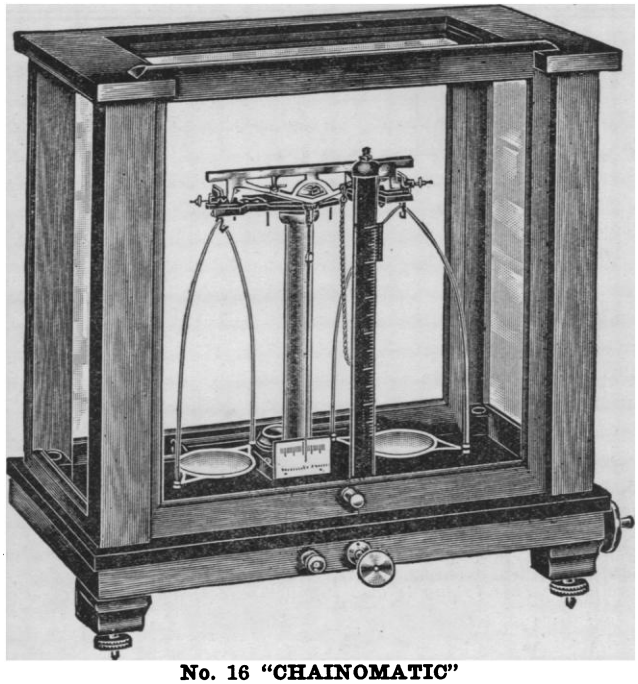

No. 16 "CHAINOMATIC"

with graduated notched beam

no weights from 1/10 mg. to 1.1 gram are required.

The greatest development in balance construction.

Simple in operation—Rapid—Accurate.

Specifications same as balance described above except that beam is graduated from left to right 0 to 1 gram in 100 mg. graduations.

The rider or beam weight is rapidly and easily moved from one notch to another by means of a patented rider carrier operated from outside of case.

The *"Chainomatic"* attachment reads from 1/10 mg. to 100 mg.

NO WEIGHTS BELOW 1 GRAM ARE REQUIRED.

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Endorsed by Industrial Chemists and Educational Institutions everywhere. Using the *"Chainomatic"* means quick, accurate and dependable weighings in much greater number in less time—consequently more efficient work in the laboratory.

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Analytical "*Chainomatic*" Balance No. 16

Capacity—200 grams.

Sensitiveness—1/20 mg. with 100 gram load (1/10 mg. with full load).

Column—Graduated column and vernier reading 1/10 mg. to 100 mg. (*No riders or small weights required.*)

Beam—15 cm. (6 in.) long, sawed from hard rolled special aluminum alloy, great tensile strength and uniform density.

Knife Edges—Agate.

Bearings—Agate planes. All edges are entirely free from the bearings, when the balance is arrested.

Releasing Mechanism—Fall away type, a single and effective arrestment for beam and agate edges.

Pans—Nickel silver, 6 cm. diam.

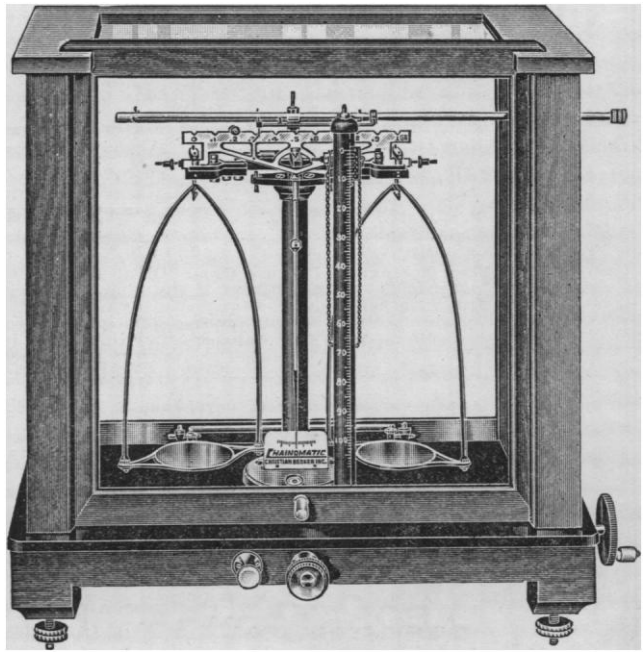
Bows—Nickel silver, 10¼ cm. wide by 20 cm. high inside.

Pan Arrest—Independent arrest for pans with stop.

Stand—Durable black finish, lacquered brass base.

Case—Polished mahogany with glass sides and top, front sliding door counterpoised. Mounted on black slate base. With level and leveling screws. No drawer.

Price (*Code word, Anarad*) **$130.00**



No. 16 "CHAINOMATIC"
WITH GRADUATED NOTCHED BEAM

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THE HARVARD PROGRAM OF GALACTIC EXPLORATIONS

By Dr. HARLOW SHAPLEY

DIRECTOR OF THE HARVARD OBSERVATORY

THE work carried on at the Harvard Observatory for the past ten years has included the systematic survey of various parts of the stellar universe. Recently we have been able to inaugurate active studies in the whole range from the nearest stars to the groups of galaxies at distances of the order of a hundred million light years. For convenience of operation and discussion the program of exploration and measurement has been divided into eight major sections, each concerned with a separate territory and employing in general a special method and equipment. Ten photographic telescopes and approximately thirty observers and investigators are involved in the program. In the following paragraphs I shall outline briefly the progress in the eight territories, of which five lie within the galactic system and three in the extragalactic universe.

(1) THE SOLAR NEIGHBORHOOD

A large majority of the stars within fifty light years of the sun are of less than solar luminosity, and most of them are below naked-eye visibility. Thus a recent compilation of those stars known to be nearer than sixteen light years shows but 40 per cent. brighter than the sixth magnitude. The exploration of the solar neighborhood is therefore a search for dwarf stars among telescopic objects.

It is important to have as complete a census as possible of the solar neighborhood—the most useful sample we have of a volume of space. A thoroughly observed frequency distribution of stellar luminosities and a knowledge of the density-in-space laws for the stars within fifty light years of the sun are fundamental in the analysis of stellar development and the structure of stellar systems.