Other Considerations

Economics report

Variable Cost	Fixed Cost	Direct cost	Indirect Cost	Overheads
-shipping cost -electricity usage -product development -Raw Materials -labour cost	-Rent -Utilities -Pay/salary -Equipment Depreciation -Marketing	-Salaries of personell -Cost of raw material -Shipping	-utilities -rent -Electrcity Usage	-administrative expense -marketing/sales -research/development

Assumptions

Materials cost are set to decrease due to contract with large manufacturing plant and sue to economics of scale and improved proficiency.

Labour cost are expected to rise for the first few years due to loyalty pay/ raises and experience of employees.

We are assuming are fixed costs are going to be constant over the 3 year period

We are also assuming overhead cost will be cut due to cost saving measures

As this will be a niche market, we are assuming that we would own 100% of the market.

Income statement

We will have a $800,000 loan for start up expenses with a 2.5% interested rate compounded annulay. The terms state the loan should be paid off at 100,000 per year.

Unit price: $80 per unit and $20 cad production price

Price of Maintenance/utilities/rent: $60,000

Labour costs: $175,000

Year 1

(20,000 Units sold)

Sales revenue : $80 * 20,000 = $1,600,000

Material cost : $20 * 20,000 = $400,000

Gross profit: $1,600,000 - $400,000 = $1,200,000

Operating cost: $60,000 + $175,000 = $235,000

Operating income: $1,200,000 - $235,000 = $965,000

Total cash: $965,000 - $100,000 - ($800,000 * 0.025 = $20,000) = $845,000

Year 2

(40,000 Units sold)

Sales revenue : $80 * 40,000 = $3,200,000

Material cost : $20 * 40,000 = $800,000

Gross profit: $3,200,000 - $800,000 = $2,400,000

Operating cost: $60,000 + $175,000 = $235,000

Operating income: $2,400,000 - $235,000 = $2,165,000

Total cash: $2,165,000 - $100,000 - $20,000 = $2,045,000

Year 3

(100,000 Units sold)

Sales revenue : $80 * 100,000 = $8,000,000

Material cost : $20 * 100,000 = $2,000,000

Gross profit: $8,000,000 - $2,000,000 = $6,000,000

Operating cost: $60,000 + $175,000 = $235,000

Operating income: $6,000,000 - $235,000 = $5,765,000

Total cash: $5,765,000 - $100,000 - $20,000 = $5,645,000

NPV ANALYSIS

Initial investment: 800,000

Discount rate of 10%

Year 1

-The value of money today: $800,000

-The present value (PV) : 768,181..81

-NPV = 768,181.81 - 800,000 = -$31,818.18182

Year 2

-The value of money today: $800,000

-The present value (PV) : $2,045,000/(1.10)^2 =1690082.645

-NPV = 1690082.645- 800,000 = $8,90082.6446

Year 3

-The value of money today: $800,000

-The present value (PV) : $5,645,000/ (1 + 0.10)^3 = $4241172.051

-NPV = $4241172.051 - 800,000 = $3,441,172.051

Therefore, our break-even points would be during the second year at exactly 2.0345 years.

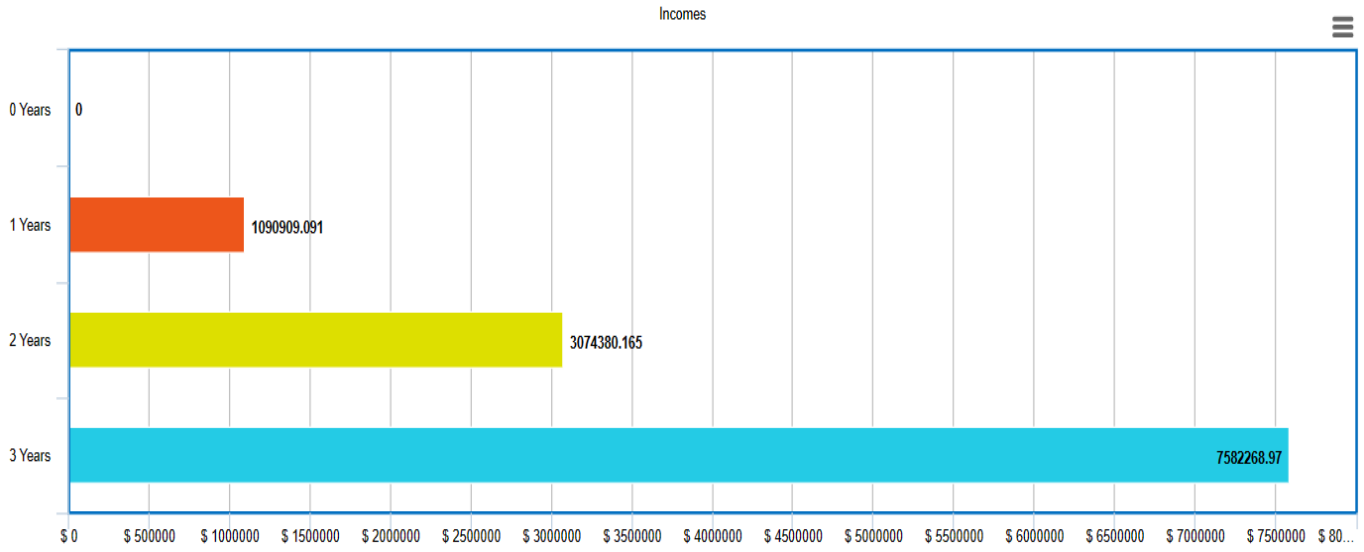
Graphs representing calculations

Incomes:

Year 1: gross profit/1.10= $1,200,000/1.10= $1,090,909.091

Year 2: $1,090,909.091 + ($2,400,000)/(1.10) ^2 =$3074380.165

Year 3: $3074380.165+ $6,000,000/ (1.10)^3 = $7,582,268.97



Expenses: (all values in negative)

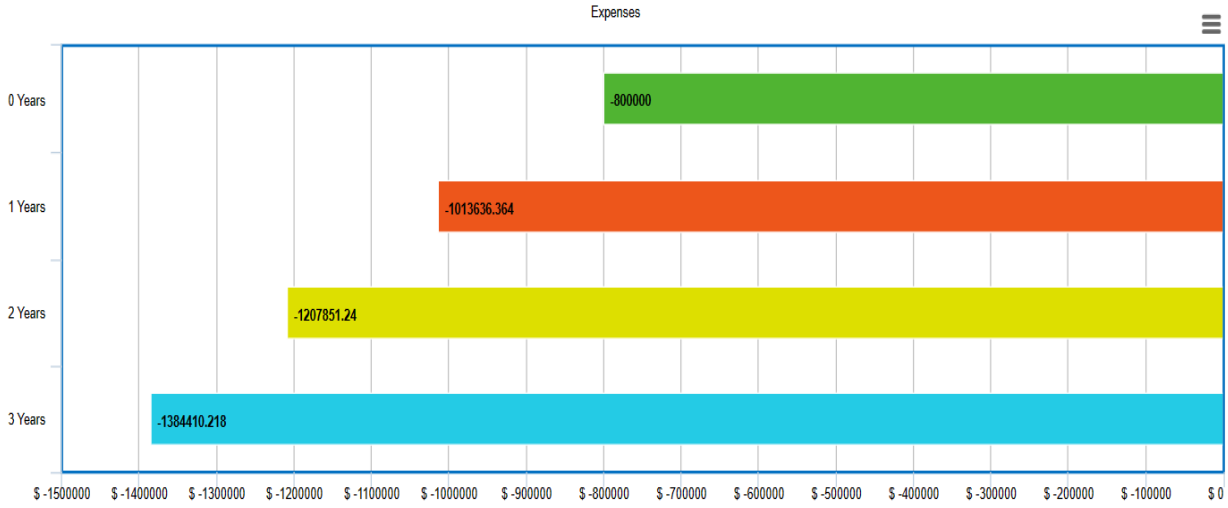
Note operating Expense: $235,000.00

Year 0: $800,000

Year 1: $800,000 + $235,000/1.10= $1013636.364

Year 2: $1013636.364 + $235,000/(1.10)^2 = $1,207,851.24

Year 3: $1,207,851.24 + $235,000/(1.10)^3 = $1,384,410.218



Intellectual property report

We have looked at various patents regarding the wheel chair accessory industry and we were amazed by the date the patents were finalized, and how the market is targets all aspects pf society including hospitalization equipment, mobility independence equipment, and even patents to convert hand powered wheelchairs to full electric; but throughout our long search we couldn't find a patent relating to attaching an sort of camera equipment to a wheelchair that had other electrical/ mechanically powered aspects.

The two patents related to our Invention are listed below:

Apparatus for attaching intravenous infusion poles to foldable wheelchairs by Sidney Smith (DEC 20 1984) and Wheelchair camera stand by Fredrick L. Jackson (1998)

US005374074A

United States Patent [19]

Smith

[11] **Patent Number: 5,374,074**

[45] **Date of Patent: Dec. 20, 1994**

[54] **APPARATUS FOR ATTACHING INTRAVENOUS INFUSION POLES TO FOLDABLE WHEELCHAIRS**

[76] Inventor: **Sidney Smith**, 1320 11th Ave. South, Apt. 2, Birmingham, Ala. 35205

[21] Appl. No.: **11,142**

[22] Filed: **Jan. 25, 1999**

[51] **Int. Cl.**[5] **A47C 7/62**

[52] **U.S. Cl.** **280/304.1; 297/DIG. 4**

[58] **Field of Search** ..... 280/304.1, 293, 250.1, 280/292; 248/122; 180/907; 297/188, 191, 194, DIG. 4; 5/503.1, 658; 292/247; 24/270, 273, 20 S, 330; 440/102

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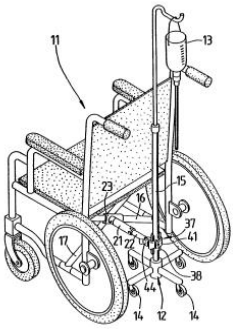
Primary Examiner—Brian L. Johnson
Assistant Examiner—F. Zeender
Attorney, Agent, or Firm—Veal & Associates

[57] **ABSTRACT**

A coupling device for connecting a mobile medical apparatus such as a wheeled support stand for intravenous infusion devices to a wheelchair. The coupling device attaches to the framework at the rear of said wheelchair and is adjustable between an inward storage position and an outward operational position. A variable clamping means secures support stands, of various dimensions, to the rear of the wheelchair for tandem movement with said wheelchair.

7 Claims, 3 Drawing Sheets



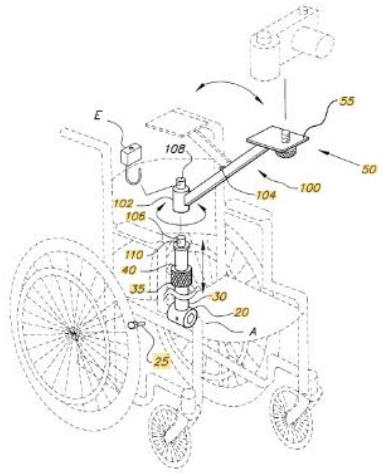


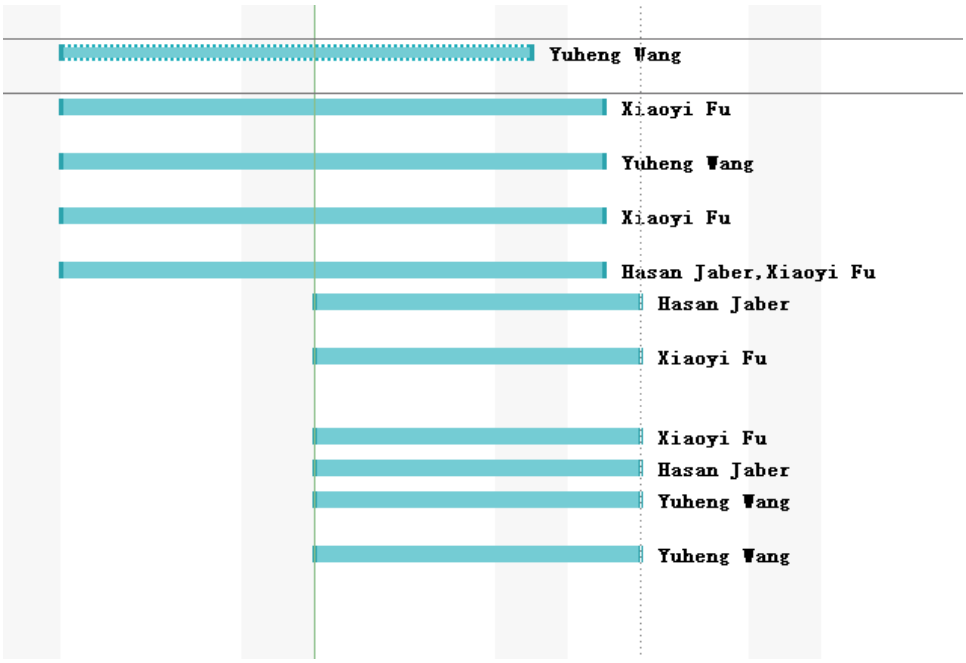
FIG. 1

The significance of intellectual properties and understanding the associated legal constraints cannot be overstated when it comes to bringing an invention to society. These elements are fundamental pillars that shape the innovation landscape and directly impact the ability of inventors, entrepreneurs, and businesses to introduce new products and technologies to the market. This protection includes but not limited to:

- Protection of Innovation
- Encouragement of Investment and Commercialization
- Market Differentiation and Brand Identity
- Prevention of Unfair Competition
- Promotion of Technological Progress
- Legal Constraints and Compliance Obligations

Project plan update

		Further improve the design	11 days	Mon 24/3/11	Sat 24/3/23		Yuheng Wan
		Define product hypotheses	11 days	Mon 24/3/11	Mon 24/3/25		Xiaoyi Fu
		Conduct prototype 2 testing	11 days	Mon 24/3/11	Mon 24/3/25		Yuheng Wang
		Record new data and improvements	11 days	Mon 24/3/11	Mon 24/3/25		Xiaoyi Fu
		Update deliverable	11 days	Mon 24/3/1	Mon 24/3/2		Hasan Jaber,Xia
		create economics report	7 days	Mon 24/3/18	Tue 24/3/26		Hasan Jaber
		develop 3-yearincome statement	7 days	Mon 24/3/18	Tue 24/3/26		Xiaoyi Fu
		NPV analysis	7 days	Mon 24/3/1	Tue 24/3/26		Xiaoyi Fu
		justify assumption	7 days	Mon 24/3/1	Tue 24/3/26		Hasan Jaber
		identify intellectual property database	7 days	Mon 24/3/18	Tue 24/3/26		Yuheng Wang
		explain legal constraints	7 days	Mon 24/3/18	Tue 24/3/26		Yuheng Wang



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