New Post Box Design For Indian Postal Service

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Introduction

There is a lack of well designed products in the public domain due to the difficulty in tendering process in the Government Sector. Unfortunately, new technology based products need investments in tooling and development, which do not figure in the method of operation for purchase in the Government Sector. The attempt of the project is to provide well designed products in the public domain. Having maintenance-free letter boxes was the long time requirement by the Indian post and the initiative was taken up by Prof. Chakravarthy as an idea to implementation project.

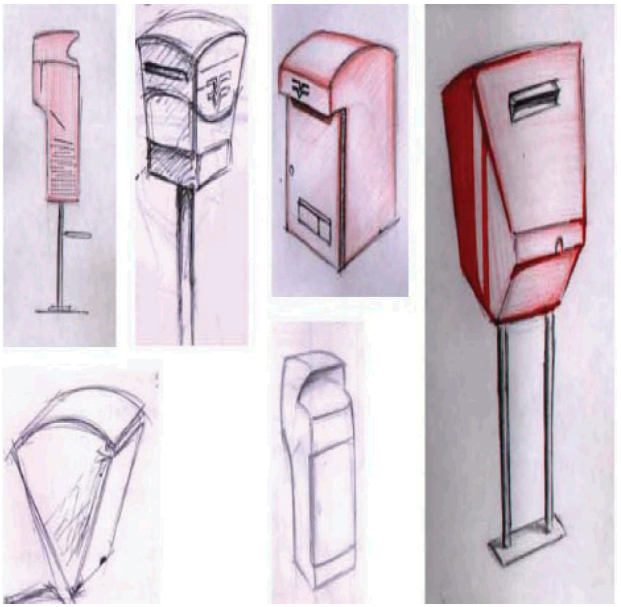
The brief given by India Post was to design a maintenance free letter box, justifiably so, since the existing letter boxes which are made of mild steel were damaged easily and rusted rapidly. As a result the postal department spent a lot of effort and money in painting, repairing and maintaining them.

Design Process

A study conducted prior to designing the letter box among postal staff and public to obtain feedback on the difficulties they faced while using the box as also the additional features they would like to have to make it more user-friendly.

User study insights

- India Post was losing business due to inaccessibility of letter boxes to public.
- The existing post boxes made of mild steel rusted rapidly and were easily damaged and users would often hesitate to post letters in such boxes
- Letters would get wet during rains.
- Postmen found it inconvenient to collect letters.
- There was overflow of letters during festivals and New Year.



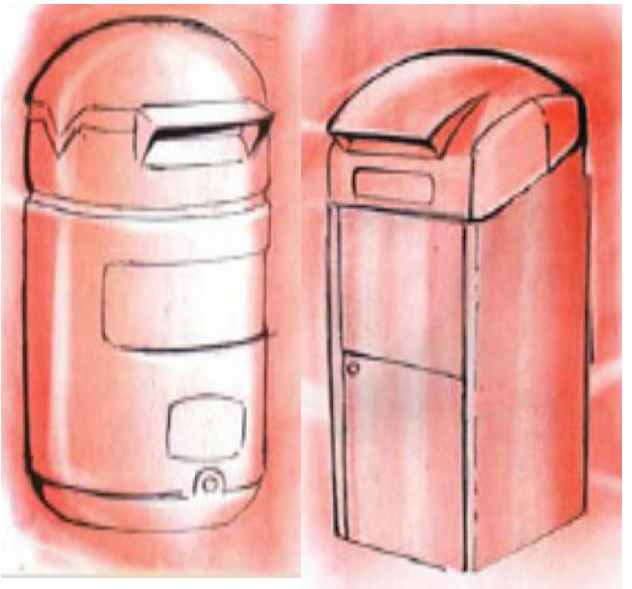
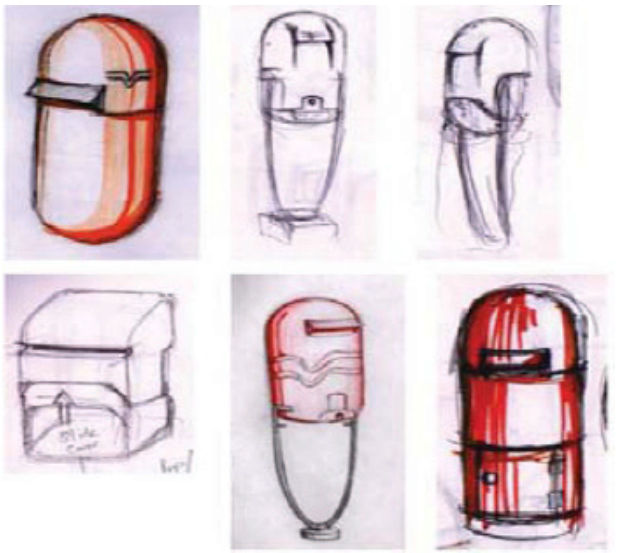


Fig. A *Fig. B*



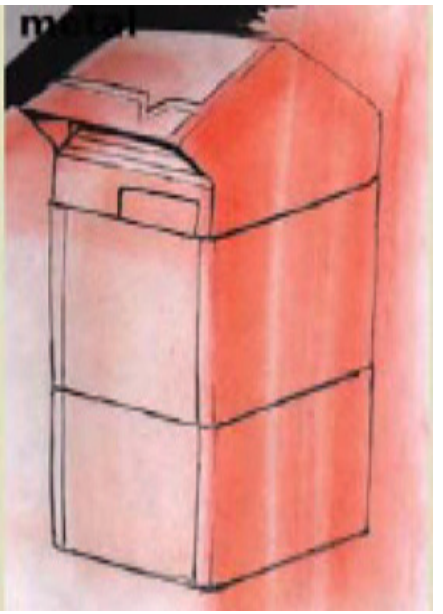


Fig. C

The user insights were converted into idea sketches wherein the core issues regarding seepage of rainwater, rusting of letterboxes and ease of collection of letters were addressed.

The ideas were clustered into groups and in line with the requirement of maintenance free letterbox, the idea clusters were based on the materials used for manufacture.

Concept options
Evaluation was conducted on the following three concept options.
Concept A: Full letterbox in plastic (Fig. A)
Concept B: Full letterbox in sheet metal (Fig. B)
Concept C: Main body in Stainless steel and top box in plastic.

Final concept
Concept C was chosen as the best option and the advantages are illustrated in the following sections. After further refinements using CAD and prototyping, the final design was released for manufacture.

New letter box features
A futuristic elegant letter box made of stainless steel body has been designed with an attractive red beak like top with an aperture for the letters to be dropped. It also has space at the bottom to enable user to rest the letter and push it inside.

The letter box, with an increased capacity due to its square cross-section can be mounted quickly on foundation bolts placed in advance in concrete.

While the top cover enveloping the body on all the sides prevented ingress of rainwater, the slopes on the top of the box drains out the rainwater. It is mounted on a base, so that the overhang can be used by the postman to place his bag and collect the letters easily. A wide opening to accommodate large envelopes, simple time slider, flat top surface which can be used for writing, common key to open all letter boxes in one region are some of the additional features.

Advantages to India Post
- Projects a strong retail visual identity for India Post and enhances its image.
- Letter box's modern and elegant look will encourage industries to advertise on them and generates revenue for India Post.
- Maintenance free.
- Longer lifespan – will last for over 20 years, five times the life of present boxes
- Easy for postmen to collect letter.
- Easy to install.
- Common lock for all letter boxes in one region.

User-friendly Features:
- Easy to post letters.
- Convenient to post large envelopes.
- Can use the top surface for writing.

Manufacturing
The letter boxes were manufactured using:
- High-end CNC machines to ensure excellent surfaces and high quality.
- High quality brush finished stainless steel from M/s. Jindal Stainless Ltd., for longlasting finish and durability of letter box body.
- Engineering plastics from GE plastics for letter box top to provide toughness and strength
- Rust proof locks from Godrej for long and durable use.

Costs and revenue

The cost of manufacturing the box is relatively higher than the present mild steel letter box. But the new stainless steel boxes will last longer and the postal authorities will save on the replacement costs as it will need no maintenance. The ample space on the sides can be used for commercials and the advertising revenue thus generated will also offset the higher cost. Prof. Chakravarthy funded the pilot project up to the prototype stage and the postal authorities provided the manufacturing cost.

Implementation

India Post approved the design and placed a pilot order with IIT for manufacture of 200 letter boxes, which are ready for installation now. The new letter box was launched on 18th October 2005 at Le Meridien, Delhi. The 30 test letter boxes installed earlier in Mumbai, Delhi, Chennai and Patna have been a success as evinced by the feedback received by India Post's corporate communication group.

Recognition

The letter box has won a "special mention" at the stainless innovation awards 2007 presented by Jindal Stainless Ltd. The recognition has come for the innovative use of stainless steel in product design.

Packaging and transportation

When the letterbox is dismantled it is designed in such a way that the base of the letterbox enters the main body and the top fits inside as shown in the image on the left. This reduces the volume of the letterbox, thus reducing the cost of transportation. This also helps in protecting the plastic top during transit.

Future Plans

India Post now plans to replace the old letter boxes with the new ones wherever necessary. Apart from creating a new corporate identity for the India Post and generating ad revenue it will serve as an icon signifying the changes that are taking place at India Post. It will represent the department's efforts to reinvent itself with many upgraded services as also new innovative ones like e-post, e-bill post, greeting post, international money transfer, instant money order, speed post passport service etc.

Promotion

- Popularise the new letter box, its unique features and what it signifies among the public
- Promote the letter box among the corporates as a new advertising medium. Though photographs, brochures and pamphlets can create awareness nothing can equal the impact of a product's physical presence. Hence in order to create a lasting impression on our targets—public and advertisers—they must be exposed to the product directly and constantly. Since carrying the actual letter boxes or bringing the target audience to the letter box is a difficult task we should create handy miniatures of the letter box and distribute them. The mini letter boxes can be made of plastic but with the same visual effects and features.

Piggy Bank

These letter box replicas with a opening can also ideally double as a piggy bank. By installing a detachable bottom to facilitate removal of coins these boxes can be easily converted into a coin bank.

And they can be sold at a reasonable price at post offices as an endeavour to promote savings among children.

Credits

- Scotch brite stainless steel 304 from Jindal Stainless Limited, New Delhi.
- Manufacturing from Jindal Architecture Limited, New Delhi.
- Rust proof locks from Godrej (Locks Divin.), Mumbai, Engineering Plastic GELOY from SABIC Innovative Plastics, Mumbai.
- Thermoforming and Fabrication by Malibu Plastica Pvt. Ltd., Ahmedabad.
- Anchor bolts from HILTI, Mumbai, Injection moulding dies by Indo Dies, Mumbai.

Support

Geeta Joshi, Siddharth Patil, Prakash S. & Shalini Tripathi

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Professor B. K. Chakravarthy is a faculty member at the Industrial Design Centre (IDC), Indian Institute of Technology Bombay. His interests are in the fields of Product Design, Smart Materials and Concurrent Engineering.