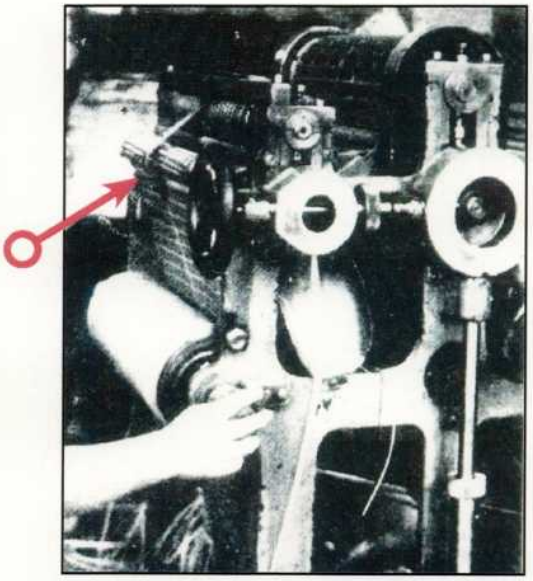
Stickney Rotary Press Gum Breakers



Scope and Coverage: This two part exhibit documents the development of gum breaker technology by Bureau of Engraving and Printing (BEP) engineers on Stickney rotary press equipment designed to overcome paper curl on rotary press sheet stamp and booklet pane production. Part 1 provides examples of all significant gum breaker configurations on U.S. stamps designed between 1919-1954, inluding both short-term trials and long term staards. Part 2 illustrates gum breakers on stamps of the U.S. possessions and foreign countries, from 1925-1959.

Background: Gummed paper curls during changes in temperature and humidity causing production problems and difficulty handling finished stock. Introduction of the Stickney automated web-fed press and companion perforation machine enabled automatic, mechanical application of gum breakers to replace hand gum breaking operations used on earlier flat plate output.

Benjamin Stickney designed a pair of free-rotating, gear-like cylinders with raised steel ribs to be mounted on the perforation machine between the web (paper roll) and the first set of perforation pins (red arrow.) The lead edge of the web passed between the two cylinders, which applied uniform creases to the pre-gummed paper. Gum breaker application occurred inches ahead of the web meeting the perforation pins.

Experimentation continued until a standard emerged toward the end of the Fourth Bureau Issue era (1923-1938). Gum breakers appeared on sheet and booklet pane stock until 1981 when introduction of dull (moisture resistant) and later, self-stick gum made them obsolete.

Organization: The storyline moves chronologically in Part 1, with each new gum breaker configuraion presented in the order the machined cylinder pair was first mounted, and in Part 2 when a postal entity first received BEP stock or acquired Stickney equipment.

Significance: The exhibit documents a step of rotary stamp production developed during the Fourth Bureau Issue that is often poorly or inaccurately described. It shows all breaker configurations known.

Key items: Key items are bordered in red.

Exhibit Plan

Part 1: U.S. Stamps

- Early Trials (1919-1924)
- First Gum Breaker Standard (1924-1928)
- Additional Trials (1928)
- Second Gum Breaker Standard (1928-1930)
- Third Gum Breaker Standard (1931-1938)
- Counterfeits and Printings

Part 2: U.S. Possessions and Foreign Countries Stamps

- Philippines (1941, 1946)
- Sweden (1920-1936)
- Belgium (1927-1950)
- Czechoslovakia (1926-1959)
- Canada (1930-1935)
- Cuba (1930-1958)
- North Korea (1961-1966)
- Conclusion

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Synopsis
(Minnesota Stamp Expo 2025)

Scope of Revised Exhibit

This two-frame exhibit expands an earlier single frame large gold exhibit that documented the development of gum breaker technology on Stickney rotary press equipment. It has been revised, in two parts, for this year's Minnesota Stamp Expo. Part 1 retains the chronological advancement of gum breaker design on U.S. stamps from 1919-1938, while Part 2 offers a comprehensive study of stamps bearing gum breakers produced from the 1920s until 1966 on surplus Stickney equipment purchased by other countries.

The result is a relatively complete history of Stickney rotary gum breaking from the first production by the Bureau of Engraving and Printing (BEP) in 1919 through the last by North Korea in 1966.

Importance

The exhibit sheds light on an important step in stamp production that remains confusing to many collectors unfamiliar with their history and purpose. Until recently, application of gum breakers to sheet and booklet pane stock has remained a neglected part of the narrative of the stamp manufacturing process, both in this country and throughout the world.

Even today, not many collectors recognize that gum breakers may be found not only on rotary stamps, but flat plate production, as well. Scott catalogue virtually ignores gum breakers (U.S. #631 excepted). This exhibit thus brings together all the significant gum breaker configurations employed by the BEP to counter the exasperating problem of paper curl that remained a challenge until introduction of dull and self-stick gum in the latter part of the 20th century.

As postal entities throughout the world experienced increased demand for stamp production, Stickney automated web-fed equipment with gum breaker roller bars mounted on its perforation machines offered increased speed and greater efficiencies unattainable with flat plate production.

Challenge Factor

Several of the experimental gum breaker configurations shown in Part 1 were short lived, one lasting as few as two weeks. For this reason, a few gum breaker patterns found on stamps printed by the billions, are rare. In one case fewer than three dozen examples have been reported. These examples are highlighted in the exhibit and annotated.

A proper census of individual gum breaker designs does not exist. I have been studying the subject for more than 40 years and am one of a small handful of philatelists who have published findings. Thus, my own experience drives discussion of rarity in the exhibit.

Personal Study

I published my first study of gum breakers in 1989. The culmination of my work resulted in a published collaboration with James Robinson, cited below. Of the 17 configurations of gum breakers documented in the chapter, our work uncovered discovery copies of several of them -- coming nearly a century after the experiments were completed!

Sources

- Louis Fiset and James Robinson, "Gum Breakers." Chapter 48, in Gary Griffith and Jay B. Stotts. *The United States Fourth Bureau Issue 1922-1938* (Joliet, IL: United States Stamp Society, 2022), 397-434.
- Julian J. Goldberg, "Stickney Rotary Press Stamp Listing," *Collectors Club Philatelist*, January-February 2019, 46-51.
- Julian J. Goldberg, "Stickney Rotary Press Dry-Printed King George V Canada Medallion Stamps," *Collectors Club Philatelist,* September-October 2019, 290-301.