Inventions New and Interesting

A Department Devoted to Pioneer Work in the Arts

A One-Man Saw for the Lumber Jack

AT a time when labor is becoming more scarce every minute, labor-saving devices must necessarily have a wide appeal. So the moment seems appropriate to direct attention to the accompanying illustration of an ingeniously-designed one-man saw, which is capable of felling fair-sized trees.

The one-man saw, it will be noted, is operated by the back-and-forth movement of a long handle. This movement is translated to a back-and-forth movement of a large saw which is kept firmly pressed against the tree trunk by spring pressure. Various adjustments are available for controlling the length of stroke, the pressure, and so on. In brief, the saw has the advantage of being a great labor saver, and at the same time weighing little and costing little so that it comes well within the reach of all. Its weight is such that one can readily carry it about.

Novel Auto Reel

By Frank C. Perkins

THE accompanying illustration shows a unique auto reel developed at Liberty, Mo. This reel will wind one mile of wire in 10 minutes, it is claimed; and old wire can be replaced by new and the old wire wound in one operation, mechanically and a hundred times faster than was ever before possible.

In order to replace old wire with new it is only necessary to untie the old wire, leaving it to lay on the cross arms, and to splice one end of the old wire to a pay-out reel of new wire. With the loose end attached to the auto-reel, mechanically and in operation the old wire is reeled up and replaced by new wire. This feature alone saves days of labor whenever replacing old wires. The auto reel is surprisingly simple in its construction and is made of angle and channel steel which makes it light and very strong. It requires no motor or machinery to operate except an automobile (of any make). It is really three reels in one as it can be converted into a hand reel in less than two minutes without the use of tools and by a simple operation can be transformed into a pay-out reel.

As a power take-up reel it is attached to the rear wheel of any automobile and will not scratch or mar the wheel and can be attached in three minutes without any tools. The car is "jacked up" so that the reel clears the ground several inches and a block is put under the other rear wheel so that the machine will not move. The wire to be reeled is passed through the guide, which is on the running board directly below the driver's seat, and fastened to the auto reel.

After starting the motor it should be kept in first or second speed. The guide is operated by the driver so that the wire is evenly distributed over the reel. This guide is a very important feature as it is so constructed that the splicing in the wire passes through it without the holder losing its grip on the wire. It insures tight,

smoothly wound wire. Over one-half mile of wire can be wound in less than ten minutes into one smooth and solid bale in this manner and can be removed from the

The wire winds or unwinds as the car proceeds

reel by pulling out the rod that is held near the top by a spring. It is not necessary to remove the reel. By attaching a handle it can be changed into a hand reel in two minutes. When used as a pay-out reel the specially designed spring tension prevents the wire from paying out too readily.

Measuring Garments to a Precise Fit

TWO reasons why some persons prefer to have their garments made to order are, first, the privilege of selecting a certain piece of cloth, and second, the securing of a finished garment that fits the wearer to perfection. Obviously, the fitting of a made-to-order garment calls for great care in the fitting; and to this end the work of the fitter is a most important one in any tailoring establishment.

With a view of making the work of the fitter still more accurate, Barthel Agnes of Chicago, Ill., has devised an ingenious measuring instrument which is illustrated in two of the accompanying illustrations. Instead of the conventional tape measure, which must needs give only approximate measurements in the hands of the average fitter, the new device gives precise measurements for all sizes ranging from 34 to 52 inches. It has two levels to insure exactness. The tapes are held accurately in line with the measuring points, from which are taken all the important measurements on either right or left side of the body, such as strap measure, blade measure, over-shoulder measure, breast width and sleeve length.

By placing Mr. Agnes' device under the arm of the person being fitted, a definite point is secured for one end

Using a recently-invented device for taking the measurements for a garment

This device places the fitting of a garment in the class of precision work

By rocking the handle back and forth, one man can cut down a large tree by means of this saw

of the tape measure, as contrasted to the usual method of holding it at a more or less variable point with the hand. Another part of this measuring device is the collar-hook tape measure, which, as its name implies, hooks over the middle of the linen collar and automatically gives the measurements for the collar of the garment.

Glazing Without Metal

IN the already known art glazing processes the small individual panes of glass are bordered or "framed" with lead and then all of them are joined together to form the colored glass window or other decoration. Since the advent of the war, however, the use of metals of all kinds has been more and more restricted in Germany, so that it has been necessary to find some suitable substitute for this purpose.

According to a new process the single pieces of glass are arranged in the manner desired upon a fireproof backing and are then joined all together by heating in the kiln with the aid of a good glass flux. As soon as this first fusion has been effected the entire piece of work, together with the backing, is withdrawn from the kiln, finely powdered glass flux is filled into all crevices and joints and it is then melted

by the assistance of a blowpipe. The piece of work is now ready for mounting in position, and absolutely no leading or metal bordering of any kind is required. The artistic effect is enhanced by the method of mounting and the picture is not so much "broken up" as by the pieces of metal.

Vanadium and the Long Range German Guns

AN analysis of fragments of the shells fired at Paris by the German long-range guns has shown that the walls of the projectiles contain a considerable proportion of vanadium, and speculation has been aroused as to the source from which Germany obtains this metal. Some vanadium is produced in Sweden, but it was thought that any importations from that country were consumed in the manufacture of steel for submarines. It is estimated that the Peruvian mines supplied more than three-quarters of the metal which reached the world's markets before the war, and none of this is known to have reached Germany by direct shipment since the commencement of the rigid blockade.

American steelmakers think that when preparing for the war Germany laid in large stocks of vanadium. The point which interests them particularly is the ability of the German shellmakers to make use of the alloy for a special purpose after nearly four years of war. Either the accumulated stock was much greater than was believed in 1914, or imports by secret channels have kept the supply abreast of the heavy demand. When the submarine "Deutschland" left New York on her second trip home it was rumored that a large consignment of vanadium was aboard, and that in both trips the undersea cargo-carrier took back 25,000 pounds of the metal.