

end the difference is one volt for every turn of wire separating them, and it remains the same for any given position, whether current is being used in this second circuit or not. The principal use for a shunt resistance is to make electrical applications to patients, and as the currents required are very weak, they can be made very small and compact. For this purpose they are generally wound with fine wire and have about ten turns for each volt. This enables us to vary the potential by tenths of a volt, and the resulting flow of current to the patient is correspondingly delicate. A diagram of the usual arrangement is shown here. (Fig. 1.) The lamp and

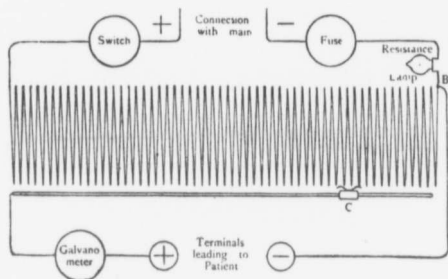


Fig. 1. Plan of Shunt Resistance.

fuse are for safety, and the switch is to disconnect it from the main when no longer required.

While shunt resistances are not much used in radiology, they have many advantages, especially when working with mercury interrupters from high voltage mains, 200 to 250 volts. They have necessarily to be made large and they waste a lot of current, but considering the low price it is supplied at for such work as this, it does not amount to very much. The circumstances under which they would be advisable will be indicated as they arise.

Electro-Magnetic Induction.—If we take a wire through which a strong current is passing and dip it into