Josef Pallweber - inventor of flip clock AND the cyclometer

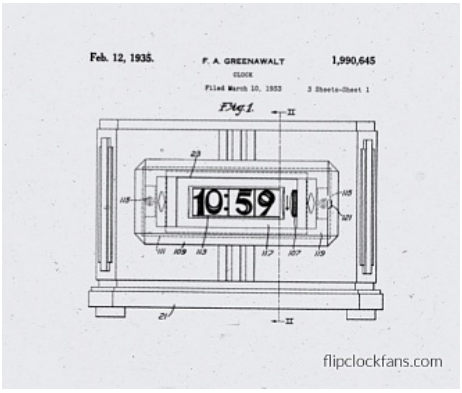
Mackey
Administrator

Join Date: Feb 2014
Posts: 3525

Josef Pallweber - inventor of flip clock AND the cyclometer #1
February 26, 2023, 01:59 PM

I'm deep in the middle of research about Josef Pallweber (inventor of the flip clock) and his role in the digital display of time. As many know, he has been credited with the invention of the first pocket watch with time displayed with digits (1883), the first digital display clock and most importantly the first flip clock (see my article and video about this).

invented by Frederick A. Greenawalt in 1933 (and patented in 1935).



But thanks to clock collector Daniel Harlow from the UK, we have proof that Pallweber invented a cyclometer type looking clock. We know that Pallweber lived from 1858-1921 so even if he invented the clock just before his death at 62 years of age, it would have preceded Greenawalt's clock by 12 years!

I and others have been scouring the internet for any information on this clock. I mean I have been all over German watchmaking publications and numerous patent sites. I can find many of Pallweber's inventions (all that have been previously mentioned in the literature) EXCEPT the clock I'm about to show you. The only other mention of the clock were two letters to the editor in the NAWCC (National Association of Watch and Clock Collectors) bulletins in 1994 and 1995 - I am in the process of getting physical copies of these. But even back then it seems no one could figure this clock out.

You'll notice that there are numbers (which some will claim is a patent number because the stamping says "PALLWEBER PATENT"). But one of the writers in the NAWCC bulletin and the collectors I've been in contact with as pretty positive these are serial numbers (they all have two leading zeros and we've seen digits from 00200s to 00700s).

It seems these may have been prototypes, or that there was an intention to complete the patent process, but that it was never done. I am suspecting that the clocks don't work well and that's why the flip clock was made. So I'm projecting these are pre-1890 clocks.

You are welcome to try to find documentation about these clocks ... but I doubt you'll find anything.

It's an exciting mystery for me and it is another example about how clock history (especially about the digital display of time) is WACKED.

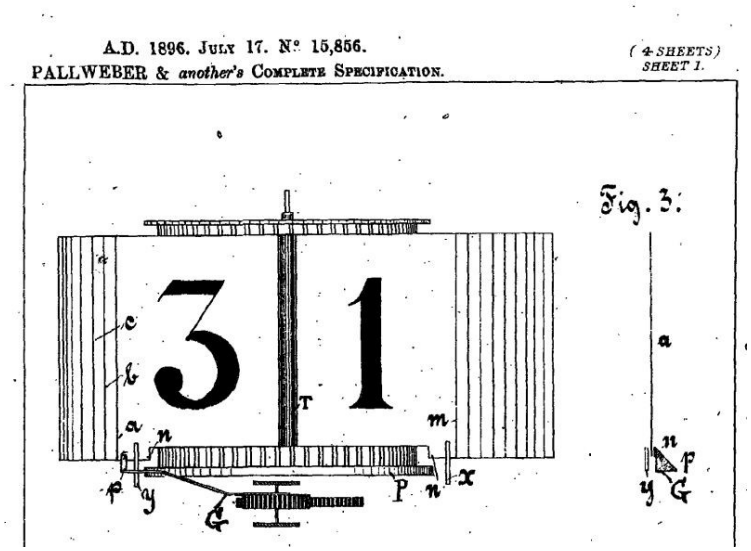
Here's to getting it back on track.

I'll be updating the Pallweber article at some point and getting all the higher quality images up at some point, in addition to making a video. I was just waiting for the NAWCC bulletins to arrive and to see if anyone had any input.

EDIT (3/5/2023): The patent is German Patent No. 48412 (see below for more information).

February 26, 2023, 09:34 PM #2

Another thing:
It is often stated online that Eugine Fitch (who invented the Plato Clock) was the father of flip clocks. I was guilty of this myself. We know, now, of course, that Pallweber invented the flip clock.
Through my recent research I find that even Fitch's vertical type flipper was apparently first conceived by Pallweber. It's possible Fitch copied the idea from him. Here is an image from an 1896 Pallweber patent:



Mackey
Administrator

Join Date: Feb 2014
Posts: 3525

But before we downplay Mr. Fitch too much, we have to concede that all great ideas build on the established foundation of other discoveries and inventions. And even if Pallweber conceived of the idea, Fitch invented a working model and the American Electrical Novelty and Manufacturing Company (which would later become the EverReady Battery Company) implemented it. And clearly, it caught on sufficiently so that most people interested in flip clocks have seen these clocks.

Pallweber's vertical model and the cyclometer, however, did not light up the world's stage at the time and had almost been lost to history, as was the knowledge of his flip clock.

Yet, we must agree, that Pallweber was a prolific digital clock and watch inventor and ... the inventor of the first digital clock .... or was he???

In the British "The Horological Journal, " November 1883 we read:

> Sir, - In the Horological Journal for October I see that Mr. Joseph Pallweber, of Austria, has taken out a patent in this country for "an improved watch or clock," in which "the ordinary dial and hands are dispensed with, and the hour and minutes are shown on a dial by means of the figures themselves."
> The idea is not new (in this country at least), for a clock of that description is to be seen in the window of Mr Thomas McNeil, in this town (Greenock). The clock was designed and made by one of Mr. McNeil's employés in 1880.

40 THE HOROLOGICAL JOURNAL. [NOVEMBER, 1883.

Letters to the Editor.

[*All letters to be addressed to the Editor, at the Horological Institute, Northampton Square, London, E.C.*]

"Chronoscopic" Dials.

SIR,—In the HOROLOGICAL JOURNAL for October I see that Mr. Joseph Pallweber, of Austria, has taken out a patent in this country for "an improved watch or clock," in which "the ordinary dial and hands are dispensed with, and the hour and minutes are shown on a dial by means of the figures themselves."

The idea is not new (in this country at least), for a clock of that description is to be seen in the window of Mr. Thomas McNeil, in this town (Greenock). The clock was designed and made by one of Mr. McNeil's employés in 1880.

T. M.

SIR,—I should like to know, through the columns of the HOROLOGICAL JOURNAL, the time when "William Jourdain, London," was in business, and in what part. I have an old timepiece to clean with above name on the dial. It has the old-fashioned crown wheel escapement, short pendulum with pear-shaped bob, and 8-inch silvered dial. Through a short circular slit in the upper

enabled me to dot down my position with considerable accuracy. Again, the occultations of two stars by the moon resulted in 44·9 s. and 47·6 s. respectively in the seconds of the longitude. The mean of these two determinations resulted in longitude 7 m. 46·2 s. W. These occultations were most carefully observed and calculated, and the local mean time obtained by a careful set of transits immediately after each occultation. Just at the time of this uncertainty as to my longitude, it so happened that the mean daily rates of my mean-time clock and pocket chronometer were so small as to be practically insensible, only amounting by my transits to a few hundredths of a second; and it occurred to me—as I knew from long experience I could thoroughly rely upon both timekeepers—that I would purposely make a journey to Greenwich and back with the chronometer. Accordingly, I ascertained the errors of the clock and chronometer with all care by transits. I took the early train to Paddington, and by comparison with the clock just before starting, and assuming the provisional longitude 7 m. 43·0 s. of the Ordnance map, estimated the chronometer slow by Greenwich 48·6 s. The chronometer was slow by clock, by the same comparison, 39·5 s.

By the way, I should like to make the remark that chronometer makers are not sufficiently careful about the dividing of the seconds dial. The most cursory inspection of my own shows it to be

Searching reveals:
Thomas McNeil, of 45 Cathcart Street, Greenock, Scotland was a Watchmaker, Jeweller And Optician - EST 1856 - Residence: 18 Bentinck Street.

Well, well, well.

But likely there was no patent, no image or record of this clock... Things aren't as cut and dry as we'd like them.

If you pinned me down, I'd have to conceed that F. Greenawalt invented a type of cyclometer mechanism that became widely produced, especially in the Pennwoods and Lawson clocks of the 1940s-1960s.

Still, Pallweber was the man.

~ Mackey *Site Administrator*
If you have any questions/comments Contact Me
If you're not a member, you should consider joining!

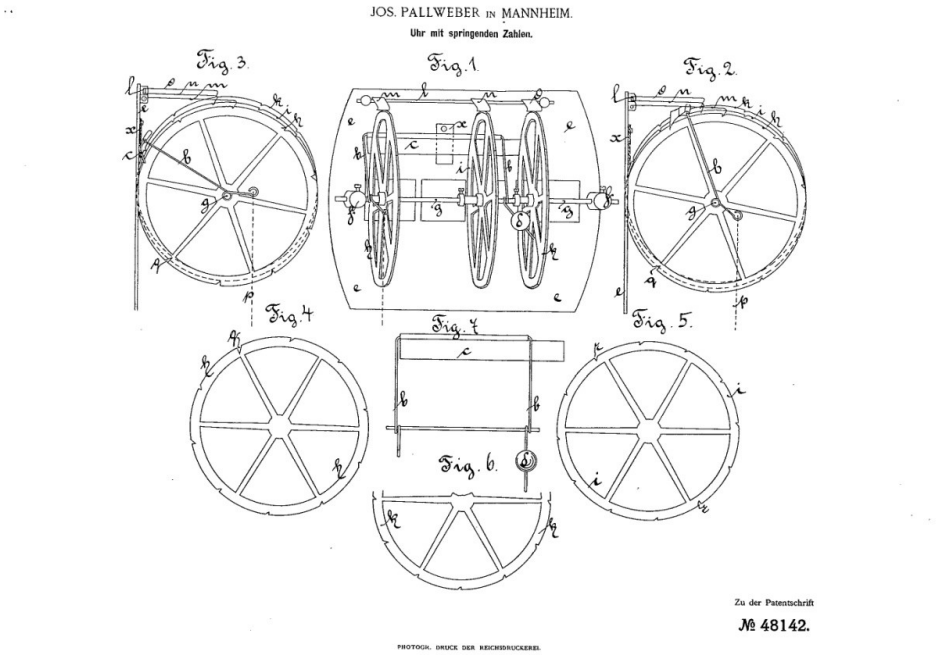
March 5, 2023, 01:34 AM #3

We have finally discovered the patent for the Pallweber Rolling Wheel clock - Which could be considered the first cyclometer-type clock.

Join Date: Feb 2014
Posts: 3525

Uhr mit springenden Zahlen (Clock with jumping numbers)
Patentirt im Deutschen Reiche vom 8. September 1888 ab. (Patented in the German Empire on September 8, 1888)
Ausgebeben den 13 August 1889 (Issued 13 August 1889)

I had seen this patent mentioned in various publications, but did not realize that it was the patent I was looking for. Even when I found it, at first sight, the illustration does not look like the clock. But further examination reveals that it is indeed the mechanism used in the clock - it just doesn't show the numbers attached to the wheels.



This image is in the same orientation as the illustration above. It doesn't seem like it at first, but the minute numbers have the wheels on the outer side of the minutes and inner side of the tens. The hours numbers has the wheel towards the inside. The wheels are more like a bicycle rim than the later cyclometers which are solid wheels.

The patent text translated to English (as best I can):

Show on the attached drawing:
Fig. 1 the view of the mechanism,
Fig. 2 the position of the lifted lever,
Fig. 3 the position of the lever in engagement with the minute wheel,
Fig. 4 the minute wheel,
Fig. 5 the tens wheel,
Fig. 6 the hour wheel,
Fig. 7 shows the arrangement of the lever.

two shaft bearings h, the shaft g, the one on the latter attached three wheels h (minute unit wheel), i (ten wheel) and k (hour wheel), the locking plates m n and 0 rotatably mounted on the shaft l attached to the plate, which keep the wheels h i and k at rest during the meantime , and the lever, Fig. 7, consisting of the bridge b, the locking plate c, and the balancing weight d, which is connected by wire p, Figs. 1 to 3, to the going train of the clock, and in connection with the three wheels h, i and k, which are provided with various notches, forms the essential part of the invention.

This lever, Fig. 7, is pulled up by the wire p, which is connected to the going mechanism by an ordinary lever, Fig. 2, in such a way that its locking plate c can automatically fall into a notch in the minute wheel h. on which the wire p falls and the wheel h, after passing through the

as a result of its own weight, the lever falling back was moved by a tenth, is held in place by the locking plate c and the locking plate m in the position shown in FIG. The conically shaped bend of the locking plate c lies against the plate e and, in conjunction with the plate e, prevents the minute wheel h from moving on, Fig. 3.

In order to avoid that the locking plate c is thrown back when it hits the plate e, causing the wheel h or the three wheels h i and k could pass more than one incision, a piece of cloth x or another elastic object is attached to the plate e, which makes it impossible for the wheels to move on due to its suspension.

This suspension also causes the wheels to stand still and move on almost silently. After 10 minutes the twelve-part tens wheel i, Fig. 5, comes into action; namely, the locking plate c then falls into the deeper notch q attached to the unit wheel h, Fig. 2 to 4, and decreases after the plate c and the wheel h have moved a corresponding distance and the plate has fallen into the notch of the tens wheel i is, this too, and indeed by a tooth, consequently by yi2 part of the circumference, until it is again held fast at the same time as the wheel h.

So that the hour wheel k, Fig. 6, can be moved in the same way as h and i, in the twelve-part tens wheel, Fig. 5,

two opposing deeper incisions r mounted in such a way that the locking plate c, when in one of these notches r and at the same time respectively simultaneously falls into the deeper notch q of the wheel h, also falls into a notch in the third wheel k (the hour wheel) at the end of each hour and must take the same with it at V19.

The mechanism described above brings about the movement of several wheels even when the lever is overweight, so that this circuit is particularly suitable for clocks or other counters in which the tractive force is very small and cannot be taken into account too much well suited. In the tried and tested simplicity and the reliable course of the arrangement described, in its mode of operation as well as in the hitherto unused construction of the lever Fig. 7 and the wheels h i and k provided with notches of different depths, compared to the previously known devices on clocks with jumping numbers, is what is peculiar to the invention.

Patent Claim:

A clock with jumping numerals, in which the next higher number disc, the diameter of which is somewhat smaller than that of the next lower one, is coupled with the latter in that the driving locking cone at certain times falls into a deeper notch in the larger disc, so that at the same time it reaches into an indentation in the smaller disc.

Files

Patent DE000000048142A - on this site (combined from the German patent files - see reference below).

Patent in German converted by ocr (optical character recognition) - to allow you to manipulate the German text to try for a better translation:
DE000000048142A.ocr.docx

References

Patent DE000000048142A on German Patent Site
Deutsches Patent- und Markenamt
https://depatisnet.dpma.de/DepatisNe...E000000048142A

moly228
New Member

Join Date: Jan 2023
Posts: 1

March 5, 2023, 08:11 AM #4

May I be the first to congratulate you on the work you've done hunting down the history of this wonderful man, when I sent the picture of my clock I never realised the historic value of it, thanks to you it has been revealed, I now need to find the correct pendulum. I'm looking foreward to the video. Dave228

1 comment

Mackey commented #4.1
March 5, 2023, 10:29 AM

Thanks Dave. Your bringing this to my attention was golden.

TheMasterTimer
New Member

Join Date: Feb 2023
Posts: 1

March 5, 2023, 02:09 PM #5

I also must congratulate you on all the hard work you have done to uncover the mystery of this undocumented clock. From the purchase of a very unusual looking clock to the discovery of one of Pallwebers earlier clocks. I'm so glad we have been able to save it from being erased from history.
Daniel.

Mackey
Administrator

Join Date: Feb 2014
Posts: 3525

March 5, 2023, 04:00 PM #6

> *Originally posted by TheMasterTimer »*
>
> *I also must congratulate you on all the hard work you have done to uncover the mystery of this undocumented clock. From the purchase of a very unusual looking clock to the discovery of one of Pallweber's earlier clocks. I'm so glad we have been able to save it from being erased from history.*
> *Daniel.*

You are the ones who are to be commended! I am grateful to be a part of this discovery. Thanks so much for alerting me to this. I had some previous experience digging around the German Patent website when finding out about Pallweber's Flip Clock - so that helped. What threw me was the name of the Patent:

Uhr mit springenden Zahlen (Clock with jumping numbers)

0:00 / 0:03

hear it in German

It seemed obvious that this would be his other digital clock with plates or his pocket watch mechanism. But as we know now ... it described your clocks.

I'm finishing up the YouTube script as I type here.

~ Mackey *Site Administrator*
If you have any questions/comments Contact Me
If you're not a member, you should consider joining!

What is Flip Clock Fans

FlipClockFans is a web forum with members who include the most well known and experienced restorers and collectors of flip clocks in the world. All are welcome from those new to the world of flip clocks, to those who have been around the block a few times.

FLIP CLOCK FANS
restoring • collecting flip clocks

FlipClockFans.com has been helping restorers and collectors of flip clocks since 2014.

All times are GMT-5. This page was generated at 1 minute ago.