

## Why Brittle?

Over the last almost 30 years I've certainly come across many covers with brittle strikers, as have all collectors who have been at it for a few decades. It's sooooo frustrating to know that that cover (which you need for your collection, of course) has a *really* good chance of breaking. You can put tape across the inside, and that helps, but, still, you have to wonder it's all happening in the first place. So, let's start from scratch and see what we can piece together in the way of an answer...but don't get your hopes up.

First, what is this brittleness? Well, I call it 'brittle', but it could often be described as 'soft' or 'crumbly', just as well. 'Brittle,' 'soft,' 'crumbly'—it's going to break! You can always recognize it because that area of the cover, itself, has become discolored, darker than the rest of the cover's inside.

Now, just based on my own observations, in at least 95% of the covers in question here, the brittleness centers around the striker...not always, but almost always. That can't be a coincidence. There must be something in the striker material that's reacting in some way. And, we know that that reaction takes a long time, usually years and years. OK, so oxidation and all that chemical reaction stuff over time = brittle strikers.

But then the question arises of why *those* particular covers. After all, *all* old covers don't have brittle strikers. Why only some? Well, right away we know two things that could be applicable. First, the older covers were made with significantly thicker paper, and, in all probability, with a different chemical and/or material format. So, perhaps it's the paper makeup. But, would that explain why some of the older covers turn brittle while others don't? No, although it may be at least a partial explanation of why newer covers don't and some older covers do. (newer covers don't seem to have this problem, say from at least the 1980s on; the strikers may still have problems, but the covers, themselves, no longer turn brittle, it seems to me...but, on the other hand, maybe they just haven't been around long enough).

Second, the makeup (formula) of the striker has certainly changed over the decades, and, since almost all brittleness centers around the striker area, strikers would seem to be the culprit. Perhaps that's the answer. Hmmmm, but, again, that wouldn't explain why only some of the older covers react this way. As with the makeup of the paper, though, this could certainly be at least part of the reason it doesn't happen in newer covers.

Would it have something to do with the *brand* of the cover? I collect all the old cover types (DQs, Crowns, Manhattans, Gem, King Midas, etc.), and I've seen quite a few of them over the years. I haven't been keeping statistics on brittleness, but I'd definitely say that the bulk of brittle covers are the older Diamonds (How many Group I's have you seen, for example, that don't have brittle strikers?) Can we then narrow the problem down to basically old Diamond strikers? Or, is it that there are more brittle Diamonds simply because there were proportionately more Diamond covers to begin with?

But, even if we've identified one or more of the factors at work here, there must be one more, since we have yet to account for only *some* of the same time of covers turning brittle. Environment would affect some covers differently. How were those covers stored over the years?—Perhaps in high humidity or some other condition that would initiate or rapidly increase the reaction that leads to the brittleness.

What I really need here is a chemist from one of the manufacturers! But, until then...