

IF YOU THINK YOU'RE SPEEDY, LOOK AT 'MIKE'; 3400 MILES PER HOUR, IF--

MEXICAN TROOPS HELD READY FOR NEW DISORDERS

Ordered to Remain Mobilized Until After National Elections Next Sunday.

MEXICO CITY, Nov. 11 (A.P.)—All troops of the Federal district were ordered to barracks this afternoon to remain mobilized until after the national elections Sunday.

Gen. Eulogio Ortiz, commander of the garrison, announced that this measure was taken to have his entire force on immediate call to check any disorder such as occurred yesterday when 12 persons were wounded in a riot in the center of the city. Several of the wounded were in a grave condition today.

On election day detachments of troops will patrol the streets but will not guard voting booths, since such guards are contrary to the electoral regulations. However, it was announced that if "firing" should occur at the booths, the troops will intervene immediately.

Newspaper dispatches tonight told of other political clashes resulting in

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Man Could Skip to New Orleans in Hour, Five Minutes, Dance All Night, Get Back to Work in Morning, If—; He's Only 3-5 of Micron; You Got 'Em, Can't See 'Em.

Next time you're along auto row, pick out some car with a 120-inch wheelbase and ask the salesman if it will do 3400 miles per hour.

When he revives, ask him if he can run 2000 miles per hour.

If he ever revives after that one, tell him that if his car was as good, in proportion to its size, as a microbe, it would step out any day in the week and turn up its little old 3400 m.p.h. without any trouble.

Then let him know that there are trillions of microbes which, if they were six feet tall and still retained their relative speed, could run from here to New Orleans in an hour and five minutes and be fresh enough to dance all night after they got there.

These are conclusions reached by R. B. Rife, Point Loma scientist, after studies with the compound refractometer which he developed to observe the dimensions and motility of bacteria or microscopic organisms. **BUG'S WHEELBASE SHORT**

The particular bug that Rife clocked at this astonishing speed measured only one-fifth of a micron in length. Nobody has a mental picture of a micron, but think of an inch.

Divide your inch into 1000 parts, and mark off 39 of them. That's a millimeter. Divide your millimeter into 1000 parts, and take one of them. That's your micron. Take

your micron and carve off two-fifths of it. That's your bug.

Probably there are millions of them in your body, but don't try to find one. It will be easier to take

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There is A Straight Road—

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BANK EMPLOYEES TAKE \$3,592,000 TO PLAY MARKET

Michigan Firm Loses Fortune in Embezzlement; President Gives Own Funds

FLINT, Mich., Nov. 11 (A.P.)—More than \$3,000,000, said to be the largest embezzlement from a single bank in American banking history, was taken by 10 or more employes and junior executives of the Union Industrial bank of Flint for their speculation in the stock market, it was revealed here today in an official statement on the progress of the audit of the shortage which has been under way for some time.

The gross theft is set at \$3,592,000, but the net loss is estimated in the neighborhood of \$2,000,000, which in turn is expected to be cut down by payments on certain insurance policies held by the bank.

To forestall any possibility of loss to the bank as a result of the thefts, Charles S. Mott, president of the bank and vice president of General Motors corporation, has turned over more than \$1,500,000 of his personal funds. He had previously put up approximately \$1,000,000.

SCIENTIST FINDS SPEEDIEST BUG

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Rife's word for it. Playing the speed cop on this bug through the ultra-microscope of his refractometer, he has caught it moving 100 microns per second, or 500 times its own length.

It must have been going to a fire. Or maybe it was late to work, with the boss just looking for a chance to fire it.

At any rate, apply 500 lengths per second to a man of six feet. He would run 2041 miles per hour. The automobile of the average 120-wheel-base would turn out 3408 miles while the hour hand was making one circle—and do it without strain.

Of course the bug has the advantage of having more "legs" or "wheels." Rife describes the faster bacilli as being highly flagellate, which means that they have a large number of flagellae, or "feelers," which help them to swim through their environment at a high relative rate of speed.

This is perhaps the most striking experiment Rife has ever performed with his refractometer, but there are many more practical. He originally designed it to measure the prismatic angles of crystals, but came to use it to measure the length, width and thickness of bacteria and microscopic organisms, or their movement.

An experiment in metallurgical research was recently carried out with the instrument to determine the cause of microscopic flaws in steel which had undergone extreme hardening processes. By hooking up a polarizer, an analyzer and a micro-spectroscope into the refractometer it was possible by use of autochrome plates to obtain a photomicrograph of the chemical formation of the crystals of these tiny flaws, in their natural colors.

Then, Rife says, by photographing their spectrum bands and checking these with test slates, it was finally possible to determine the cause of the flaws.

The reason once discovered, substitution of a different combination of chemicals and gases in the method of heat treating the steel immediately reduced the flaws by 92 percent, he concluded. This experiment is said to have saved a large sum of money annually to a national automotive equipment concern.

The refractometer, which moves through seven arc ratios of 90 degrees each with a 360 degree rotation around a central axis, is able to photograph the same cell or object from so many different angles that the resulting plate takes on depth and color.

"It dispenses with the actual formation of geometrically similar images of minute objects, and only aims at bringing them into range of visibility," Rife says. "What we see or photograph through the ultra-microscope is in reality not the particles themselves, but rather their diffraction discs. This carries our vision much further in the differentiation of microscopic detail."

URNS ON LIGHT

A peculiar and intense system of illumination is used, which gives rise to pronounced contrasts on the principle of dark field illumination. The latter has been known to microscopy since 1837, according to Rife, but the method of applying it has remained undiscovered until recently.

In the ultra-microscope the object is illuminated from the side, or edge. Different lighting systems are available for direct lighting of transparent specimens, slit lighting for the ultra feature, or vertical illumination of opaque substances.

This instrument, Rife says, also photographs the different strata of organic life and in this way rivals a detailed photomicrograph of the cytoplasmic or granular structure of organisms without the use of acid or vegetable dye stains.

It is fitted with a galvanometer type floating needle compass for determining the magnetic influence of different chemicals while under observation, and its prisms and condensing system are of quartz glass to cut down refraction and carry the light rays with greater intensity.

The objective unit carries four Apochromat lenses, with a Leitz photomicrographic camera that holds 40 exposures at one loading. Its lens

speed is one five-hundredths of a second. The machine, as assembled, represents seven months of work.

"This instrument has accomplished things that no other device of its kind has been able to touch," Rife says. "We sincerely hope that the link it has added to the great chain

of science will aid in some way to penetrate more deeply into the vast universe of the microscopic world."

Try that on your automobile salesman!