
Patent Valuation Report for

International Patent Publication No.: WO/2017/051547

International Application No.: PCT/JP2016/052493

Title: WATCH

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Content Overview

1.	Patent Overview.....	3
2.	Overview of IP Valuation.....	9
3.	Patent Valuation-Approach.....	10
4.	Valuation of Patent Application.....	23
5.	Disclaimer.....	31
6.	Valuation Certificate.....	32

1. Patent Overview

- I. The present Intellectual Property (IP) relates to International Patent Publication No. WO/2017/051547

Patent Title	WATCH
Date of Filing	28/01/2016
Date of Publication (U/S 11A)	30/03/2017
Abstract	This watch (1) has: a first drive mechanism (10) including a hand having a rotation axis (A) extending in a first direction, a wheelwork, and a driving source; and a second drive mechanism (20) including a hand having a rotation axis (B) extending in a second direction different from the first direction, a wheelwork, and a driving source, the first and second drive mechanisms being provided separately. In addition, each of the first and second directions is the direction along the normal to a dial (2) at the position at which the rotation axis of the hand is provided.

II. Assumption(s) related to entry of proposed product in the Indian market

Although the above patent application is a WIPO patent application, it is assumed that the patent application will enter into national phase in India through PCT process in coming months and will intend to commercialize the proposed product upon entry into national phase in the Indian Market around the second quarter of 2017.

III. Claims of the proposed inventive subject matter reads as (Machine Translated from Japanese):

Claim 1. A first drive mechanism including a pointer, a wheel train and a drive source having a rotation axis in a first direction, and a pointer, a train wheel and a drive source having a rotation axis in a second direction different from the first direction and a second drive mechanism, wherein the first drive mechanism and the second drive mechanism are provided separately.

Claim 2. The portable timepiece according to claim 1, wherein the first direction and the second direction are directions along a normal direction of a dial plate at a position where the rotation axis of the pointer is provided.

Claim 3. The portable timepiece according to claim 1 or 2, wherein the first driving mechanism and the second driving mechanism can independently be attached and detached integrally.

Claim 4. Further comprising a ground plane having an orientation different first mounting surface and second mounting surface each other, the first driving mechanism is fixed to the reference surface is in contact with said first mounting surface, wherein the portable timepiece according to claim 3, wherein the second driving mechanism is fixed such that its reference surface is in contact with the second mounting surface.

Claim 5. The bottom plate has at least a first recess and a second recess, the bottom of the first recess is the first mounting surface, the bottom of the second recess is on the second mounting surface there, a portable timepiece according to claim 4.

Claim 6. The portable timepiece according to claim 5, wherein the first concave portion and the second concave portion have a wall surface that is parallel or tapered with respect to a common direction.

Claim 7. The portable timepiece according to claim 5 or 6, wherein the first concave portion and the second concave portion are provided on mutually opposite surfaces of the base plate.

Claim 8. The battery pack according to any one of claims 1 to 5, wherein the ground plate further includes a battery accommodating portion that is a recessed portion, and the battery accommodated in the battery accommodating portion is fixed in an inclined posture with respect to a thickness direction of the portable timepiece A mobile timepiece stated in any one.

Claim 9. The battery according to claim 1, wherein the ground plate further includes a battery accommodating portion that is a recessed portion, and a battery accommodated in the battery accommodating portion is fixed in an inclined posture with respect to a thickness direction of the portable timepiece, the portable timepiece according to claim 6 or 7, having a wall surface that is parallel or tapered with respect to a common direction.

Claim 10. A first battery retainer that supports an upper surface of the battery at an outer circumferential position as viewed from an opening side of the battery housing portion; and a second battery retainer that supports a side face of the battery, further comprising a second battery retainer that presses the second battery holder at a position where the second battery retainer is located.

Claim 11. The portable timepiece according to claim 8, further comprising a tongue-shaped electrode whose linear tip oblique to the stretching direction elastically contacts the lower surface of the battery.

Claim 12. Wherein the first drive mechanism and the second drive mechanism each have a circuit board, the circuit board of the first drive mechanism and the circuit board of the second drive mechanism are FPC (Flexible Printed Circuit).

Claim 13. The portable timepiece according to claim 12, wherein the circuit board of the first drive mechanism and the circuit board of the second drive mechanism each have a ground terminal.

V. Technology Overview

A watch is a small timepiece intended to be carried or worn by a person. It is designed to keep working despite motions caused by the person's activities. A wrist watch is designed to be worn around the wrist, attached by a watch strap or other type of bracelet. A mechanical watch (proposed product) is a watch that uses a mechanism to measure the passage of time, as opposed to modern quartz watches which function electronically. Generally, a mechanical watch is driven by a spring (also referred as mainspring) which must be wound periodically. Thereafter, push/pull produced by the spring is transmitted through a series of gears to power the balance wheel and a weighted wheel which oscillates back and forth at a constant rate. Compared to electronic watches, mechanical watches are less accurate, often with errors of seconds per day, and they are sensitive to position, temperature and magnetism. They are also costly to produce, require regular maintenance and adjustments, and are more prone to failures. Nevertheless, craftsmanship of mechanical watches still attracts interest from watch-buying public.

2. Overview of IP Valuation

The current valuation exercise calls for determining Net Present Value (NPV) that the patent may generate for patentee/licensee of claimed product based on forecasting future value of the patent. The approach followed in current valuation exercise is to create a standard financial model for understand/evaluate/determine various parameters such as size of market, market share, projected growth over time, etc. in order to estimate future cash flows that would be realized based on commercialization of the patent product post which the future cash flows are discounted for the contribution of the patent to the product and additionally discounted based on risk assessment of the patent (is the patent issued or still in application phase, term of patent, how easy it is to invent around, technological obsolescence, risk of successful patent challenge, depreciation of currency, etc.).

3. Patent Valuation - Approach

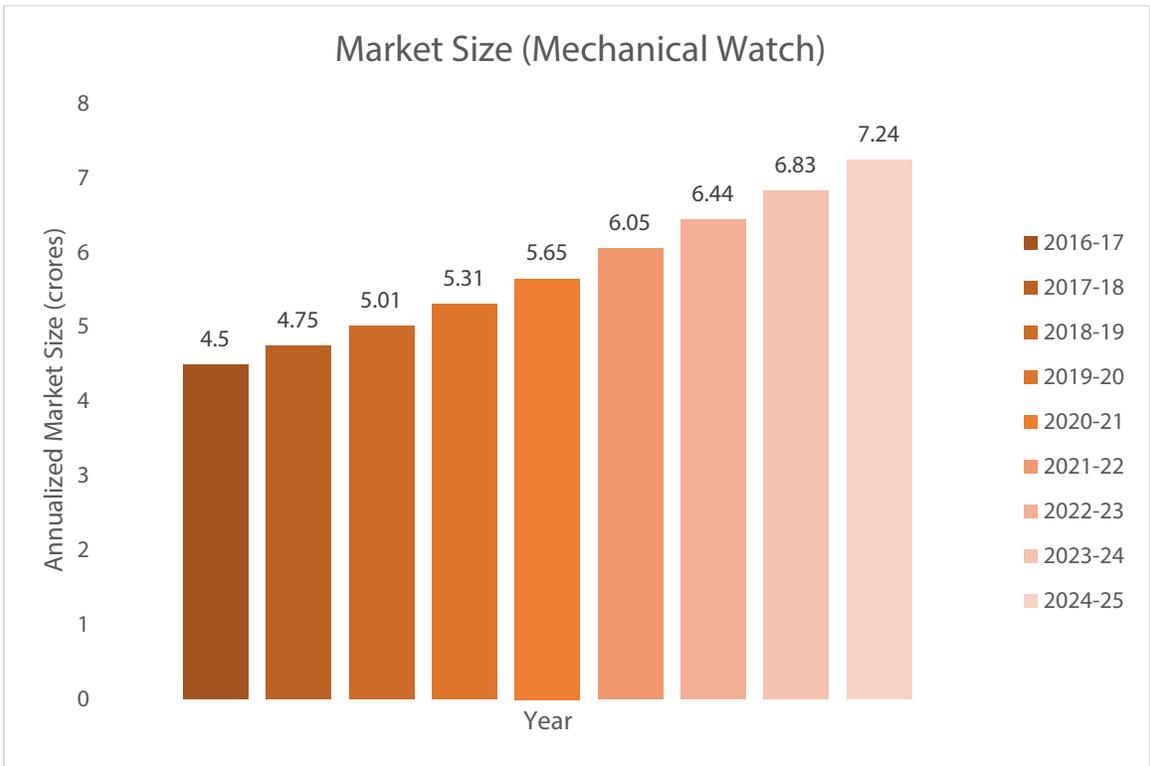
Following factors were taken into consideration while valuing this patent application to ensure authenticity and reliability of the exercise conducted:

A. Market Size

A report by industry lobby group Associated Chambers of Commerce and Industry of India (ASSOCHAM) suggests that approximately 4.5 crore wrist watches were sold in India in FY'2016-FY'2017. Highest share of watches retailed is around the price range from 500 to 5000 rupees. Further, Indian watch industry is dominated by local players due to good manufacturing base and price points at which watches are retailed. According to a quote from K S Ghai (Associate Vice President and Business Head (West) of Titan), Titan commands a market share of 60-65% in wrist watch segment. He further quoted that despite enormous competition, wrist watch market is growing annually by nearly 9%.

In terms of volume, organized players currently command 40% of the industry and rest 60% is shared among unorganized segment which consists of smuggled watches, cheap imported watches and those assembled by small unorganized players. In value terms, size of organized market of wrist watch industry is estimated at around Rs. 1500 crores by FY'2020 due to emergence of strong middle class and a large number of high net worth individuals in India, which means that average price of watches sold even today is less than Rs.1000. Some customers look out for features such as fashion appeal, technology, sophistication and status. Others go for durability, economy and precision. Many customers prefer mechanical and automatic watches, while others prefer quartz watches.

However, in the coming future, inception of smartwatches can hinder this sustainable growth of mechanical wrist watches (proposed product). A market report from research firm IDC predicts that approximately 8.83 crore wrist watches are expected to be produced in India by FY'2019 wherein the figure consists of both mechanical wrist watch and smartwatch segments of wrist watch industry. Hence, it is assumed that in the coming future, market size of the proposed product might be eaten up by the smartwatch segment of the wrist watch industry.



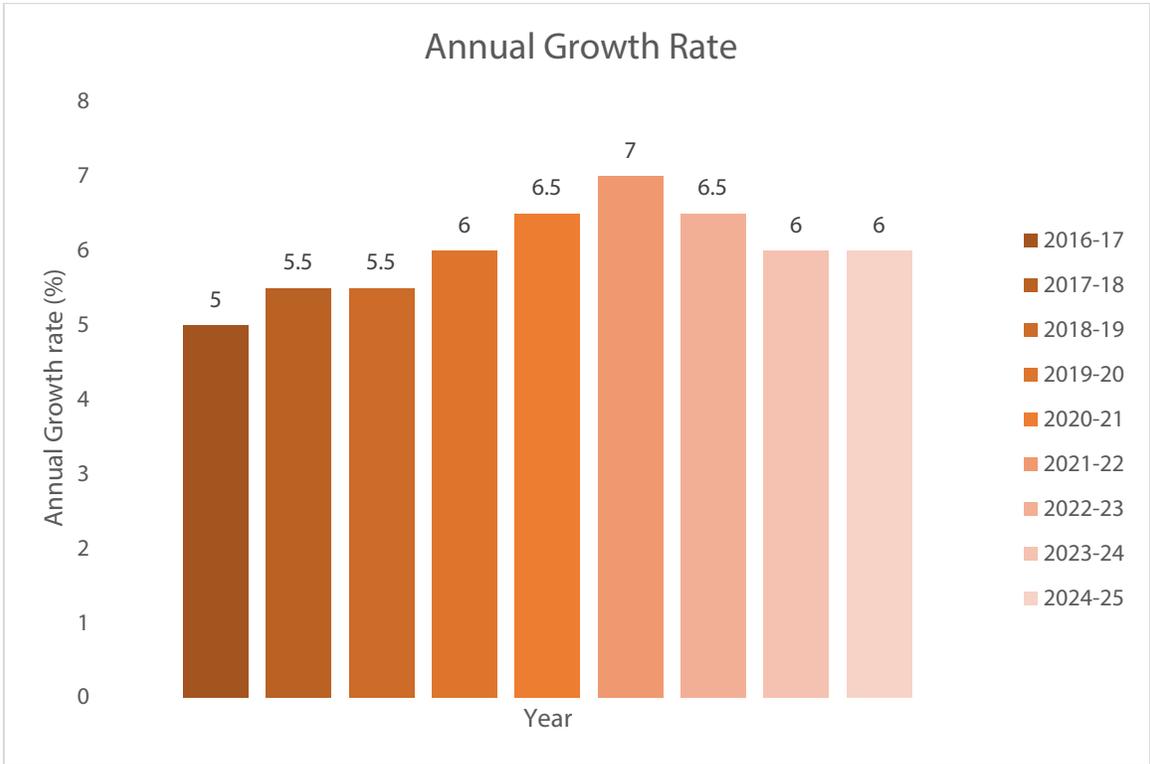
B. Annual Growth Rate

This valuation report includes data from various sources that depict information regarding estimated annual growth of wrist watches in Indian market in the upcoming years. The Indian watch market for timepieces has grown at a rapid pace in the past few years clocking a CAGR of 9.3% for the period FY'2008-FY'2013. The market for timepieces includes wrist watches, table clocks, alarm clocks and wall clocks. But the market for wrist watches forms major proportion of the market for time pieces with a contribution of about 89% in the total watch market by revenue.

The market for wrist watches in India can be classified into three broad categories based on price. The first is mass price segment consisting of watches priced lower than INR 1,000 which are mainly the wrist watches sold by unorganized players. The second category is mid-price segment of watches priced between INR 1,000 and INR 10,000. The third is premium//luxury watch segment with watches priced above INR 10,000.

Considering the fact that luxury watch segment is most prominent among all the segments of wrist watch industry in terms of value and mass segment of watches contributes the highest to the market in terms of volume, the annual growth rate of proposed product (proposed product belongs to the mid-price segment as it is priced at Rs. 1500 per unit) is estimated to grow at a rate of 5-9% Compound Annual Growth Rate (CAGR) during its inception phase and then it will be backed by the growing trend of the wrist watch industry.

The growth factors applicable herein include changing consumer dynamics, increase in disposable income, and growth of organized retail industry. However, in the coming future, growth rate of the proposed product is estimated to plummet as new and technologically advanced products emerge in the market and eat up the market share of the proposed product.

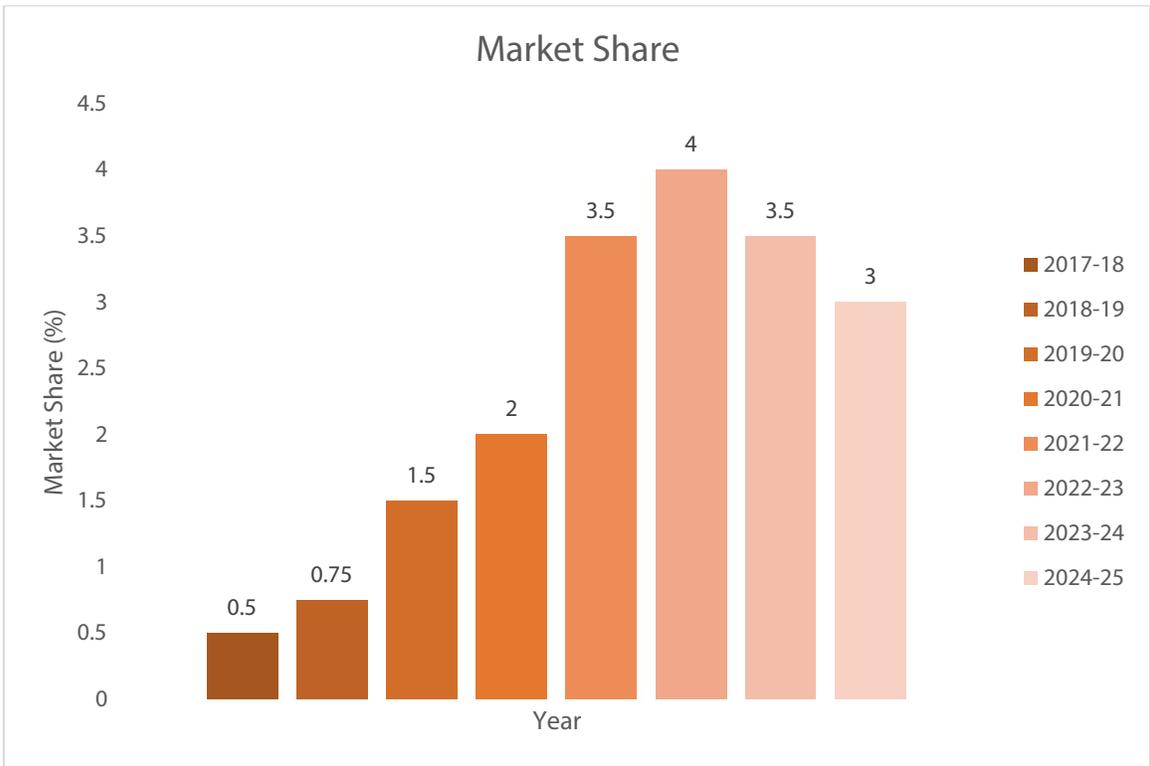


C. Market Penetration (Market Share)

In India, mass segment of watches contributes the highest to the market in terms of volume. Moreover, in terms of value, each of the mass and the mid-price segments contribute about 37%-38% to the total wrist watch market in India. The rest is contributed by the premium segment which constitutes around 25% of the wrist watch industry in India.

Online retail in India has expanded tremendously in recent years. This growth has also been witnessed in the wrist watch segment. The primary reason behind the growth of the online retail market for wrist watches is huge increase in number of Internet users in the country owing to rising Internet penetration. In FY'2013, the online retailer market for wrist watches was characterized by a few e-commerce websites holding around 92.0% of the market share in the wrist watch segment. Now-a-days, the market is primarily dominated by major e-commerce players such as Snapdeal, Flipkart, Watchkart, Jabong and Myntra. Since current penetration of the wrist watch industry is still low, the industry has a lot of potential to grow both in terms of value and volume. However, the proposed product is expected to face stiff competition from products pertaining to brands like Titan and HMT which tends to reduce the market share of the proposed product.

Based on the respective contribution of above mentioned contrasting factors/parameters, market penetration rate of the proposed product is expected to be low during the ingress/initial phase (0.5%-1%). Subsequently, the penetration rate of the proposed product is estimated to improve upto 4% in FY'2023 primarily owing to competitive pricing and the integrated brand value of the proposed product.



D. Price Per Unit

From the data provided by the client and the fact that exorbitant pricing may potentially produce a kinked demand-curve, the total price of instant product is estimated to be around INR 1,500 per unit that includes the fixed and variable costs, advertising costs, distribution/logistics and other costs associated with the proposed product along with the profit associated therewith.

Price per unit is estimated to be around INR 1,500

E. Profit Margin

Profit margin is part of a category of profitability ratios calculated as net income divided by revenue, or net profits divided by sales. Net income or net profit may be determined by subtracting all of a company's expenses, including operating costs, material costs (including raw materials) and tax costs, from its total revenue. Profit margins are expressed as a percentage and, in effect, measure how much out of every rupee of sales a company actually keeps in earnings. Profit Margin can be calculated as follows:

$$\text{Profit Margin} = \text{Net Profit} / \text{Net Sales (revenue)}$$

Based on deduction of fixed cost, which includes manufacturing cost, advertising cost, distribution/logistics cost, etc. and based on survey of profit margins of currently marketed similar products, the profit margin of the proposed product is estimated to be around 30%.

Profit margin of the proposed product is estimated to be around 30%

F. Technology Readiness

Due to the impact of ever growing technology and streamlined performance of Indian market in recent years, the proposed product can entertain a gradual prospect in the Indian market. As the proposed product belongs to mid range watch segment, it is estimated that technology involved in its manufacturing is supported by latest innovations and technological advancements of watch industry. Hence, the proposed product can be commercialized with an immediate effect as per the commercialization requirement of the manufacturer/distributor of the proposed product.

In addition to latest technology involved in manufacturing of the proposed product, commercialization of the proposed product can be boosted by an exponential demand of the proposed product in Indian Market as price of the proposed product can dominate other such products due to the fact that products of the mid range watch segment presently domination the market and are estimated to do so in the coming years.

G. Tax

Tax is a financial charge or other levy imposed upon a taxpayer (an individual or legal entity) by a state or a functional equivalent of the state to fund various public expenditures. Many jurisdictions tax income of individuals and business entities, including corporations. Generally, tax is imposed on net profits from business, net gains, and other income. Computation of income subject to tax may be determined under accounting principles used in the jurisdiction, which may be modified or replaced by tax law principles in the jurisdiction. The incidence of taxation varies by system, and some systems may be viewed as progressive or regressive. Rates of tax may vary or be constant (flat) by income level.

As per the prevailing government norms, the tax applicable on the profit from sale of the proposed product is expected to be around 30%.

Tax on profit is expected to be around 30%

H. Discount Factor to eliminate risks associated with IP grant/enforcement

To assess risk factors associated with grant/enforcement of the instant patent application, we had conducted a thorough prior-art search to mine out any prior-art that are not included in the ISA, but may pose a threat to the grant of instant patent application upon entry into national phase and/or enforcement of the patent granted subsequently upon entry into national phase (please refer to Annexure 2 for details on the relevant prior art documents located during the search).

Based on the detailed analysis of prior-art documents located during the search and documents cited in the ISA, we could arrive at a discount factor of 30% to exclude the risks associated with the instant patent application. This discount factor aims to eliminate risk factors, primarily associated with patent life cycle such as, pre-grant/post grant opposition, revocation proceedings, emergence of improved technology, technological obsolescence, etc.

Discount factor is assumed to be 30%

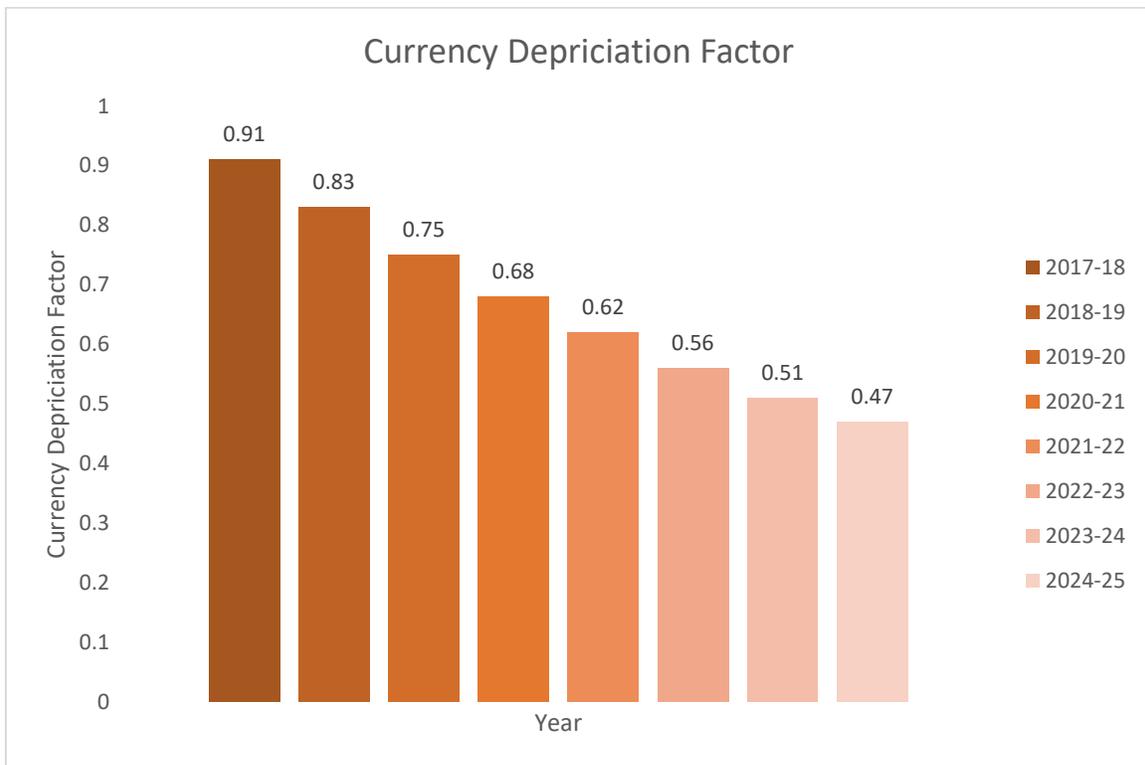
I. Currency Depreciation Factor

Currency discount factor is a factor by which a future cash flow must be multiplied in order to obtain the present value. Over a period of time, the value of currency (INR) depreciates and accordingly, the currency depreciation factor is estimate to be around 10%. Currency Depreciation Factor can be arrived at using the formula:

$$\text{Currency Depreciation Factor, } D = (1/(1+P))^n$$

where, P is the depreciation rate or the periodic interest rate,

and n is the number of payments.

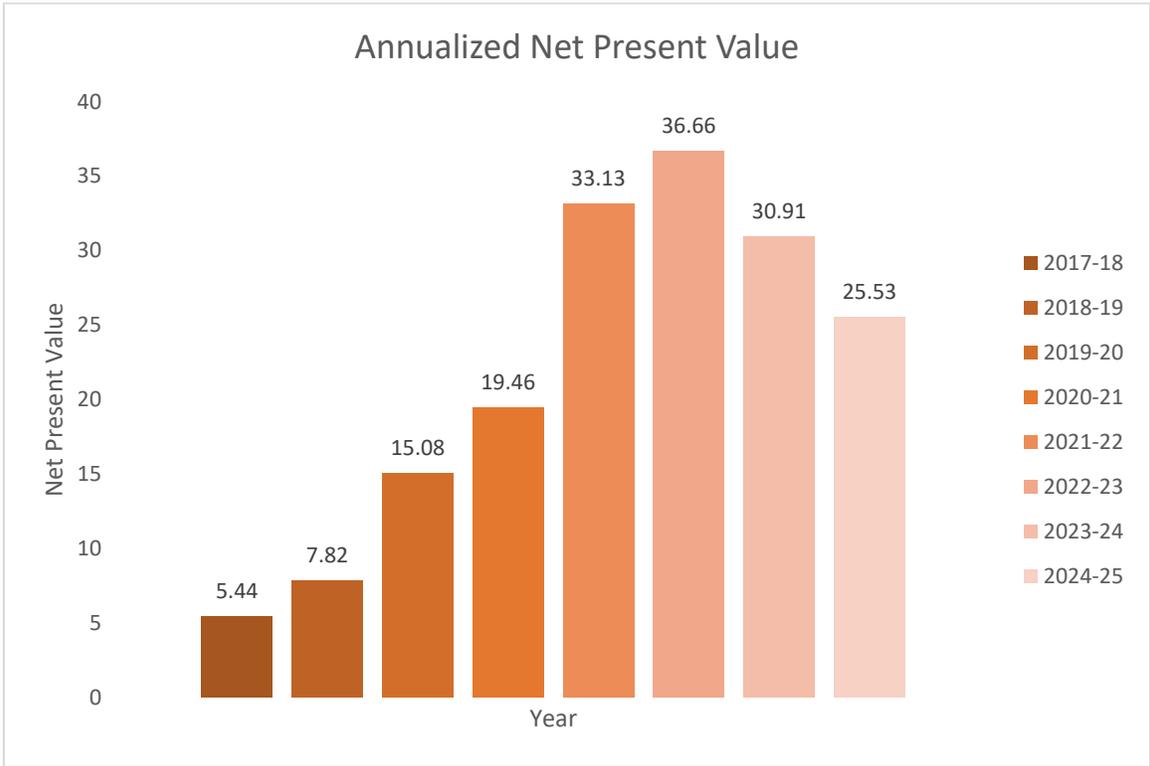


J. Net Present Value

Net Present Value (NPV) is the difference between the present value of cash inflows and the present value of cash outflows. NPV is used in capital budgeting to analyze the profitability of a projected investment or project. It can further be described as a measurement of the profitability of an undertaking that is calculated by subtracting the present values of cash outflows (including initial cost) from the present values of cash inflows over a period of time wherein incoming and outgoing cash flows can also be described as benefit and cost cash flows respectively.

NPV is determined by calculating costs (negative cash flows) and benefits (positive cash flows) for each period of the projected investment or project. The period is typically one year, but could be measured in quarter-years, half-years or months. After the cash flow for each period is calculated, the present value of each one is achieved by discounting its future value at a periodic rate of return. Further, NPV is the sum of all the discounted future cash flows. Because of its simplicity, NPV is a useful tool to determine whether a project or investment will result in a net profit or a loss. A positive NPV results in profit, while a negative NPV results in a loss.

Net Present value reflects revenue/income that a patent/patent application is expected to generate over a span of next 7-8 years. The sum total of the net present value is the overall contribution of the IP over the life of the patent.



Net Present Value of the Patent is INR 174.04 Crore

4. Valuation of Patent Application (WO/2017/051547)

	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Annualized Market Size (crores)	4.5	4.75	5.01	5.31	5.65	6.05	6.44	6.83	7.24
Annual Growth rate (%)	5	5.5	5.5	6	6.5	7	6.5	6	6
Market Share (%)	-	0.5	0.75	1.5	2	3.5	4	3.5	3
Sales Volume (crores)	-	0.02	0.04	0.08	0.11	0.21	0.26	0.24	0.22
Price/Unit (INR)	-	1500	1500	1500	1500	1500	1500	1500	1500
Annual Turnover (crores INR)	-	35.61	56.35	119.46	169.63	317.63	386.60	358.57	325.78
Profit Margin (%)	-	30	30	30	30	30	30	30	30
Profit Before Tax (crores INR)	-	10.68	16.90	35.84	50.89	95.29	115.98	107.57	97.74
Tax Deductions (%)	-	30	30	30	30	30	30	30	30
Profit After Tax (crores INR)	-	7.48	11.83	25.09	35.62	66.70	81.19	75.30	68.41
Discount Factor to eliminate risks associated with IP grant/enforcement	-	20	20	20	20	20	20	20	20
Discounted PAT (crores INR)	-	5.98	9.47	20.07	28.50	53.36	64.95	60.24	54.73
Currency Depreciation Factor	-	0.91	0.83	0.75	0.68	0.62	0.56	0.51	0.47
Annualized NPV (Net Present Value) (crores INR)	-	5.44	7.82	15.08	19.46	33.13	36.66	30.91	25.53
Net Present Value (NPV) (INR)	174.04 Cr								

Annexure 1 – List of exemplary References

1. <https://www.kenresearch.com/consumer-products-and-retail/luxury-goods/india-watch-market-research-report/419-95.html>
2. <http://indiaindustrystatistics.blogspot.in/2010/04/indian-wrist-watch-market.html>
3. <https://www.slideshare.net/arunkumar5031/indian-watch-industry>
4. <https://www.google.co.in/url?sa=t&rct=j&q=&esrc=s&source=web&cd=7&ved=0ahUKEwia5NTxipTTAhUGNo8KHwo QApIQFgg9MAY&url=http%3A%2F%2Fgnu.inflibnet.ac.in%2Fbitstream%2F123456789%2F2647%2F1%2FWrist%2520Watch%2520Industry%2520in%2520India.pdf&usq=AFQjCNFUrfeWYfgDFY35UwlgGmYIE2q8BA&cad=rja>
5. <http://www.euromonitor.com/watches-in-india/report>
6. <https://www.scribd.com/doc/25596854/Indian-Wrist-Watch-Industry-Competition-Analysis-of-Market-Leaders>
7. <http://www.businessinsider.in/WatchOut-For-The-Watch/articleshow/33775564.cms>
8. <http://www.rnrmarketresearch.com/blog/growth-in-the-indian-watch-industry.html>
9. http://www.business-standard.com/article/pti-stories/titan-has-60-65-pc-market-share-in-wrist-watch-segment-115020600706_1.html
10. <http://www.cxotoday.com/story/titan-shows-the-way-in-indias-smartwatch-market/>
11. http://www.business-standard.com/article/management/kit-watch-market-in-india-112030500075_1.html
12. <http://www.merineews.com/article/by-2020-indian-wrist-watch-industry-to-touch-rs-150-bn-mark/15870617.shtml>

Annexure 2 – Related Prior Arts

Relevant Search Results

1. [WO 90/12347 A1](#)

[Claims] Claim 10

Wrist watch (66 80 90 105) as in claim 1, characterized in that the dial (75, 76, 109) situated over the radius bone, is associated to one other or more dials (73, 74, 110) situated on the dorsal surface of the wrist as is usual with ordinary watches, or in an intermediate position, the functions of which may be that of a watch (106), date indicator (94), ship's compass (86), calculator (98), counters for heart beats or blood pressure or anything else, said functions being arranged as preferred on the dials in the normal position, namely with the reading axis perpendicular to the axis of the wrist or parallel to it or orientated variously in relation to this latter axis, the various dials (73, 74, 75, 76, 109, 110), both for the watch or destined for other functions, being supported by cases (69, 70, 83, 85, 92, 95, 97) associated by means of articulations (67, 84, 99, 100) or rigidly connected or supported by a single case (103), the various devices, as the case may be and according to preferences, being of a mechanical, electric, electronic, quartz or digital type, the dial showing the time being situated, as preferred, on the dorsal surface of the wrist in the usual manner or over the radius bone or in an intermediate position.

[Detailed Description]

[Page 8, line 9– line 15]

Watch 66 is associated by means of articulations 67 to chronometer 68. The respective cases 69, 70 for watch and chronometer, with their concave surfaces 71 72, correspond to the convexity of the wrist. Under surfaces being concave, the chronometer 68 can lie over the radius bone while the watch 66 is in an intermediate position between the chronometer and the upper side of the wrist. Figure 9 shows a rectangular watch case enclosing a circular dial 73 for the hours and another alongside it 74 for the seconds.

Relevant figure(s):

WO 98/12347

3/3

PCT/IT89/00056

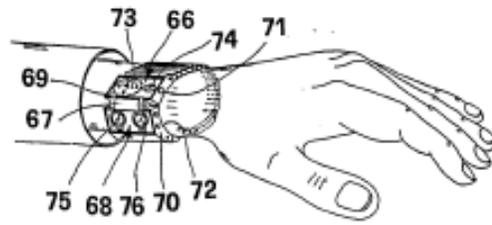


fig. 9

fig. 10

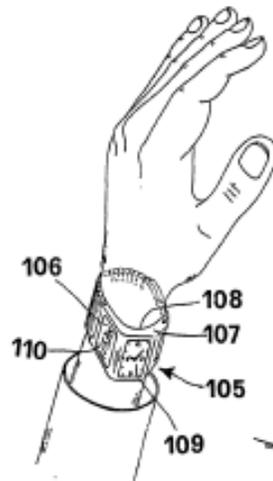
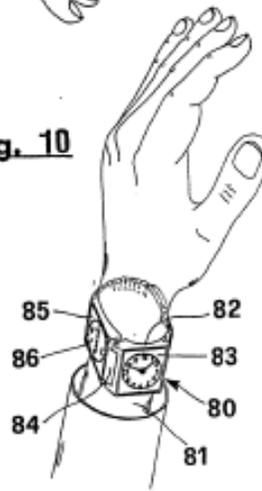


fig. 12

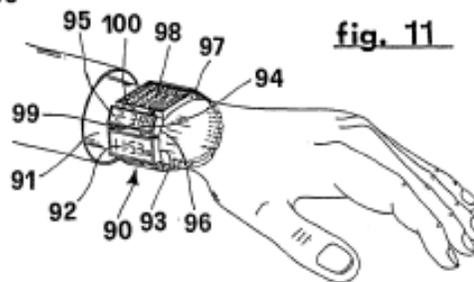


fig. 11

2. [WO/2006/097439](#)

[Claims] Claim 1

Watch comprising: a housing (10) having a case band (12), a blade (14) and a bottom (16) together defining a housing (18), a movement (24), means for Display means (28) controlled by said movement (24), correction means (32) for allowing modification of the information displayed by the display means, and a hollow pellet (20) in which said movement is mounted (24), the display means (28) and the correction means (32) disposed in said housing (18) and dimensioned such that it can move freely therein, characterized in that said pellet (20) is surrounded by elastic material (35), preferably an elastomer.

Claim 15

A watch according to claim 1, wherein at least one additional pellet is disposed in said housing.

[Detailed Description]

Each pellet 20 is formed by a shell 22 in which a movement 24 is arranged, which is surmounted by a dial 26 and carries needles 28. The middle 30 carries, at its periphery and substantially in the middle of its height, a rubber ring 35 forming a protuberance and acting as a shock absorber. Pellets 20 are disposed in the housing 18.

Relevant figure(s):

WO 2006/097429

PCT/EP2006/060641

1/7

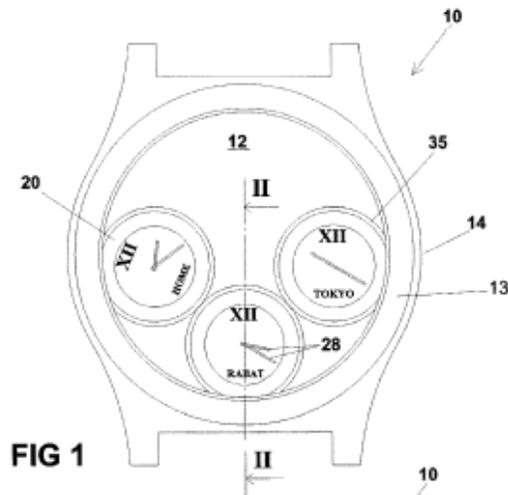


FIG 1

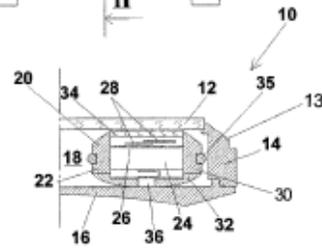


FIG 2

3. [WO/2006/094698](#) (Machine Translated from German language)

[Claims] Claim 1

A clock comprising a first hour wheel which is rotatably drivable about an axis of rotation and carries a first hour hand, and a second hour wheel, which is connected to the first hour wheel via a resilient detent connection and is rotatably rotatable about a second axis of rotation by the first hour wheel, through which a second hour hand is passed is rotatably drivable by means of a manually rotatable adjusting shaft which carries a drive wheel and by means of which both the two hour wheels can be adjusted together as well as only one of the hour wheels, characterized in that the first hour wheel (16) can be adjusted by the drive wheel The second hour wheel or a third hour tube (26) carrying the second hour hand (11) can be blocked.

[Detailed Description]

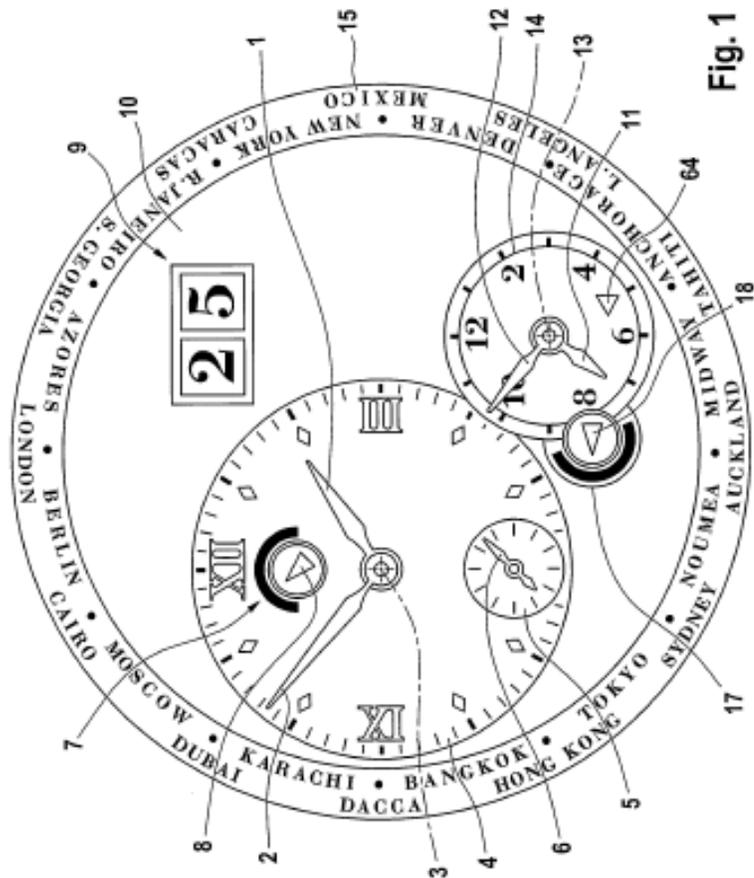
The circular dial 10 shown in FIG. 1 has a first hour hand 1 and a first minute hand 2 which are rotatably drivable by a clock mechanism (not shown) about a first pointer axis 3 and sweep with their pointer peaks a first circular scale 4 in the central left region of the dial 10. In the six-o'clock position of the first circular scale 4, a small secondary scale 5 is arranged, which is swept by a second pointer 6. In the twelve-o'clock position of the first circular scale 4 there is a circular first day / night scale 7, on which a rotatable pointer-like first indicator symbol moves.

Relevant figure(s):

WO 2806/994698

PCT/EP2006/001891

1 / 5



Additional Search Results

1. [WO2011069218 A1](#)
2. [WO2010015544 A1](#)
3. [WO2009060380 A2](#)

DISCLAIMER

1. The information provided in this report is largely based on information as worked out by the client. Database and information sources that are produced by the client are believed to be reliable by IIPRD. While IIPRD has used the best resources for the work of technology valuation IIPRD disclaims all warranties as to the accuracy, completeness or adequacy of such information.
2. We also wish to state that the Valuation is limited to present time and does not apply after lapse of considerable time and may change with the passage of time.

VALUATION CERTIFICATE

1. In view of the analysis and due diligence of the proposed patent and further based on the projected and forecasted numbers provided by the client, we hereby certify that based on conservative mode, the patent valuation for WO/2017/051547 can be placed as INR 1,74,04,00,000 (One Hundred and Seventy-Four Crores and Four Lacs).
2. We hereby declare, to the best of our knowledge, that commercial value as mentioned above would be reasonable for selling the Patent.



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