent Dates on Bed

Type 13 1925-1928



All of the features of the previous, except:

One Patent Date NO Raised Ring

- U.S. PAT. APR-19-10 is the only stuff cast behind the frog.
- "STANLEY", in a notched rectangle, makes its debut on the lever cap. The original type study doesn't mention it, but there are several treatments of the lever cap, where its finish and the background color of the notched rectangle follow what seems to be a 'style du jour'. I can't date accurately when each of these lever cap treatments occurred, but I can list the order in which I believe they were made:
 - The lever cap is machined and finished as before, with the notched rectangle's background japanned. I
 believe this to be the earliest since the earliest Bed Rock planes have lever caps of the same treatment
 (Bed Rock lever caps always had some embossing on them, and the earliest ones have the japanned
 background). My experience tells me that this lever cap treatment is rather uncommon.
 - 2. The entire lever cap is entirely nickel plated, including the background of the notched rectangle.
 - 3. The lever cap is nickel plated, but the notched rectangle's background is painted in Stanley's trademark orange color.
 - 4. For a short period, with the lever cap nickel plated, the notched rectangle's background is decidedly reddish in color. This may due to Stanley's working relationship with Winchester, whose planes have the same color. Either that, or someone sabotaged Stanley's orange paint supply.
 - 5. The later planes have a yellow background in the notched rectangle. These planes typically have the rounded iron.
- Another thing not mentioned in the type study is that on some examples the frogs have an orange over paint on them. When this was done is during the 20's. Why it was done is unknown. It may have been for a large customer, like New York City's school system, to signify that these planes belonged to someone else as an attempt to counter those with bad intent. Or, it simply may have been that the dude who discovered the vivid color for Cheetos was ahead of his time, and wanted to start cashing in. You take your pick on a theory here.







All of the features of the previous, except:

One Patent Date Raised Knob Seat Ring Cast into Bed

- "MADE IN U.S.A." is now cast into the bed at the toe.
- A raised ring is cast into the bed to act as a receiver for the knob. This is to stem the splitting of the knob, about its base, which was a very common thing to occur. The high knobs were very prone to

this, prior to the introduction of the raised ring, due to the greater leverage capable of being placed on them than could be placed on the low knobs.



Type 15 1931-1932



All of the features of the previous, except:

Last Year For Sweetheart Logo

Embossed Keyhole Lever Cap with Orange Background Sweetheart Blade Old Style Frog

- "MADE IN U.S.A." is now cast behind the frog.
- All patent info on the bottom casting is removed.
- "BAILEY" is now cast behind the knob toward the rib, and the number is now cast in front of the knob at the leading edge of the bottom casting. This is opposite to all prior types.









Early Made Planes have this Handle Decal

Last Year for this Style Frog

Type 16 1933-1941



All of the features of the previous, except:

Kidney Style Lever Cap Hole New Style Frog Nice Rosewood Handle Maybe Patent Date on Back of Lever Cap Maybe Black Background on Lever Cap Embossing

- "STANLEY", inside the notched rectangle, with "MADE IN U.S.A." is now the new logo stamped on the cutter. This is identical to the previous logo, except the heart and "S.W." have been removed.
- A kidney-shaped hole in the lever cap replaced the old symmetrical keyhole-shaped hole. This
 was touted as making the cutter less likely to loosen when the depth was adjusted; the lever
 cap wouldn't be apt to move (along its length) as much.
- The toe now has a raised, broad, flat rib cast into it. A similar rib is found at the heel.
- The frog now has an ogee-shape (s-shape) to the back, on either side of the lateral adjustment lever.



Type 17 1942-1945



All of the features of the previous, except:

Plastic or Steel Depth Adjusting Knob All Steel Screws for Handles Black Paint or Stained Beech Handles

- These are the war production planes, and all bets about what is and isn't proper on these examples, and those made in the years immediately following, are off. This is an area where the type study is very weak, in my opinion. But it's understandable since there are so many configurations of these planes. My observations tell me that any combination of the following features is possible for these planes. And, to make matters worse, some of the examples have the standard features (rosewood, brass) of the previous type in conjunction with some of the features of this type. This all is likely explained by the fact that Stanley was using stock on-hand, where parts made prior to the war were simply being used.
- Handle and knob are hardwood stained red or painted black.
- Depth adjustment now is smaller, made either of steel or hard rubber.
- Oddly, the bottom castings are much thicker and heavier than other models.
- The type study doesn't mention this, but my experience tells me that nickel plated lever caps went belly-up during the war. The lever cap have a rather coarsely machined surface.
- The type study also fails to mention this -- the normal two-piece construction of a brass cap and a threaded rod, used to secure the the wooden parts (tote and knob) to the bottom casting, is now a one piece construction (like a long screw).
- Some examples have no frog adjusting screw. It's strange that on the examples I've seen, the hole is tapped for the screw in the bottom casting, but the frog isn't. It's like they did half the work, but all for nothing. On other examples, neither hole is tapped.
- Some examples have the old-style hole (keyhole-shaped) in the lever cap.





Black Paint or Red Stained Beech Handles

Black Plastic or Steel Depth Adjuster Some have a frog adjuster screw most don't





Bodies are almost always thicker for some reason that makes them sought after as as good user planes

All Steel Handle Screws with out a brass Nut due to WWII Brass Shortage



Type 18 1946-1947



All of the features of the previous, except:

Diagonal Knurling on Brass Adjusting Knob

- Brass adjusting nuts are re-introduced, and have diagonal knurling on them.
- Hardwood handles painted black. I've seen black handles on what are normally considered war production planes.
- Castings are lighter, like those of the pre-war years.



All of the features of the previous, except:

Lateral Lever Stamped Vertically with Stanley Blades has New Curved Style

- The frog receiver, in the bottom casting, now is Y-shaped.
- Rosewood is re-introduced, and is often varnished so heavily that it almost obscures the grain.
- "STANLEY" is now incised in a vertical direction on the lateral adjustment lever.
- The original type study doesn't mention this, but on some of the models of this type "STANLEY" is stamped on both sides of the lateral adjustment lever. I've seen enough of these to convince me that's it wasn't accidental, or if it was, it was a big screw-up.
- The knurling on the brass depth adjuster is now parallel on most examples.
- Later examples have the familiar black paint on the hardwood tote and knob.
- Type study doesn't mention this, but the cutters now have rounded tops instead of the angular top. This change happened in the mid--1950's, in my opinion.
- Furthermore, the original type study doesn't mention the change in the finish applied on the forked lever. For a short while, some models had a nickel plated appearance on them as a finish rather than the usual black japanning. Where in the sequence of actual manufacturing this subtle change fits is unknown to me, but I've only noticed it on those planes equipped with rosewood knobs and totes and rounded irons.





Parallel knurling on the brass depth adjuster is back

Y-Shaped Frog Seat



Rounded top on plane iron



Type 20 1962-1967



All of the features of the previous, except:

Blue Japanning Yellow Background on Lever Cap

- All castings are now painted blue, instead of the black japanning used for over 100 years.
 Hardwood totes and knobs are now finished with a light colored stain.
- The forked lever (the one that engages the hole in the lever cap) is now a cheesy two-piece pressed steel piece of junk.
- The lateral adjustment lever is no longer a two-piece construction, but now is one piece with the thumb grip bent over.
- "STANLEY" is no longer stamped into the lateral adjustment lever.
- The beginning of the end for Stanley bench planes, as we prepare for the Dawning of the Age of Norm, and Ellie Mae Clampett's yummy biscuits.







Hand Plane Refinishing

This section still needs to be updated but has some of my secrets of plane refinishing .. Make sure you read up on the 3M (Magic) De burring Wheel ..

Hand Plane Iron Set Up

Many people call the Iron the blade and the Cap Iron a Chip Breaker but I prefer to use the old terms and a chip breaker does really break chips.

I have a nice shot set up tutorial on how to adjust the lateral adjuster to get a even cut across the length of the blade..

Hand Plane Tune Up

I have few methods in this guide is use will help you get the best performance out of your planes.. Also make sure you read the David Charleworth article at the bottom . I hope to adding a lot more content to the topic soon..

Bench Plane Type Study

This section will let you figure out how Old is your Bailey Plane? This is a guide, it was made after Stanley made the plane, it was not what Stanley used to make the planes.. There are Anomalies that have different features from two types on one plane, you could also have parts that were switched. So use it but all of these guides are not etched in stone..

Handle Repair

This section cover how to repair broken or chipped plane handles. I have two methods one is using a 1/4" steel pin with some masking tape which I think works best to like up pieces and another which using a threaded rod that I need to change the rod to a 1/2" and try that with some masking tape as a shim..

Handle Refinishing

This section covers how to refinish you plane handles.. Shellac is the the best finish I know to have you beauty of the rosewood show through. You can then use lacquer on top of the shellac but you must make sure you used De-Waxed Shellac and not plain shellac..

My Hand Plane Collection

I have a few of the planes in my collection listed here. I mainly collect Type 15 Sweetheart's ..

Hand Plane Makers Shops

This page is brand new is is pictures of the shops of hand plane makers I admire.. Everyone enjoys images of peoples shops and since I inspire to be a plane makers I love seeing others shops and thought I would add a page.. I will be adding more soon.. Hope you enjoy it as much as I do..

Rust Prevention

Few Methods on how to stop rust for occurring on you planes..

What's Japanning ?

Here is some recipes and links to other folks pages on how Japan you plane.. The Japanning is the black finish that looks a lot like paint.. I have listed a Motor Paint that looks just like the japanning Stanley used and is very durable and is my choice for refinishing if your just getting started. Its cheap and almost fool proof..

Wooden Hand Planes

Lots of people I know swear that wood planes cut much better than metal based planes.. I have not really had to time to do any tests but hope to some day. Also I am friendly with Steve Knight from Knight Tool Works and he will give you 10% off the price of his planes if you tell him you read it here..

Electrolysis

This is a method to remove rust no make that kill rust.. It really does not do the job I thought it would after reading about it but on planes where the rust keeps coming back or was rusted badly from the start then is the method I use to give me peace of mind..

What Hand Plane Should I Buy ?

Answers as to what planes are best to buy for a new woodworking just starting down the road of using hand planes....

Sharpening

I have a whole sub section devoted to sharpening hand plane Irons.



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