

## TEACHERS COLLEGE



# The College of Liberal Arts and Sciences

## The Degree of Bachelor of Arts

Standard Curriculum based on best academic experience. Embraces the six great fields of learning, Pure Science, English Language and Literature, Mathematics, Foreign Languages, History and Philosophy.

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|-------------------------------------|-------------------------|
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| 2. Heat Treatment and Metallography | 5. Architectural Design |
| 3. Construction                     | 6. Aviation             |

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## TEMPLE UNIVERSITY

Broad Street at Montgomery Ave., Phila., Pa.

jections on the valve rods to strike them the sooner and therefore to liberate the valves at a shorter part of the stroke of the piston and the sooner to cut off the steam which will reduce the power of the engine and consequently its velocity. In this way the motions of the engine are regulated.

When the balls of the governor are entirely down, as when the engine is at rest, the helical cams are below the plane of motion of the steam valve rods, so that these can have their full motion without striking the cams. In this position of the parts the steam valves will operate in manner similar to the exhaust valves, and the steam will not be cut off. All that is necessary therefore to work the engine full stroke is simply to lib-

erate the slide of the governor, or disconnect the governor.

When the steam valves are not to be used as cut-off valves they are to be operated in every particular like the exhaust valves. It will be obvious from the foregoing that when the valves are arranged to move in planes parallel with the axis of the cylinder, as is usual with slide valves, that the rock shaft by which they are operated is to be differently located, and that whenever the location of the rock shaft is to be changed that the joints of connection of the connecting rods therewith are to be placed nearer together or farther apart so as to give the required range of motion to the valves in accordance with the principle of my invention.

*Science News Letter, August 6, 1932*

## AERONAUTICS

## New Features Built Into Next Navy Airship, "Macon"

THE NAVAL airship Macon, under construction at the mammoth airship dock in Akron, Ohio, will embody several changes as compared with her sister ship, the Akron, completed there last year.

Such changes do not extend to general measurements. The overall length of 785 feet and maximum diameter of 132.9 feet and the shape were set at the outset for both ships. Neither will they affect location and design of control car and control surfaces.

In relation to substituting a gear ratio of two to one in the Macon for the ratio of 1.75 to one in the Akron, the eight propellers of the latest airship will be bigger but slower than the eight of the Akron. This, airship engineers believe, will result in greater efficiency.

The Macon will emerge from her cocoon-like home entirely equipped with gelatin latex fabric cells, somewhat lighter in weight than rubberized latex fabric cells, while the Akron's cells are constructed of half of each kind of these materials. Gelatin latex fabric for cells is a development of Goodyear-Zeppelin laboratories.

From two to four small helium valve hoods will appear on top of the Macon, as compared with a single one for the valves of the Akron, a change to decrease "drag" and so bring greater speed.

No operator will be needed for the Macon's telephone, as with the Akron, since an automatic board is being set up for the ship's sixteen stations.

Engineers are also cutting down partition weight on the Macon. The Akron is equipped with seven bunk rooms, but the Macon will have only two.

The Macon is also to embrace changes in the operation of the ingenious water recovery system found on the Akron, in which condensers on motors at the exhaust liquefy combustion vapors. Under this system, consumption of fuel does not lighten the ship, but instead builds up a supply of water ballast for constant equilibrium.

*Science News Letter, August 6, 1932*

Talking moving pictures are to be introduced in the lecture rooms of the University of Chicago.

The roof of the New York Polyclinic Hospital has been converted into a realistic ship's deck, where convalescents may enjoy the air in surroundings that suggest the sea rather than the hospital.

Stressing the importance of cleaning rugs, home economics specialists at the University of New Hampshire point out that rugs are not worn out so much by shoe leather as by grit and dirt which, trampled into the weave, cut the threads.