

# Bringing stop-motion animation to life

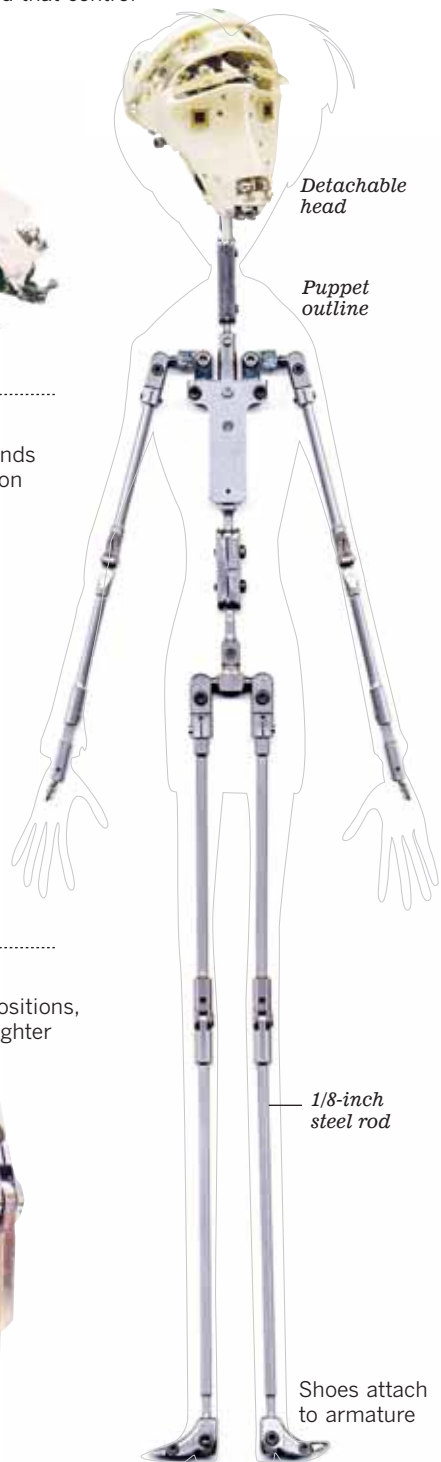
The film "Corpse Bride," opening Friday, uses stop-motion animation to make its cast of puppet actors come alive. Animators moved the 16-inch-tall puppets a fraction of an inch between each shot to create the illusion of motion. Some of the techniques, such as the use of tiny gears to control facial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

## Skeleton armature

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

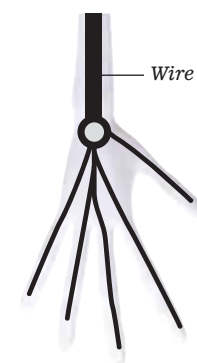
## Mechanized head

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



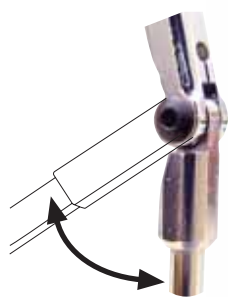
## Wire-frame hands

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



## Hinged joints

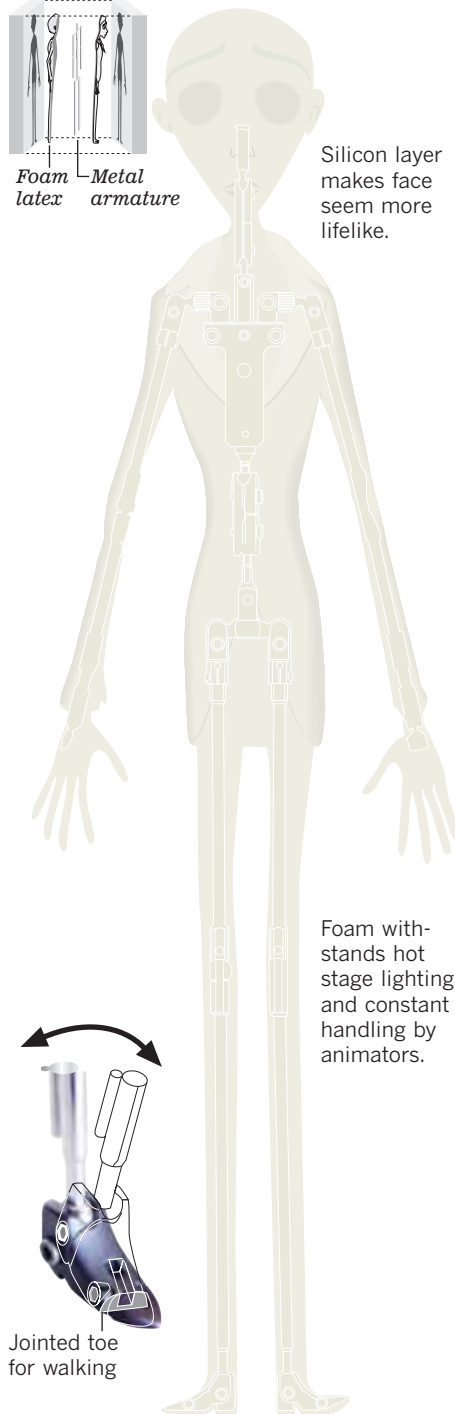
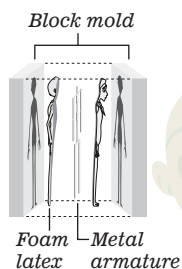
To allow posing in still positions, puppet-actor joints are tighter than human joints.



## 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

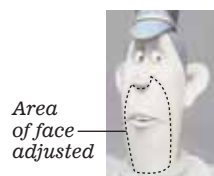


6 : 0.25



## 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

