

Abstract of the Disclosure

"LOADING BALANCER"

A loading balancer in which a balancing force is applied to a support member having an article to be transferred (load) attached thereto, the balancing force competing with the sum of the weights of the support member and the load attached to the support member so as to permit transferring the load to a desired position with a small force. The loading balancer comprises a balance piston (20) operably joined to the support member (9), an air pressure cylinder (18) in which a hermetically closed chamber is partitioned by the balance piston, and a control device (18a) for supplying a fluid pressure from a fluid pressure source (31) into the hermetically closed chamber formed within the air pressure cylinder through a main tubular passageway (M). The control device includes a main pressure adjusting valve (33) controlled by a controlling pressure formed in one of a non-load regulator (36) and a load regulator (37) for forming a controlling pressure set in advance to conform with a predetermined load so as to supply an air pressure, which conforms with a load-free state or with a loaded state when a load is attached to the support member, into the air pressure cylinder. The control device also includes a load response valve which permits stopping the supply of the controlling

pressure into the main pressure adjusting valve when a load is not attached to the support member.

Figure 1