

structure of the atmosphere. The air in the warm sector is decidedly warmer and contains more moisture than either of the cold sectors. The cold section in the rear is generally considerably colder than that in front.

The above represents a fully developed pressure system, but there are gradations from this until, in some cases, it is almost impossible to distinguish between the warm and the cold sectors. These systems move generally in some easterly

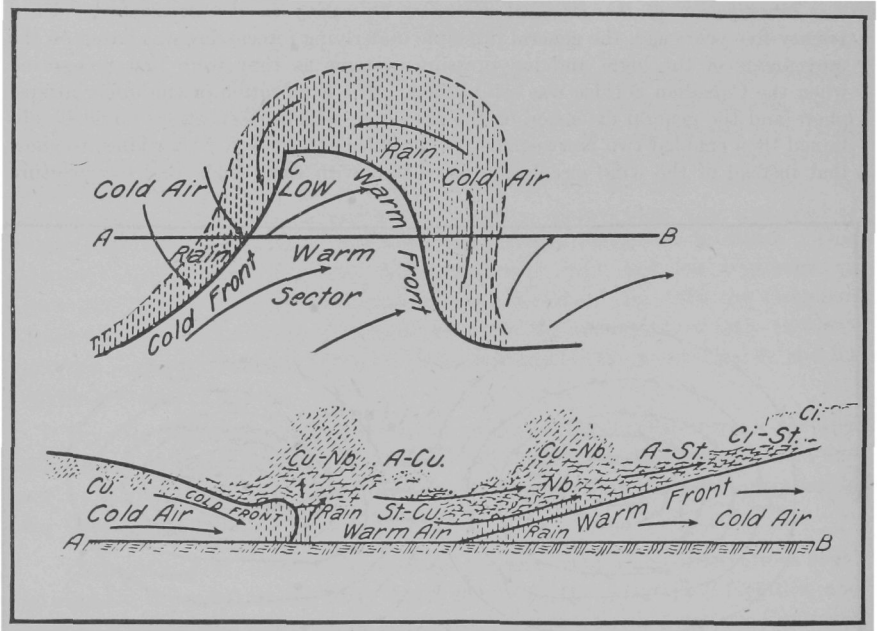


FIG. II.

direction and may maintain their identity for very great distances. The principle of operation in the warm front is that the warm air mass overruns the cold air mass, thus lifting the warm, moist air from the surface, gradually cooling it until the moisture contained therein is condensed into cloud and finally falls as rain. Along the cold front the cold air advances as a great bulging mass and undercuts the warm air, forcing it up to great heights and producing great turbulence, cloud, frequent thunder-storms, hail storms, line squalls and heavy rain. As the system passes, the cold air mass enters the region and the weather clears.

Meteorologists are making intensive investigations of the many problems involved in this new conception in order to improve the accuracy of forecasting and to increase the period for which the forecasts can be made.

Meteorology and Aviation

With the development of aviation, new problems were presented to meteorologists and very great demands were made upon them; it was felt that at last meteorology had come into its own. Since the atmosphere is the realm in which the aviator operates, the success and safety of flying, in the final analysis, depend on meteorology.