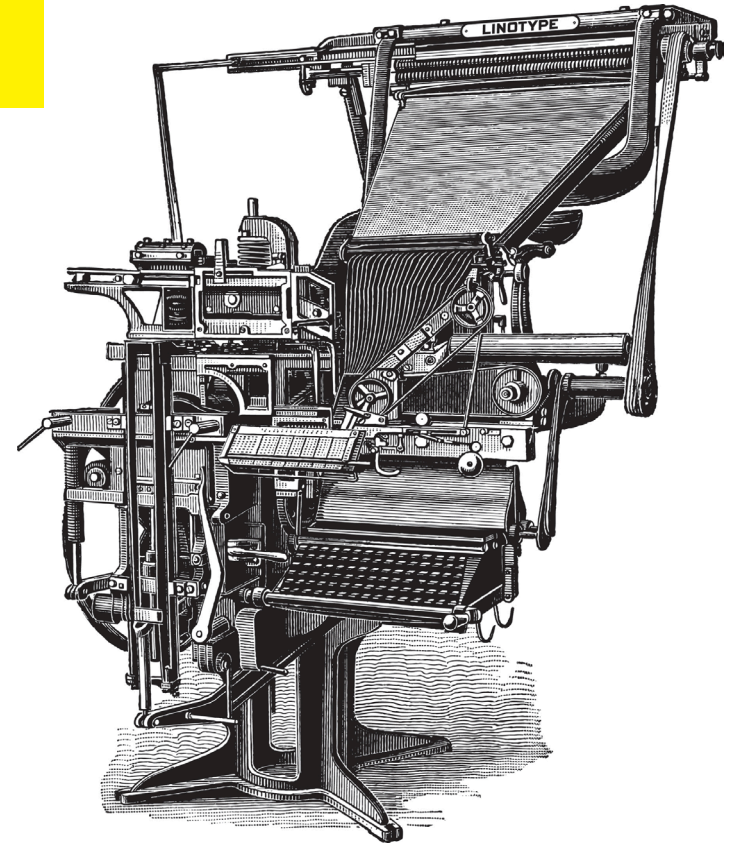# The Linotype Experience

Bringing the Linotype to a new generation

Matthew Bambach
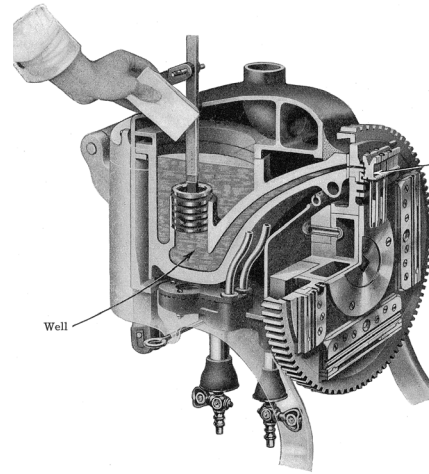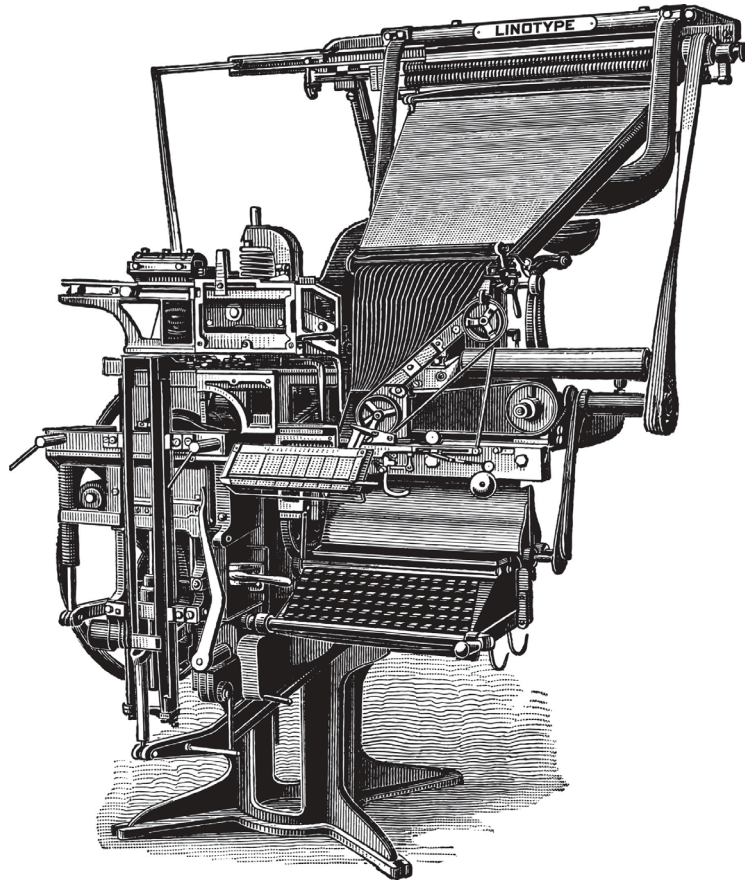For the Baltimore Museum of Industry
Spring 2015

How might we re-imagine the Linotype operating experience for a modern, digital generation?

What does the museum offer that the Internet does not?
**A physically immersive, tactile experience.**
The key: make it **simple & approachable**, not intimidating.

# Inspiration & Precedents

Well

RETRO ARCHITECTURAL

Old Linotype instruction manuals and advertisements featured very lush, detailed, and beautiful architectural illustrations that showed operators how to utilize the machine. However, these intricate illustrations can seem too outdated, unrelatable, and complicated to the modern viewer.
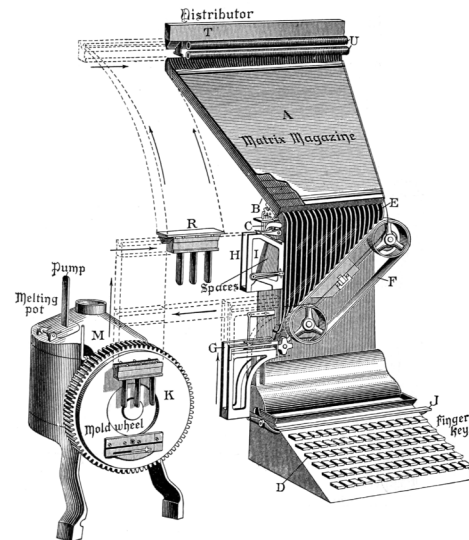
MODERN ARCHITECTURAL/ICONIC

In an attempt to simplify and refresh these older ideas, modern approaches to technical representation are simpler, more geometric, iconic, and playful.
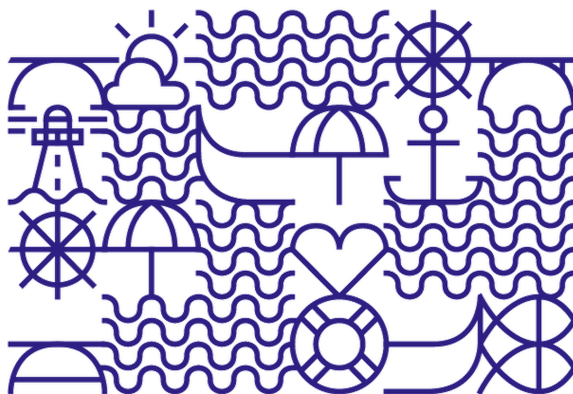
City of Porto identity by White Studio
"The city needed a visual system, a visual identity that could organize and simplify communication with the citizens. [We] developed more than seventy geometric icons that... were designed based on a grid... and became a visual code to represent the city."

**STEFAN SAGMEISTER
"THE HAPPY SHOW"**

Filling various galleries and activating the in-between spaces of the museum, The Happy Show offers visitors the experience of walking into Stefan Sagmeister's mind as he attempts to increase his happiness via mediation, cognitive therapy, and other methods. It utilizes big, bold and bright graphics that are very playful and accessible to viewers.
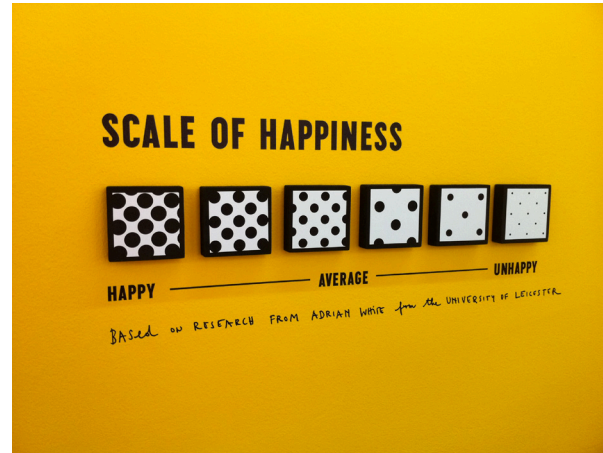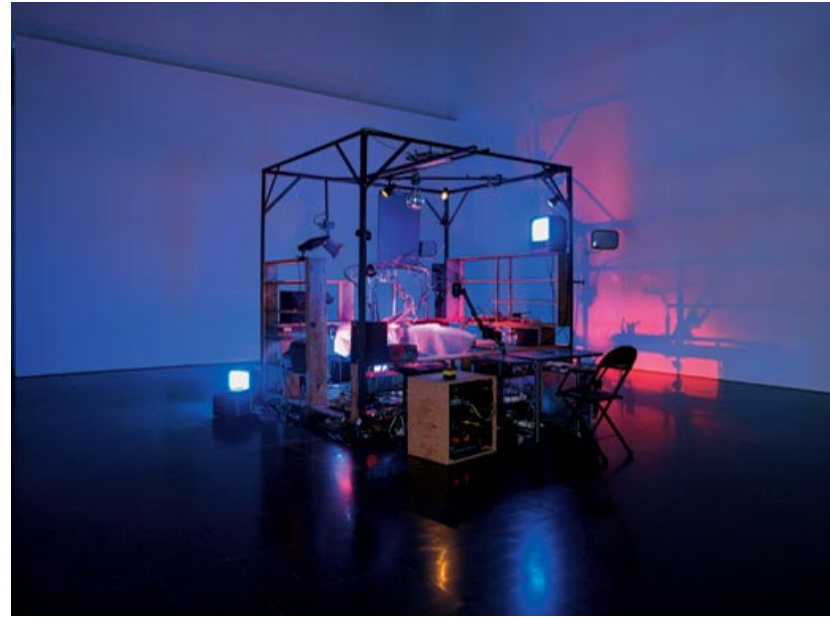
Source: sagmeisterwalsh.com

The Forty Part Motet (2001) consists of forty high-fidelity speakers positioned on stands in a large oval configuration. The fourteen-minute work continuously plays an eleven-minute reworking of *Spem in alium numquam habui* by composer Thomas Tallis.

*Sources: Art Gallery of Ontario, cardiffmiler.com, tate.org.uk*

The Killing Machine (2007) is based on the device in Kafka's 1919 short story *In the Penal Colony.* It is a criticism of society's strange deliberate and indifferent approach to killing, and consists of an elaborate machine that is activated by a big button pressed by the viewer.

JANET CARDIFF'S EXPERIENTIAL ART
"When you enter these spaces and are confronted by soundtracks, images, moving images and objects, you understand the physical environments to be works of art themselves. As you engage with the artworks, you become a true participant. As a result, these installations are deeply moving."
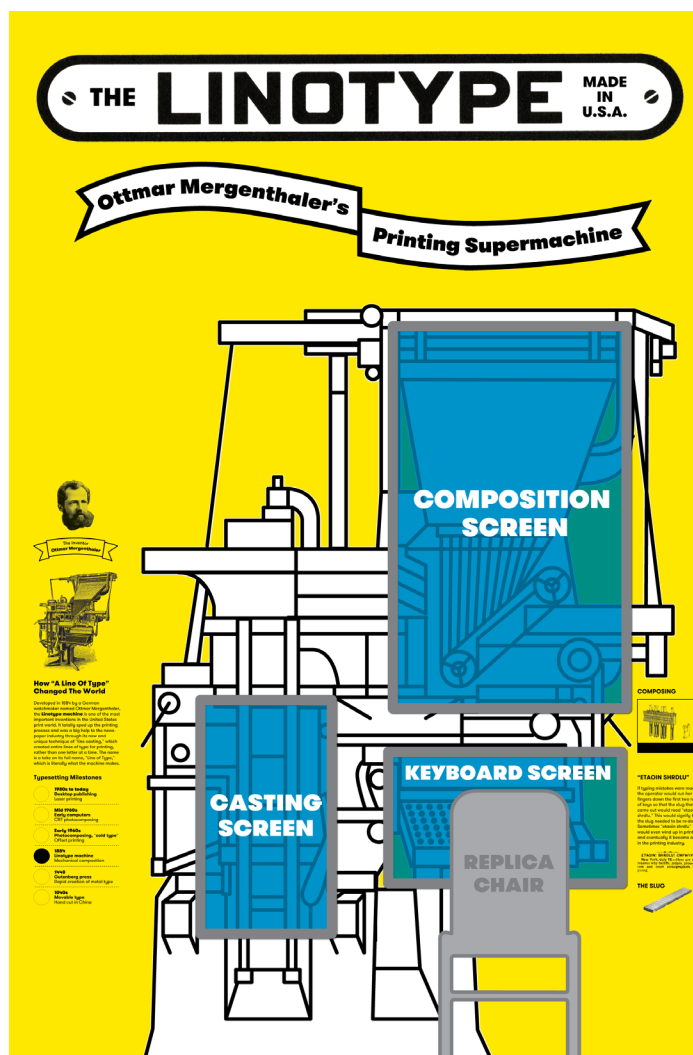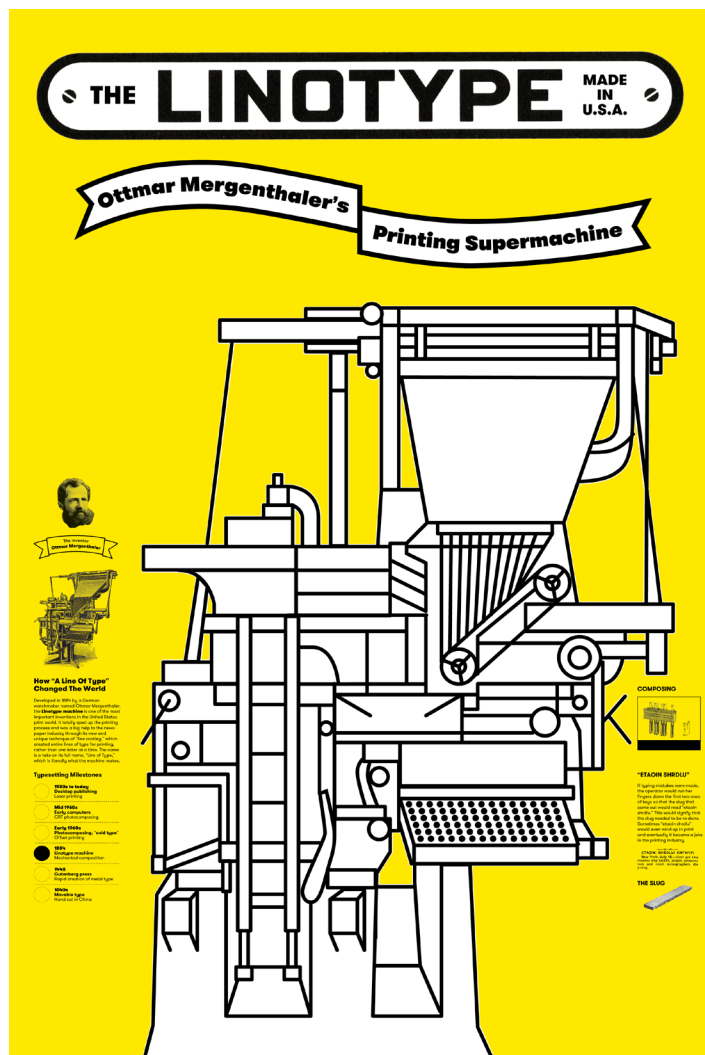*-Kitty Scott, Curator, Art Gallery of Ontario*

# Modernizing the Machine
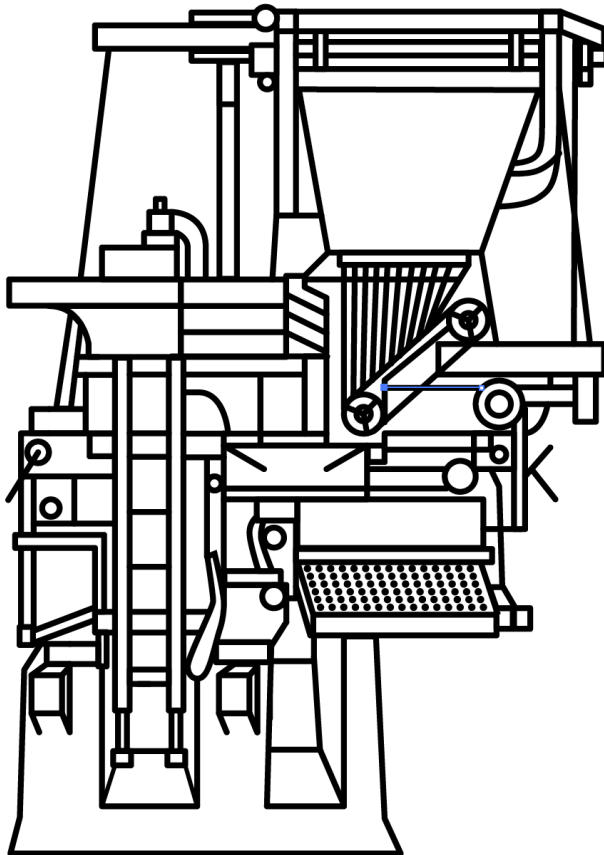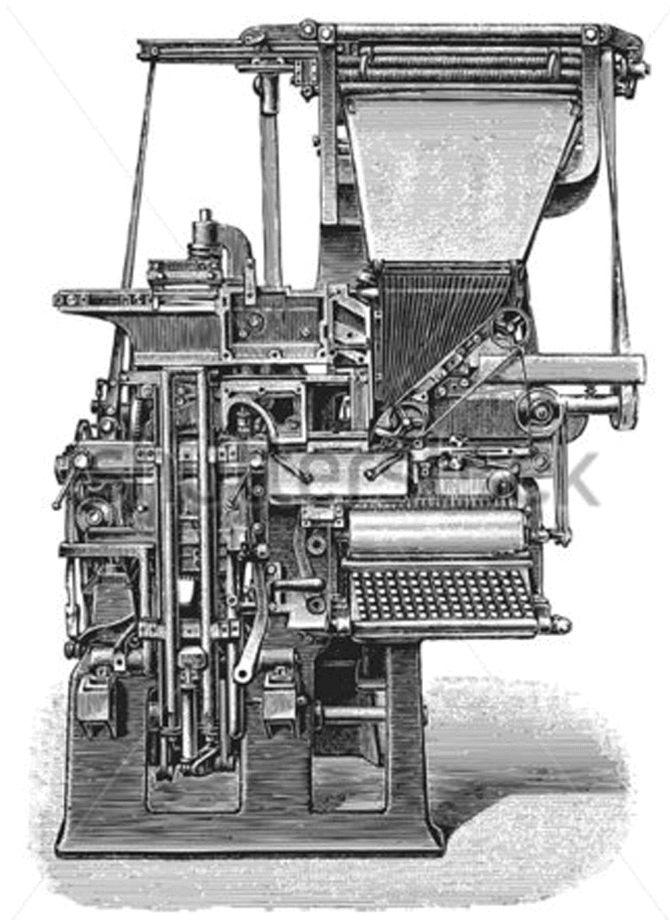
THE FRIENDLIER LINOTYPE
To simplify this older, complicated machine, I have applied a fresh, fun, and far simpler geometric aesthetic. All the necessary details are still included, but it is now bolder and more approachable.

THE FULL SETUP

The full Linotype Experience will envelop museum-goers in a modern, re-imagined "line-of-type" casting process. Participants will utilize touchscreens and LED TVs to cast their own "digital" line of type.

This display will be adapted to its location in a corner so that those who participate will be surrounded by the entire process. The wall will also include historical information about the machine as well as real Linotype parts. Bright colors, fun graphics, and bold typography will invite both children and adults to explore.
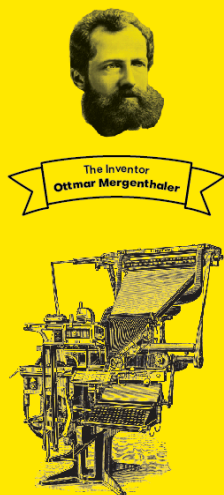
How "A Line Of Type" Changed The World

Developed in 1884 by a German watchmaker named Ottmar Mergenthaler, the **Linotype machine** is one of the most important inventions in the United States print world. It totally sped up the printing process and was a big help to the news-paper industry through its new and unique technique of "line casting," which created entire lines of type for printing, rather than one letter at a time. The name is a take on its full name, "Line of Type," which is literally what the machine makes.

Typesetting Milestones

○ **1980s to today**
Desktop publishing
Laser printing

○ **Mid 1960s**
Early computers
CRT photocomposing

○ **Early 1960s**
Photocomposing, "cold type"
Offset printing

● **1884**
Linotype machine
Mechanical composition

○ **1448**
Gutenberg press
Rapid creation of metal type

○ **1040s**
Movable type
Hand cut in China

COMPOSING
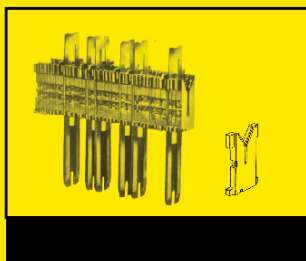
"ETAOIN SHRDLU"

If typing mistakes were made, the operator would run her fingers down the first two rows of keys so that the slug that came out would read "etaoin shrdlu." This would signify that the slug needed to be re-done. Sometimes "etaoin shrdlu" would even wind up in print and eventually it became a joke in the printing industry.

ETAOIN! SHRDLU! CMFWYP!
New York, July 18.—Here are two reasons why bailiffs, judges, prosecu-tors and court stenographers die young.

THE SLUG

IT'S ALL IN THE DETAILS
The non-digital parts of the panel will include supplemental information about the machine's history, inventor, and its significance to the City of Baltimore.
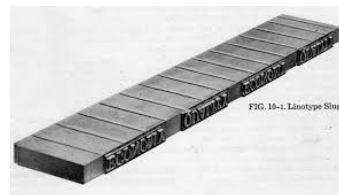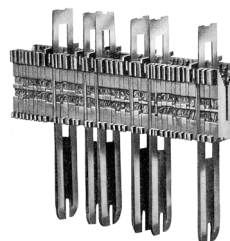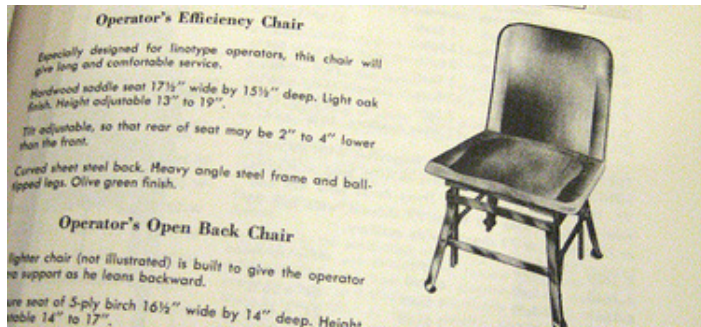

FIG. 10–1. Linotype Slug.

PARTS & PIECES
To make the experience more tangible, real parts and pieces from an original Linotype machine will be housed in glass cases that are strategically incorporated into the elevation. There will also be text explanations about the role each piece plays in the process.
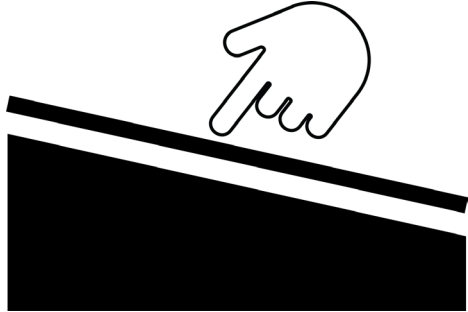
REAL LINOTYPE SOUNDS
A sound dome will concentrate real Linotype sounds over the seated participant. Sounds appropriate to each part of the process will play when different functions are triggered.
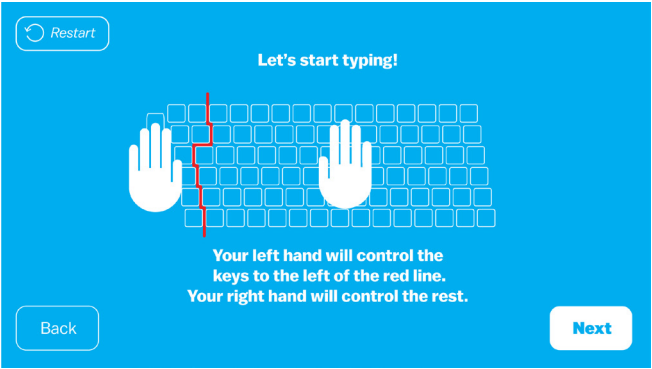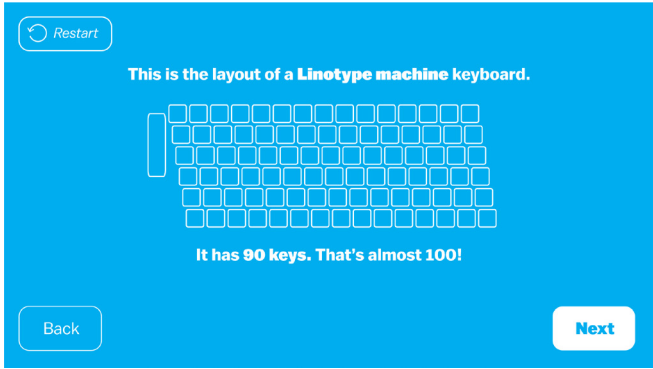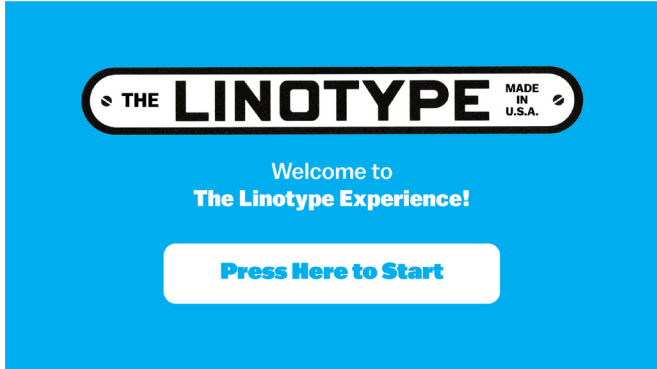
REPLICA LINOTYPE CHAIR
While activating the Linotype simulation, exhibit participants will be seated in a chair resembling the original "Operator's Efficiency Chair."

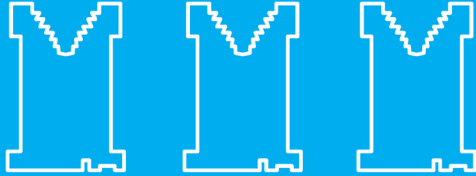# The Screens

KEYBOARD TOUCHSCREEN

The participant will first see a touchscreen prompt to activate the whole process. After they opt-in, they will be introduced to the differences between modern digital keyboards and the Linotype keyboard, and then are shown how to operate the machine. As they type on the simulated Linotype keyboard, they will see a line of matrices being composed on the **composition screen**.

Tech Suggestion:
ELO 3209L 32-inch Interactive Digital Signage Touchscreen

THE LINOTYPE MADE IN U.S.A.

Welcome to
The Linotype Experience!

Press Here to Start

Restart

This is the keyboard you are familiar with.

Back   Next

Restart

This is the layout of a **Linotype machine** keyboard.

It has **90 keys.** That's almost 100!

Back   Next

Restart

Let's start typing!

Your left hand will control the keys to the left of the red line.
Your right hand will control the rest.

Back   Next

COMPOSITION

As the participant types letters and words on the touchscreen, they will see an animation of corresponding matrices and spacebands being released, from the magazine and spaceband box, and into the assembler. When the line is complete, the operator will activate a simulated casting lever on the bottom of the keyboard to send the line to the **casting screen.**
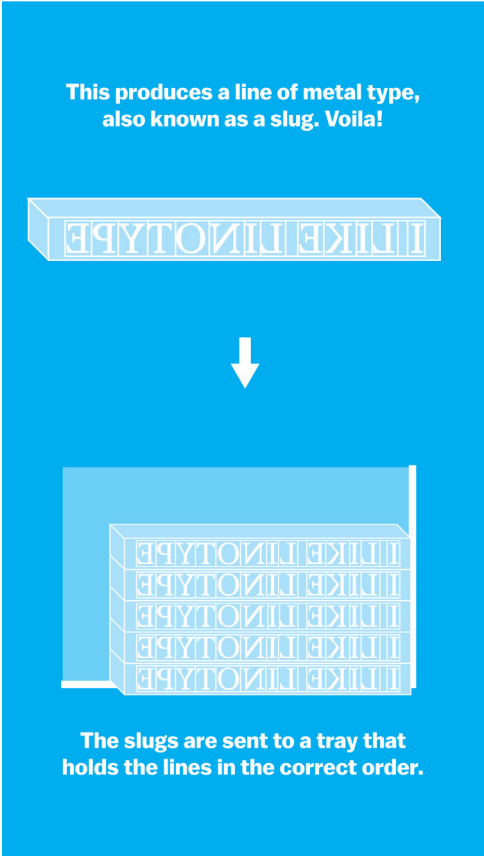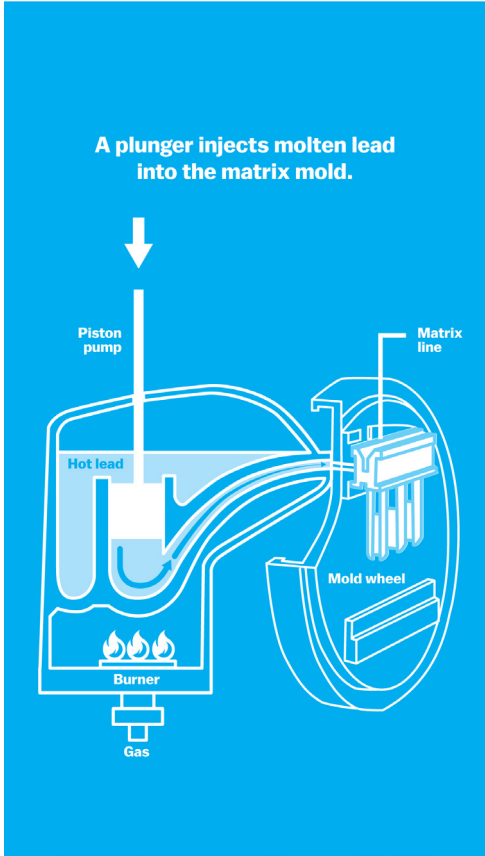

Tech Suggestion:
Samsung 60-Inch
1080p120Hz Smart
LED TV

CASTING/DISTRIBUTION

The third step in this process involves a series of simplified animations showing the line of type being cast out of molten lead, and then inked. The display will also show the matrices and spacebands being returned to the magazine and spaceband box via the distributor.

A plunger injects molten lead into the matrix mold.

Piston pump

Matrix line

Hot lead

Mold wheel

Burner

Gas

This produces a line of metal type, also known as a slug. Voila!

The slugs are sent to a tray that holds the lines in the correct order.

At the same time, the matrices are returned to where they came from.

Thank you!
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