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(7534) J. T. asks: 1. Can a whistle be A. There is much more in this question than the mer presence or absence of fog. Nor can a whistly be hear in clear weather equally well at all times. Both in foggy
and in clear weather there is a great difference in the loudness with which a sound is heard at the same dis tance at one time and another. 2. Has there been any thing done to overcome the difficulty, apart from the
search lights? A. Sirens are used in thick weather whose tones can be heard much farther than lights of any sort can be seen. 3. What distance can an ordinary
whistle be heard? A. The distances at which an ordiwhistle be heard ? A. The distances at which an ordi-
nary steam whistle can be heard are variously stated, for nary steam whistle can be heard are valiously stated, for
the reason that they vary very greatly. It is also true hat a whistle may not be heard at a certain distance while at a greater distance from it in the same directiun
it is distinctis heard. For the whole subject of sound less zones aind the effect of fog, rain, snow, etc., upo (7535) E W. K. writes: As a subscribe to your interesting paper, I would be glad to see in your puns, like those of the "New Orleans," have about the can fire over six times as often. Are they six times as powerful weapons? A. The blow struck by an 8 -inch un has much greater energy than that delivered by the -enders thetotal energy of the projectiles delivered by the 6 -inch gun much greater in a given time. 2. Is it certain destruction to a ship to be torpedoed?
The subdivision of the hull of a ship may confine th ship from sinking. 3. Is the fact that the fire from guns cannot be directed to any particular part of an enemy ship, except at short range, an argument in favor of light
rapid fire guns? A. We think it is, decidedls. The e-nd rapid-frer is an ideal weapon, able to penet rate heavy armor and capable of rapid fire. 4. Howarethe "Maine," We shaill shortly publish an illustrated description of theseships 5. Are their guns to be as high powered as those of the British ships? A. Probably more so. 6. How is it that the Brown gun, in sendingits shots about one and a half times as fast as those of the 10 -inch navy the weight remaining the same. varies as the square of the velocity. The 10 -inch navy gun, it should be regun is a modern weapon of more recent date
(7536) G. M. T. writes: 1. I notice in your issue of October 29 of the Suientific American,
under the article "Work of Naval Bureau of Ordnance," a statement to the effect that the Navy Department has a statement to
adopted a smokeless powder made from soluhle nitro-
cellulose by the Bureau's formula. Is the formala a
secret of the Bureau or can you publish the same under
your list of Notes and Queries ? A. The formula is, we your list of Notes and Queries? A. The formula is, w presume, for obvious reasons, a secret. 2. A second
question I wish to ask is about the hardened plate for covering battleships. Can you inform your readers through the same medium as above, how this plate is
treated in the soccalled "Harveyized " process? A. In the Harvey process the plate is placed in a furnace with only its face exposed. Carbonaceous material is the pread over the furnace, completely covering the face o rable length of time to a high temperature, during which the carbon penetrates the steel face, the plate is allowed to partly cool, after which the plate is uncovered
and given an intense hardness by the application of old water
(7537) H. I. W. writes: I have a pair of plano-conves lenses of 5 inches drameter, 36 inches lantern (for experimental purposes) like the one de scribed on page 398, Scientific American, June 23,
888 , using acetylene gas as an illuminant. 1 . What alterations will be necessary, if any, using the above menoned material A. No ane lantern to the long focus of your condenser lenses. The usual focal length of a conenser for a lantern is 9 inches. Yours is 18 inches. way from the condenser to a place where the cone ght is a little larger than the largest opening you will acetylene is to be used. 2. Will the tintspe lens hav inion is not essential your lens on a board so arranged as to slide to and fro. hus securing the range of motion needed to focus on
a screen at various distances from the lantern. 3. How a screen at various distances from the lantern. 3. Ho
farapart should the plano-convex lenses be placed ? A arapart should the plano-convex lenses be placed ? A
Place the condenser lenses close together. 4. Flat or curved sides together? A. The convex sides are to be of the condenser. 5. How far from the front of conthe distance of the objective experimentally. It depends n its focallength and the distance of thescreen. 6. How large a disk of light will $41 / 2$ foot burners make, using of the disk does not depend on the light used, but on the focal length of the objective, which you have not given You can easily find this out for yourself when you get he lantern made. 7. R ommend book on photomicrography, also on optical projection and optical lan tern construction. A. We can recommend Clark's
"Practical Methods in Microscopy," price \$1.75;
Wer Wright's "Optical Projection," price 82.25; and "Th Magic Lantern," price $\$$. You will, however, find a
you need, and much on other subjects in science,

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## Marsh. .i...............itier. Axle ubrictor, xle turning machine, carria

## Ba, See Punching ba Ba, W. T. Laneng Basket, W. T. Lane...




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