

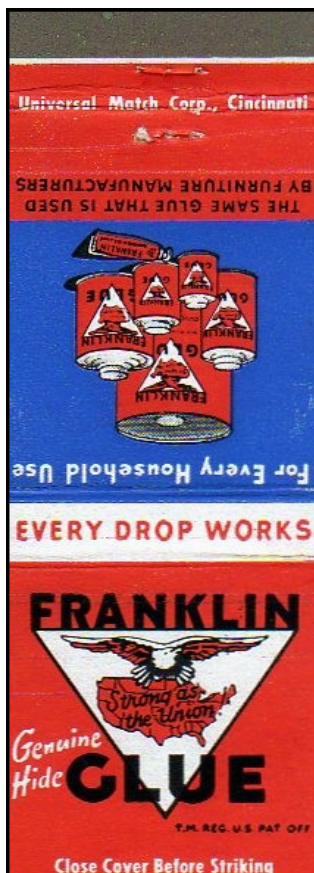
The Glorious Tale of Glue!

The earliest known use of adhesives was discovered in central Italy when two stone flakes partially covered with birch-bark tar and a third uncovered stone from the Middle Pleistocene era (circa 200,000 years ago) were found. This is thought to be the oldest discovered human use of tar-hafted stones. Although sticky enough, plant-based adhesives are brittle and vulnerable to environmental conditions. The first use of compound adhesives was discovered in Sibudu, South Africa. Here, 70,000-year-old stone segments that were once inserted in axe hafts were discovered covered with an adhesive composed of plant gum and red ochre, as adding ochre to plant gum produces a stronger product and protects the gum from disintegrating under wet conditions. The ability to produce stronger adhesives allowed middle Stone Age humans to attach stone segments to sticks in greater variations, which led to the development of new tools.

Archaeologists studying the sites found that approximately 6,000 years ago the tribesmen had buried their dead together with food found in broken clay pots repaired with tree resins. Another investigation by archaeologists uncovered the use of bituminous cements to fasten ivory eyeballs to statues in Babylonian temples dating to approximately 4000 BC.

Remember the 5,200-year-old man nicknamed the "Tyrolean Iceman", who was preserved in a glacier near the Austria-Italy border? Several of his belongings were found with him including two arrows with flint arrowheads and a copper hatchet, each with evidence of organic glue used to connect the stone or metal parts to the wooden shafts. The glue was analyzed as pitch, which requires the heating of tar during its production.

The first references to adhesives in literature appeared in approximately 2000 BC. Further historical records are found from the period spanning 1500–1000 BC. Artifacts from this period include paintings depicting wood gluing operations and a casket made of wood and glue in King Tutankhamun's tomb. Other ancient Egyptian artifacts employ animal glue for bonding or lamination. Such lamination of wood for bows and furniture is thought to have extended their life and was accomplished using casein (milk protein)-based glues. The ancient Egyptians also developed starch-based pastes for the bonding of papyrus to clothing and a plaster of Paris-like material made of calcined gypsum. [\[https://en.wikipedia.org/wiki/Adhesive\]](https://en.wikipedia.org/wiki/Adhesive)



It is estimated that each person uses around 40 lbs of glue a year.

In 2019, the glue industry made over \$50 billion globally.

Super glue can be dissolved or removed with acetone (finger nail polish remover).

Several drops of super glue can hold a two ton truck in the air.

Super glue was invented in 1942 to make improved gunsights during WWII.

Elmer's Glue first appeared in 1932.