Fig. 4 shows the manner of propagation of these waves. In this picture the stationary corrugations are seen as a vertical plaid. The horizontal lines at the top and bottom are time signals $\frac{1}{60}$ sec. apart. The oblique lines are the traces of the moving waves. The picture was made by light reflected from the jet in the same manner as Fig. 2. However, in this case a slit diaphragm was placed immediately before the photographic film, and the film jerked upward past the slit. The light from the stroboscope flashed through the slit on to the moving film leaving a time record. Hence the picture has both time and space

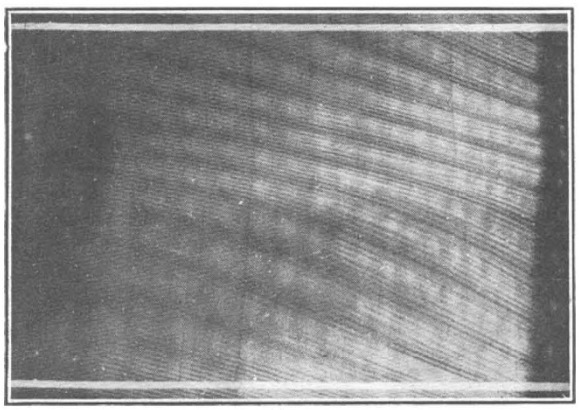

FIG. 4.

co-ordinates. Coarse and fine waves are seen to be present and both travel with the *same speed*, which is proportional to the slope of the oblique traces. The frequency of the long and short waves as counted from this picture are 600 and 4,200 respectively. The wave-length of the latter is 1·2 mm.

The jet seems to be a new method of producing droplets of uniform size, and one can apply Rayleigh's formula for studying their pulsations and hence the surface tension of newly formed surfaces.

This double nozzle when used with burning gas gives a *noiseless* ultrasonic flame.

JOHN J. HOPFIELD.

Research Department,
Libbey-Owens-Ford Glass Co.,
Toledo, Ohio.
Oct. 4.

Wasting Disease of *Zostera marina*

IN connexion with the various investigations into the local disappearance of the grass wrack[1], it has been noticed that the smaller narrow-leaved form of *Zostera marina* has, in some cases, replaced the larger type. Attention was thus focused on this *Z. marina* var. *angustifolia*, and it was suggested that it might have originated from a cross with the smaller species *Z. nana*. Dr. Butcher[2] was unable to find any definite morphological or anatomical support for this view, but suggested that chromosome studies might clear up the situation.

Studies have therefore been made of the root tips of *Z. nana* and of five stocks of *Z. marina* from localities so wide apart as south-west Ireland and north-east England. All the material showed a somatic complement of 12 chromosomes but, on the other hand, investigation of the size and structure of the chromosomes gave a clearly marked distinction between *Z. nana* on one hand and all forms of *Z. marina* on the other. The complements of all stocks of the latter are indistinguishable, and consist of six pairs of comma-shaped chromosomes of which one pair carries large satellites, and the spindle fibre attachment is characteristically sub-terminal. In *Z. nana* the chromosomes are at least twice as large and there are much more clearly marked differences in size among them, chromosomes with median spindle fibre attachments are conspicuous and the satellites on the largest pair of chromosomes are relatively small. Fig. 1 gives typical plates from the two species (× 2250).

FIG. 1.

The differences between the chromosomes of the two species seem to be sufficiently marked for them to be distinguishable in a hybrid, but in the narrow-leaved form of *Z. marina* the complement is identical with that of the type; thus the probability that the former is not a hybrid seems to be almost a certainty. That the difference may be an ecological one is suggested by the observation that, in the localities examined, the width of the leaf in *Z. marina* was directly proportional to the depth of the water, the very narrow-leaved forms being longest exposed by the fall of the tide and the broadest not exposed at all. The *Z. nana* forms a zone still farther up the shore than the narrowest *Z. marina*.

KATHLEEN B. BLACKBURN.

Armstrong College,
Newcastle-on-Tyne.
Oct. 11.

[1] NATURE, **132**, 277, Aug. 19; 483, Sept. 23; 752, Nov. 11; 1004, Dec. 2; 1933. **133**, 912, June 16, 1934. **134**, 143, July 28; 416, Sept. 15; 573, Oct. 13; 1934.
[2] B.E.C. Report, 1933.

Specific Action of Œstrin

IN a communication concerning the effect of œstrin upon certain vestigial structures in the male mouse, Burrows[1] has made the interesting suggestion that this effect may be specifically upon the derivatives of the Müllerian apparatus, and points out the possible use of this in embryology.

I have recently concluded an examination of the oviducal epithelia of the mouse, to be published elsewhere, and from this it appears that, while the outer portion of the Müllerian duct gives rise to structures lined with epithelia the behaviour of which is intimately affected by the march of events in the ovary, the inner portion produces epithelia one of which exhibits a behaviour which is apparently unique (the extrusion of nuclei and associated phenomena) but which yet cannot be closely related to any cycle.

It will be interesting to see whether further inquiry shows that one part of the Müllerian duct vestigial in the male is more sensitive to œstrin than another part functional in the female.

PAUL G. 'ESPINASSE.

Department of Zoology and Oceanography,
University College,
Hull.
Oct. 13.

[1] Burrows, H., NATURE, **134**, 570, Oct. 13, 1934.