We introduce a new class of semi-convex spaces called S-hyperbarrelled spaces and study some results about these spaces. Some of these results are the following:

i. Let E be an S-hyperbarrelled space, F a semi-convex space and f E→F a linear, sequentially continuous and almost sequentially open map. Then F is an S-hyperbarrelled space.

ii. Let E be an S-hyperbarrelled space and F a semi-convex space. If f E→F is a linear mapping, then f is almost sequentially continuous.

iii. Let E be an S-hyperbarrelled space and F a semi-convex space. Then each simply bounded set H of linear sequentially continuous mappings from E to F is equi-sequentially continuous.

We also obtain analogues of two well-known theorems of functional analysis, namely, the closed graph theorem and Banach-Steinhaus theorem for S-hyperbarrelled spaces. The closed graph theorem is the following:

Let f to be a S-hyperbarrelled space and F a complete metrizable semi-convex space. If the graph \( \Gamma_f \) of f is sequentially closed, then f is sequentially continuous.

The Banach-Steinhaus theorem is the following:

Let E be an S-hyperbarrelled space and F a semi-convex space. If \( \{f_n\} \) is a sequence of linear, sequentially continuous mappings from E to F such that \( f_n \) converges pointwise to \( f_0 \), then \( f_0 \) is sequentially continuous and the convergence is uniform on S-precompact subsets of E.