AIR FLOW MEASUREMENTS ON HUMAN SUBJECTS WITH AND WITHOUT RESPIRATORY RESISTANCE AT SEVERAL WORK RATES

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THIS INVESTIGATION was made during the recent war in order to determine air flow characteristics of human subjects. Such information is of value in the design of protective respiratory equipment such as gas masks, dust masks and oxygen supply equipment for aviators. It was desired to have these data for several sedentary subjects and for subjects working at several work rates. The effect of inspiratory and expiratory resistance comparable to gas and oxygen masks on the shape of the air flow curve is also essential information for equipment design or ratings. The development of inspiratory and expiratory air flow curves under these conditions makes it possible to design cams for pumps which can simulate various breathing conditions.

HISTORICAL REVIEW

Expiratory Measurements.—The only data on air flow measurements during expiration are those reported by Bretschger.[1] Other investigators [2] have described methods but present very little information. Most of these measurements were

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