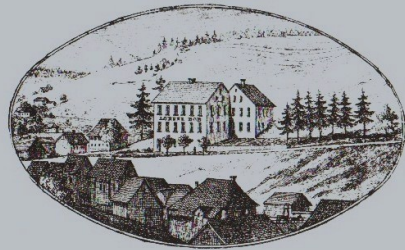


1/2  
10  
C

“Vienna Regulators”

of  
Benzkireh and Lorenz Bob

ca. 1870



With Historical Essay  
and suggestions for their care.  
Second Edition with Supplement  
by Dana J. Blackwell

## Foreword

In 1981 the American Clock and Watch Museum published a catalogue entitled *Vienna Regulators of Lenzkirch and Lorenz Bob* consisting of plates used in the Centennial Exhibition in Philadelphia in 1876 by Benedict Ebner, agent for Collection of Black Forest Clock Manufacturers represented at the Exhibition. The late Albert B. Ebner presented this material plus a small catalogue of clocks by Lorenz Bob (1805-1878)\*, a well known Furtwangen clock manufacturer whose wife Anna Elizabeth Horrisberger (1833-1907) is buried in Waterbury, CT.\* This material, combined and supplemented with commentary, resulted in a 120 page publication the popularity of which exceeded expectation.

The undersigned having what may be the oldest Lenzkirch catalogue known, thought that since the Museum continues to receive requests for this publication and NAWCC Chapter #133 furnished a grant for the purpose of publishing this expanded edition, it would be of use to those who are interested in the so-called Vienna-Regulator style of clock to have access to the illustrations of this extremely rare volume. The plates of the original are plate engravings of high quality and great detail arranged in an accordion style with cloth joints. A few because of age have deteriorated but most of the plates are included herewith and illustrate the enormous range of styles produced in the 1850's by this once famous firm.

The American Clock and Watch Museum is most grateful to NAWCC Western Electrics Chapter #133 for making this new edition possible.

D. J. Blackwell, Former President  
American Clock and Watch Museum

\*Footnote: Lorenz Bob, Gerd Bender; Furtwangen, 1985.

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## Introduction

### The Vienna Regulator and German Manufacturers

In recent years the so-called "Vienna Regulator" has become an object of considerable interest to both clock collectors and homemakers. During much of the nineteenth century this style of clock enjoyed wide popularity through most of Europe. Some clocks of this style found their way to America and had considerable influence on the styles of clocks produced in the United States. Early in the twentieth century the enormous number of other clock models introduced by American and German factories gradually made the traditional Vienna regulator appear old fashioned. By World War I production of such clocks had almost ceased though a limited number were manufactured for rural sections where fashions of earlier generations persisted long after they had been abandoned in urban areas. By World War II there was almost no interest in such clocks except perhaps on the part of people who inherited a good example.

The past dozen years have witnessed a revival of interest in these clocks and their history and technology. As life in this age becomes increasingly mechanized, computerized and circumscribed by government regulation, it is only natural that people should develop a sense of nostalgia and a craving for life as it existed in less complex times. Few things give one more of a sense of earlier times than do ticking clocks that have come down from former generations still "living" though their makers have departed. The Vienna regulator seems to symbolize the "gemutlich" character of Viennese life in its golden age.

While many old clocks have considerable appeal aesthetically and mechanically, few can equal for household use that of the well designed Vienna regulator with its fairly long visible pendulum, clear porcelain dial, delicate hands, and well made but delicate mahogany or walnut case with slim lines and restrained decoration. As is so often the evolution, these clocks started out with beautiful form but ultimately degenerated into overdecorated and ugly pieces reflecting declining taste in the late nineteenth century and obsession with ornamentation often quite meaningless yet freely applied to every available surface, readily made possible at low cost with increasing use of mechanized wood-working equipment.

At the end will be found a few photographs of actual clocks by the Lenzkirch factory, one by Resch Brothers of a style imported by Kroeber and others circa 1880, and another of a style popular in the 1870 period. These are included for comparative purposes since woodcuts do not always convey the actual appearance of details. At that time there was some freedom of interpretation by woodworkers making cases; so variations are found which give clocks individuality not possible in our age of mechanized production.

The Lenzkirch and Bob catalogues herewith reproduced were given to the American Clock & Watch Museum by the late Albert B. Ebner whose ancestor, Benedikt Ebner, had been a clockmaker in Baden and acted as an agent for the Black Forest Collective Exhibit in the Main Building at the Centennial Exhibition in Philadelphia in 1876. Though Mr. G. S. Lovell was the actual agent, Mr. Ebner worked for Mr. Lovell at 627 Market St. in Philadelphia (Lovell moved to 731 Market St. in 1877) and

spoke German freely; so he was stationed at the exhibit to handle sales and inquiries. He later worked for the Seth Thomas Clock Co.

The numbering of models in the Bob catalogue is sequential and covers only thirty models. The Lenzkirch model numbers are more involved. There are nearly one hundred models illustrated in the plates but there is no "number one" since this model had apparently been discontinued when these plates were printed. Lenzkirch had been in business for twenty-five years at the time of the Centennial and through the years had continually added new models, retained old ones that continued to be popular, and dropped unpopular ones. The new ones appear to have been given new numbers sequentially though numbers in the two hundreds apparently were not used. Sometimes the same number was used on two different plates because, though the style was the same, the case size and proportions were different. Because these plates are unbound, the original order, if any, is not known. Here we have arranged them in sequential order according to type: spring driven, weight driven, large regulators, miniature clocks.

From Mr. B. Ebner's account book it appears that he sold about 330 clocks during the 160 days the Exhibition was open. While this was not a large number of sales considering the 8,180,080 people who attended the Centennial, exhibiting gave excellent sales exposure for the products displayed. The main building was 1880 feet long and 464 feet wide and was just one of many buildings. There is no way of knowing what percentage of people attending saw the Black Forest Collective Exhibit, but clocks there were shipped to many places in the United States.

A number of people bought small inexpensive clocks and cuckoo clocks in the \$3.75 to \$5.00 range but regulators of various manufacturers were reasonably good sellers. A few examples with prices may be of interest. A Mrs. Porter on Broadway in New York bought an L. Bob regulator No. 12 for \$11.50. An L. Bob No. 9 cost Mr. Hall of Elmira \$15.00 but Mr. Graham of Philadelphia had to pay \$19.50 for a No. 13. It appears that No. 10 sold for \$15.00; No. 11 was \$12.00. Models 4 and 5 were more expensive since they sold for \$31.50 each and No. 3 was \$20.00 while No. 6 was \$29.00.

Lenzkirch clocks did not sell in large numbers, perhaps because their prices were higher. The following sales give some idea of the prices: No. 1, \$65.00; No. 3, \$42.00; No. 5, \$55.00; No. 7, \$20.00; No. 9, \$42.00; No. 11, \$28.00; No. 12, \$18.50; No. 14, \$29.50. Some Lenzkirch clocks sold may have been old Lovell stock since they do not appear in the plates. The account book gives no indication of the sizes of clocks sold.

J. Bapt. Beha & Sons of Eisenbach seem to have sold more regulators than any other exhibitor and these ranged in price from \$15.00 to \$60.00. Benedict Schwer of Triberg sold a few regulators, one of their miniature ones bringing \$13.00. The well-known firm of B. Ketterer Sons in Furtwangen sold a few clocks, their typical ones being in the \$16-\$18 range but large regulators were \$50 to \$81. Possessing no catalogues of these firms, we cannot describe them.

For those interested in the hand-written prices in the Bob catalogue, a German mark at that time was worth about \$.25 in U.S. money.

Two photographs of the Black Forest Collective Exhibit, though showing only a portion of the clocks exhibited, give some idea of the range of sizes and styles from small shelf and wall clocks to floor-model regulators for jewelers. It will be noted that they also exhibited electrical equipment, a large annunciator system having a prominent position. This was the period that considerable work was being done applying

electricity to communications and time-keeping, particularly using the principle of electro-magnetism.

The above is the introduction as it appeared in the 1981 edition. In this edition a supplement has been added showing many early Lenzkirch models not found in the plates of the 1870's. It will be noted that all clocks in the three catalogues reproduced here are timepieces or hour and half-hour strikers. There are no grande-sonnerie clocks because at the time of these publications they were distinctly Austrian productions of fine makers in Vienna and were considerably more expensive as well as not, at that time, suited to factory production. Their market was mainly Austria-Hungary and Bohemia.

D.J. Blackwell, Former President  
American Clock & Watch Museum, Inc.

#### Glossary

For readers unfamiliar with German the following words and phrases are listed with translations.

A.G.f.U.: (Abbreviation for Actien-Gesellschaft fur Uhrmacherei) Joint Stock Company for Clock Manufacture

Baden: Province in southwest Germany bordering France and Switzerland and containing the Black Forest (Schwarzwald) clock-making area

Bad. Schwarzwald: Schwarzwald section of Baden

Furtwangen: Important Black Forest clockmaking town north of Lenzkirch

ganz: whole

Gehwerk: clock movement

Gewicht: weight

Lange: length or height

Miniatur: small or miniature

Regulateur: regulator or standard clock

Schlagwerk: striking movement

Secunden Regulateur: regulator indicating full seconds

Tag(e): day (days)

Uhren-Fabrik: Clock manufactory

von: of

Zifferblatt: dial

#### Phrases

8 Tage gehend: going eight days

8 Tage oder Monat Gehwerk: eight-day or month movement

Federzug-regulateur: spring driven regulator

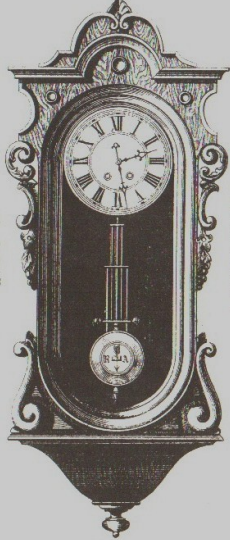
Holz-oder-Compensations-Pendel: wood-rod or compensated pendulum

Miniatur-Regulateur, 14 Tage Geh. oder Schlagwerk: small regulator with 14 day timepiece movement or with striking movement

Schwarzwald-Uhrmacherei: Black Forest Clock Manufacturers



N<sup>o</sup> 4.

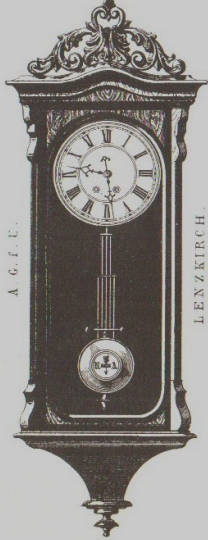


A. G. F. U.  
LENZKIRCH.

Länge 75 cm      Zifferblatt 14 cm.

Federzug-Regulateur,  
14 Tage gehend.

N<sup>o</sup> 11.



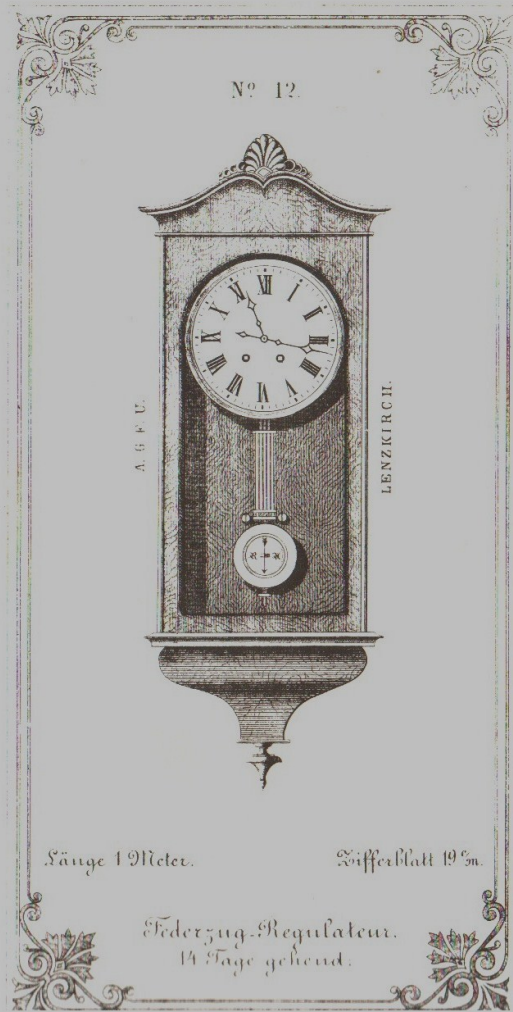
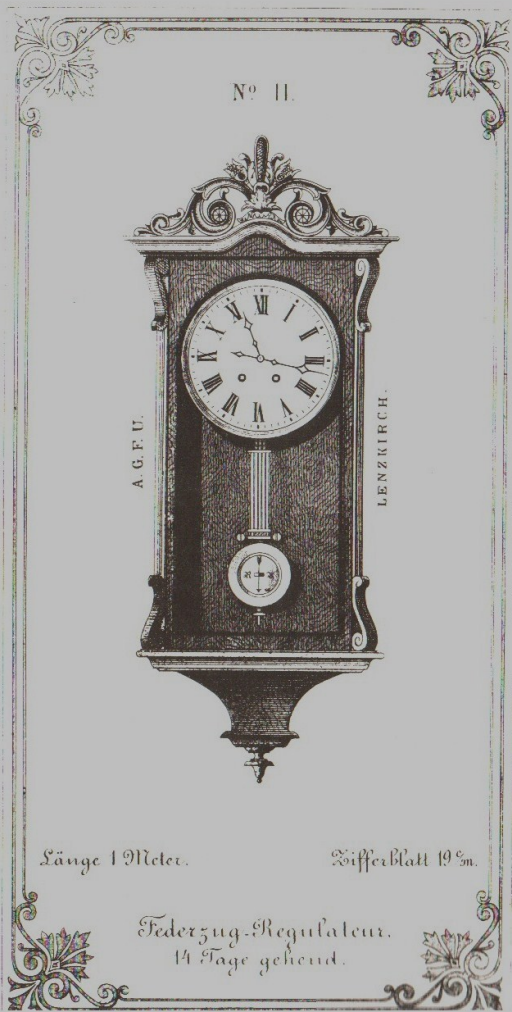
A. G. F. U.  
LENZKIRCH.

Länge 80 cm  
" 86 "

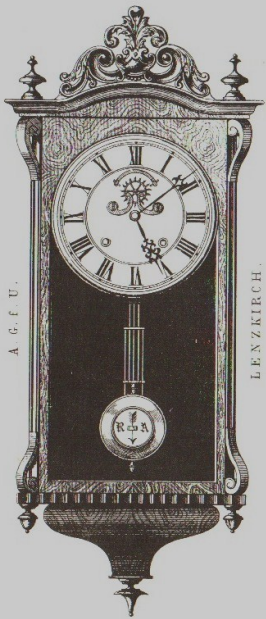
Zifferblatt 14 cm.  
" 16 "

Federzug-Regulateur,  
14 Tage gehend.





N<sup>o</sup> 25.

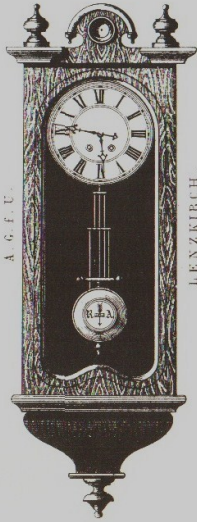


A. G. F. U.      LENZKIRCH.

Länge 1 Meter.      Zifferblatt 19 cm.

Federzug-Regulateur,  
14 Tage gehend.

N<sup>o</sup> 35.

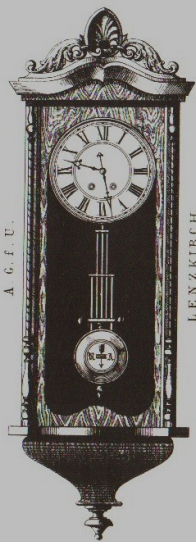


A. G. F. U.      LENZKIRCH.

Länge 75 cm.      Zifferblatt 14 cm.

Federzug-Regulateur,  
14 Tage gehend.

Nº 36.

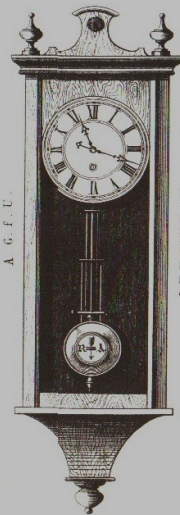


Länge 80 cm.

Zifferblatt 14 cm.

Federzug-Regulator,  
14 Tage gehend.

Nº 39.



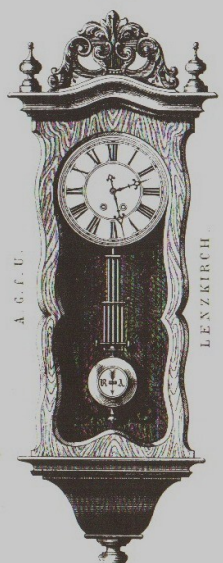
Länge 75 cm.

Zifferblatt 14 cm.

Federzug-Regulator,  
14 Tage gehend.



N<sup>o</sup> 43.

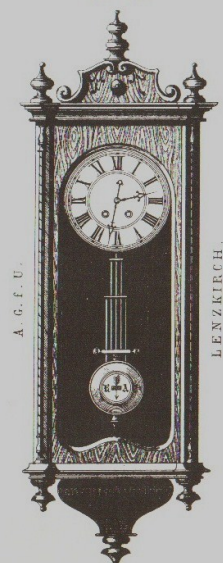


A. G. F. U.      LENZKIRCH.

Länge 18 cm.      Zifferblatt 14 cm.

Federzug-Regulateur,  
14 Tage gehend.

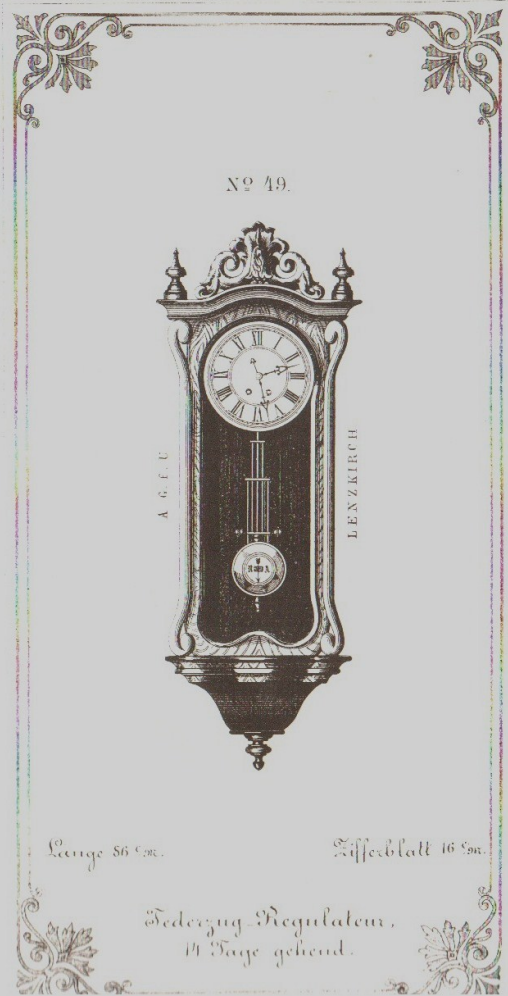
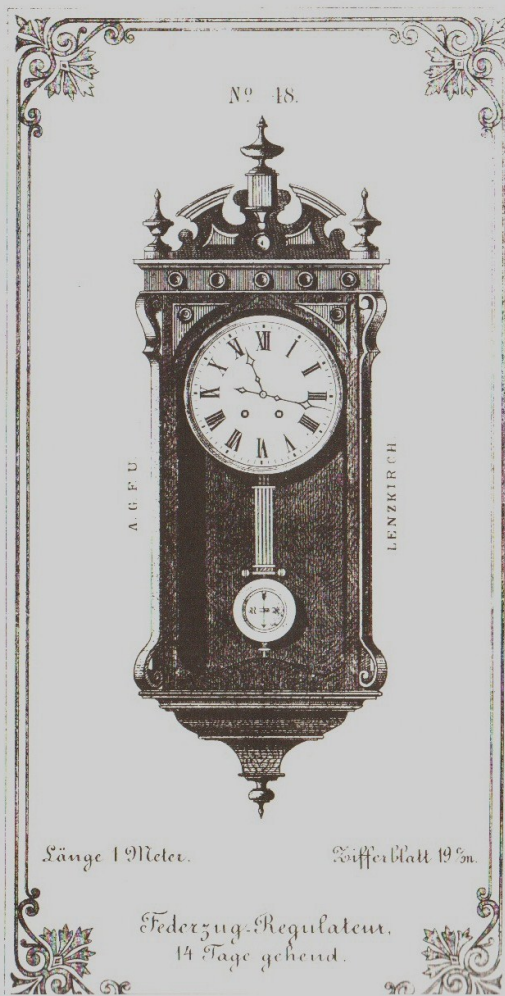
N<sup>o</sup> 46.



A. G. F. U.      LENZKIRCH.

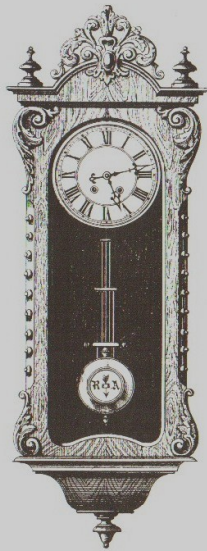
Länge 19 cm.      Zifferblatt 14 cm.

Federzug-Regulateur,  
14 Tage gehend.





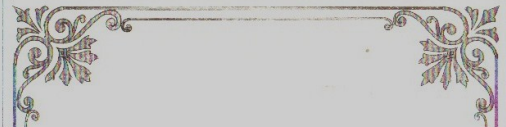
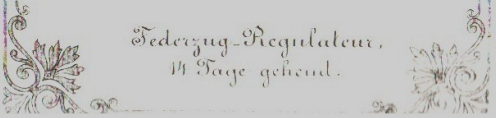
N<sup>o</sup> 50.



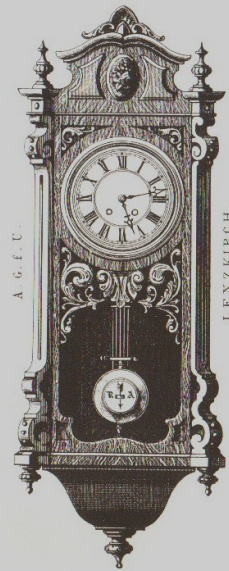
Länge 75 cm.

Zifferblatt 14 cm.

Federzug-Regulateur,  
14 Tage gehend.



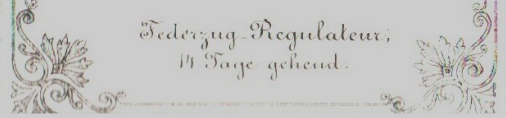
N<sup>o</sup> 51.



Länge 80 cm.

Zifferblatt 14 cm.

Federzug-Regulateur,  
14 Tage gehend.





N<sup>o</sup> 51.

A. G. F. U.      LENZKIRCH.

Sänge 1 Meter.
Zifferblatt 19 cm.

Federzug-Regulateur.  
14 Tage gehend.

N<sup>o</sup> 54.

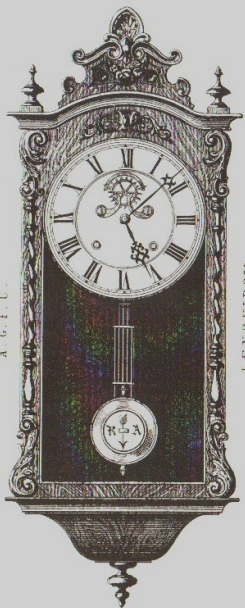
A. G. F. U.      LENZKIRCH.

Länge 1 Meter.
Zifferblatt 19 cm.

" 95 cm.
" 16 "

Federzug-Regulateur.  
14 Tage gehend.

N<sup>o</sup> 54.

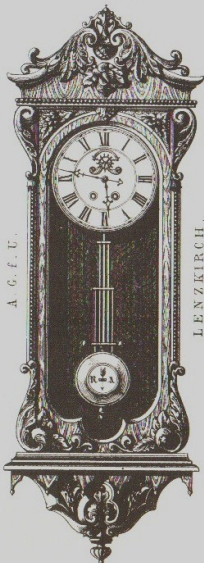


A. G. F. U.  
LENZKIRCH.

Länge 1 Meter.      Zifferblatt 19 cm.

Federzug-Regulator,  
14 Tage gehend.

N<sup>o</sup> 59.

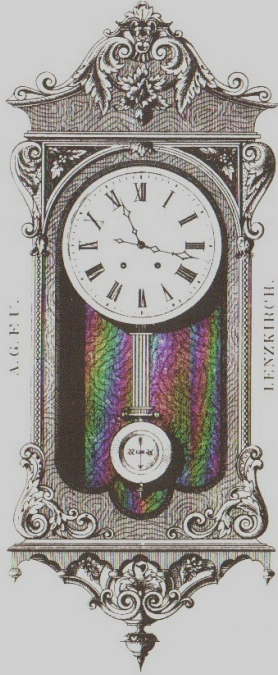


A. G. F. U.  
LENZKIRCH.

Länge 80 cm.      Zifferblatt 14 cm.

Federzug-Regulator,  
14 Tage gehend.

N<sup>o</sup> 59.

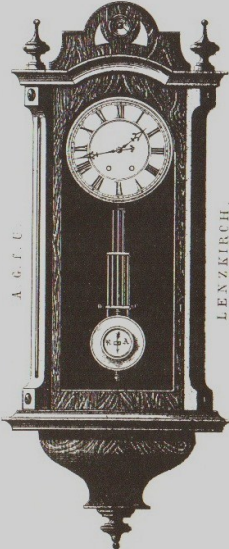


A. G. F. U.      L. E. N. Z. K. I. R. C. H.

Länge 1 Meter.      Zifferblatt 19 cm.

Federzug-Regulateur,  
14 Tage gehend.

N<sup>o</sup> 72.



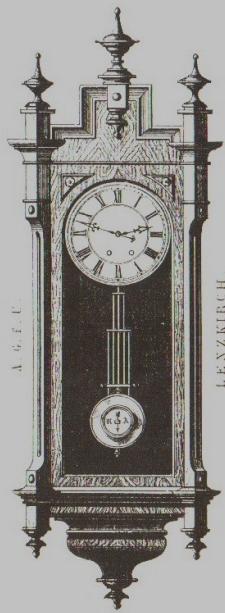
A. G. F. U.      L. E. N. Z. K. I. R. C. H.

Länge 80 cm      Zifferblatt 14 cm  
" 56 "      " 11 "

Federzug-Regulateur,  
14 Tage gehend.



Nº 80.

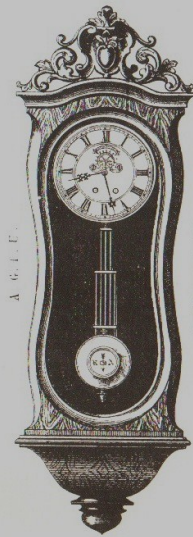


Länge 95 cm.

Zifferblatt 14 cm.

Federzug-Regulateur,  
14 Tage gehend.

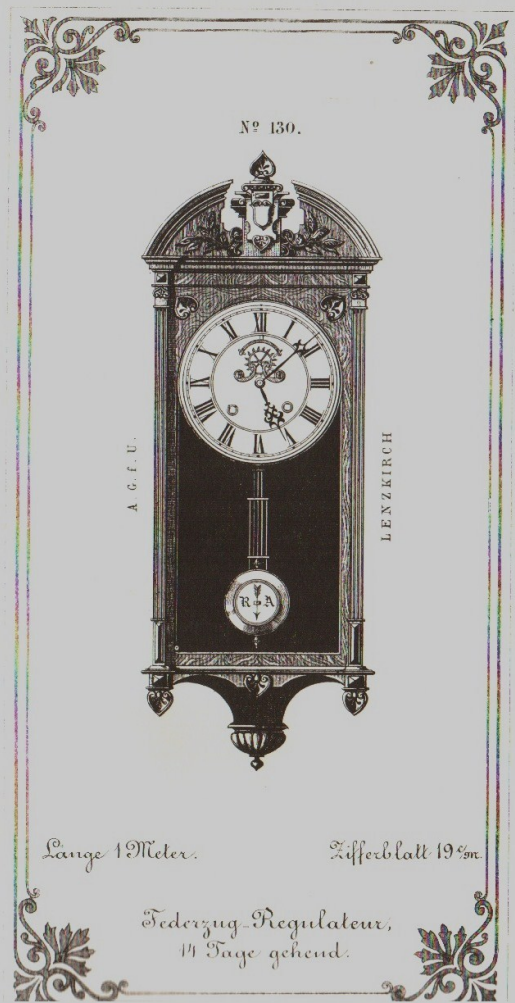
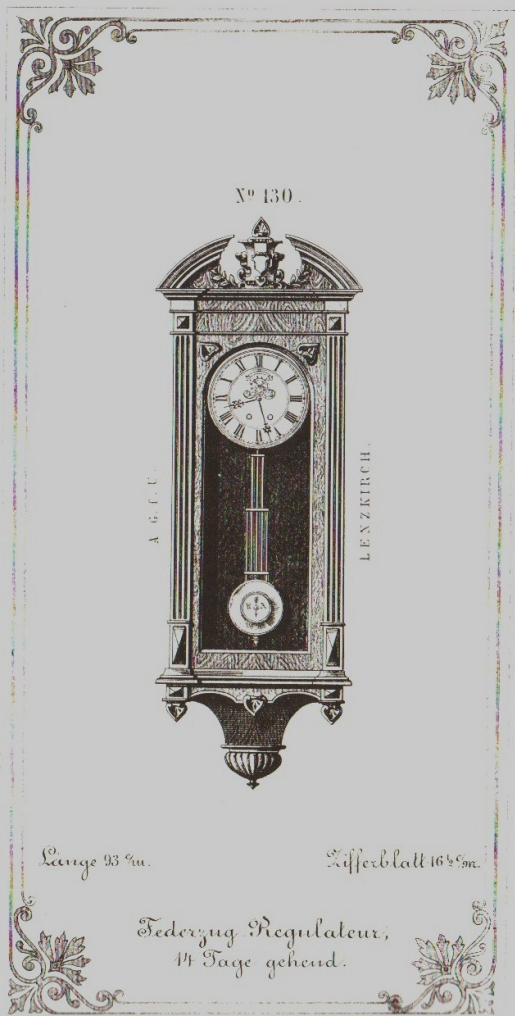
Nº 119.



Länge 80 cm.

Zifferblatt 14 cm.

Federzug-Regulateur,  
14 Tage gehend.



N<sup>o</sup> 132.

Länge 95<sup>mm</sup>.      Zifferblatt 19<sup>mm</sup>.

Federzug-Regulateur,  
14 Tage gehend.

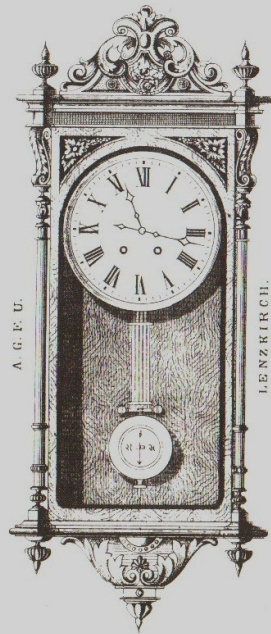
N<sup>o</sup> 133.

Länge 1 Meter.      Zifferblatt 19<sup>mm</sup>.

Federzug-Regulateur,  
14 Tage gehend.



Nº 134.



A. G. F. U.

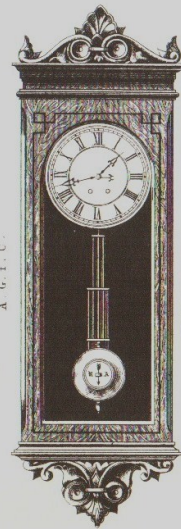
LENZKIRCH.

Länge 1 Meter.

Zifferblatt 19 cm.

Federzug-Regulateur,  
14 Tage gehend.

Nº 307.



A. G. F. U.

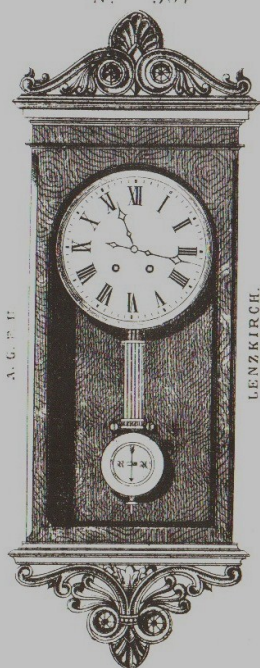
LENZKIRCH.

Länge 1 Meter.  
" 75 cm.

Zifferblatt 19 cm.  
" 14 "

Federzug-Regulateur,  
14 Tage gehend.

N<sup>o</sup> 307



A. G. F. U.

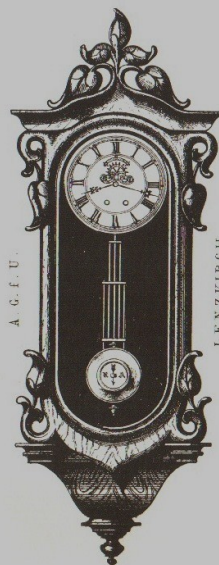
LENZKIRCH.

Länge 1 Meter.

Zifferblatt 19 cm.

Federzug-Regulateur,  
14 Tage gehend.

N<sup>o</sup> 309.



A. G. F. U.

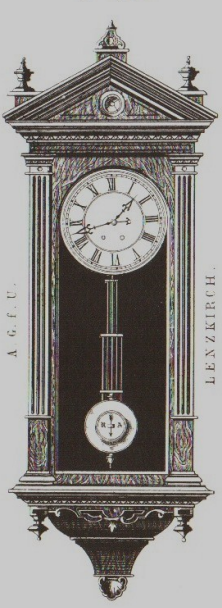
LENZKIRCH.

Länge 87 cm.

Zifferblatt 14 cm.

Federzug-Regulateur,  
14 Tage gehend.

N<sup>o</sup> 314.

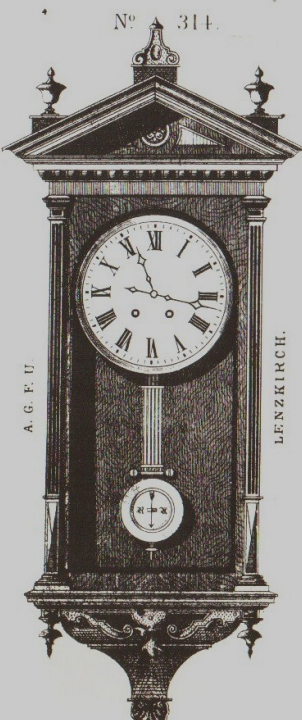


A. G. F. U.      LENZKIRCH.

Länge 1 Meter.      Zifferblatt 19 cm.  
 .. 96 cm.      .. 44 ..

Federzug-Regulateur,  
 14 Tage gehend.

N<sup>o</sup> 314.



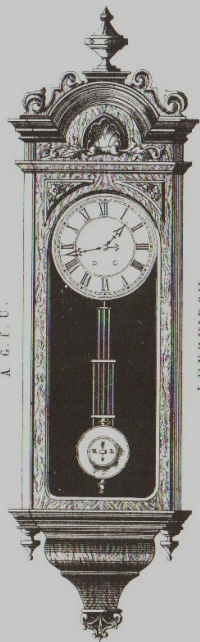
A. G. F. U.      LENZKIRCH.

Länge 1 Meter.      Zifferblatt 19 cm.  
 .. 96 cm.      .. 44 ..

Federzug-Regulateur,  
 14 Tage gehend.



N<sup>o</sup> 317.



A. G. F. U.

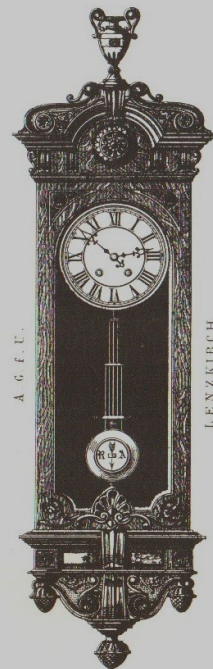
LENZKIRCH.

Länge 93 cm.

Zifferblatt 14 cm.

Federzug-Regulateur,  
14 Tage gehend.

N<sup>o</sup> 342.



A. G. F. U.

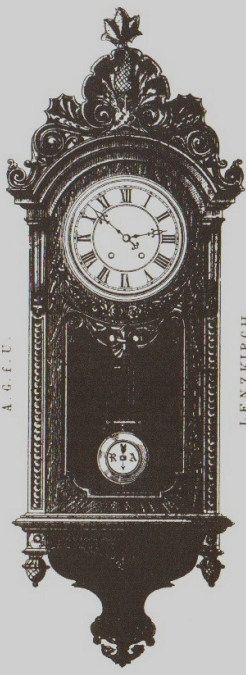
LENZKIRCH.

Länge 95 cm.

Zifferblatt 13 1/2 cm.

Federzug-Regulateur,  
14 Tage gehend.

N<sup>o</sup> 349.

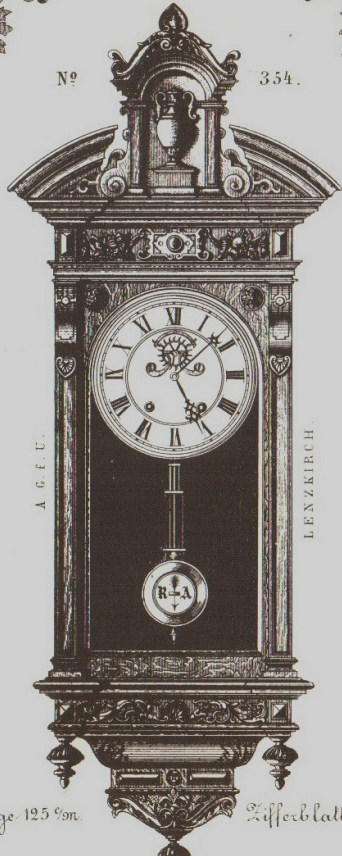


A. G. F. U.  
LENZKIRCH.

Länge 99<sup>cm</sup>.      Zifferblatt 19<sup>cm</sup>.

Federzug-Regulateur,  
14 Tage gehend.

N<sup>o</sup> 354.

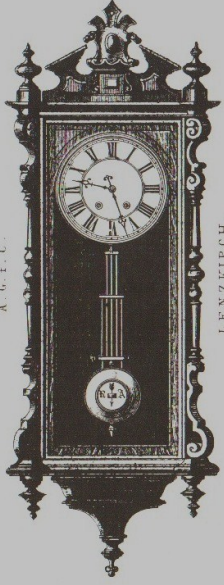


A. G. F. U.  
LENZKIRCH.

Länge 125<sup>cm</sup>.      Zifferblatt 19<sup>cm</sup>.

Federzug-Regulateur,  
14 Tage gehend.

N<sup>o</sup> 357.

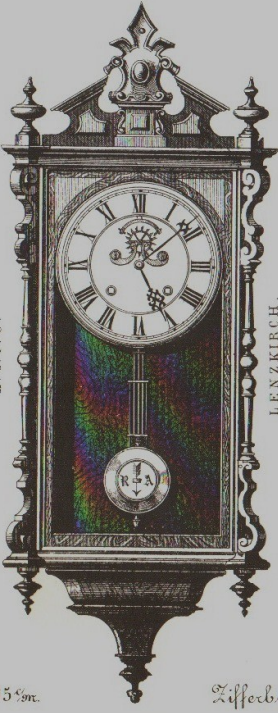


A. G. F. U.  
LENZKIRCH.

Länge 92 cm      Zifferblatt 14 cm.

Federzug-Regulateur,  
14 Tage gehend.

N<sup>o</sup> 357.



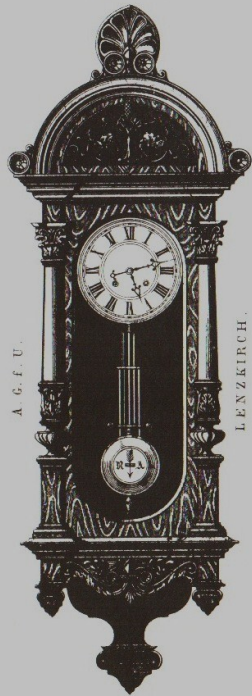
A. G. F. U.  
LENZKIRCH.

Länge 115 cm      Zifferblatt 19 cm.

Federzug-Regulateur,  
14 Tage gehend.



Nº 358.



A. G. F. U.

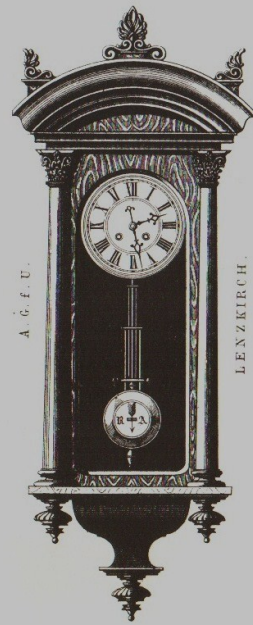
LENZKIRCH.

Länge 1 Meter.

Zifferblatt 14 Sm.

Federzug-Regulator,  
14 Tage gehend.

Nº 359.



A. G. F. U.

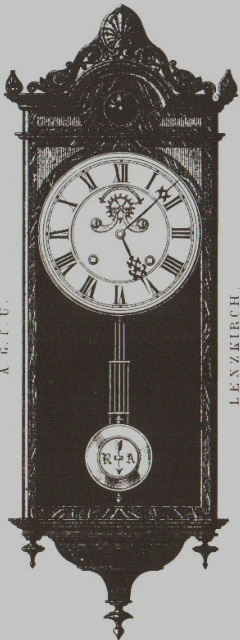
LENZKIRCH.

Länge 90 Sm.

Zifferblatt 14 Sm.

Federzug-Regulator,  
14 Tage gehend.

N<sup>o</sup> 361.

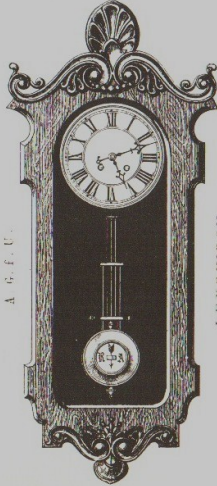


A. G. U. L. E. N. Z. K. I. R. C. H.

Länge 1 Meter.      Zifferblatt 19 cm.

Federzug-Regulateur,  
14 Tage gehend.

N<sup>o</sup> 364.

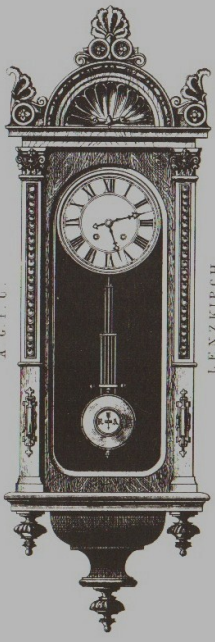


A. G. U. L. E. N. Z. K. I. R. C. H.

Länge 75 cm      Zifferblatt 14 cm.

Federzug-Regulateur,  
14 Tage gehend.

N<sup>o</sup> 368

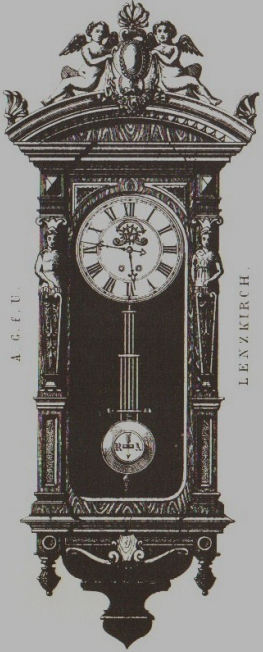


A. G. F. U.  
LENZKIRCH.

Länge 89 cm.      Zifferblatt 13 1/2 cm.

Federzug-Regulateur,  
14 Tage gehend.

N<sup>o</sup> 370.



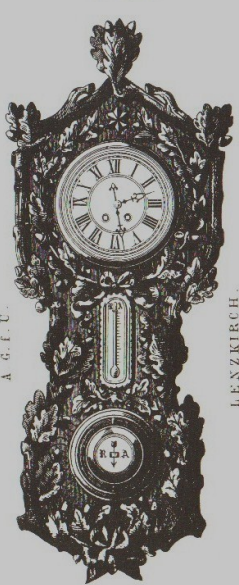
A. G. F. U.  
LENZKIRCH.

Länge 85 cm.      Zifferblatt 14 cm.

Federzug-Regulateur,  
14 Tage gehend.



N<sup>o</sup> 371.

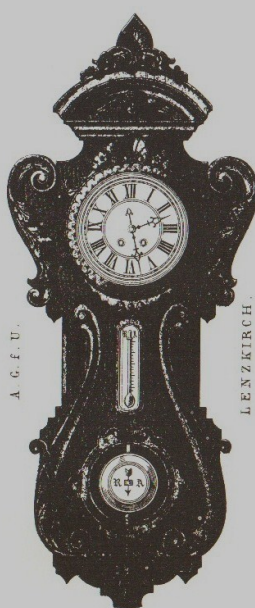


A. G. F. U.  
LENZKIRCH.

Länge 85 cm.      Zifferblatt 14 cm.

Federzug-Regulateur,  
14 Tage Geh- oder Schlagwerk

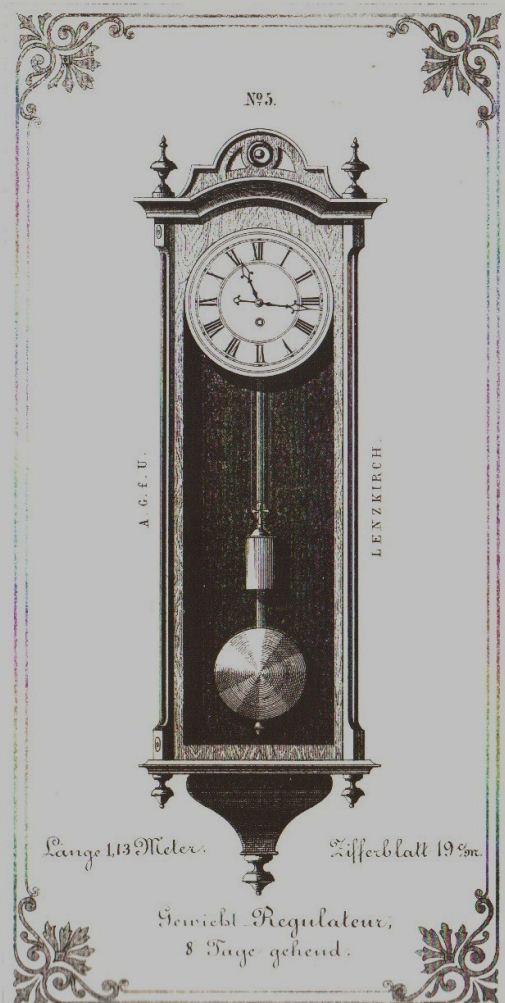
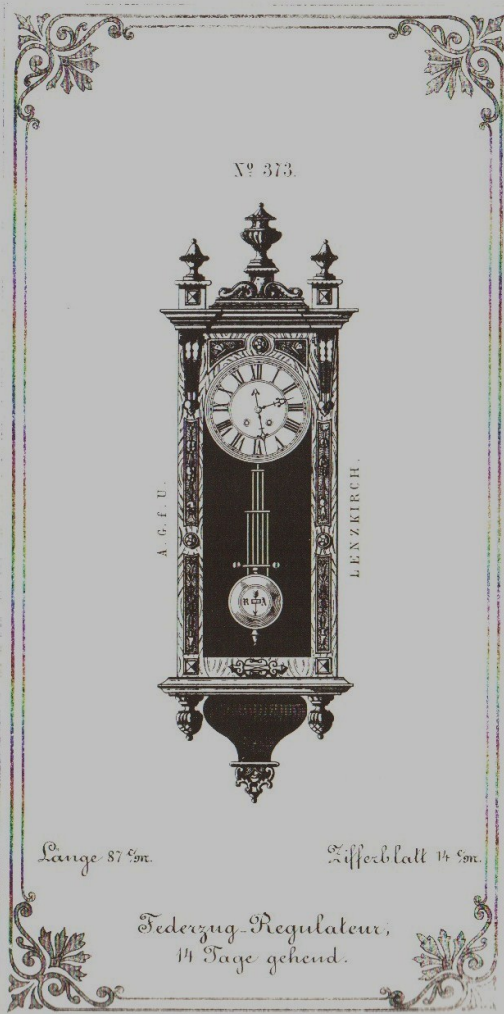
N<sup>o</sup> 372.

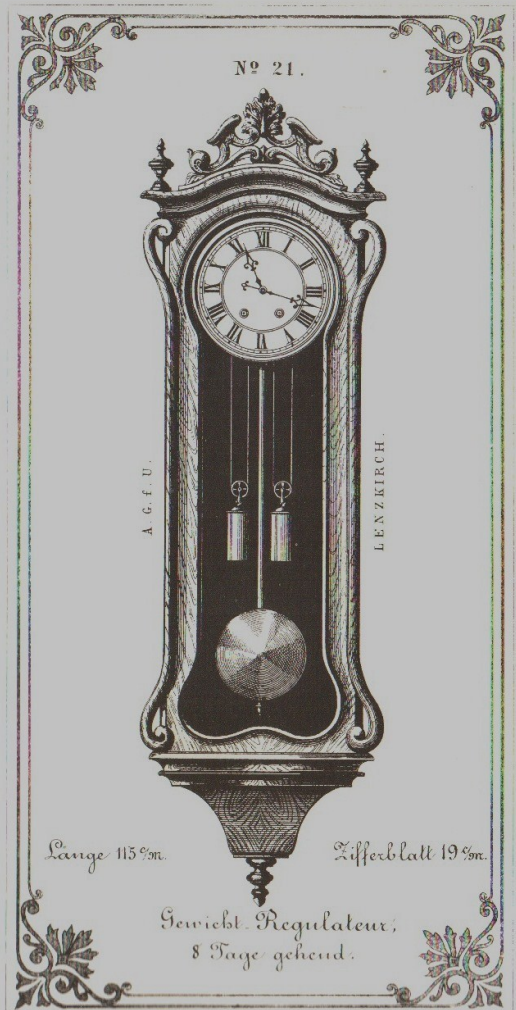
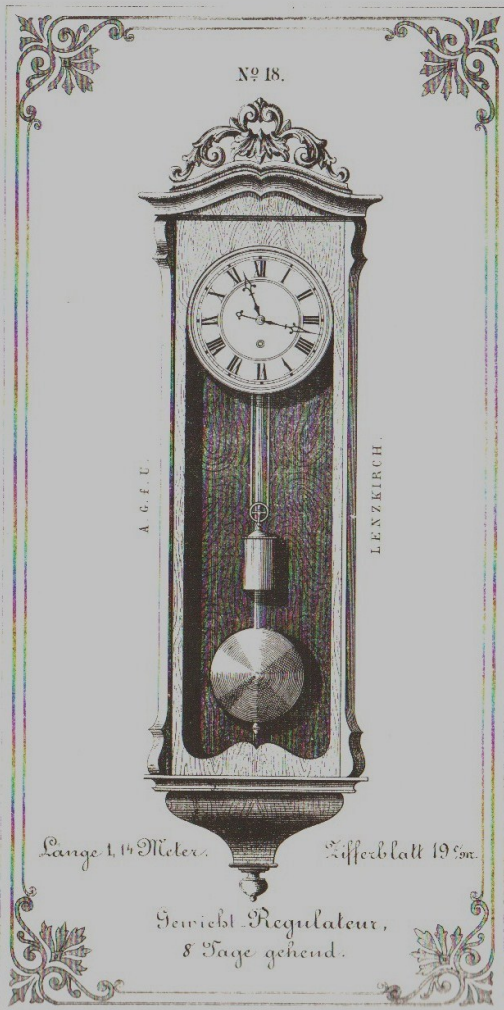


A. G. F. U.  
LENZKIRCH.

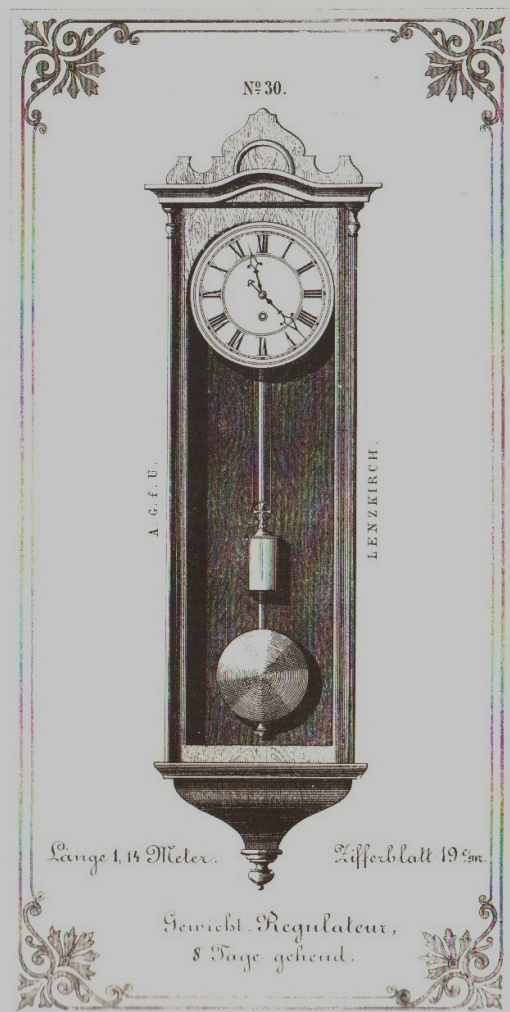
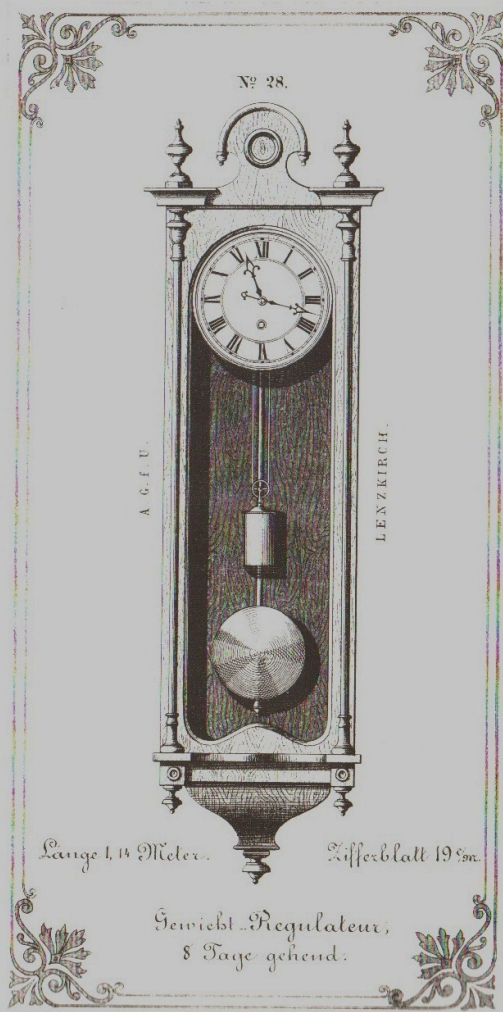
Länge 87 cm.      Zifferblatt 14 cm.

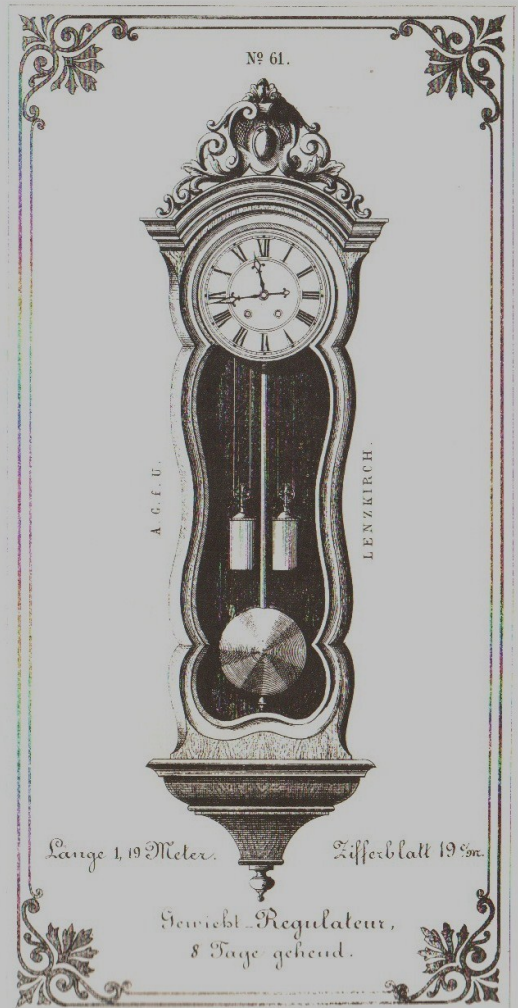
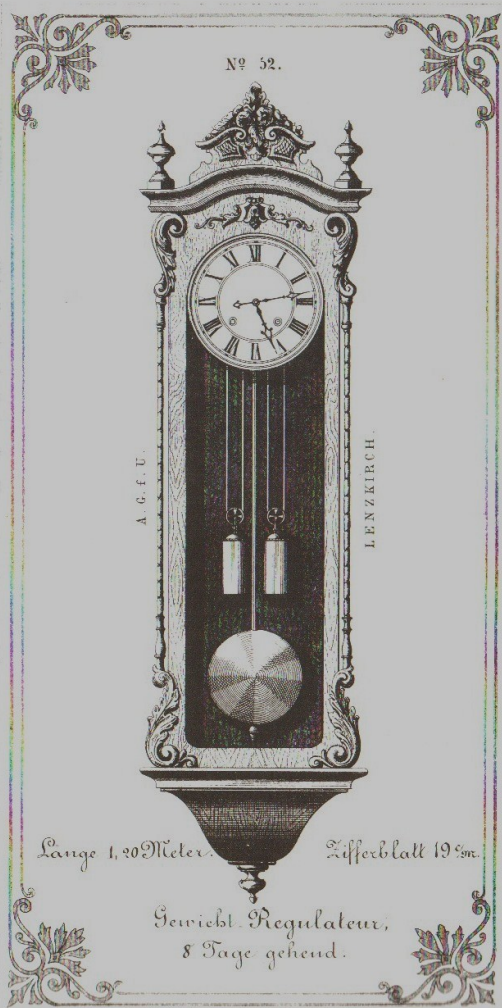
Federzug-Regulateur,  
14 Tage Geh- oder Schlagwerk



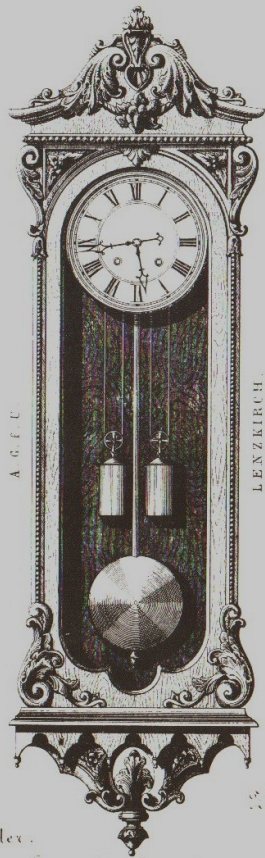








Nº 68.

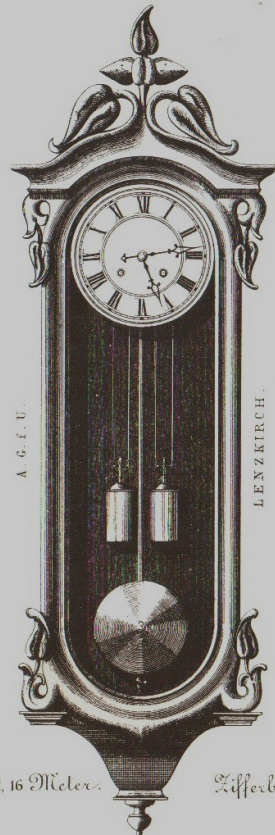


Länge  
1,17 Meter.

Zifferblatt  
19 cm.

Gewicht Regulateur,  
8 Tage gehend.

Nº 83.

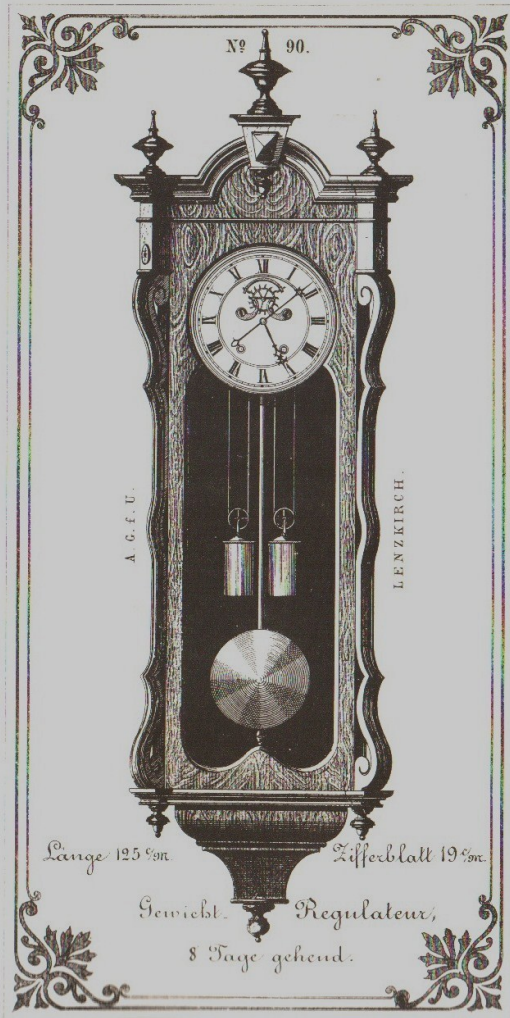
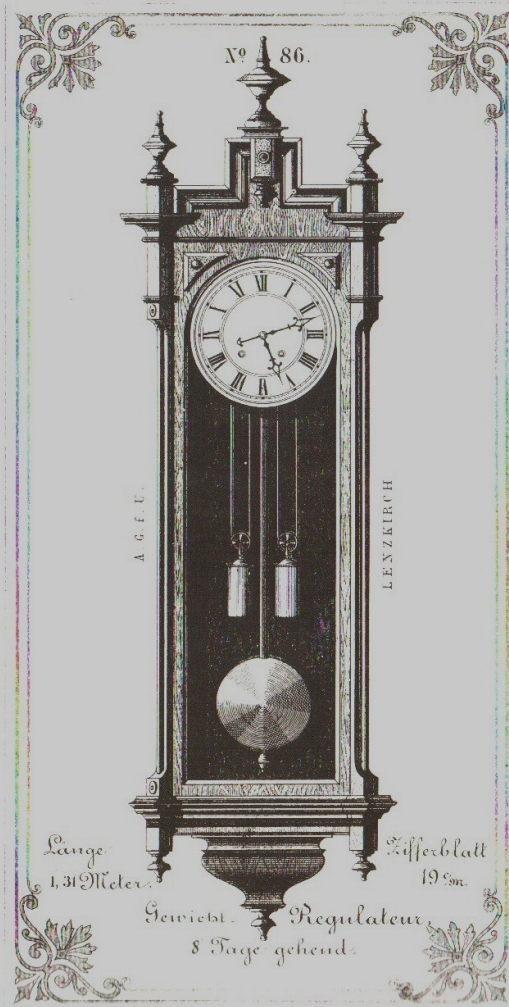


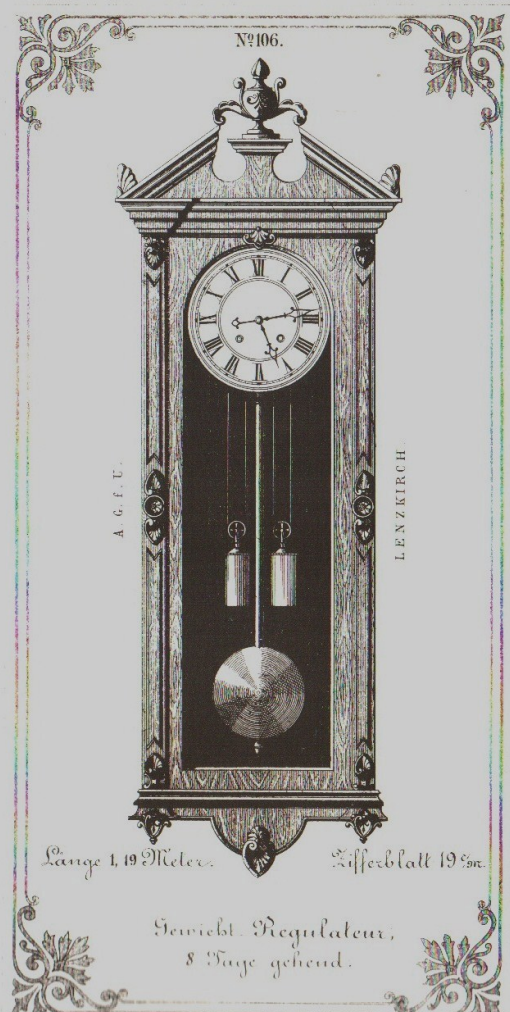
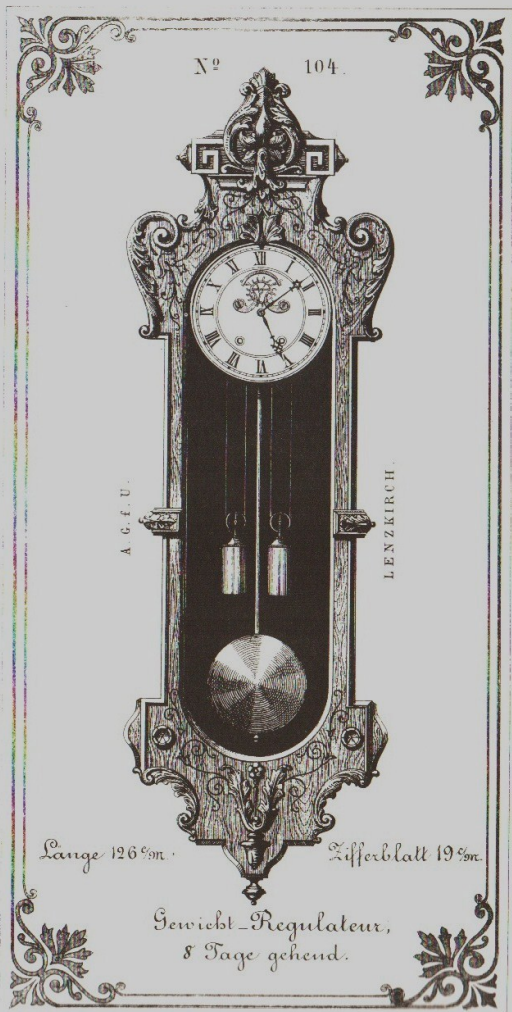
Länge 1,16 Meter.

Zifferblatt 19 cm.

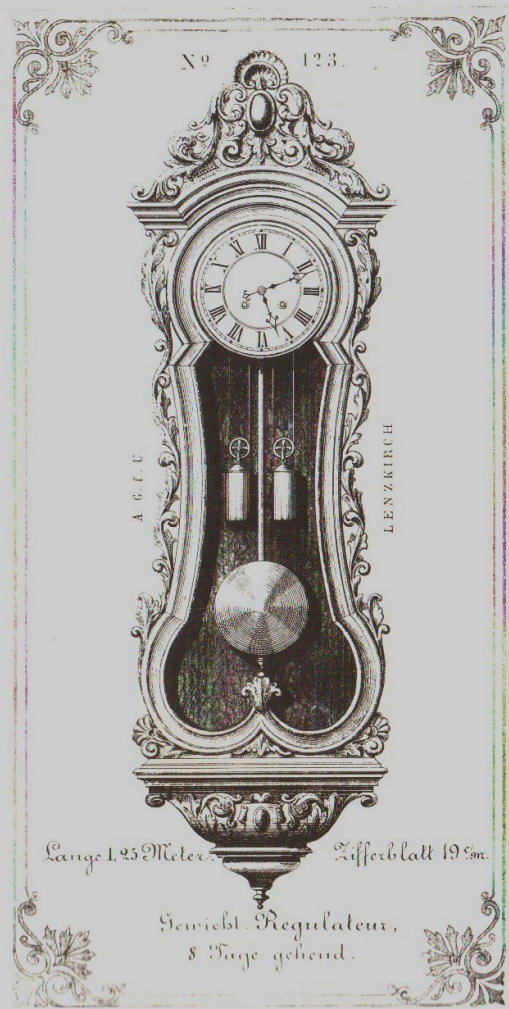
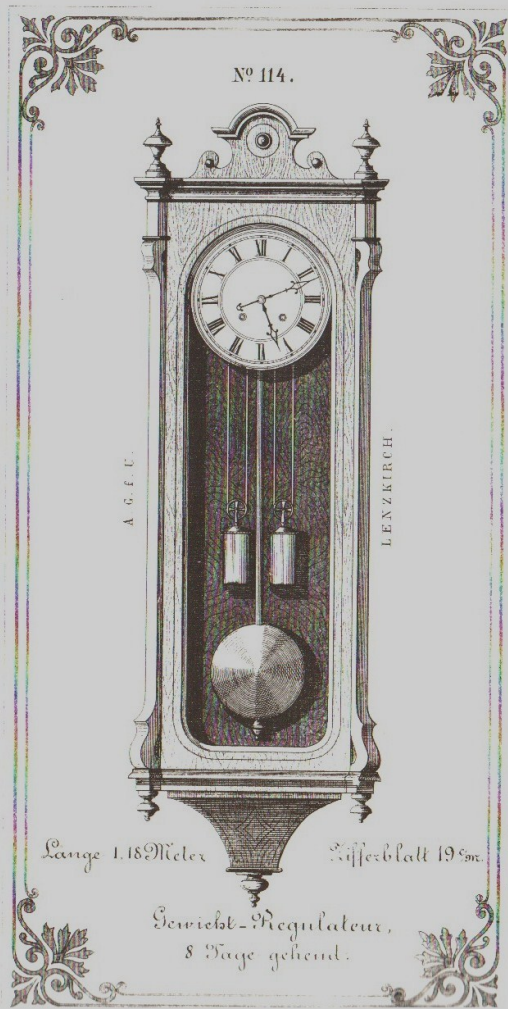
Gewicht Regulateur,  
8 Tage gehend.



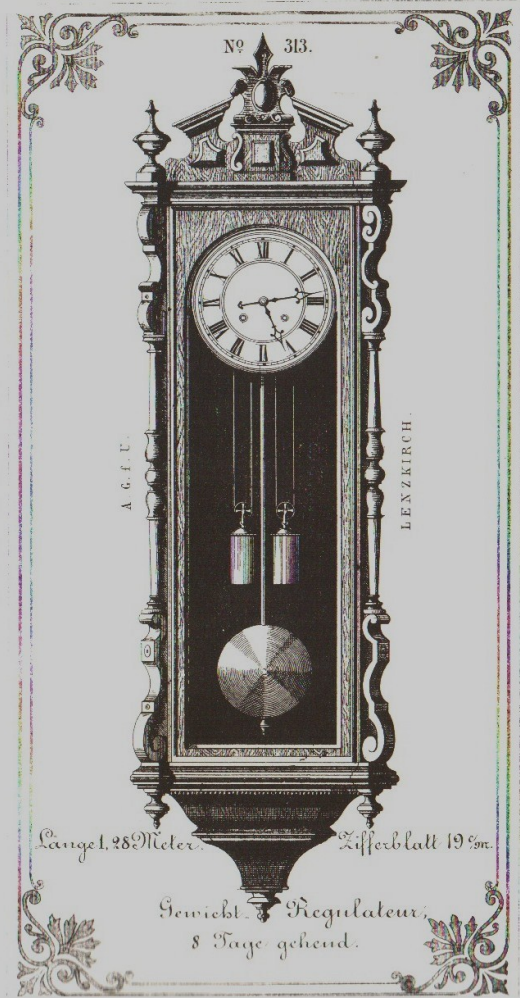
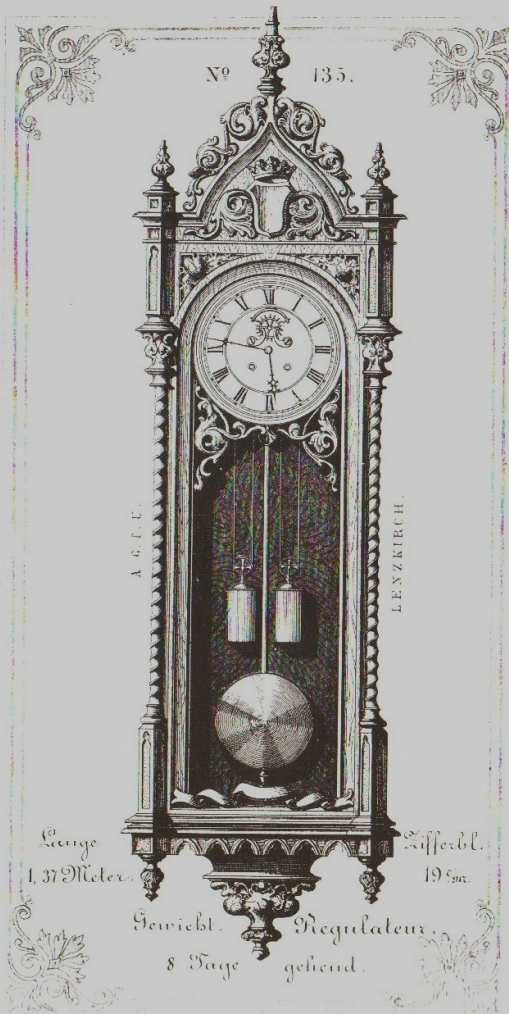


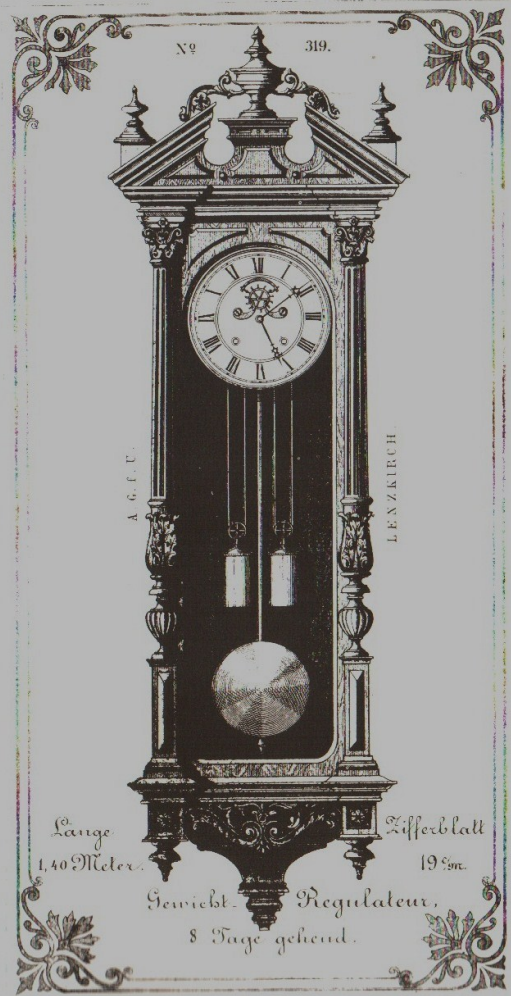
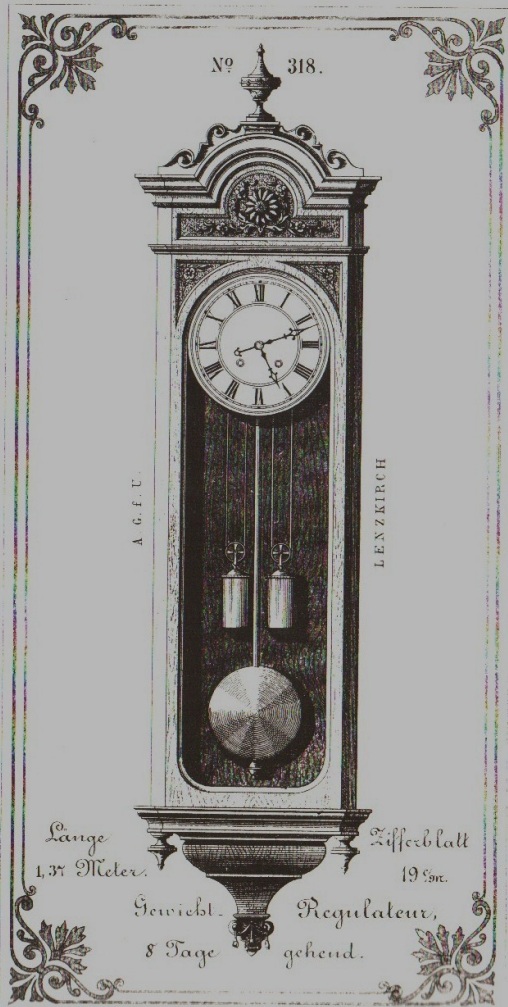




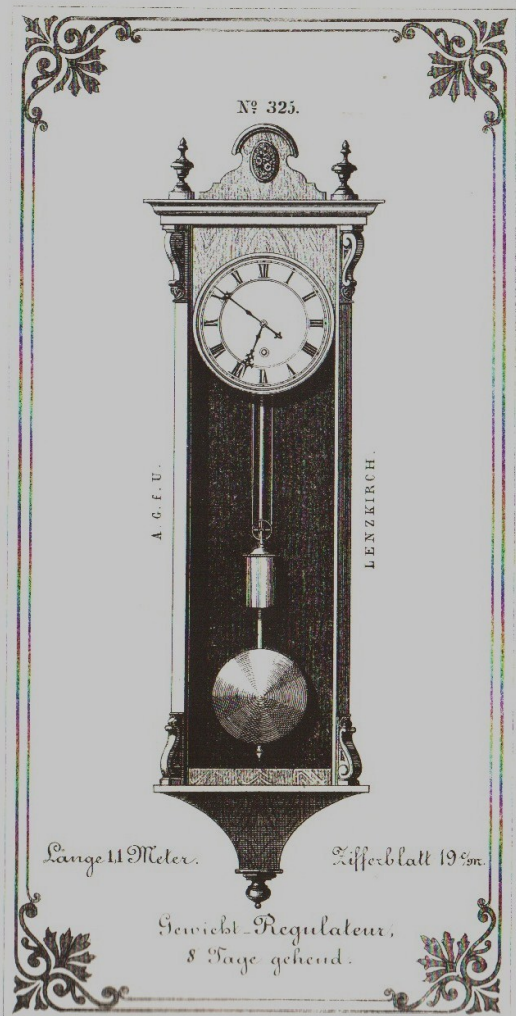
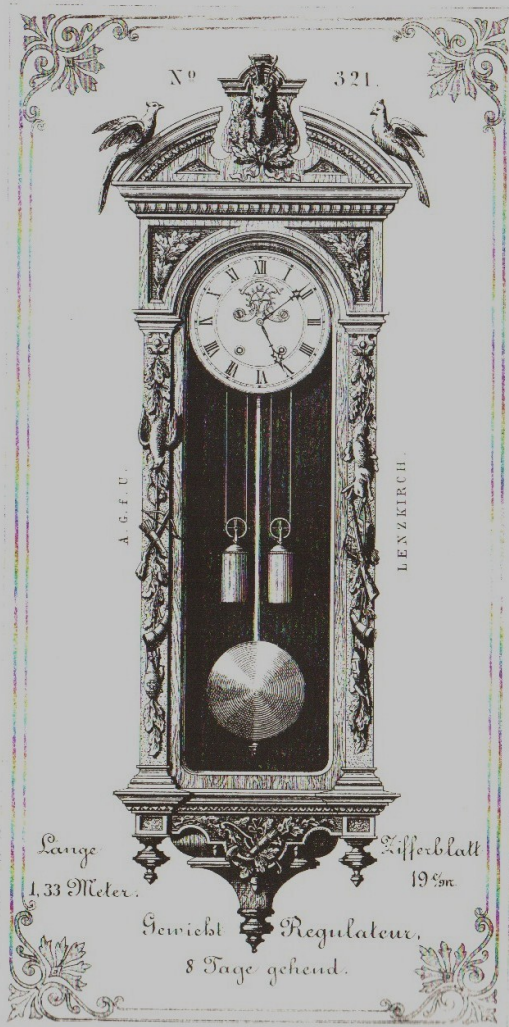




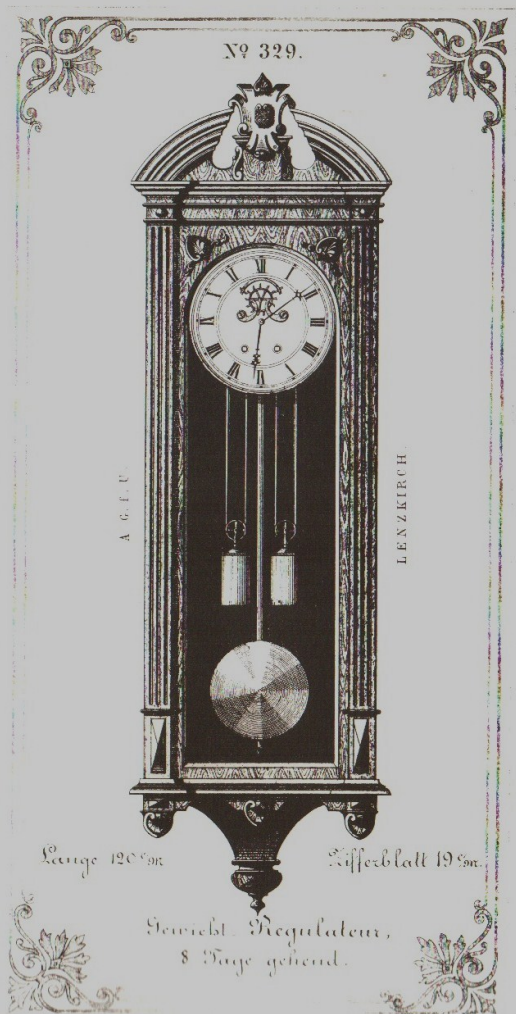
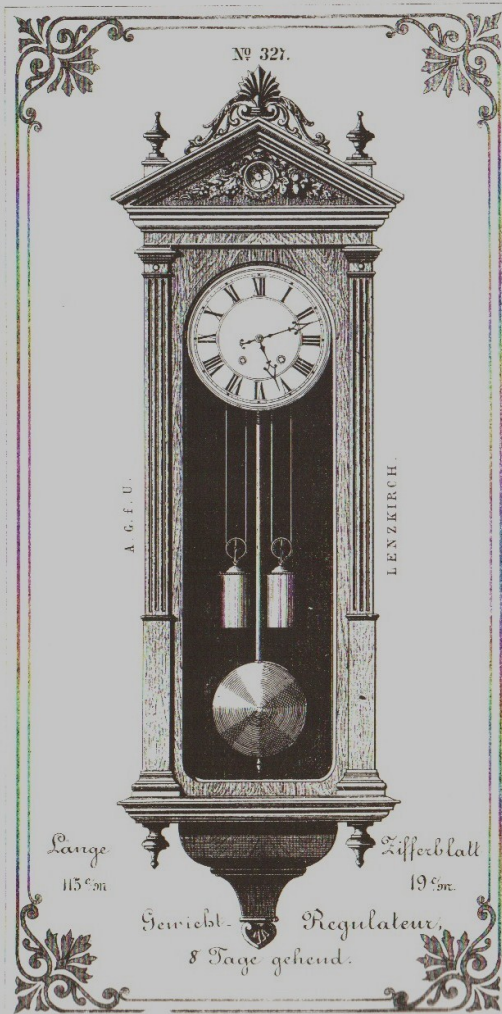


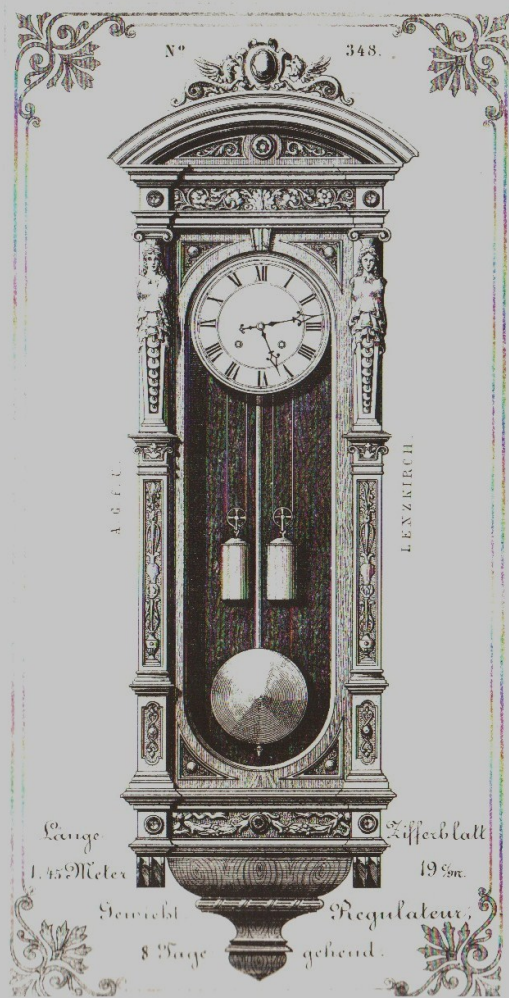
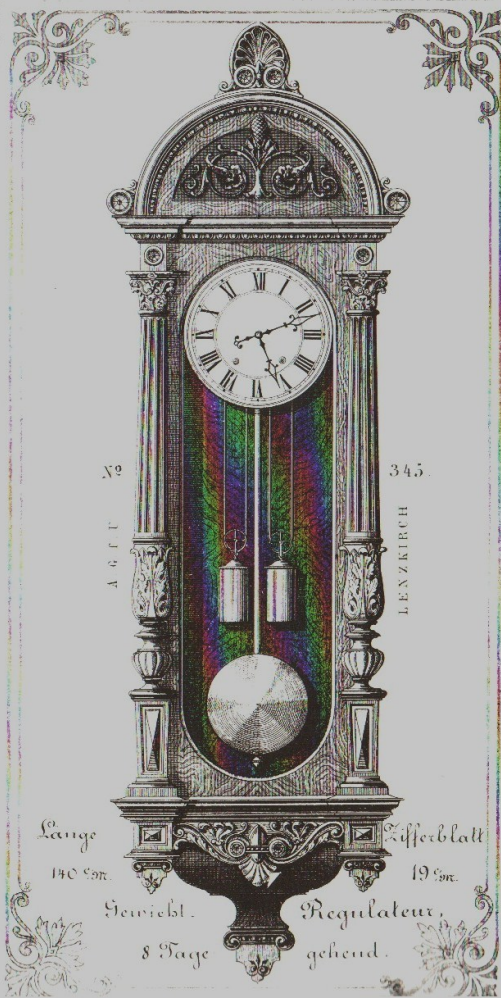




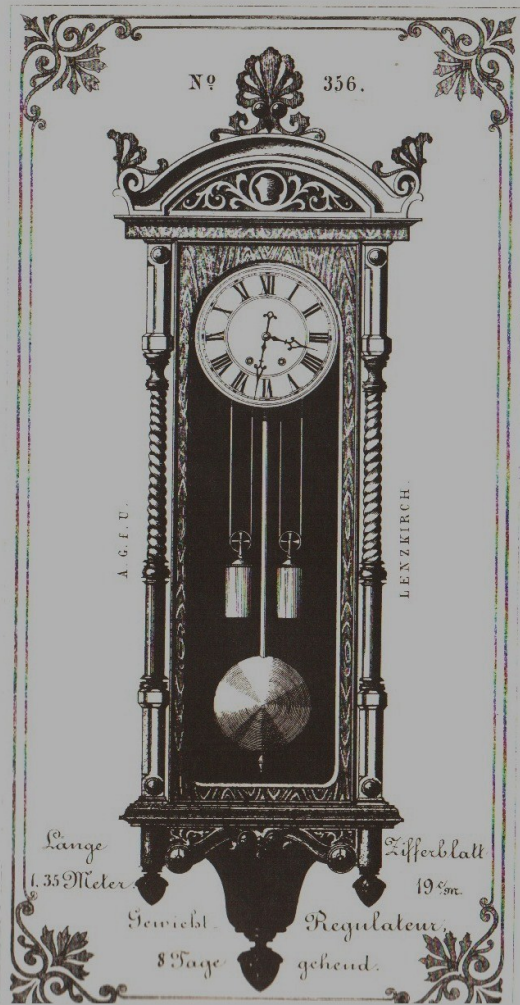
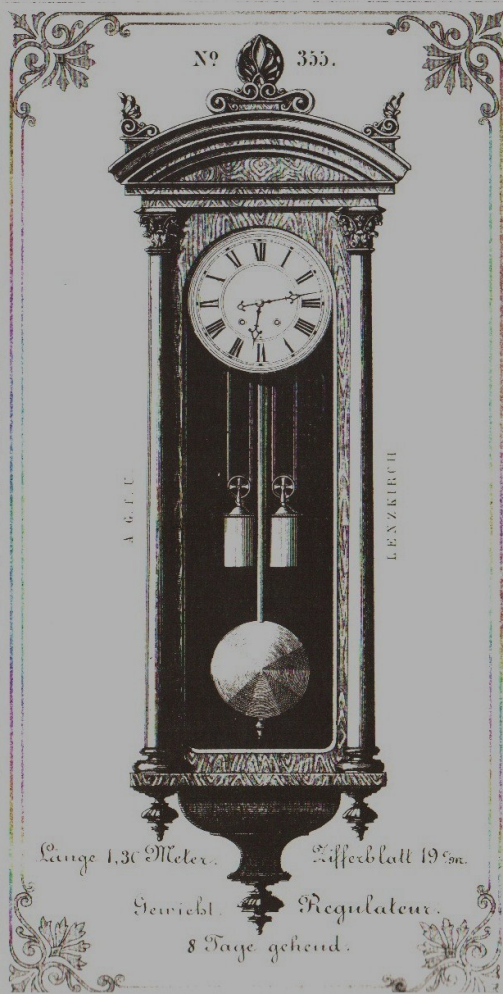




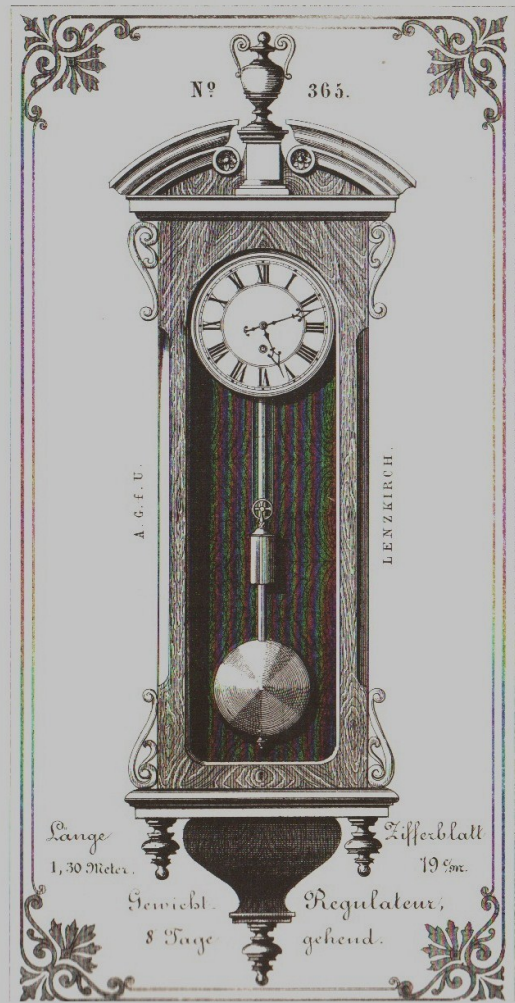
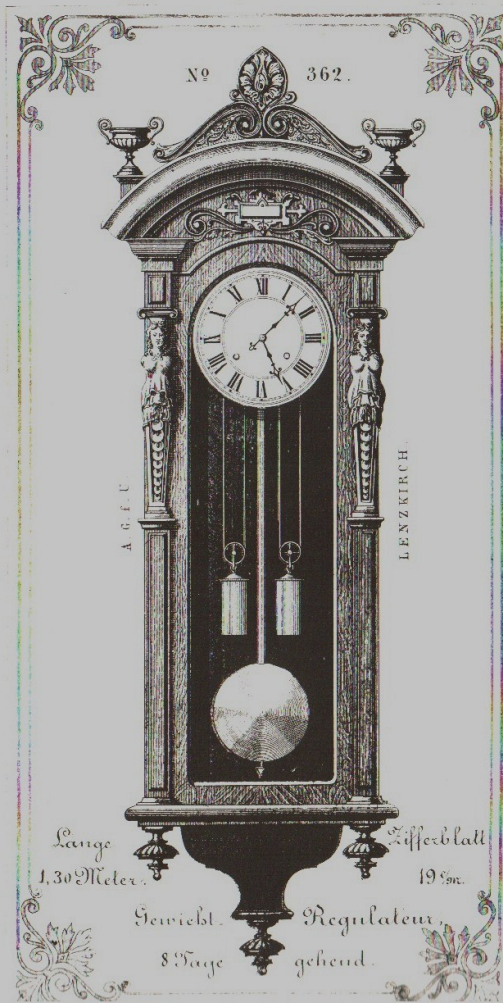


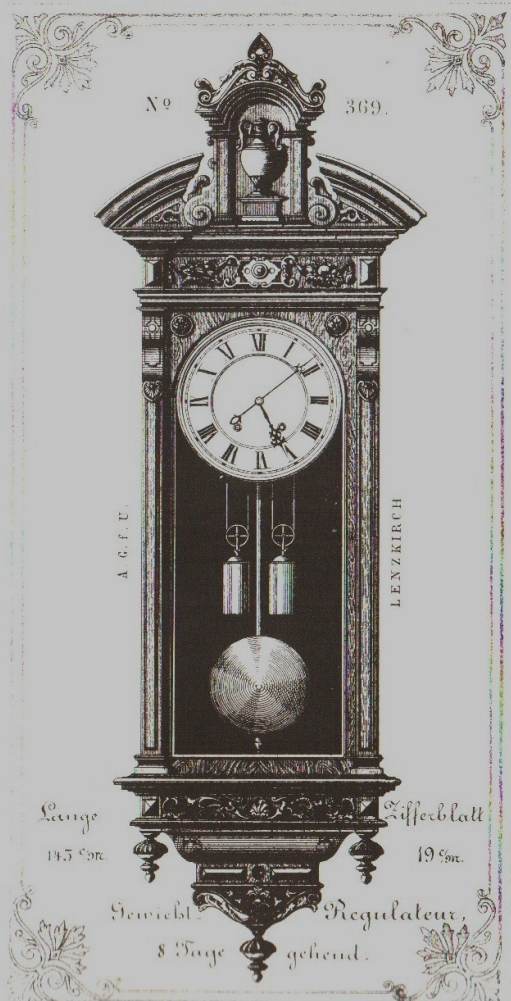
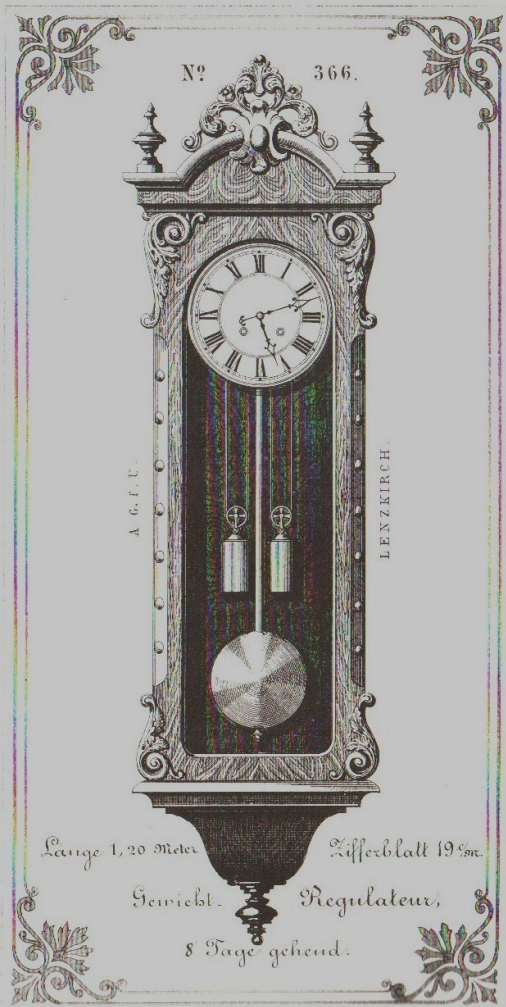




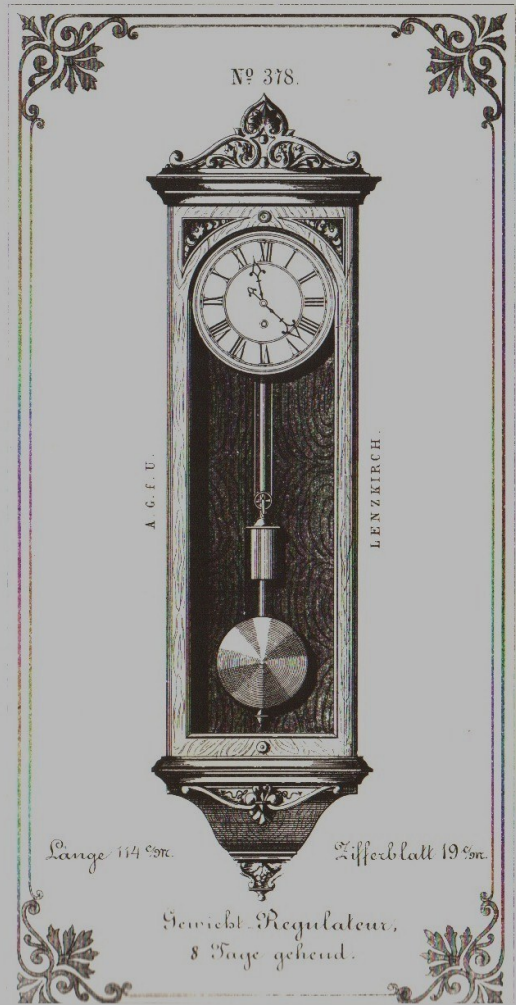
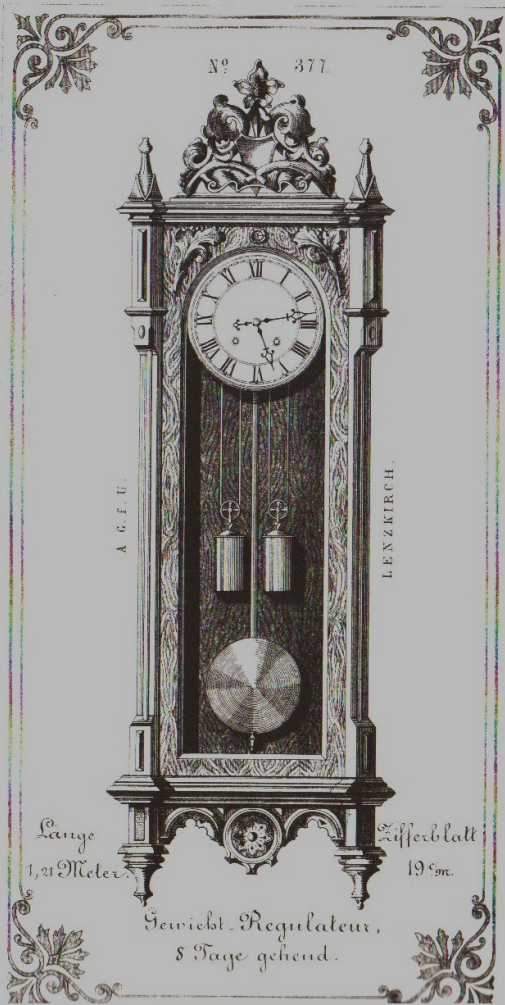




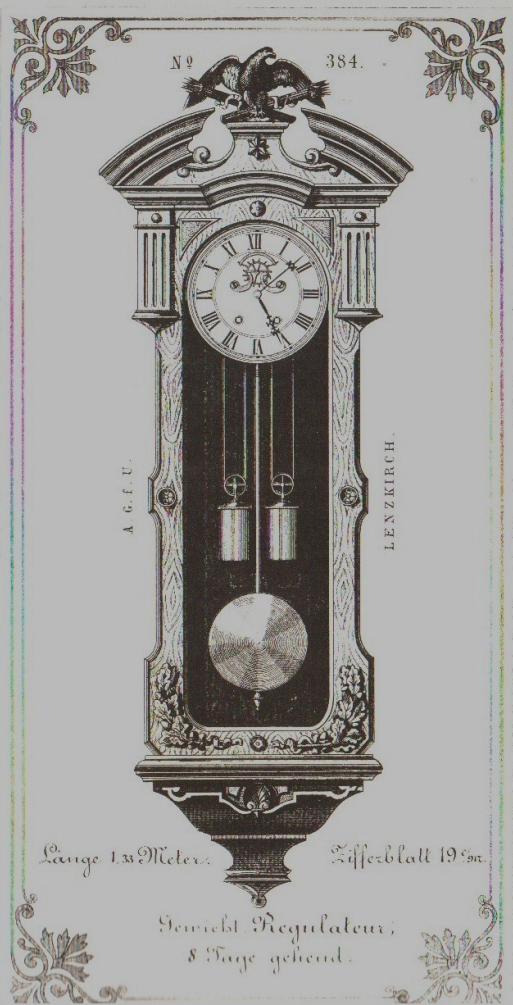
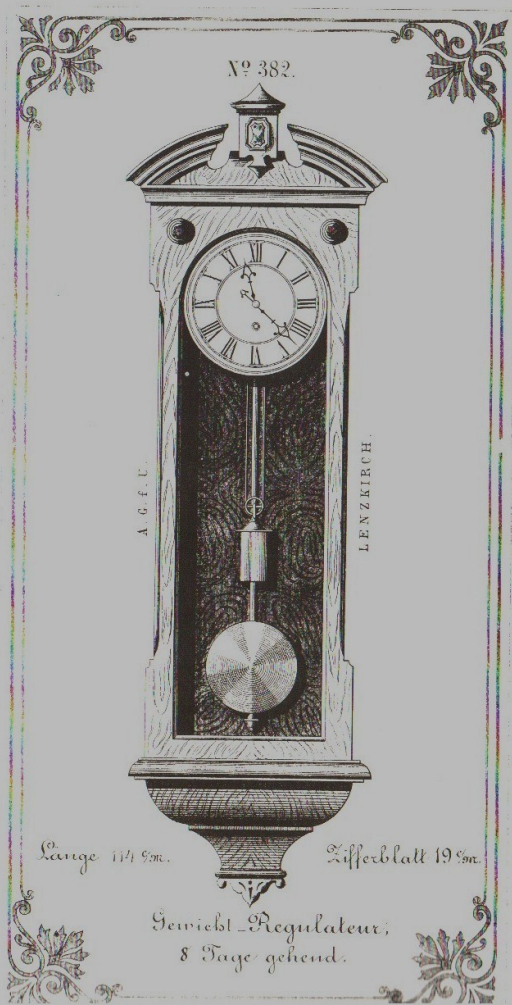


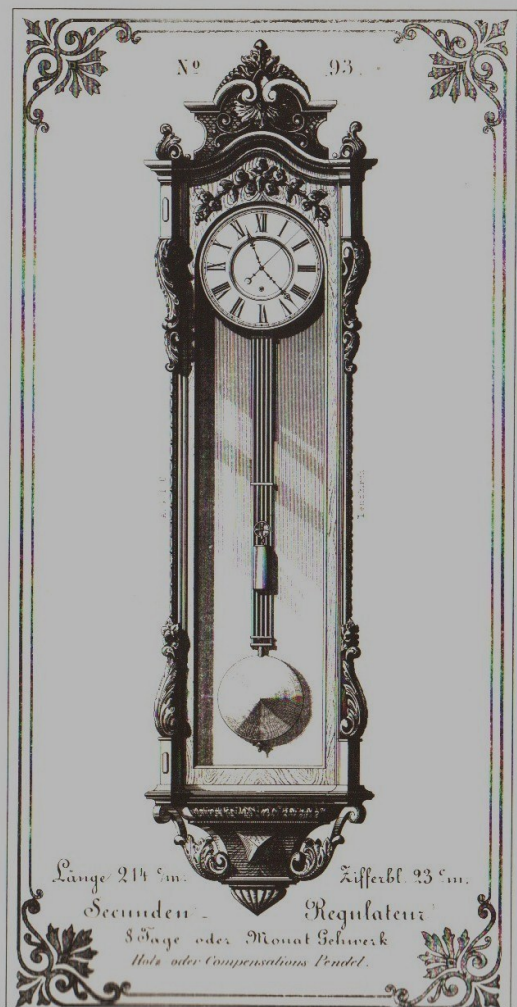
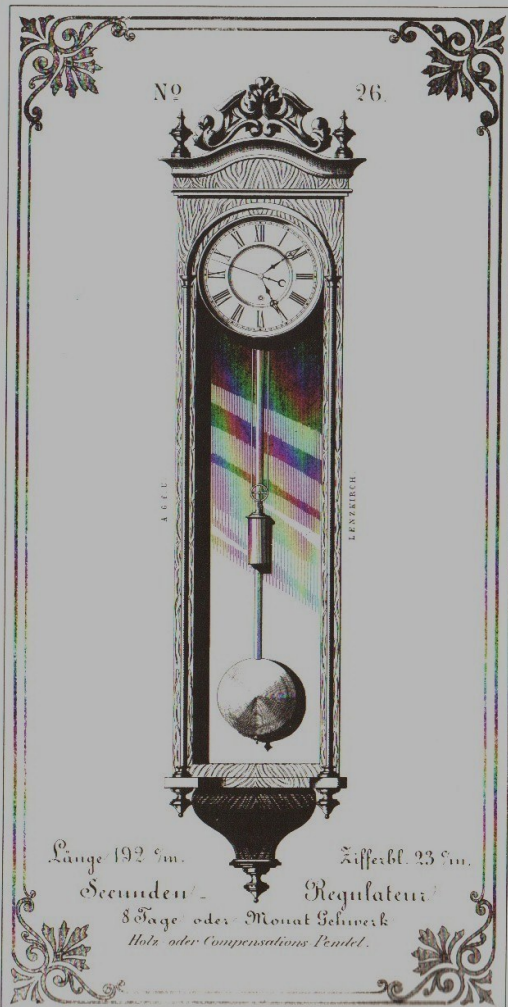


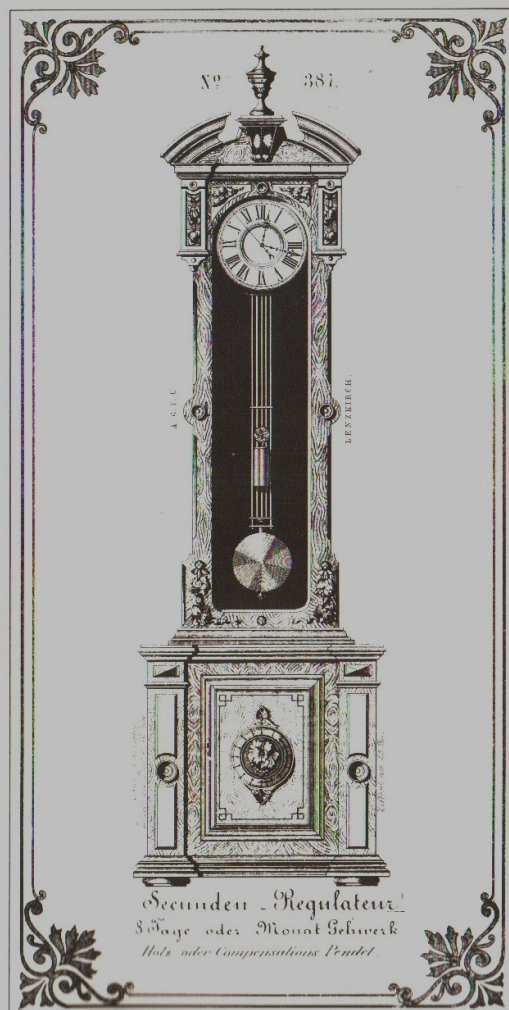
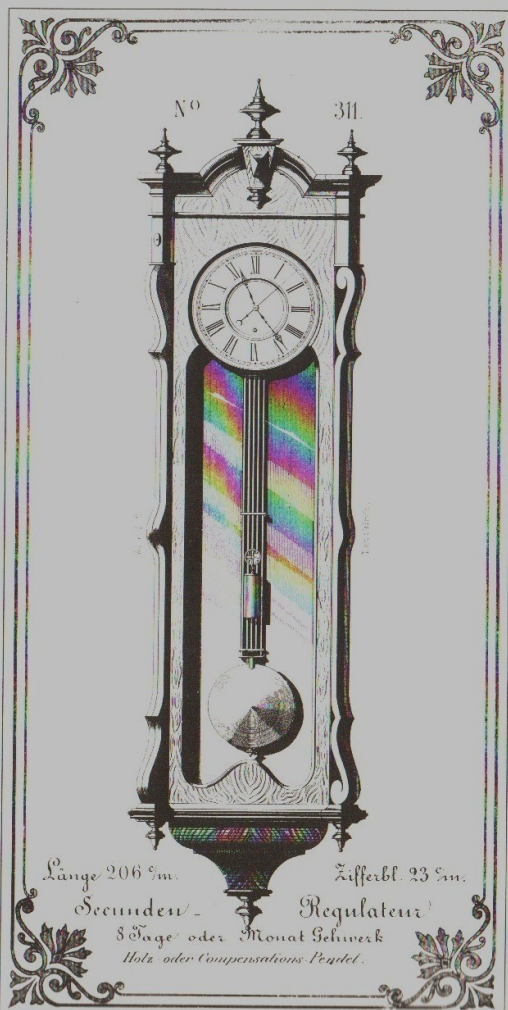






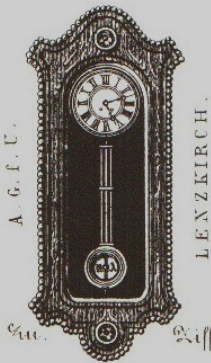








Nº 2.



A. G. f. U.

LENZKIRCH.

Länge 48 Lin.

Zifferblatt 9 1/2 Lin.

Nº 316.



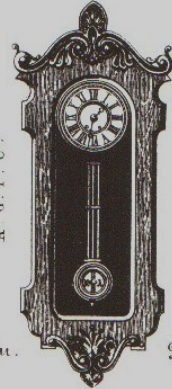
A. G. f. U.

LENZKIRCH.

Länge 48 Lin.

Zifferblatt 9 1/2 Lin.

Nº 363.



A. G. f. U.

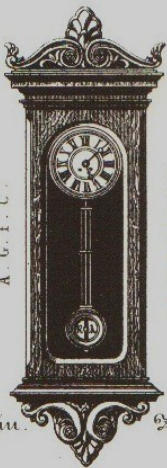
LENZKIRCH.

Länge 48 Lin.

Zifferblatt 9 1/2 Lin.

Miniatur Regulateur, 14 Tage Geh- oder Schlagwerk.

Nº 19.



A. G. f. U.

LENZKIRCH.

Länge 60 Lin.

Zifferblatt 9 1/2 Lin.

Nº 100.



A. G. f. U.

LENZKIRCH.

Länge 54 Lin.

Zifferblatt 9 1/2 Lin.

Nº 315.



A. G. f. U.

LENZKIRCH.

Länge 68 Lin.

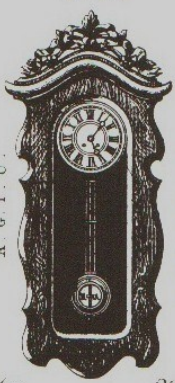
Zifferblatt 9 1/2 Lin.

Miniatur Regulateur, 14 Tage Geh- oder Schlagwerk.



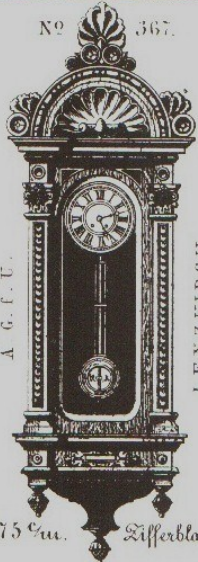
N<sup>o</sup> 367.

N<sup>o</sup> 81.



A. G. f. U.  
LENZKIRCH.

Länge 50 Lin.  
Zifferblatt 9 1/2 Lin.



A. G. f. U.  
LENZKIRCH.

Länge 75 Lin.  
Zifferblatt 9 1/2 Lin.

N<sup>o</sup> 99.



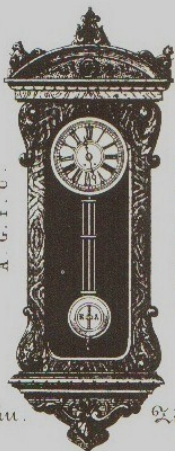
A. G. f. U.  
LENZKIRCH.

Länge 58 Lin.  
Zifferblatt 9 1/2 Lin.

Miniatur Regulateur, 14 Tage Geh- oder Schlagwerk.

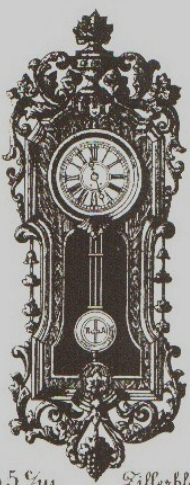
N<sup>o</sup> 101.

N<sup>o</sup> 374.



A. G. f. U.  
LENZKIRCH.

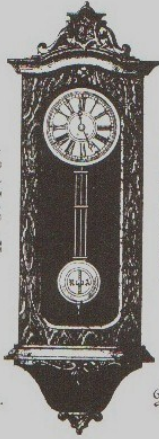
Länge 60 Lin.  
Zifferblatt 9 1/2 Lin.



A. G. f. U.  
LENZKIRCH.

Länge 65 Lin.  
Zifferblatt 9 1/2 Lin.

N<sup>o</sup> 381.



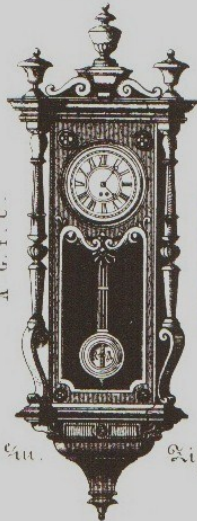
A. G. f. U.  
LENZKIRCH.

Länge 59 Lin.  
Zifferblatt 9 1/2 Lin.

Miniatur Regulateur, 14 Tage Geh- oder Schlagwerk.



N<sup>o</sup> 341



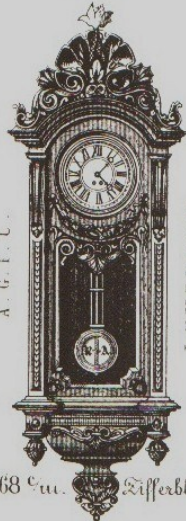
A. G. f. U.

LENZKIRCH.

Länge 68 Cm.

Zifferblatt 9 1/2 Cm.

N<sup>o</sup> 350



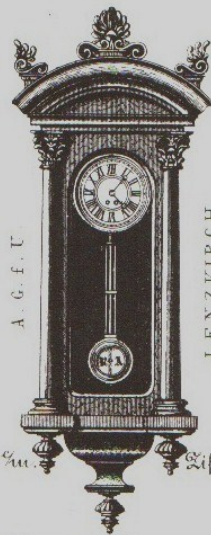
A. G. f. U.

LENZKIRCH.

Länge 68 Cm.

Zifferblatt 9 1/2 Cm.

N<sup>o</sup> 360



A. G. f. U.

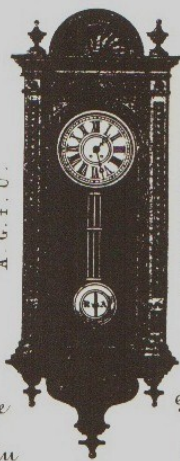
LENZKIRCH.

Länge 70 Cm.

Zifferblatt 9 1/2 Cm.

Miniatur Regulateur, 14 Tage Geh- oder Schlagwerk.

N<sup>o</sup> 326.



A. G. f. U.

LENZKIRCH.

Länge 60 Cm.

Zifferblatt 9 1/2 Cm.

N<sup>o</sup> 320.



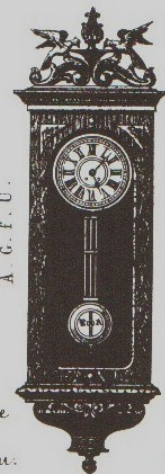
A. G. f. U.

LENZKIRCH.

Länge 64 Cm.

Zifferblatt 9 1/2 Cm.

N<sup>o</sup> 375.



A. G. f. U.

LENZKIRCH.

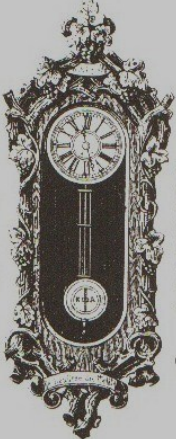
Länge 64 Cm.

Zifferblatt 9 1/2 Cm.

Miniatur Regulateur, 14 Tage Geh- oder Schlagwerk.



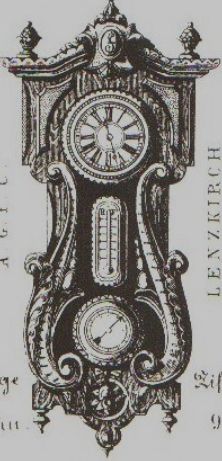
N<sup>o</sup> 388.
N<sup>o</sup> 385.
N<sup>o</sup> 386.



A. G. F. U.

LENZKIRCH

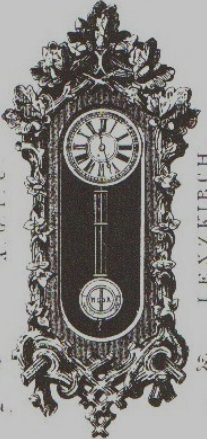
Länge 62 cm.  
Zifferblatt 9 1/2 cm.



A. G. F. U.

LENZKIRCH

Länge 60 cm.  
Zifferblatt 9 1/2 cm.




A. G. F. U.

LENZKIRCH

Länge 59 cm.  
Zifferblatt 9 1/2 cm.


Miniatur-Regulateur, 14 Tage Geh- oder Schlagwerk.

**Uhren-Fabrik**  
 von  
**LORENZ BOB**




in  
**FURTWANGEN**  
 bad. Schwarzwald.

N<sup>o</sup> 2.




N<sup>o</sup> 3.



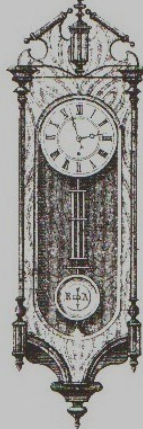
*Furtwangen Uhren-Fabrik No. 26.*     *Furtwangen Uhren-Fabrik No. 19.*

N<sup>o</sup> 1.



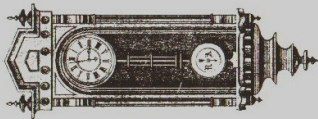
Länge 48 Cent.     Zifferblatt 15 Cent. (Federzug.)  
 Gehwerk. *N<sup>o</sup> 30.*     Schlagwerk. *N<sup>o</sup> 38.*  
 Länge 75 Cent.     Zifferblatt 20 Cent. (Gewicht.)  
 Gehwerk. *N<sup>o</sup> 36.*     Schlagwerk. *N<sup>o</sup> 43.*

N<sup>o</sup> 4.



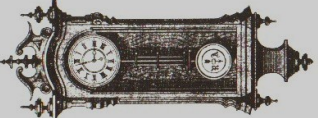
Länge 48 Cent.     Zifferblatt 15 Cent. (Federzug.)  
 Gehwerk. *N<sup>o</sup> 30.*     Schlagwerk. *N<sup>o</sup> 38.*  
 Länge 75 Cent.     Zifferblatt 20 Cent. (Gewicht.)  
 Gehwerk. *N<sup>o</sup> 36.*     Schlagwerk. *N<sup>o</sup> 43.*

Nr. 5.



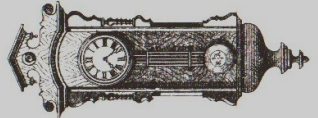
Länge 48 Cent.  
 Zifferblatt 15 Cent. (Folterung)  
 Gehwerk *Mk. 36* — Schlagwerk *Mk. 44* —  
 Länge 75 Cent. Zifferblatt 30 Cent. (Gewicht)  
 Gehwerk *Mk. 44* — Schlagwerk *Mk. 51* —

Nr. 6.



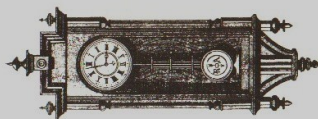
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 Gehwerk *Mk. 36* — Schlagwerk *Mk. 44* —  
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 Gehwerk *Mk. 44* — Schlagwerk *Mk. 51* —

Nr. 7.



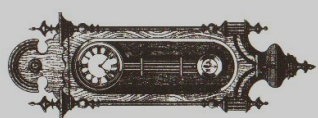
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Nr. 8.



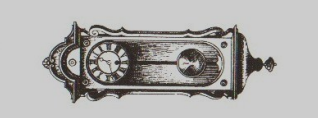
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 Gehwerk *Mk. 51* — Schlagwerk *Mk. 44* —

Nr. 9.



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 Gehwerk *Mk. 36* — Schlagwerk *Mk. 51* —  
 Länge 75 Cent. Zifferblatt 30 Cent. (Gewicht)  
 Gehwerk *Mk. 51* — Schlagwerk *Mk. 44* —

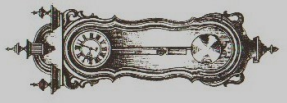
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 Gehwerk *Mk. 51* — Schlagwerk *Mk. 44* —

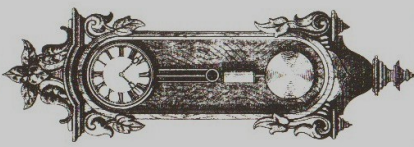


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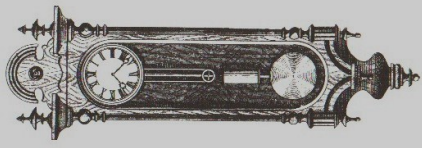
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 Gehwerk № 48 — Schlagwerk № 50 —

№ 12.



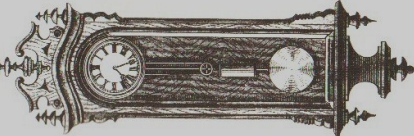
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№ 13.



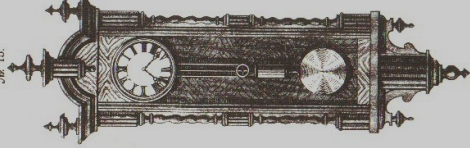
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№ 14.



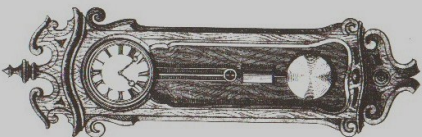
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№ 15.



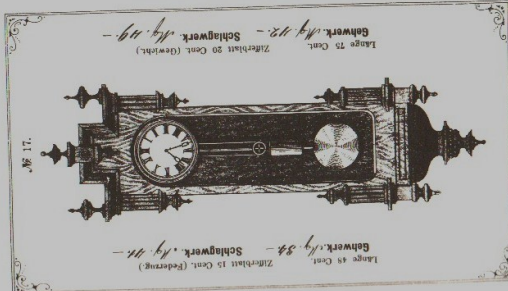
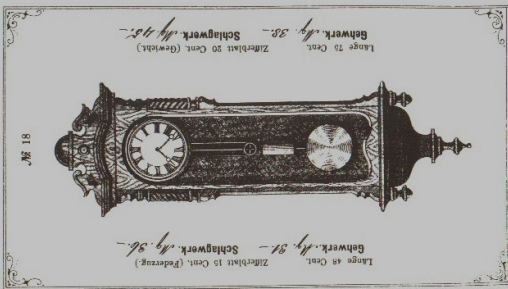
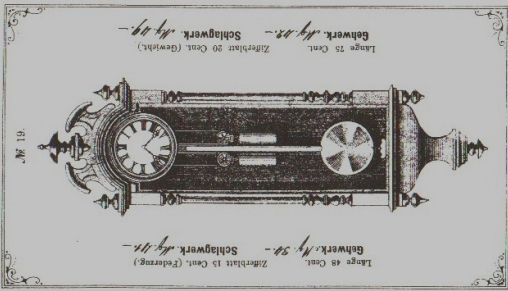
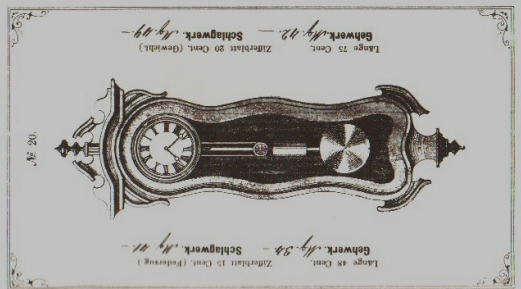
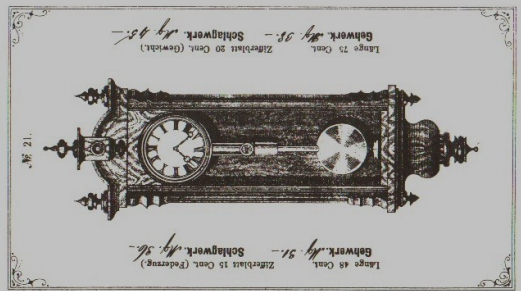
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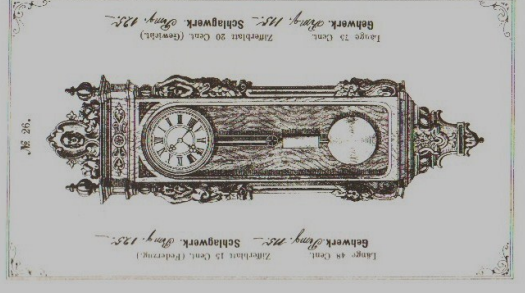
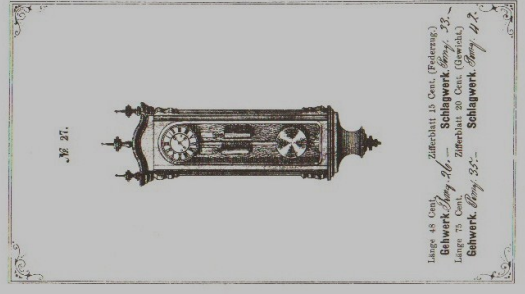
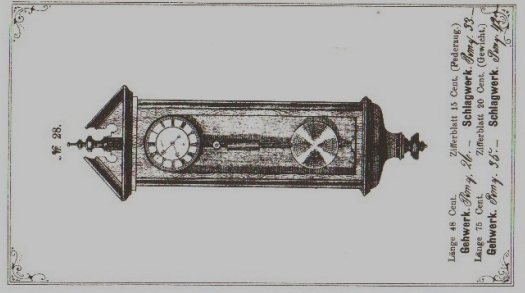
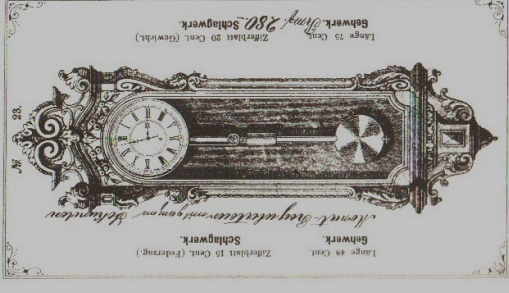
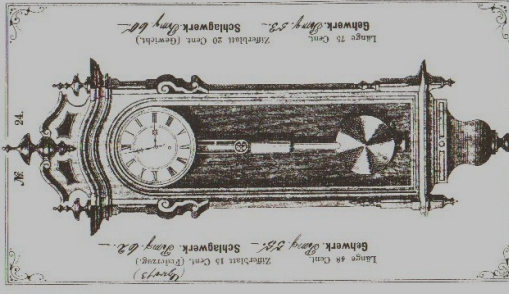
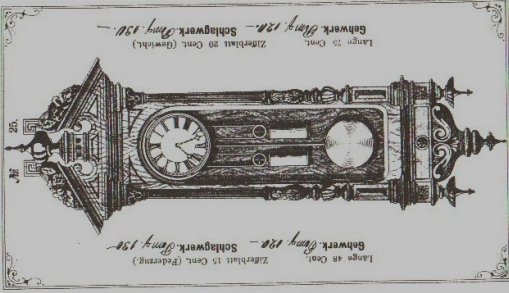
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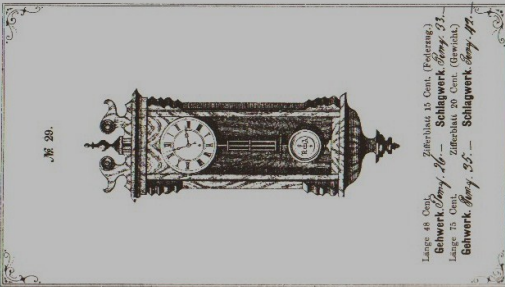
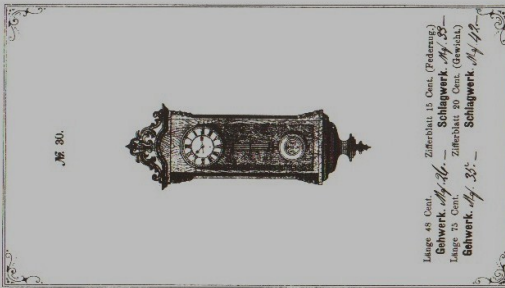
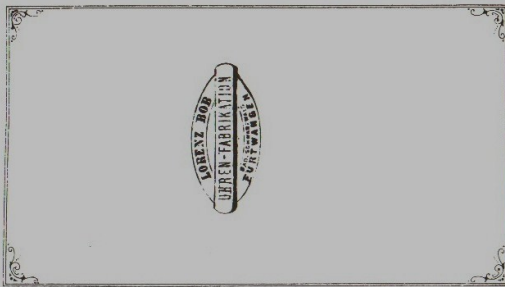


Länge 48 Cent. Zifferblatt 15 Cent. (Federzug.)  
 Gehwerk № 60 — Schlagwerk № 61 —  
 Länge 75 Cent. Zifferblatt 30 Cent. (Gewicht.)  
 Gehwerk № 62 — Schlagwerk № 63 —









### History of the "Vienna-Regulator" Style

Like many objects which have distinctive character or form, the Vienna regulator is an outgrowth of Viennese taste and culture.

One of the oldest cities in Europe, Vienna had long been a great metropolis and the link between eastern and western civilization before cities like Berlin and St. Petersburg (now Leningrad) came into existence. For centuries the Vindobona of the Romans, Vienna was the great European eastern outpost, and here that wise and modest emperor Marcus Aurelius died in 180 A.D. Through a long and colorful history it became the capital of the great Hapsburg Empire.

For several hundred years the city was unusually fortunate in having leaders much interested in every phase of art and culture. An atmosphere existed that to an amazing degree encouraged the gifted resulting in a number of outstanding composers, musicians, dramatists, architects, and writers as well as craftsmen and artists. One cannot hear Vienna mentioned without thinking of Haydn, Mozart, Beethoven, Grillparzer, Nestroy and great architects like Fischer von Erlach, Johann Lucas von Hildebrandt and Andrea Pozzo as well as Theophil Hansen, von Siccardsburg and Gottfried Semper whose eighteenth and nineteenth century structures give such a distinctive character to the city.

Clocks like other household and utilitarian articles do not escape the influence of the surroundings where they are made.

Though in Renaissance times south Germany was the great clock-making center, gradually with decreasing emphasis on clocks as art objects and increasing emphasis on precision, the center shifted to England and particularly London. By the late seventeenth and early eighteenth century English clocks were well known among the wealthy in Vienna and early Viennese table clocks show a distinctly English character resembling English bracket clocks of Tompion and other eminent makers. However, technologically they lack the sophistication of the best London spring clocks and usually run for only about thirty hours. As the needs of this important city increasingly required more reliable clocks, it was natural that the English weight-driven tall clock should find a market, though limited, among the court.

By the mid-eighteenth century the French clockmakers were producing fine regulators in simple but elegantly proportioned cases. One thinks particularly of the superb examples by F. Berthoud, Le Paute, Robin and later by the house of Breguet. Art forms in France had tremendous influence throughout Europe. Cabinet making in Vienna did not escape the influence of French cheneristerie.

As a result of the above-mentioned influences, late in the eighteenth century evolved a style of clock not unrelated to French and English work but having a distinctly Viennese character. The practicality of a wall clock rather than a cumbersome tall clock was evident; yet the pleasing proportions of the three-part tall case (hood, trunk, plinth or base) with its columnar structure had an appeal not easily abandoned. By reducing the size and adding a simple bracket at the bottom, an attractive model for the wall resulted. The high cost of fine mahogany plus a desire for lightness led to the use of considerable glass in these cases. These clocks had generally a square section housing the movement and dial with a simple pedimented top, a square box for the pendulum bob with bracket below and a long rectangular recessed trunk through which the weight or weights descended. Not only the fronts but the sides were usually glazed. Mahogany with choice grain was generally used and often the frames were highlighted with light wood. This case form remained popular on into the Biedermeier period but eventually fell victim to changing tastes and the tendency toward rococo revival features though for many years these exhibited a high order of workmanship.

Viennese clockmaking was and remained essentially a cottage-type industry with great dependence on outworkers and parts made by spe-



Refer to page 89 for catalog illustration of this clock.

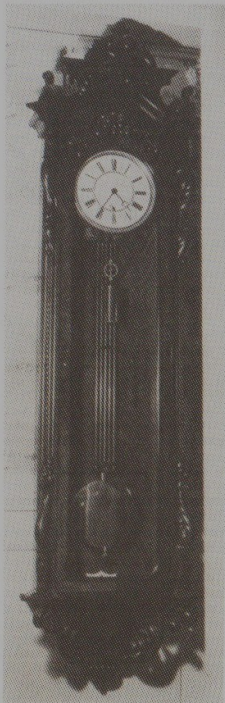


Fig. 1 Lenzkirch Model 93, Large 8-day Wall Regulator c.1860 in elaborately carved figured-walnut case with center-seconds hand, Graham dead-beat escapement, adjustable pallets, beat adjuster, adjustable crutch, true gridiron pendulum, Harrison's maintaining power, finely finished movement. This was the most elaborate of the Lenzkirch wall regulators. Overall height 6 ft. 8-3/4 in., dial diameter 9 1/8 in. When supplied with wood-rod pendulum, case was somewhat shorter. Author's Collection

cialists who furnished them to a number of makers. The quality was extremely high and the finish of the steel and brass work was usually above reproach. By the middle of the nineteenth century many people in clock production were well trained in the Horological School in Vienna under the direction of Professor Fischer. Here pupils were trained in drafting and making and finishing parts. Particular attention was given to designing and producing high-grade regulators. Later the Uhrmacherschule in Karlstein under the able training of C. Dietschold and others turned out many able craftsmen and continued to do so on into this century.

At exhibitions through most of the nineteenth century, Viennese regulators were often commended by judges and experts for their excellent workmanship, handsome cases, compensated pendulums, jeweling and other features. These were primarily high precision clocks for scientific purposes or for jewelers and watchmakers standards. Some did, however, include striking and calendar work.

The grande-sonnerie clock was a favorite in Austria especially prior to the use of electric lighting since at night one heard the quarter and hour every fifteen minutes. These were announced on well-toned steel gongs which would not disturb one if asleep. Such clocks when made by Viennese methods were expensive and could not be produced in quantity.

The growing popularity of Vienna regulators as household time standards but in limited number caused some to consider making such clocks by factory methods.

In the mid-nineteenth century L. Resch who had a clock shop on Mariahilferstrasse in Vienna established a factory in the Salzkammergut area of Austria at Ebensee on the beautiful Traun See. Here clocks were made for the Vienna market by more truly factory methods than usual in Austria. These clocks were sold through a Vienna outlet and were exported widely. Many were imported into the United States by F. Kroeber in New York. Kroeber's catalogues of the 1880-1890 period show a number of Resch models with or without the Gebruder Resch (Resch Brothers) trademark. They usually have the movement attached to the brass mounting plate by key-hole slots slipping over turned studs making it very easy to dismount the movement for shipping or servicing. These clocks perform very well. Shortly after 1900 this factory was sold to the German manufacturer Junghans and quality declined.

The Black Forest had been the site of much clockmaking by primitive methods for a long time with cuckoo clocks produced there being extensively exported. In 1851 the Uhrenfabrik Lenzkirch firm was founded in the valley village of Lenzkirch in Baden not far from the Swiss border. Later other factories sprang up, particularly in the area around Furtwangen. Of all that eventually produced the regulator style of clock in Germany, the Lenzkirch factory maintained a particularly fine reputation. As late as the 1920's the firm was still producing excellent watchmakers regulators with compensated pendulums and finely finished movements. They were then taken over by Junghans and the factory was shut down in 1932 after Junghans removed the machinery. By this time there was very little market for high-grade wall regulators.

Because of the great revival of interest in these clocks it has been thought worthwhile to reprint the plates of clocks produced by Lenzkirch in the early 1870's. These plates were used at the Centennial Exhibition in Philadelphia to illustrate the range of production at a time when these clocks were at the peak of their popularity.

The Black Forest clock manufacturers pooled their resources to set up a collective exhibit in Philadelphia which included twelve manufacturers of which Lenzkirch was the primary one with other smaller manufacturers exhibiting. Four from Furtwangen were represented including Lorenz Bob, whose catalogue is also herewith reproduced.

Refer to page 66 for catalog illustration of this clock.

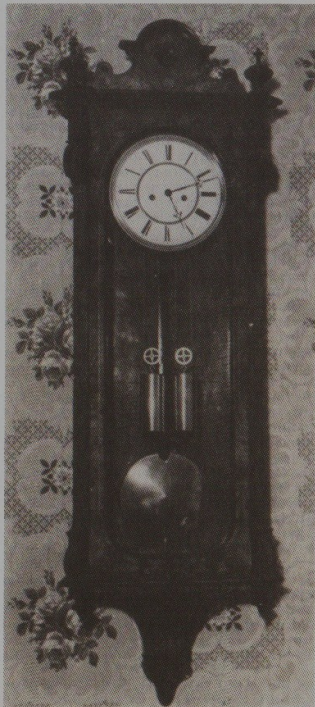


Fig. 2 Lenzkirch Model 114, superb walnut burl case with fine inlay and ebonized trim, 8-day rack-striking movement with hour repeating by cord passing through hole in glass on right side, maintaining power and dead-beat escapement. Overall height 3 ft. 9-3/4 in., dial diameter 7 in. Author's Collection

The Bob catalogue illustrates just thirty models, apparently their complete line at the time, in contrast to the enormous number of models offered by Lenzkirch. It is interesting to note that both Lenzkirch and Bob offered almost identical models perhaps indicating they had common case sources.

True Viennese clocks of older types usually have the movement screwed to a wooden seat board which slides into two wooden brackets firmly mounted in the case back. Later Viennese clocks often have the movement mounted over four posts passing through keyhole slots in the movement backplate, as used by the Resch Brothers. In the earlier style there is a stud for holding the pendulum mounted to the backboard of the case. In the later ones the stud is mounted to the movement-holding mounting plate.

In German regulators the movement is generally slipped into or mounted on a metal bracket which also has the pendulum-supporting stud.

While most German regulators were reasonably well finished, the Lenzkirch clocks came closer to clocks made in Vienna than most. However, they generally do not have as extremely fine pivots nor are as superbly finished as clocks by the eminent Vienna makers. Most Austrian regulators except late ones have solid steel Graham verges whereas German ones have adjustable pallets held by screws in a brass verge. The German factories often provided second hands on eighty-beat movements with thirty-tooth scape wheels. This resulted in a second hand rotating 1-1/3 times per minute which can be very confusing. The Viennese do not appear to have indulged in this strange practice. Cutting these small forty-tooth scape wheels with proper drop and safe locking seems to have posed a problem for factory production.

The clocks offered by Lenzkirch were usually timepieces or hour-and-half-hour strikers, either weight driven or in smaller sizes spring driven. They were made of good hard brass with well-cut wheelwork. Often maintaining power was provided in weight-driven models, the large models having true seconds pendulums which could be had with wood-rod pendulums or with true gridiron pendulums but with three steel rods and two brass ones instead of Harrison's usual five and four. This made for greater rigidity but was perhaps less effective. These pendulums though providing some compensation do not compare with the masterful gridiron pendulums made by top makers such as Kessels of Altona where most remarkable results were achieved; but one would not expect such results from factory-made clocks not intended for observatories.

While many Viennese clocks were made to run for long periods such as a month or a year, the German clocks are usually of eight-day duration. Some late German clocks also included grande sonnerie but they are not common since the need for this had largely passed by the time factory production was extensive. Some grande sonnerie Vienna regulators were exhibited by Marenzeller and others at the London Exhibition of 1862 but roundly condemned by Lord Grimthorpe because he said it was impossible to tell the time by the strike. This conclusion was obviously the result of prejudice since it is easy to determine the time remembering the quarter is sounded first and the hour last, each on one gong, whereas a French carriage clock strikes the hour first on one gong and the quarter last on two gongs (bing-bong). Anyone using an Austrian striker quickly learns what it is indicating.

The production of smaller portable clocks more suited to an increasingly mobile society eventually led to the demise of the once-favored Vienna regulator. For many years they were discarded as old-fashioned; and because of the delicate nature of many of the cases as well as the movements, numbers were destroyed. Fortunately some have survived. As early as 1925 Dr. Franz Sobek of Vienna realized these clocks had great merit and he began what became a remarkable collection



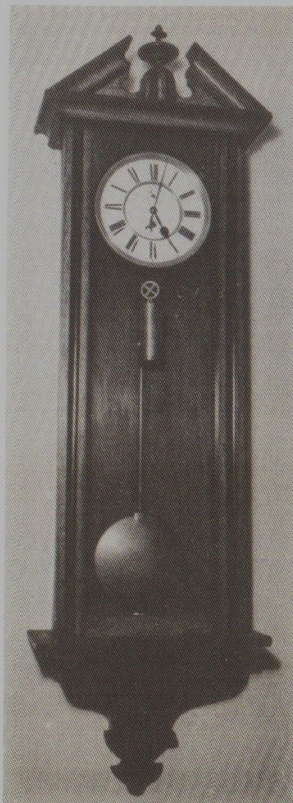


Fig. 3 Resch Brothers 80-beat regulator of type popular in the 1880's and often imported by F. Kroeber. The second hand makes one revolution per minute and the clock is equipped with a forty-tooth scape wheel, solid steel verge, maintaining power, finely finished steel work. Similar to L. Bob Model 28. Author's Collection

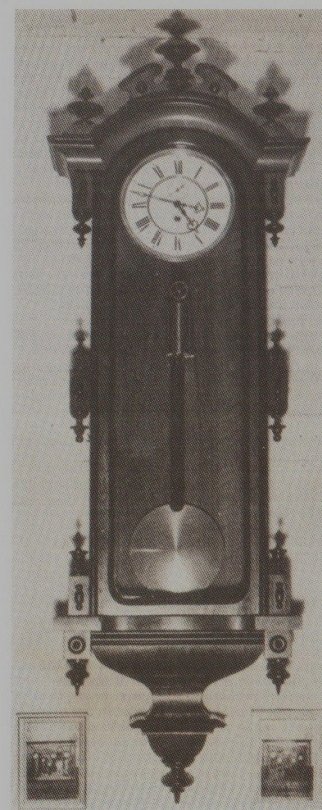


Fig. 4 Vienna Regulator timepiece imported by F. Kroeber c.1870 with finely finished movement similar to the Resch Brothers movement in Fig. 3. Case with many finials and pendants but because of its narrow width retaining much of the Viennese character. Author's Collection



housed in the Geymuller-Schlossl in Potzleinsdorf, northwest of Vienna, under the direction of the Austrian Museum of Decorative Arts, Vienna. This may have been the seed that started a renewed interest in these fine and companionable clocks. Those illustrated in the catalogues herewith reproduced, in some instances exhibit the seeds of the excesses soon to come when clumsy columns with bulbous protrusions, top-heavy decorations and enormous finials and pendants abound, especially in Junghans and Gustav Becker productions after 1880.

An earlier Lenzkirch catalogue exists of the 1850's with engraved plates showing almost as many models as that reproduced here, indicating that very early their idea was to produce a great variety but to high standards. Such catalogues found their way to America with cabinet makers and carvers as well as clockmakers who came to work in American clock factories. Some Howard regulator styles can be traced to Lenzkirch models. Though not exact copies, decorative details were often adapted to American requirements. For instance Howard series 38-42 will be seen to have come from Lenzkirch Model 19 or 307. In the 1870's the Howard and Seth Thomas case departments had German and Austrian woodworkers who brought ideas, illustrations, and actual clocks with them and these influenced case design.

Waterbury, Welch, New Haven, Ansonia and Seth Thomas all made clocks in Vienna style though some are rather crude and ill proportioned. Howard Series 59 and Seth Thomas regulators 4, 5, 6, 16 and 19 come closest to capturing the character of the Vienna regulator of any produced in the United States. It is interesting that today's market is such that German factories are again manufacturing clocks in this idiom though lacking the refinement of the best Austrian or Lenzkirch clocks.

It is hoped that reproduction of these vary rare catalogues will prove of interest to those who own and enjoy a clock of Vienna-regulator provenance.

#### Care of Vienna Regulators

The fragile nature of these clocks is such that some word about the care and maintenance is probably not out of place. The finer the clock, the more delicate its nature.

Comparing the movements of these clocks with the usual American spring-driven clock will reveal marked differences. Vienna-regulator movements generally consist of rectangular or trapezoid plates of hard, well-finished and polished brass. The wheels are small and though of hard fine brass are made as light as possible to provide good running. The gearwork is of a high order and the pivots are of good steel finely finished and of as small diameter as consistent with strength to reduce friction to a minimum. Great care is required in assembly or the pivots may be broken. Because of small arbor diameter, they are difficult to repivot properly. The pinions are well hardened and do not drill easily. In some three-train clocks and miniature weight regulators, the wheelwork is not much larger than that of a large pocket watch. All the pivots must be well polished and the depthing correct. Any worn holes must be carefully rebushed maintaining correct centers. The depthing and finish of the escapement are especially important. All active pallet faces must be highly polished and the scape wheel teeth must lock safely without excess locking or there will be insufficient power to keep the clock running.

Great care must be taken to see that the suspension spring is without any bend, crack or distortion or the pendulum will wobble, which is fatal to timekeeping. These clocks require quite thin suspension springs since they do not have power enough to overcome the resistance of a strong spring. The crutch pin must be perpendicular to the backboard and free with no excess play in the slot.

The striking work must be set up correctly with the hammer fully at rest at the end of striking with a little run on the pin wheel before the hammer tail is lifted for the first stroke. The light driving force of these clocks is to provide long operation with a minimum of wear so no extra power is provided to overcome the friction resulting from improper assembly, bent pivots, worn holes, eccentric wheels etc., which in many American clocks cause no serious problems because heavy springs or weights are used to overcome production shortcomings. However, this results in bad wearing qualities and is the reason many Connecticut spring clocks have great wheels with the teeth badly worn, in fact, large portions of teeth sometimes worn away.

In the good Vienna regulator, everything must be right. A beat adjuster is provided to see that the clock is in beat. The unlocking should take place the same number of degrees either side of zero. In the best Lenzkirch large regulators there is in addition an adjustment for the freedom of the crutch.

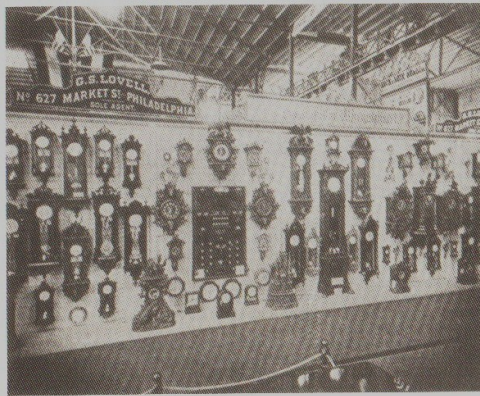
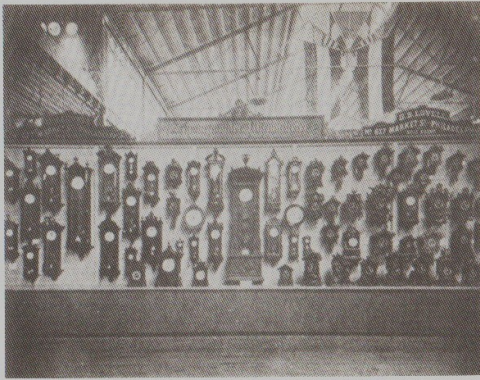
Good fine cable or gut is required on these clocks since the barrels are small and the cable must not overwind.

Since setting up the grand sonnerie movement is fairly complicated it cannot be fully dealt with here. In these clocks even greater care is required because of the complexity and the delicacy of the rackwork. Some of these clocks are very puzzling and refuse to strike correctly because the somewhat knife-shaped piece on a long spring held by a screw at the lower right of the front plate has been left out by some incompetent repair man. This piece is essential since it prevents the quarter rack bouncing and causing incorrect quarter striking. When the detent is thrown up in preparation for striking the quarter, it holds up the detent (by a pin in the detent) permitting the rack to fall fully back. On the first rotation of the gathering pallet it is pushed aside releasing the detent and is thereafter out of the way until the next quarter. Great care must be taken not to bend any of these striking parts or much time will be required to set matters right.

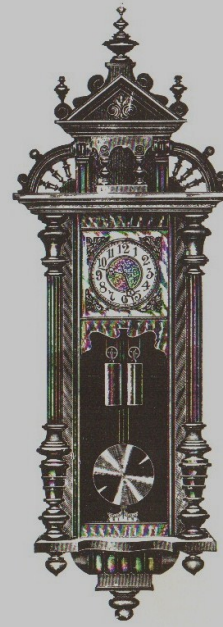
All pulleys must be clean and properly lubricated. These clocks require fine oil and no excess should be permitted since it would run down the plates and pull that in the sinks with it.

If these clocks are properly overhauled and all parts are in good shape, they will prove to be most reliable. The well-seasoned wood rods and a large reasonably heavy bob on the better clocks provide something quite close to a real regulator and in spite of striking trains, usually eschewed in regulators, they will run for a long time rarely having an error of a minute a month and in some instances running six months with an error less than a minute. Those rare ones having true gridiron or mercury pendulums will often show only a few seconds error in many months. There is no better testimony to a well designed and manufactured clock than this.

The long narrow cases revealing the large swinging pendulum and descending weights, the clear porcelain dials with well proportioned hands and the fine timekeeping qualities of these clocks make them delightful companions in period rooms providing a kind of living focal point as well as a dependable clock.



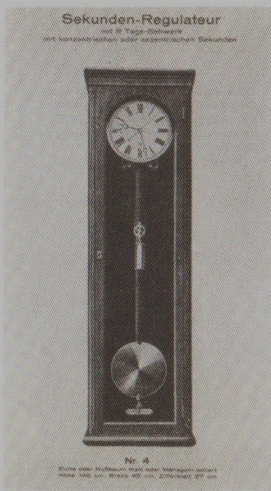
Two Views Showing a Portion of the Black Forest Collective Exhibit at the United States Centennial, Philadelphia, 1876.



These examples, being made by Gustav Becker and Hamburg-American Clock company as late as 1915, illustrate the deterioration of the Vienna regulator style.





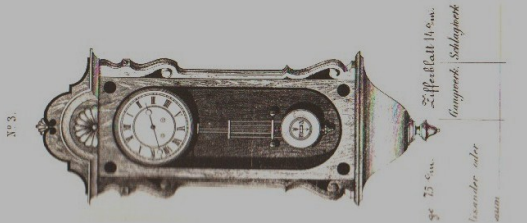
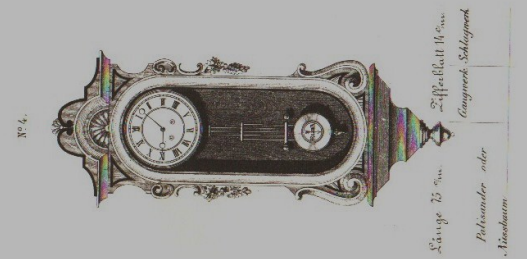
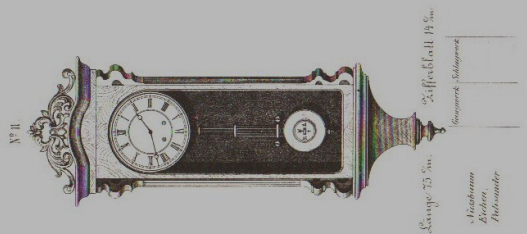
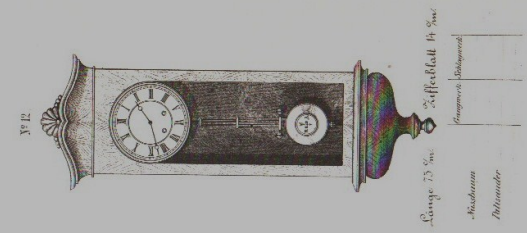


Lenzkirch No. 4 (1928 catalogue) Regulator as made shortly before the Company was sold. This clock came with center or eccentric seconds and could also be purchased with invar pendulum of Riefler type. There was also a floor model available with astronomical dial.



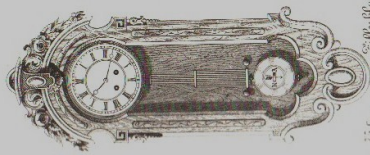
1/9 - Kavalisch Nubbaum poliert, Zifferblatt ring versilbert, Zeiger und Pendelwalze verchromt poliert, massiv. 14 Tag 1/2, Stund-Schlagwerk auf Gong oder massives 14 Tag 1/2, Stund-Schlagwerk Bimbar-Gong

55 x 22 cm





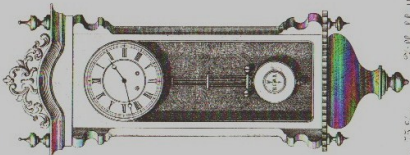
№ 17



Stange 75 cm.  
Gesamthöhe 145 cm.  
Gesamtbreite 30 cm.

Materialien  
Bismarck

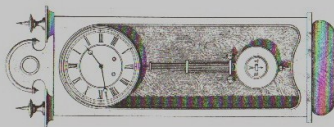
№ 15



Stange 75 cm.  
Gesamthöhe 145 cm.  
Gesamtbreite 30 cm.

Materialien  
Bismarck

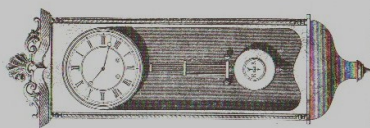
№ 15



Stange 75 cm.  
Gesamthöhe 145 cm.  
Gesamtbreite 30 cm.

Materialien  
Bismarck

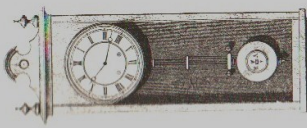
№ 16



Stange 75 cm.  
Gesamthöhe 145 cm.  
Gesamtbreite 30 cm.

Materialien  
Bismarck

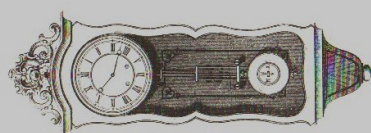
№ 19



Stange 75 cm.  
Gesamthöhe 145 cm.  
Gesamtbreite 30 cm.

Materialien  
Bismarck

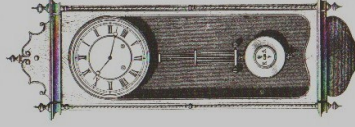
№ 15



Stange 75 cm.  
Gesamthöhe 145 cm.  
Gesamtbreite 30 cm.

Materialien  
Bismarck

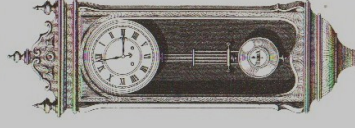
№ 16



Stange 75 cm.  
Gesamthöhe 145 cm.  
Gesamtbreite 30 cm.

Materialien  
Bismarck

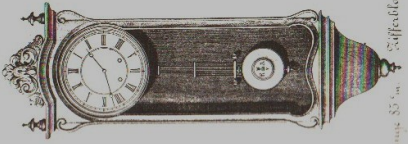
№ 18



Stange 100 cm.  
Gesamthöhe 195 cm.  
Gesamtbreite 30 cm.

Materialien  
Bismarck

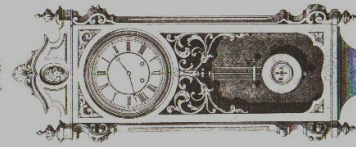
Nº 70.



Höhe 85 1/2 cm.  
Stoffmaß 17 1/2 cm.  
Kammer mit Schlagwerk

Einbaubremse  
P. 10/11

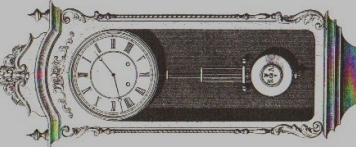
Nº 51.



Höhe 75 cm.  
Stoffmaß 16 1/2 cm.  
Kammer mit Schlagwerk

Einbaubremse

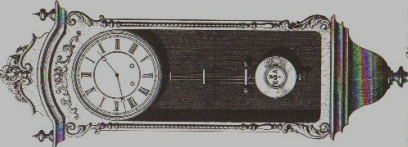
Nº 53.



Höhe 85 1/2 cm.  
Stoffmaß 17 1/2 cm.  
Kammer mit Schlagwerk

Einbaubremse

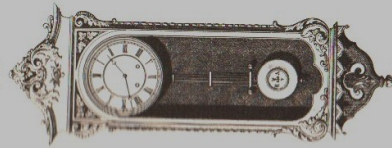
Nº 54.



Höhe 85 1/2 cm.  
Stoffmaß 17 1/2 cm.  
Kammer mit Schlagwerk

Einbaubremse

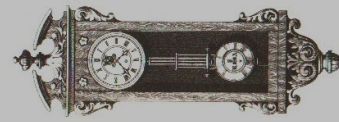
Nº 59.



Höhe 75 1/2 cm.  
Stoffmaß 16 1/2 cm.  
Kammer mit Schlagwerk

Einbaubremse

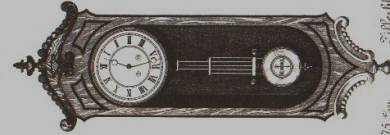
Nº 69.



Höhe 75 1/2 cm.

Stoffmaß 16 1/2 cm.  
Kammer mit Schlagwerk

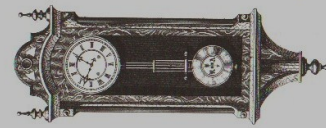
Nº 71.



Höhe 75 cm.  
Stoffmaß 16 1/2 cm.  
Kammer mit Schlagwerk

Peltisleder- oder  
Lackhorn mit schwarzer  
Einbaubremse

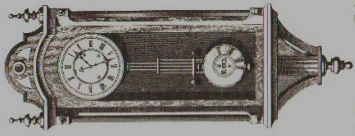
Nº 72.



Höhe 75 1/2 cm.

Stoffmaß 16 1/2 cm.  
Kammer mit Schlagwerk

Nº 72.

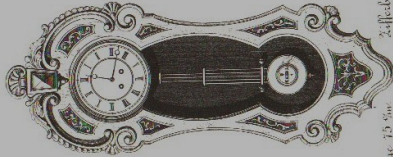


Höhe 85<sup>1</sup>/<sub>2</sub> lb.

Zifferblatt 17<sup>1</sup>/<sub>2</sub> lb.

Gangwerk Schillingwerk

Nº 79.



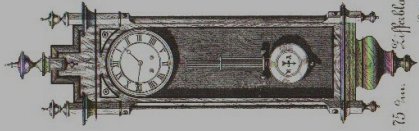
Höhe 75<sup>1</sup>/<sub>2</sub> lb.

Zifferblatt 19<sup>1</sup>/<sub>2</sub> lb.

Gangwerk Schillingwerk

Klocherlein mit schwarzer  
zerl. Verzierung

Nº 80.



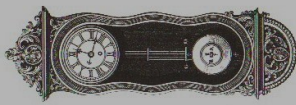
Höhe 75<sup>1</sup>/<sub>2</sub> lb.

Zifferblatt 14<sup>1</sup>/<sub>2</sub> lb.

Gangwerk Schillingwerk

mitte, Klobelstein & schwarze

Nº 118.



Höhe 75<sup>1</sup>/<sub>2</sub> lb.

Zifferblatt 14<sup>1</sup>/<sub>2</sub> lb.

Gangwerk Schillingwerk

Nº 119.

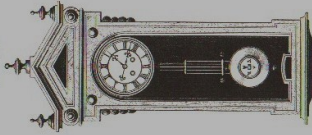


Höhe 75<sup>1</sup>/<sub>2</sub> lb.

Zifferblatt 14<sup>1</sup>/<sub>2</sub> lb.

Gangwerk Schillingwerk

Nº 124.

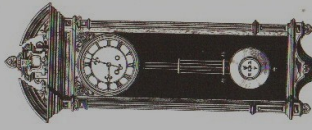


Höhe 75<sup>1</sup>/<sub>2</sub> lb.

Zifferblatt 14<sup>1</sup>/<sub>2</sub> lb.

Gangwerk Schillingwerk

Nº 130.

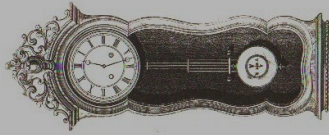


Höhe 85<sup>1</sup>/<sub>2</sub> lb.

Zifferblatt 17<sup>1</sup>/<sub>2</sub> lb.

Gangwerk Schillingwerk

Nº 130.



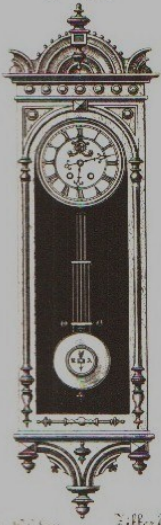
Höhe 75<sup>1</sup>/<sub>2</sub> lb.

Zifferblatt 14<sup>1</sup>/<sub>2</sub> lb.

Gangwerk Schillingwerk

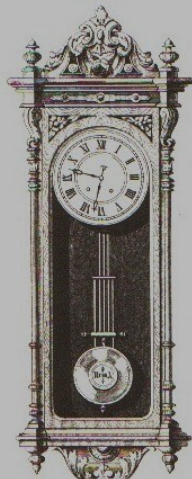


N° 133.



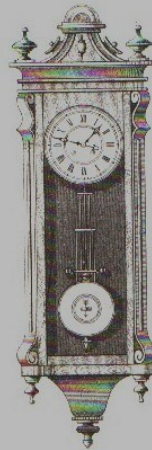
Länge 100 cm. Differenzl. 19 cm.  
Gangwerk Schlagwerk

N° 134.



Länge 100 cm. Blatt 19 cm.  
Gangwerk Schlagwerk

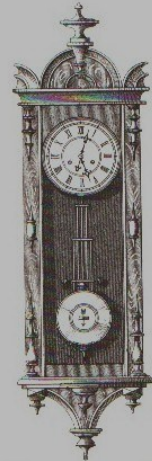
N° 300.



Länge 75 cm.

Blatt 14 cm.  
Gangwerk Schlagwerk

N° 301.



Länge 75 cm.

Blatt 14 cm.  
Gangwerk Schlagwerk

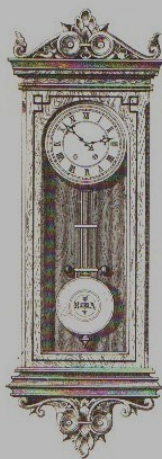
N° 306.



Länge 75 cm.

Blatt 14 cm.  
Gangwerk Schlagwerk

N° 307.



Länge 75 cm.

Blatt 14 cm.  
Gangwerk Schlagwerk

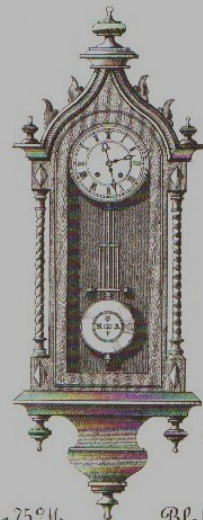
N° 309.



Länge 75 cm.

Blatt 14 cm.  
Gangwerk Schlagwerk

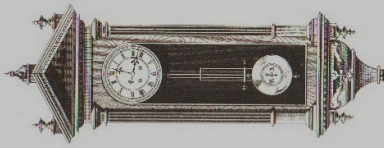
N° 310.



Länge 75 cm.

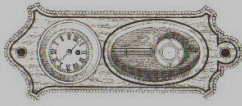
Blatt 14 cm.  
Gangwerk Schlagwerk

Nº 314.



Länge 57 1/2  
Breite 16 1/2  
aufgehoben 20 1/2  
aufgehoben

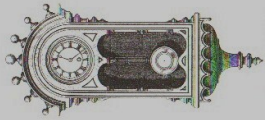
Minuten-Regulator  
Nº 72.



(50 cm lang)

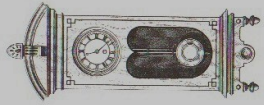
14 1/2 Tag Subweck

Minuten-Regulator  
Nº 13.



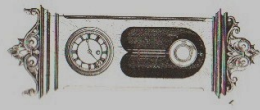
Länge 60 cm  
Breite 16 1/2  
aufgehoben 20 1/2  
aufgehoben

Minuten-Regulator  
Nº 16.



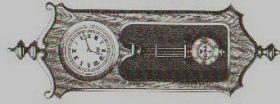
Länge 60 cm  
Breite 16 1/2  
aufgehoben 20 1/2  
aufgehoben

Minuten-Regulator  
Nº 19.



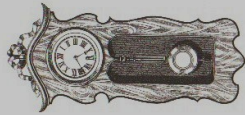
Länge 60 cm  
Breite 16 1/2  
aufgehoben 20 1/2  
aufgehoben

Minuten-Regulator  
Nº 73.



Länge 50 1/2  
Breite 19 1/2  
aufgehoben 20 1/2  
aufgehoben

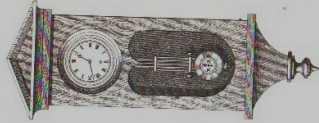
Minuten-Regulator  
Nº 81.



(50 cm lang)

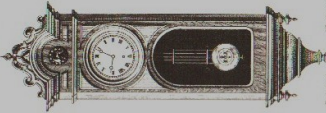
14 1/2 Tag Subweck

Minuten-Regulator  
Nº 312.



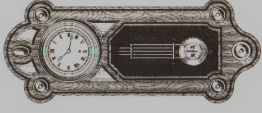
Länge 50 1/2  
Breite 19 1/2  
aufgehoben 20 1/2  
aufgehoben

Minuten-Regulator.  
N<sup>o</sup> 315.



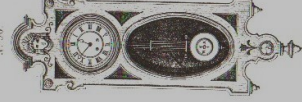
Länge 54" 1/2.    Blatt 9 1/2 1/2 lb.  
14 Tag-Gehwerk.

Minuten-Regulator.  
N<sup>o</sup> 316.



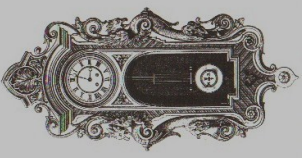
Länge 50" 1/2.    Blatt 9 1/2 1/2 lb.  
14 Tag-Gehwerk.

N<sup>o</sup> 96.



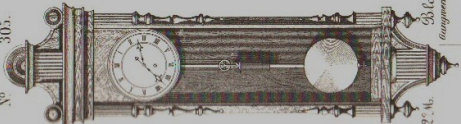
Länge 32 5/8".    Zifferblatt 8 5/8".  
Gehwerk-Edelstahl.  
Eichenholz mit Eisen-  
aufhängen u. schwarzen  
Leinwand.

N<sup>o</sup> 99.



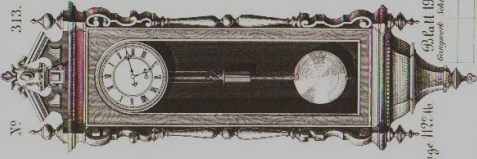
Länge 52 5/8".    Zifferblatt 8 5/8".  
Gehwerk-Edelstahl.  
Eichenholz mit Eisen-  
aufhängen u. schwarzen  
Leinwand.

N<sup>o</sup> 305.



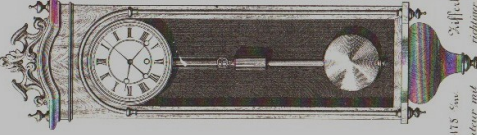
Länge 112" 1/2.    Blatt 19 1/2 1/2 lb.  
Gehwerk-Edelstahl.

N<sup>o</sup> 313.



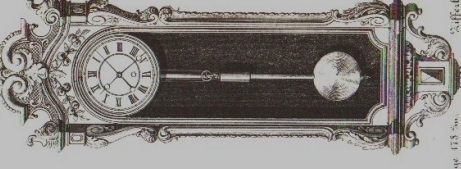
Länge 112" 1/2.    Blatt 19 1/2 1/2 lb.  
Gehwerk-Edelstahl.

N<sup>o</sup> 216.



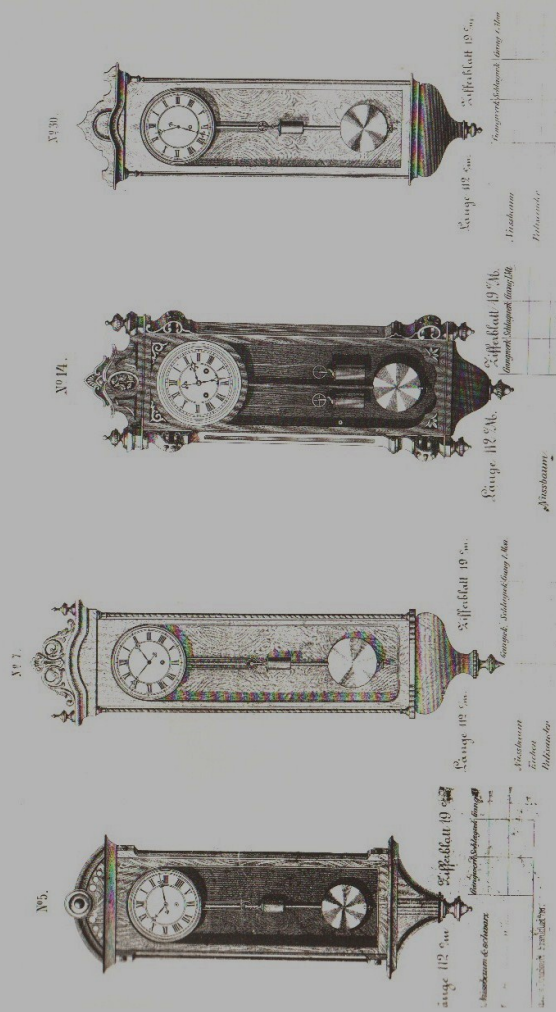
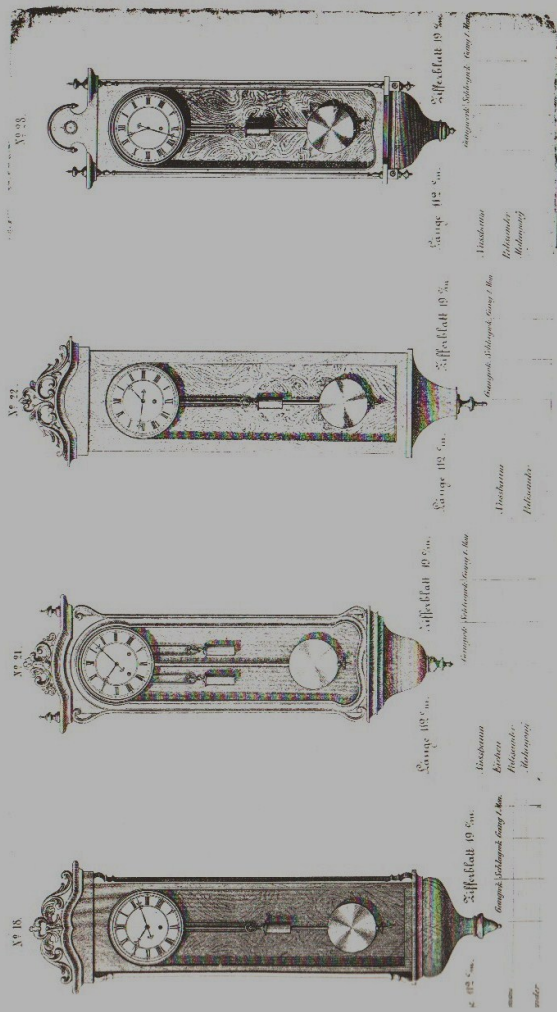
Länge 113 5/8".    Zifferblatt 23 5/8".  
Regulator mit  
schwarzer Leinwand.

N<sup>o</sup> 215.

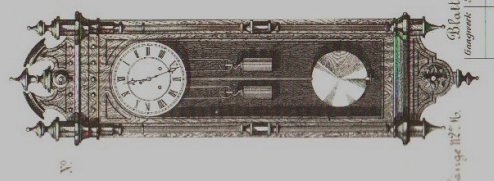


Länge 113 5/8".    Zifferblatt 23 5/8".  
Regulator mit  
schwarzer Leinwand.






N<sup>o</sup> 33.  
 Höhe 112<sup>1</sup>/<sub>2</sub> L.  
 (Gangwerk, Schlagschwinge)  
 6 1/2 L. 11 1/2 L.  
 (Gangwerk, Schlagschwinge)



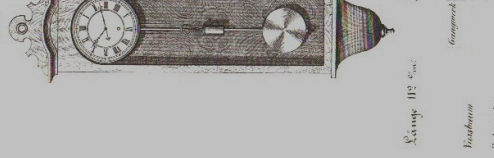
Maßstab 1:10  
 112<sup>1</sup>/<sub>2</sub> L.  
 11 1/2 L.  
 6 1/2 L.

N<sup>o</sup> 31.  
 Höhe 112<sup>1</sup>/<sub>2</sub> L.  
 (Gangwerk, Schlagschwinge, Komp. Uhr)  
 6 1/2 L. 11 1/2 L.  
 (Gangwerk, Schlagschwinge, Komp. Uhr)



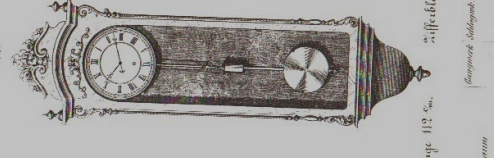
Maßstab 1:10  
 112<sup>1</sup>/<sub>2</sub> L.  
 11 1/2 L.  
 6 1/2 L.

N<sup>o</sup> 27.  
 Höhe 112<sup>1</sup>/<sub>2</sub> L.  
 (Gangwerk, Schlagschwinge, Komp. Uhr)  
 6 1/2 L. 11 1/2 L.  
 (Gangwerk, Schlagschwinge, Komp. Uhr)



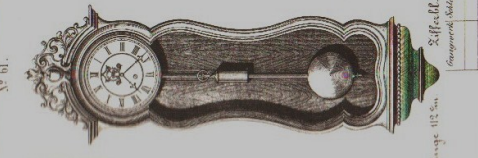
Maßstab 1:10  
 112<sup>1</sup>/<sub>2</sub> L.  
 11 1/2 L.  
 6 1/2 L.

N<sup>o</sup> 22.  
 Höhe 112<sup>1</sup>/<sub>2</sub> L.  
 (Gangwerk, Schlagschwinge, Komp. Uhr)  
 6 1/2 L. 11 1/2 L.  
 (Gangwerk, Schlagschwinge, Komp. Uhr)



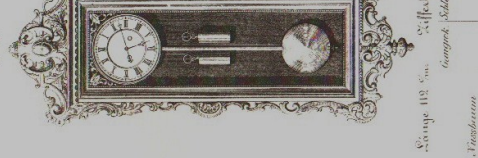
Maßstab 1:10  
 112<sup>1</sup>/<sub>2</sub> L.  
 11 1/2 L.  
 6 1/2 L.

N<sup>o</sup> 61.  
 Höhe 112<sup>1</sup>/<sub>2</sub> L.  
 (Gangwerk, Schlagschwinge)  
 6 1/2 L. 11 1/2 L.  
 (Gangwerk, Schlagschwinge)



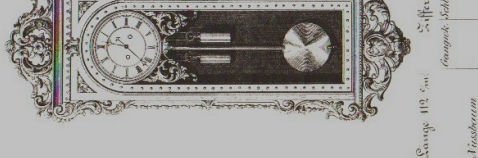
Maßstab 1:10  
 112<sup>1</sup>/<sub>2</sub> L.  
 11 1/2 L.  
 6 1/2 L.

N<sup>o</sup> 65.  
 Höhe 112<sup>1</sup>/<sub>2</sub> L.  
 (Gangwerk, Schlagschwinge, Komp. Uhr)  
 6 1/2 L. 11 1/2 L.  
 (Gangwerk, Schlagschwinge, Komp. Uhr)



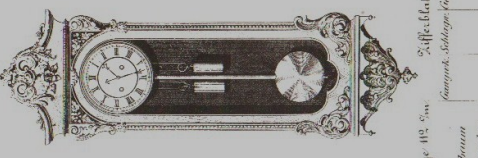
Maßstab 1:10  
 112<sup>1</sup>/<sub>2</sub> L.  
 11 1/2 L.  
 6 1/2 L.

N<sup>o</sup> 67.  
 Höhe 112<sup>1</sup>/<sub>2</sub> L.  
 (Gangwerk, Schlagschwinge, Komp. Uhr)  
 6 1/2 L. 11 1/2 L.  
 (Gangwerk, Schlagschwinge, Komp. Uhr)



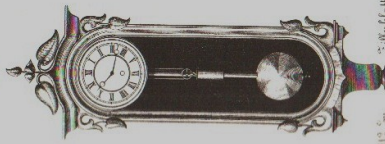
Maßstab 1:10  
 112<sup>1</sup>/<sub>2</sub> L.  
 11 1/2 L.  
 6 1/2 L.

N<sup>o</sup> 68.  
 Höhe 112<sup>1</sup>/<sub>2</sub> L.  
 (Gangwerk, Schlagschwinge, Komp. Uhr)  
 6 1/2 L. 11 1/2 L.  
 (Gangwerk, Schlagschwinge, Komp. Uhr)



Maßstab 1:10  
 112<sup>1</sup>/<sub>2</sub> L.  
 11 1/2 L.  
 6 1/2 L.

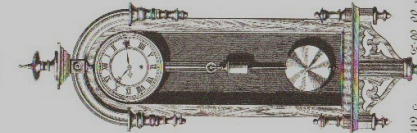
N<sup>o</sup> 85.



h. 112 cm.  
Zifferblatt 19 cm.  
Georg Meißner, Leipzig 1846.

Wieder

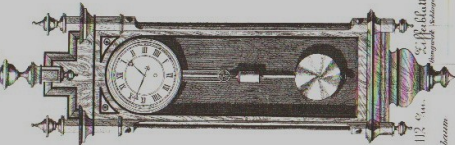
N<sup>o</sup> 86.



h. 112 cm.  
Zifferblatt 19 cm.  
Georg Meißner, Leipzig 1846.

Abschmelzender, horizontal

N<sup>o</sup> 87.

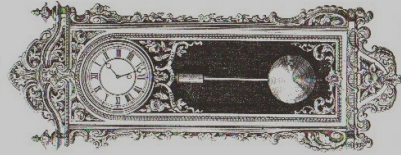


h. 112 cm.  
Zifferblatt 19 cm.  
Georg Meißner, Leipzig 1846.

mit Handstimm

6. 2. 1846

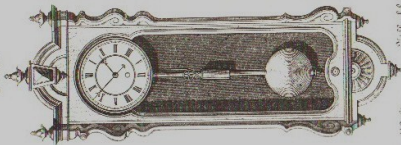
N<sup>o</sup> 87.



h. 112 cm.  
Zifferblatt 19 cm.  
Georg Meißner, Leipzig 1846.

Abschmelzender

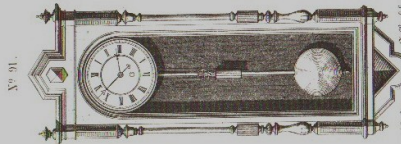
N<sup>o</sup> 88.



h. 112 cm.  
Zifferblatt 19 cm.  
Georg Meißner, Leipzig 1846.

Georg Meißner, Leipzig 1846.

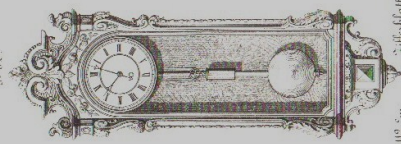
N<sup>o</sup> 91.



h. 112 cm.  
Zifferblatt 19 cm.  
Georg Meißner, Leipzig 1846.

Georg Meißner, Leipzig 1846.

N<sup>o</sup> 92.

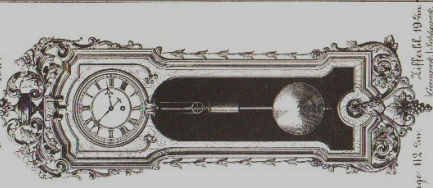


h. 112 cm.  
Zifferblatt 19 cm.  
Georg Meißner, Leipzig 1846.

Einbau in einen

Georg Meißner, Leipzig 1846.

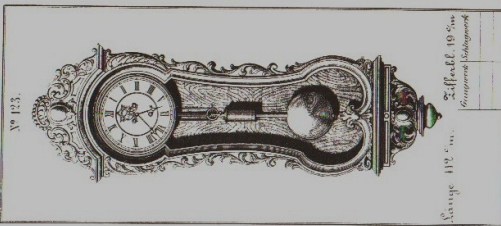
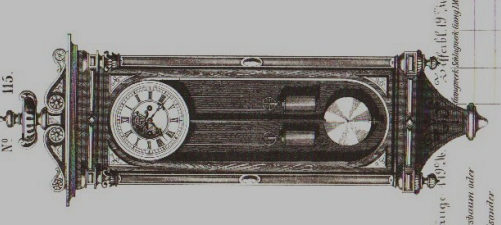
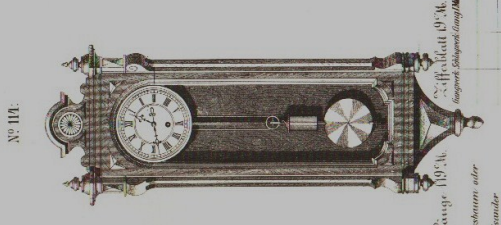
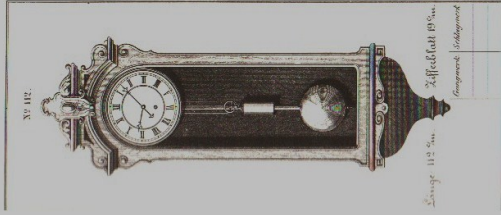
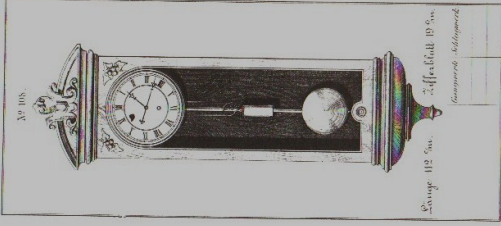
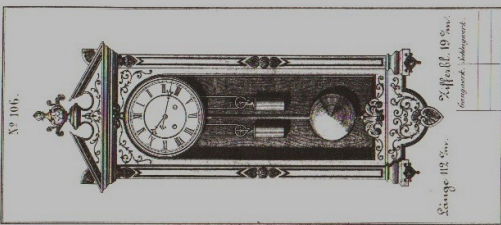
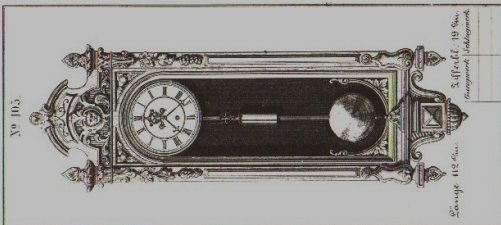
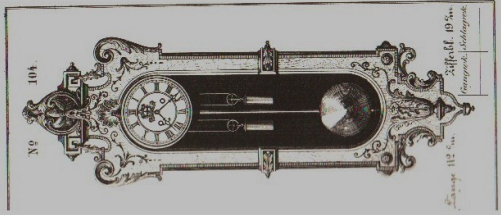
N<sup>o</sup> 103.

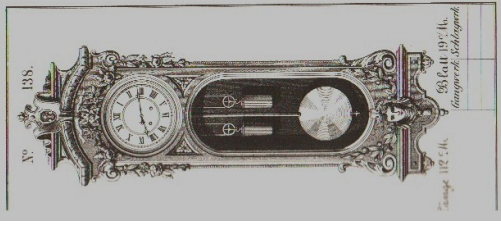


h. 112 cm.  
Zifferblatt 19 cm.  
Georg Meißner, Leipzig 1846.

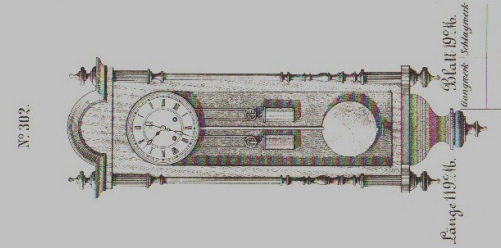
Georg Meißner, Leipzig 1846.



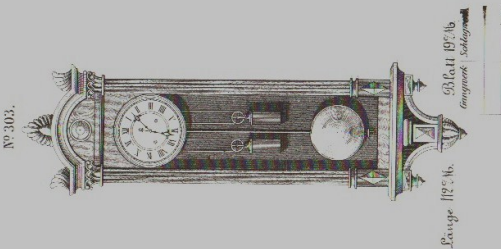




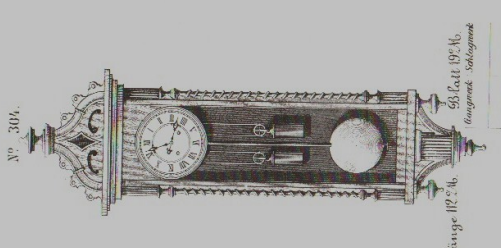
N<sup>o</sup> 301.  
 Länge 112<sup>z</sup> 4<sup>l</sup>.  
 68 Cett 19<sup>z</sup> 4<sup>l</sup>.  
 (Langweck Schlägwerk)



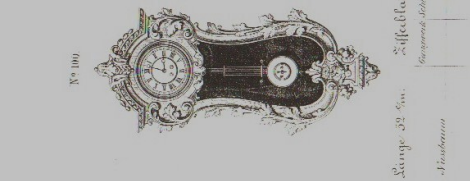
N<sup>o</sup> 302.  
 Länge 119<sup>z</sup> 4<sup>l</sup>.  
 68 Cett 19<sup>z</sup> 4<sup>l</sup>.  
 (Langweck Schlägwerk)



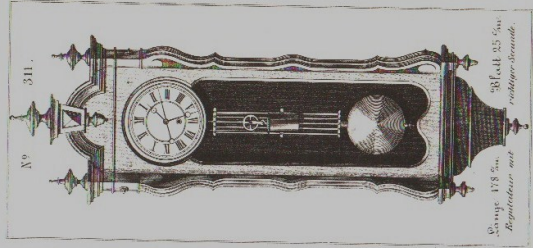
N<sup>o</sup> 303.  
 Länge 112<sup>z</sup> 4<sup>l</sup>.  
 68 Cett 19<sup>z</sup> 4<sup>l</sup>.  
 (Langweck Schlägwerk)



N<sup>o</sup> 304.  
 Länge 112<sup>z</sup> 4<sup>l</sup>.  
 68 Cett 19<sup>z</sup> 4<sup>l</sup>.  
 (Langweck Schlägwerk)



N<sup>o</sup> 100.  
 Länge 52<sup>z</sup> 6<sup>l</sup>.  
 34 Cett 8<sup>z</sup> 6<sup>l</sup>.  
 (Langweck Schlägwerk)  
 H. Wehrmann



N<sup>o</sup> 311.  
 Länge 173<sup>z</sup> 6<sup>l</sup>.  
 88 Cett 25<sup>z</sup> 6<sup>l</sup>.  
 (Langweck Schlägwerk)

