For lesions round the knuckles which are likely to receive knocks and strains, it is advisable to carry the dressing completely round the finger.

This method of treatment is extremely economical as very little powder and bandage are required, no vital war material is used, and much material expended in frequent changes of dressings is saved. It is comfortable and does not restrict movement. There is no irritation to the skin and no folliculitis.

If it were used to any large extent, it is suggested that the dressing should be made up as in the prepared plaster of Paris bandages, whereby considerable time would be saved in its application.

The powder can be made up in quantity and keeps satisfactorily in cigarette or Elastoplast tins. (An ordinary 50 cigarette tin will hold enough powder for 500–600 average sized dressings.)

I wish to thank Lieutenant-Colonel B. C. Tate, R.A.M.C. (Adviser in Dermatology, M.E.F.), Captain J. B. Kershaw, R.A.M.C., and the Staff of the Medical Inspection Room, B.D.R.A., for their advice and co-operation.

AN IMPROVISED MECHANICAL SUCKER.

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The following is a description of a mechanical sucker which was devised as an additional suction unit more easily portable than the usual one carried by a mobile neurosurgical unit. Apart from the electric motor providing the power, it has been made from scrap parts of the type that can be found in most large workshops.

The pumping element is a standard Bedford power tyre pump. This is a detachable unit fixed to the gear box of the vehicle and engaged by a sliding spindle carrying a pinion. The pump itself is of about 75 c.c. stroke capacity, single cylinder, with valve incorporated in the cylinder head. Though devised as a force pump a good vacuum is produced if a tube is attached to the intake. When removed from the vehicle one is left with the complete pump with its own small crankcase and sliding shaft carrying the engaging pinion. The only modifications required were the plugging of various bolt holes in the mounting and the replacement of the sliding spindle by a longer fixed one carrying a pulley of 9 inches diameter. The inlet was connected to a chamber made of soldered sheet metal, of 400 c.c. capacity, the effect of which was to even out the vacuum. The inlet of this is connected to the suction bottles. Tubing used to connect the two and for the chamber inlet was ordinary petrol tubing.

The motor available on this occasion was a 230 volt ½ h.p. alternating current type running at about 2,000 r.p.m. This is thought to be the minimum power which could be used satisfactorily for this purpose. A pulley 2 inches diameter was fixed to the motor shaft and the drive taken by an ordinary fan belt to the large one on the pump. This gave sufficient reduction. An additional switch was fixed to the motor but this is not an essential.

The motor, pump and chamber were mounted on a wooden base as illustrated. The details of the mounting would vary with materials available and will not be described. Working parts are covered in by sheet metal casing, two covers only being required, one enclosing the driving belt and the other the driving spindle and pinion. Lubrication is no problem as oil is carried in the crankcase of the pump. On working for the first time an unexpected source of noise was found in the exhaust but silence was easily achieved by the addition of a length of petrol tubing with a bell end lightly plugged with cotton-wool.

In use a good enough vacuum is given for all surgical requirements and, as the moving parts are simple and revolving fairly slowly, the unit should require little maintenance and
be sufficiently robust for very active service conditions. This one has not yet been used for very long periods at a stretch but there is no apparent reason why it should not work efficiently for several hours. The cylinder becomes warm but this is no disadvantage as the piston then works more smoothly. It was contemplated cooling the electric motor by leading the air outlet through it but the idea was rejected on account of the danger of running too much water vapour into the parts.

The accompanying illustrations explain more than any written description can convey. The disposition of the parts is well seen and also the arrangement of the covers. The small curved vertical tube on the pinion shaft casing is merely an oil breather.

The layout was designed by Lance Corporal W. T. Batho, R.A.S.C., who assembled the unit in a very simple workshop with few tools at his disposal other than a soldering iron.

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SKI SURGERY.

BY MAJOR J. C. WATTS,
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I.—A BRIEF NOTE ON THE HISTORY OF MILITARY SKIING.

Skiers are portrayed in the Stone Age carvings at Rødestad in Tjotta [1] but the first authentic records of ski troops were those of King Sverre at the Battle of Isen [2] in A.D. 1200.

There are many references to ski troops being employed in Scandinavia and Northern Russia [3], and in 1733 Captain Emahausen of the Norwegian Army produced the first ski drill book [2], the uniform of the Norwegian soldier then consisting of a red hat, yellow jacket with red facings and yellow trousers, the officers sporting a gentlemanly topper; later, in 1788, the idea of camouflage appeared and, in 1808, Norwegian ski troopers achieved a notable victory over the Swedes.

It is important to realize that the ski of those days were dissimilar, the right ski being short, broad and with a fur sole to assist climbing, while the left was long and smooth for use in running. It was not until the latter half of the last century that the villagers of