

**Novel Range Finder**  
*An Aid to Marksmanship*

An instrument which will enable the soldier to tell how far away the enemy is at whom he wants to shoot is a very useful thing. The elevation of his gun in aiming is controlled by the distance. In a practice range a man knows what the interval is between himself and the target, and governs himself accordingly. But in the field, in actual warfare, it is pretty much guesswork. For heavy ordnance, either on shipboard or in coast defences, range finders have been common for several years. The need of apparatus that will perform the same service for infantry had not been well met until recently. There has been, to be sure, the "mekometer" of the British army. This consists of a piece of string fifty feet long, and having various devices and a man at each end. But Professor George Forbes, an Englishman, thought that he could improve greatly on it, and tried last year. He let the public know a little about it early in the winter, went to South Africa a little later to try it, and recently he told the United Service Institution in London the result of his task.

The Forbes range finder is much simpler than the "mekometer," and can be manipulated by one man, who is himself shielded from the enemy's fire. There is a light staff or rod six feet long, jointed in the middle, so that it can be folded up when not in use. The rod is held horizontally and at right angles with the direction in which the man is looking—that is, crosswise in front of his face. At each end is a small prism which catches an image of the enemy, reflects it along the rod to the middle, where another prism bends it again, and sends it into one barrel of a big field glass. There are two prisms at the middle of the rod. Each barrel receives a different image.

A certain amount of adjustment is necessary in order to secure a good, sharp image. That adjustment is effected with a screw having an enormous flat head which is subdivided

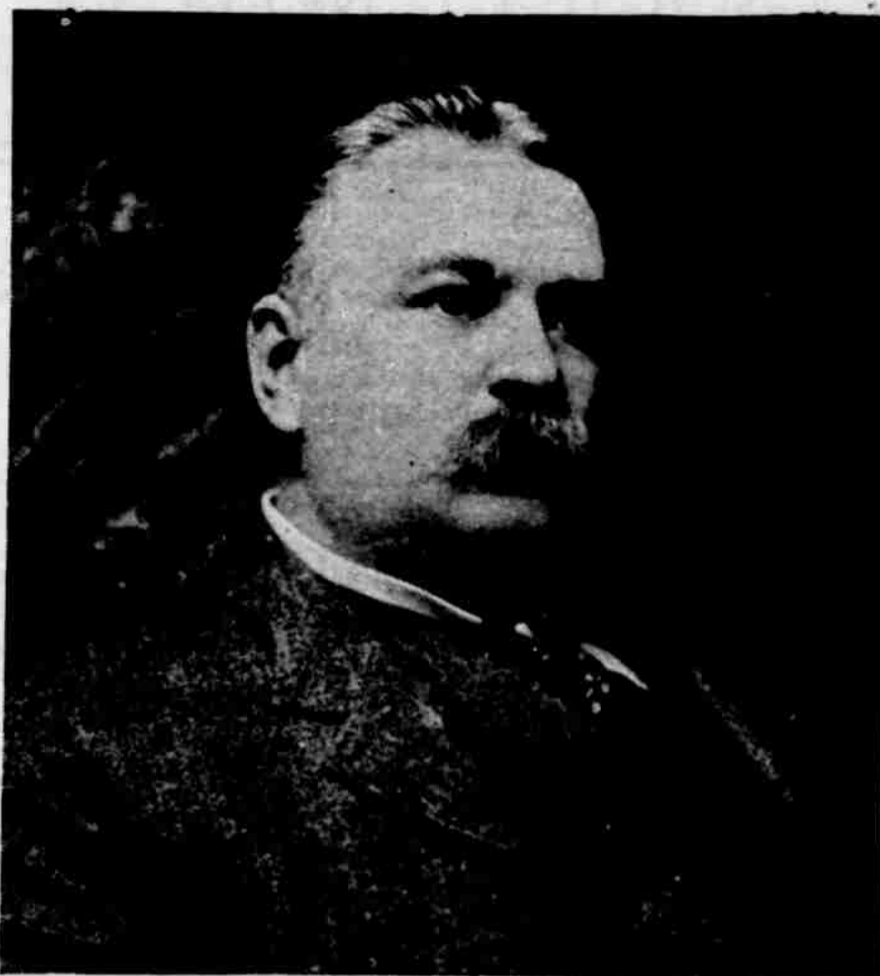
like a scale. The device is known as a "micrometer screw," and is commonly attached to microscopes for fine focussing and to telescopes for measuring angles. On the Forbes range finder one can determine the distance of the enemy by noting the position of the micrometer screw when he has obtained a perfect focus. Near the graduated periphery of the screw head is a stationary index with a sharp point, and the numbers extend around the entire circle. Rotation, therefore, changes the number opposite the index.

To assist the eye in focussing, Professor Forbes puts into each barrel of his field glass, where it will not obstruct the view too much, a transparent photograph of a balloon with a short tail rope. If the centres of the two barrels are exactly in line with the centres of the pupils, the two images will coalesce and appear as one, and the balloon will seem to be suspended in midair. One photograph can be shifted sideways with a micrometer screw. It can be pushed inward toward the other barrel or withdrawn. This lateral motion makes the balloon seem to move toward or away from the observer. When the tail rope is thus made to hang directly over the column of troops or the tent on which the instrument is trained, the focus is perfect and the scale may be read off. Professor Forbes declares that he found it easy to get within 2 per cent of the actual distance by means of his range finder, when the range was as great as three thousand yards.

A convenient posture for the man who uses the range finder is to lie on the ground, chest downward, resting both elbows on the earth and holding the staff up before the face at a height of a foot or fifteen inches. The head must be thrown back a little in order to look into the field glass. Since the images of the enemy are picked up by the prisms, out at the end of the rod, and inasmuch as these are six feet apart, the operator's head may be concealed behind a tree or boulder.

Professor Forbes rode about for a week with the troops, and carried the range finder with him. At night it was left with the saddle. On one occasion his horse rolled over it, but

**MR. GATES AND HIS COUP ON CORN**



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Exactly how much John W. Gates realized by the recent attempt to corner the corn market is not yet known. It is estimated, however, that he and his syndicate netted a cool \$4,000,000. The syndicate proposes to transfer its operations from July to September and another big Gates coupe may be expected in the latter month.

without doing any harm. The device could be manipulated so quickly that it was possible to get the range with it while other men were making their preparations to use the "mekometer." Besides, every person of ordinary intelligence could learn in a few minutes how to operate the new instrument.

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What is Roosevelt doing now?  
He is working himself to death taking a rest.

**Remarkable Racial Feuds**

(Berlin letter to the London Leader.)

Hardly a day passes but the newspapers contain striking evidence of the antagonistic spirit which is being engendered between the Poles and the Prussians.

Last week it came to the ears of the publishers of a Polish paper circulating in Westphalia that one of their compositors was about to marry a German girl. They considered that this stamped him as a traitor to Poland, and although he had served them faithfully for many years they dismissed him on the spot.

A large number of Poles work in the Westphalian coal mines, and in order to further the amalgamation of the races the authorities have issued regulations to the effect that no person shall be employed underground who is not proficient in the German language. The Poles obstinately refuse to know a word of German when they happen to be called up to make statements in public.

A few days ago a Polish miner had to give evidence in a Westphalian police court. He was of course, as innocent as a newly born babe of any knowledge of German until the magistrate threatened to report the case to his employers, who would have been compelled to dismiss him. Thereupon his German came back, and he replied fluently to all the question put to him.

His wife had been present during the hearing of the case, and was waiting for him in the passage just outside the court room door. As soon as he appeared she bitterly reproached him for having given away, and to render her arguments more forcible soundly boxed his ears. She then kicked him with such vigor that he had to race down the corridor into the street to escape the attentions of his "patriotic" better half.

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Though two is said to be company, maidens are often happy with a solitaire.

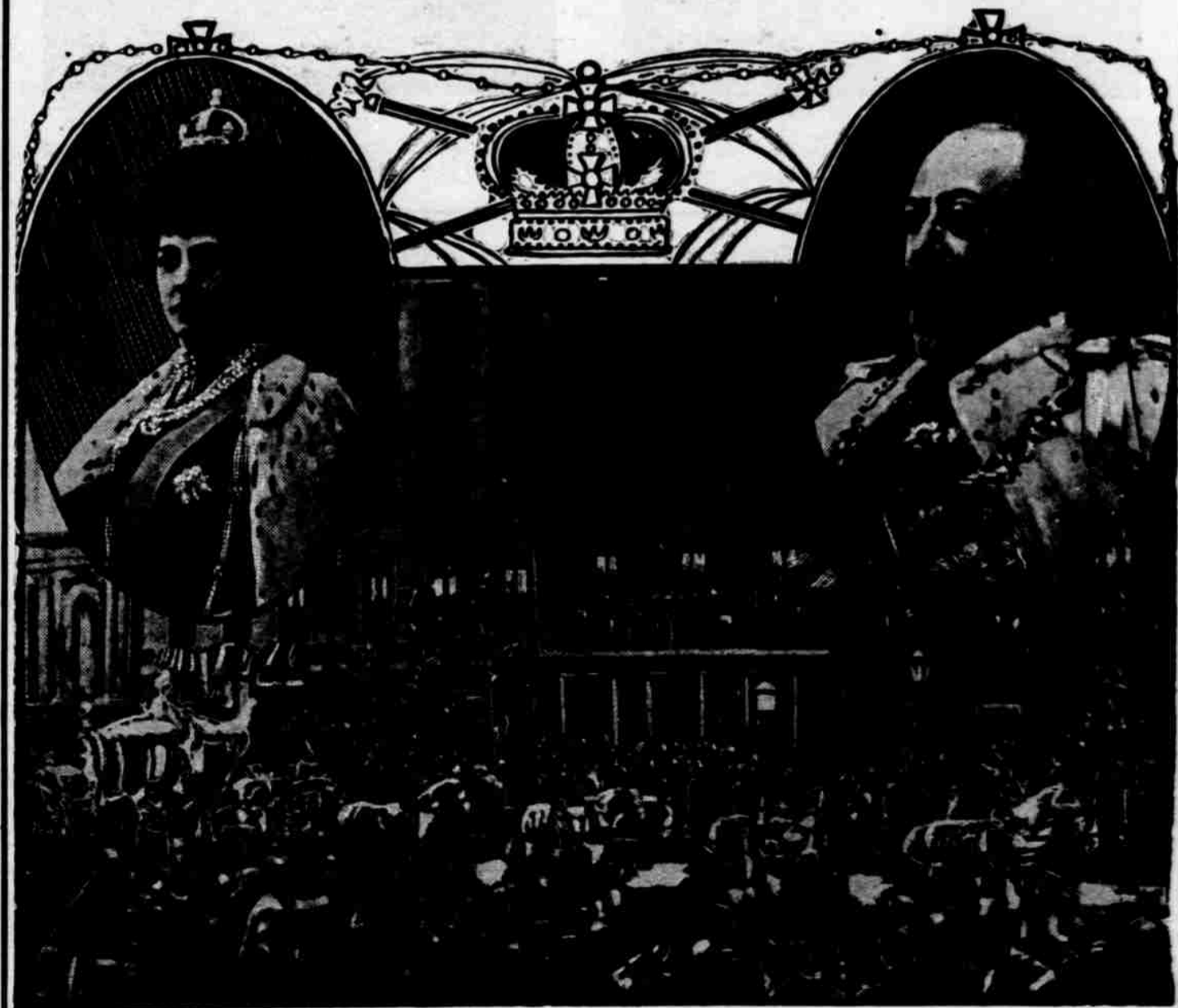
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She—I am afraid that mother saw you kiss me last night.

He—What makes you think so?

She—Well, I know that she passed the conservatory some time between eight and eleven.

**WORLD'S EYES TURN TODAY ON BRITISH MONARCH**



QUEEN ALEXANDRA.

THE CORONATION CORTEGE.

KING EDWARD VII.