

Bringing stop-motion animation to life

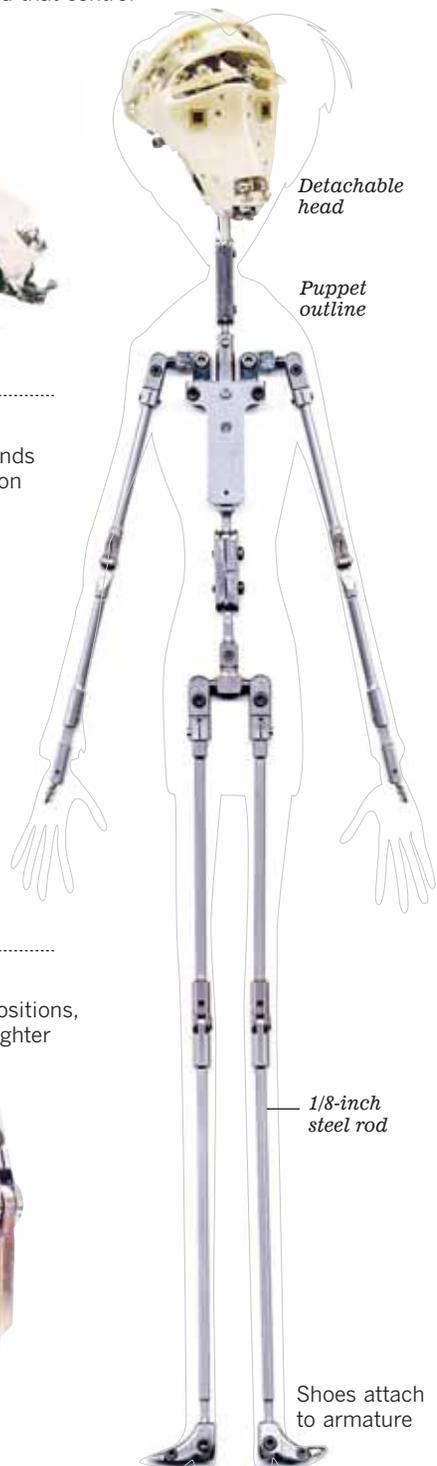
The film "Corpse Bride," opening Friday, uses stop-motion animation to make its cast of puppet actors come alive. Animators moved the 16-inch-tall puppets a fraction of an inch between each shot to create the illusion of motion. Some of the techniques, such as the use of tiny gears to control facial expressions, are new.

Skeleton armature

The metal skeleton of the puppet provides structure and stability while allowing full range of movements.

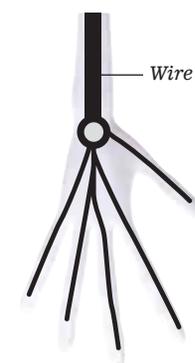
Mechanized head

Allen-wrench access points in the ears and hair allow animators to manipulate intricate gears in the head that control facial expressions.



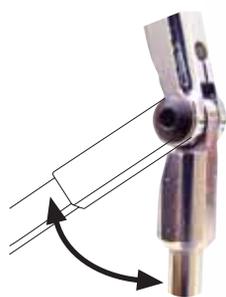
Wire-frame hands

Bendable wires in the hands allow animators to position the fingers.



Hinged joints

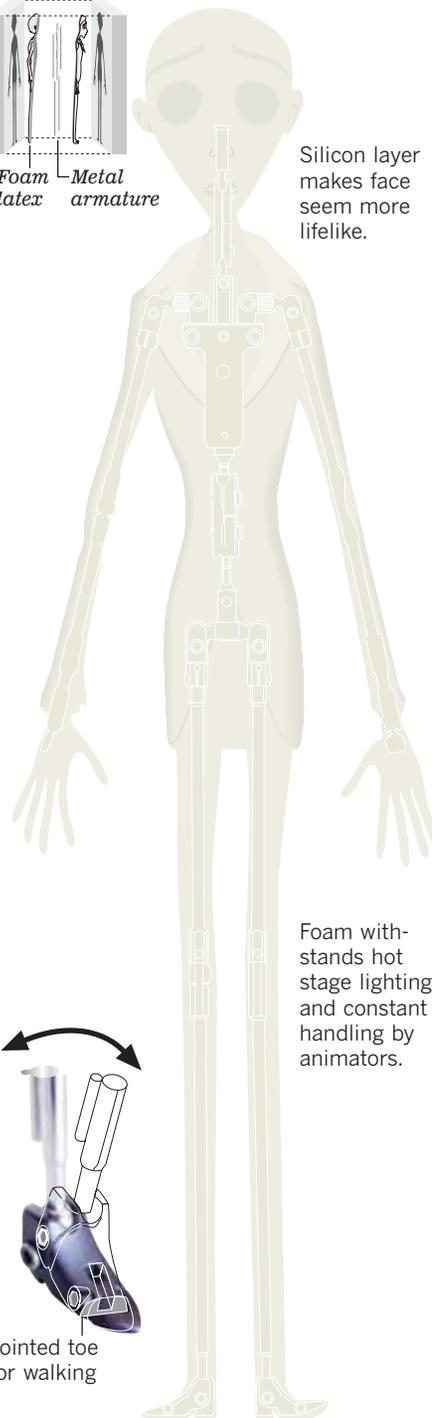
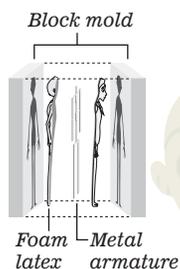
To allow posing in still positions, puppet-actor joints are tighter than human joints.



Latex skin

Rubber skin attaches to the armature and provides the body shape and muscles.

With the armature inside a mold, puppet makers inject foam latex to create the body.



Puppet wardrobe

Artists create a miniature wardrobe for each puppet character.

Facial features are a mix of prosthetic glue and acrylic paint.



Frame by frame

Animators use 14 sets of removable eyelids in varying sizes to achieve a blink. A quarter-second of footage:

Frame : Seconds
1 : 0.04



2 : 0.08



3 : 0.13



4 : 0.17



5 : 0.21

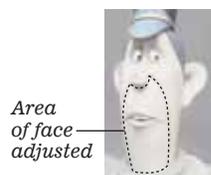


6 : 0.25



Old-school animation

For the film's town crier character — whose mouth movements are more expressive than others' — animators employed a traditional stop-motion technique. For each frame, they placed a different mouth panel on the face. A look at some mouth shapes and sounds:



G, N, R group



Ah group



Oh and U group

