

HINTS TO CORRESPONDENTS.

Names and Address must accompany all letters or no attention will be paid thereto. This is for our information and not for publication.

References to former articles or answers should give date of paper and page or number of question.

Inquiries not answered in reasonable time should be repeated; correspondents will bear in mind that some answers require not a little research, and, though we endeavor to reply to all either by letter or in this department, each must take his turn.

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(8752) R. R. S. asks: Is there any reason why the alternating current induced in a coil, if transformed without loss to direct current, cannot be used for all purposes, the same as that induced in the armature of a direct-current dynamo'? A. We know no reason whatever why any alternating current, when transformed to a direct current, may not be used for any purpose for which the same direct current produced in any other way could be used. An induction coil does not necessarily give an ordinary alternating current, nor can any current be transformed without loss. 2. Are all currents of electricity alike? A. All currents of electricity are not alike any more than all currents of water are alike. They differ in pressure and in volume as do currents of water. We may have a small stream or a large stream with a slight fall; or we may have a small stream or a large stream with a great fall. This gives four sorts of waterfall, with their resultant effects. A battery current such as is used in ringing bells is usually a small current with a small drop of potential. A lightning flash is usually a small current with an enormous drop of potential. A current used for heating is usually a large current with a small drop of potential. A current to be transmitted to a great distance is usually a rather small current with a high potential. The effect in each case varies with the character of the current.

(8753) W. A. H. G. asks: 1. Can a plain slide valve steam engine be run by compressed (hot) air, or must the valves or packing be changed? A. Any engine that is suitable for steam is equally suitable for compressed air. 2. When air is compressed to onefourth its volume, would it have four times the pressure (60 pounds per square inch)? Immediately after the air is compressed, its temperature will be quite high. After cooling, how much would the pressure decrease? A Air compressed to one-fourth its volume without loss of heat will have a pressure of 89 pounds per square inch, or 60 pounds without heat, isothermal.

(8754) W. H. D. asks: 1. Is the hot flame from a needle hole through which passes the hot gases of vaporized kerosene a "boring" flame, as common gas is held to be, even on iron? A. All vapor gas jets when made to impinge on any body that will burn by heat may be said to be a boring flame. 2. If it is not a boring flame, is it advisable to apply it, in the firepot of a furnace, directly to the sides of the firepot to heat water or generate steam for house heating? A. A jet flame of any kind should not impinge directly upon a firepot, but directed around it. 3. If it is a boring flame, how can it be applied most economically for such heating? A. By jetting the flame around the firepot in a chamber of firebrick. 4. How can this fuel and flame be applied most economically to furnaces heating by hot air? A. By jetting the flame against a firebrick surface in the fire chamber. 5. We were much interested in your article on oil burners, but you did not give the furnace phase of the question. It will interest thousands of your readers. What burners are best adapted for such? A. There are a num ber of oil burners on the market which must be operated by steam or air pressure. 6. I have looked through shelf after shelf of engineering works, yet find no tabular schedule and boiling temperature of water (page 38):

\$5 by mail. 7. As pressure exceeds normal, is
the temperature of water the same as the
steam? A. Yes. 8. When the steam gage
shows pressure of 1 pound, does it not mean
1 pound above atmospheric? A. Yes. 9. Ac
cording to all formulæ of heating, it seems to
me a mathematical certainty that shutting off
radiators in unused apartments economizes
fuel in just the ratio of such cubic space or
radiating surface. Yet I find men who contend there is no economy. My experience is
in accordance with my belief and formulæ. A
Our experience is in the line of economy from
closing radiators when not needed.

Distribution system, C. P. Steinmetz, 714,055, 714,016

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Total equalizer, J. S. Kemp. 713,073

Total equalizer, J. S. Kemp. 713,053

Total equalizer

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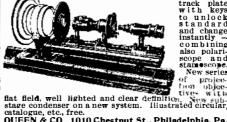
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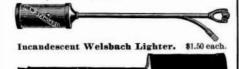
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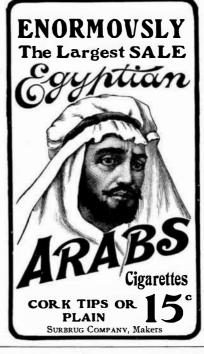
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