PAPER PINS, GEM CLIPS, STAPLE PINS & SAFETY PINS

1. INTRODUCTION:

Staple pins and Gem clips are most commonly used office stationery items. While Safety pins are essentially the part of clothing and fashion accessory. All of these products are made from small diameter wires in automatic machines specially designed to produce them.

These are used in all offices and establishments and all are having recurring demand for these products. The demand is always growing with the increase in number of offices and industrial establishments.

All the products are made by automatic machines specially made for the purpose.

2. PRODUCT & ITS APPLICATION:

Staple pins for stationary and office use are manufactured out of 0.4 mm to 1.8 mm dia and shape of mild steel with hardness and coating viz. Galvanized copper or chrome coating as per requirements. Staples are widely used to bunch together the papers with help of Stapler machine, which forces pins to pierce the papers and ends are bent to hold them together securely.

Gem clips are used to bunch together between the clip due to its spring action. The clip holds them in bunch but does not damage them. These are made from 0.4 mm to 2 mm mild steel, galvanized chrome plated or PVC coated wires.

Safety pins and normal paper pins have sharp end to pierce the papers or cloth or any such sheet. Safety pins have a safety head to hold and cover the sharp end to prevent accidental injury. These products have multiple uses other than offices viz in domestic or personal use.

3. DESIRED QUALIFICATIONS FOR PROMOTER:

Any graduate can take up this project as mostly these products are made in automatic machines.

4. INDUSTRY OUTLOOK/TREND

The office supplies market, of which staple pins, paper pins and U / Gem clips etc. paper fasteners form an important part, continues to grow and benefit from economic recovery, Government focus on education programs and huge transformation with computerization for stationery and printing technology. In developing markets, growth of industry has focus on effective pricing of quality materials with higher literacy rates.

The office supplies market consists of papers, pens and computer printer cartridges as the major fast moving and faster moving items with almost 98% value and volume share. The market size for all types of office supply/ stationary products of all types in India is estimated at Rs 2200 crore in value.

Product innovation is the key where consumers demand a wide range of products with new innovative designs.

5. MARKET POTENTIAL AND MARKETING ISSUES. IF ANY:

The number of commercial organizations and industries are increasing year after year. Since these pins and clips are having wide use in offices, and they are meant normally for a single use, there is huge potential for a quality producer. The products find wide application to fasten / bunch the sheets of paper, bills, photos, bags and files. Government, Banks etc. financial institutions, commercial offices including hotels/ restaurants, traders' offices. The garment, leather, rubber furniture etc. products also have special purpose pins/ staples. The growth of these items will be consistent.

In this sector, customers are mostly less price-sensitive and more quality-conscious. The domestic products industry is estimated in the range of Rs 10,000 crore with stationery comprising Rs 3,000-4,000 crore and balance for the other items. Both from a manufacturing and/ or retailing of products is in SSI sector. The unorganized sector units have also been emerging with handful of brands becoming popular nationally.

A number of Indian as well as International players are in present in this market especially in paper and other high value/ volume products, leaving scope for unorganized sector to meet demand for other items like clips/ pins etc. The market is growing around 8 to 10% and having presence of various local and international brands worldwide. The unorganized sector contribution is placed at over Rs 6600 crores or 30% of the total market by value. The low-end market accounts for 90%, the premium and top-end segment accounts for less than a percent. The balance is accounted for by the moderately priced mid-priced products.

The most important issue for the entrepreneur to ensure good quality by selecting proper quality of wires and selecting proper machine that can give proper quality of finished products.

6. RAW MATERIAL REQUIREMENTS:

The main raw material is different gauges and types of hard drawn wires with hardness and tensile strength suitable for each of products. These wires of good quality have good tensile strength ranging from 700 to 1500 N/mm2 and the specification relates to American standard SAE 1018 -1065. Staple pin will also need glue that holds pins together in a staple strip. The safety pins will require strips for the heads. The pickling and nickel plating and galvanizing materials are available in market.

7. MANUFACTURING PROCESS:

These products are made from wires and processed in automatic machines

available for these products. The process steps are:

- Straightening and cutting hard drawn wires to required lengths
- Pickling and cleaning the cut wires
- Plating with Nickel copper etc. or zinc galvanizing
- Drying the plated pins in a drum dryer
- Feeding of plated bright wire to automatic pin wire bending forming process to get finished products.
- Cleaning and Packing in cartons for dispatch

- Staple pins are manufactured from Mild steel wires of 0.4 mm to 0. 8 mm galvanized. The wires may be made flat /square, the automates cut, bend and glue the pins together in an automatic machine. Special Staple pins are also made from sheet metal strips for upholstery and wooden furniture work. The staple pins are made as per relevant Indian specification IS 4224:1972.

- Gem clips are made from wires by automatic machine where wire is straightened and then given consecutive bending in an automatic machine to get the final U / Gem clip. Some wires are pre coated with PVC plastic for different colors.

- Paper pins are having sharpened ends and manufactured in automatic machines. Are made from drawn MS or SS wires of fin gauge wires. The wire is cut to size and sharpened at ends. The sharpened wires are then fed to form round/ dome head by cold forming. Some of the wires may be given plastic head by dipping the end in molten acrylic plastic.

- The safety pins are a special design and are made in automate machine where it is cut and sharpened. The caps are made from strips in an automate where strip is punched and deep drawn in a die to get cap sleeve. These wires and sleeves are then fed in to another automate where they are wires are bent and the cap sleeve is pressed to get final product in one go.

Glued strip of Staple Pin 50 staple pins per strip. These box / packet contains 20 Strips. Gem clips, paper pins and safety pins are available in 20/50/100 /300/ 500 / 1000 pcs per box.

8. MANPOWER REQUIREMENT:

The unit shall require highly skilled service persons. The unit can start from 8 employees initially and increase to 23 or more depending on business volume.

Sr No	Type of Employees	Monthly Salary	No of Employees				
			Year 1	Year 2	Year 3	Year 4	Year 5
1	Skilled Operators	18000	4	4	5	6	6
2	Semi-Skilled/ Helpers	7000	6	8	10	12	12
3	Supervisor/ Manager	30000	1	1	1	1	1
4	Accounts/ Marketing	16000	1	2	2	2	2
5	Other Staff	7000	4	6	8	8	8
	TOTAL		16	21	26	29	29

9. IMPLEMENTATION SCHEDULE:

The unit can be implemented within 6 months from the serious initiation of project work.

Sr No	Activities	Time Required in Months
1	Acquisition of Premises	2
2	Construction (if Applicable)	2
3	Procurement and Installation of Plant and Machinery	2
4	Arrangement of Finance	2
5	Manpower Recruitment and start up	2
	Total Time Required (Activities run concurrently)	6

10. COST OF PROJECT:

The unit will require total project cost of Rs 62.96 lakhs as shown below:

Sr No	Particulars	In Lakhs
1	Land	0.00
2	Building	0.00
3	Plant and Machinery	46.00
4	Fixtures and Electrical Installation	2.55
5	Other Assets/ Preliminary and Preoperative Expenses	2.50
6	Margin for working Capital	11.91
	TOTAL PROJECT COST	62.96

11. MEANS OF FINANCE:

The project will require promoter to invest about Rs 24.67 lakhs and seek bank loans of Rs 38.29 lakhs based on 70% loan on fixed assets.

Sr No	Particulars	In Lakhs
1	Promoters Contribution	24.67
2	Loan Finance	38.29
	TOTAL:	62.96

12. WORKING CAPITAL REQUIREMENTS:

Working capital requirements are calculated as below:

Sr No	Particulars	Gross Amount	Margin %	Margin Amount	Bank Finance
1	Inventories	4.33	40	1.73	2.60
2	Receivables	9.45	50	4.72	4.72
3	Overheads	3.73	100	3.73	0.00
4	Creditors	4.33	40	1.73	2.60
	TOTAL	21.82		11.91	9.91

13. LIST OF MACHINERY REQUIRED:

Sr No	Particulars	UOM	Quantity	Rate	Total Value
	Main Machines/ Equipment				
1	Staple Wire flattening machine	Nos	2	200000	400000
2	Staple Wire gluing machine	Nos	1	180000	180000
3	Staple forming Automate	Nos	2	250000	500000
4	Safety pin Wire cutting machine	Nos	1	150000	150000
5	Wire End Sharpening machine	Nos	3	180000	540000
6	Safety Pin Cap Forming machine	Nos	1	200000	200000
7	Safety Pin assembly machine	Nos	1	100000	100000
8	Gem Clip – Forming Automate	Nos	2	250000	500000
9	paper Pin Cutting and heading machine	Nos	1	250000	250000
10	Pickling bath	Nos	1	350000	350000
11	Wire galvanizing /plating Unit	Nos	2	200000	400000
12	Packaging and Boxing machine Automate	Nos	4	150000	600000
	Subtotal:				4170000
	Tools and Ancillaries				
1	Automate Tooling and Dies	LS	1	350000	350000
2	Misc. tools etc.	LS	1	80000	80000
	Subtotal:				430000
	Fixtures and Elect Installation				
	Storage racks and trolleys	LS	1	75000	75000
	Other Furniture	LS	1	40000	40000
	Telephones/ Computer	LS	1	40000	40000
	Electrical Installation	LS	1	100000	100000
	Subtotal:				255000
	Other Assets/ Preliminary and Preoperative Expenses	LS	1	250000	250000
	TOTAL PLANT MACHINERY COST				5105000

All the machines and equipment are available from local manufacturers. The entrepreneur needs to ensure proper selection of product mix and proper type of dies and tooling to have modern and flexible designs. It may be worthwhile to look at reconditioned imported machines, dies and tooling. Few machinery and tooling suppliers are listed here below:

1. S. B. MACHINE TOOLS

   23/4, Lane No.-11, Anand Parbat Indl. Area,
   New Rohtak Road, New Delhi,
   Delhi, 110005, India

2. SMC Machine Tools11/12,

   Patel Colony,

   Industrial Area, Road No.A-1,

   Jamnagar-361008, Gujarat, India

3. Recond Engineering
   Howrah,West Bengal, India

4. ABM Fasteners India

   Plot No 6, Block RZ-Q,

   Nihal Vihar, Gurudwara Road

   Opp Bharat Properties ,

   Nangloi, Delhi - 110041

5. Metal Master Engg701, 702, MMRDA Lodha,

   Near Lodha Aqua,

   Opposite Thakur Mall,

   Off. Dahisar Check Naka,

   Mira Road (E),

   Mumbai-401107,

   Maharashtra, India

14. PROFITABILITY CALCULATIONS:

Sr No	**Particulars**	**UOM**	**Year Wise estimates**				
			Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**
1	Capacity Utilization	%	40	50	60	75	85
2	Sales	Rs Lakhs	56.68	70.85	85.03	106.28	120.45
3	Raw Materials & Other	Rs Lakhs	25.95	32.44	38.93	48.66	55.14

	Direct Inputs						
4	Gross Margin	Rs Lakhs	30.73	38.42	46.10	57.63	65.31
5	Overheads Except Interest	Rs Lakhs	17.00	17.00	17.00	17.00	17.00
6	Interest	Rs Lakhs	5.36	5.36	5.36	5.36	5.36
7	Depreciation	Rs Lakhs	5.11	5.11	5.11	5.11	5.11
8	Net Profit Before Tax	Rs Lakhs	3.27	10.95	18.64	30.16	37.85

The Unit will have capacity of up to 1,50,000 Boxes containing 20 strips/box (1000 staples) for staple pins, 100,000 boxes of paper pins containing 100 pins/ box, 100000 boxes of gem/ U clips Boxes containing 100 pcs/box and 50000 Boxes of safety pins with 50 pcs/box per year.

Depending size/ type/ metal grade/ finish etc. the bulk sale/ distribution sales prices ranges from Rs 18 per box to Rs 90 per box or more for staple pins, Rs 20 per box to Rs 70 per box or more for paper pins, Rs 25 per box to Rs 90 per box or more for gem/ U clips and Rs 30 per box to Rs 120 or more per box for safety pins.

The raw material mainly fine gauge wire cost ranges from 35 to 85 per kg for staple pin wires, Rs 80 to 260 per Kg for plated and stainless-steel wires. The material requirements are considered with wastage/ scrap etc. of 4 % of finished products. The unusable scrap is sold at @ Rs 18 ~ 70 per Kg. and the income of same is added. Energy Costs are considered at Rs 7 per Kwh and fuel cost is considered at Rs. 65 per liter. The depreciation of plant is taken at 10 % and Interest costs are taken at 14 -15 % depending on type of industry.

15. BREAK EVEN ANALYSIS

The project can reach break-even capacity at 35.74 % of installed capacity as below:

Sr No	Particulars	UOM	Value

1	Sales at Full Capacity	Rs Lakhs	141.71
2	Variable Costs	Rs Lakhs	64.88
3	Fixed Cost incl. Interest	Rs Lakhs	27.46
4	Break Even Capacity	% of Inst Capacity	35.74

16. STATUTORY/ GOVERNMENT APPROVALS

The unit shall have to get state industrial unit registration from DIC, IEC Code for Export and local authority clearance. Depending on structure of finance the company shall need to register company with registrar of companies. The registration and approval for factory plan, safety for Fire etc. requirement, registration as per Labour laws ESI, PF etc. shall be required as per rules and applicability. Before starting the unit will also need GST registration for procurement of materials as also for sale of goods. As such there is no pollution control registration requirements, except installation of chimney/ blowers for heat treatment furnace / pickling line and ensure safe environment as per rules of factory safety. Solid waste disposal shall have to meet the required norms. Entrepreneur may contact State Pollution Control Board where ever it is applicable.

17. BACKWARD AND FORWARD INTEGRATION

The machines and equipment offer scope for diversification in to producing the small length wire products of innovative designs for other consumer appliances and industrial wire products / components etc. by using the spare capacities and machine capabilities. As such there is not much scope for organic backward or forward integration.

18. TRAINING CENTERS/COURSES

There are no specific training centers for wire drawing technology. There are training for dies and tools development run by several centers of excellence viz Indo German Tool Room at Ahmedabad, Rajkot, Chennai, and CTTC Bhubaneswar etc. shall be helpful.
The most important scope of learning is in new product design and development by associating with institutes like NID etc. Entrepreneur may also study the new

product designs, product range, features and specifications of leading Brands / competitors across the world by scanning the Internet and downloading data. Viz. North American, Europe, China etc. markets.

Udyamimitra portal (link : www.udyamimitra.in) can also be accessed for hand-holding services viz. application filling / project report preparation, EDP, financial Training, Skill Development, mentoring etc.

Entrepreneurship program helps to run business successfully is also available from Institutes like Entrepreneurship Development Institute of India (EDII) and its affiliates all over India.

Disclaimer:

Only few machine manufacturers are mentioned in the profile, although many machine manufacturers are available in the market. The addresses given for machinery manufacturers have been taken from reliable sources, to the best of knowledge and contacts. However, no responsibility is admitted, in case any inadvertent error or incorrectness is noticed therein. Further the same have been given by way of information only and do not carry any recommendation.