

Design and Development of Plastic Stapler and Stapler Pin Remover

Anand M. Nikam¹, Nilima Prakash Jajoo², Amar Kumar Shrivastava³ and Aparna Shrivastava⁴
Student, Department of Arts^{1,3,4}

Assistant Professor, Department of Computer Science²
Sarhad College of Arts, Commerce and Science, Pune, India
anandnikam990@gmail.com, jajoonilima25@gmail.com
artsamarkumar2004@gmail.com, aparna3551@gmail.com

Abstract: A stapler is a mechanical device used for joining papers together. The stapler has a stapling arm with a lever which extend past a pivot position by a length greater than the magazine of the stapler by an amount sufficient to provide a substantially increased leverage for driving staples during the stapling operation.[1].

Keywords: Stapler, Mechanical device, stapler pins, stapler pin remover

I. INTRODUCTION

A stapler is a mechanical device that joins pages of paper or similar material by driving a thin metal staple through the sheets and folding the ends. Staplers are widely used in government, business, offices, work places, homes and schools. The word "stapler" can actually refer to a number of different devices of varying uses. In addition to joining paper sheets together, staplers can also be used in a surgical setting to join tissue together with surgical staples to close a surgical wound.[2]

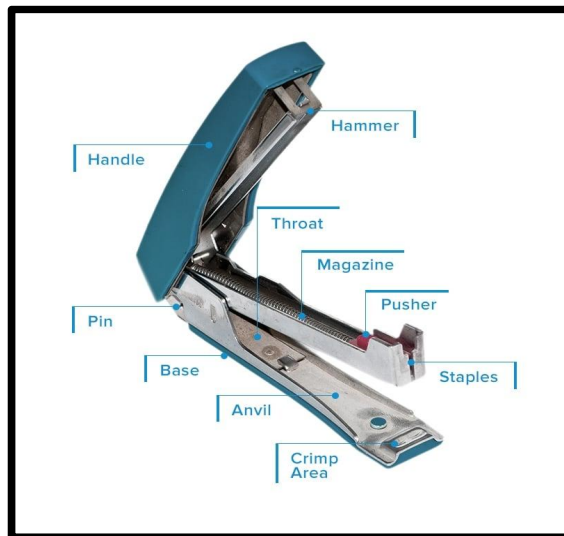


Figure: Stapler[3]

Most staplers are used to join multiple sheets of paper. Paper staplers come in two distinct types: manual and electric. Manual staplers are normally hand-held, although models that are used while set on a desk or other surface are not uncommon. Electric staplers exist in a variety of different designs and models. Their primary operating function is to join large numbers of paper sheets together in rapid succession. Some electric staplers can join up to 20 sheets at a time. Typical staplers are a third-class lever.[4]

Challenges using stapler:

- Generally we use stapler pins and after usage we throw them and we use new pins.
- Sometimes when we want to remove the used stapler pin from the documents to which they are stapled, there are more chances of our hand to get injured by the stapler pins.
- Its very dangerous for small Childrens as they can play and get injured due to stapler or stapler pins and can suffer severe pain.
- It's not possible to carry stapler every time and everywhere with us
- It's impossible to use a single stapler pin.



Figures: Injuries caused due to stapler pins[5]

Newly designed Plastic stapler:

A plastic stapler and stapler pins are designed in such a way that it will help to tackle the above challenges using staplers. With the newly designed plastic stapler we can not only use single stapler pin but also we can use the bunch of stapler pins. the wastage of the pins will be avoided and this newly plastic stapler will also be affordable to each and everyone.



Figure plastic stapler

A stapler pin remover is designed with the help of which we will be able to remove the stapled pin easily without getting injured and will be also able to insert that stapled pin in plastic stapler easily.

Figure: Plastic stapler Pin remover

Comparison of available and proposed stapler:

1. It will have Light weight.
2. It's size will be small.
3. It will be of Low Price.
4. It'sQuality will be high.
5. It will be transparent so we will able to know if there is a pin left inside or not.
6. Cost effective manufacturing.

II. RESULT:

The newly designed plastic stapler can be easily carried anywhere everywhere. We can use both steel as well as plastic stapler pins to staple any document. The newly designed plastic stapler will give Cost effective manufacturing. This plastic stapler will not make any noise while stapling. This stapler will neglect the hand injuries. This stapler can be used as a kitchen for house/office or vehicle keys. We will be able to use not only bunch of stapler pins but also a single stapler pin in this stapler and hence this will avoid wastage of pins.

III. CONCLUSION

A newly designed Plastic stapler and plastic stapler pin remover is a good innovative idea that will be affordable to everyone. It will not cause any injury to human being. It has low weight and low size but it's quality will be high. With this innovative idea the strength of steel is given to plastic. It will drove the attention of the people those who look an opportunity to show their artistic talent. As this stapler is transparent people can draw their art on this stapler. It will also generate the employment opportunities for the digital works specially digital printing.



REFERENCES

- [1] <https://patents.google.com/patent/US6244491B1/en>
- [2] <https://en.m.wikipedia.org/wiki/Stapler>
- [3] <https://en.m.wikipedia.org/wiki/Stapler>
- [4] <https://en.m.wikipedia.org/wiki/Stapler>
- [5] <https://images.app.goo.gl/9xRm9U99X7By6mzg8>