

## A CHAPTER OF DON'TS.

*Which is another way of repeating what has already been said.*

1. *Don't* empty the boiler when the brick work is hot.
2. *Don't* pump cold water into a hot boiler.
3. *Don't* allow filth of any kind to accumulate around the boiler or boiler room.
4. *Don't* leave your shovel or any other tool out of its appointed place when not in use.
5. *Don't* fail to keep all the bright work about the boiler neat and "shiny."
6. *Don't* forget that negligence causes great loss and danger.
7. *Don't* fail to be alert and ready-minded and ready-headed about the boiler and furnace.
8. *Don't* read newspapers when on duty.
9. *Don't* fire up too quickly.
10. *Don't* let any water or dampness come on the outside of your boiler.
11. *Don't* let any dampness get into the boiler and pipe coverings.
12. *Don't* fail to see that you have plenty of water in the boiler in the morning.
13. *Don't* fail to keep the water at the same height in the boiler all day.
14. *Don't* let any one talk to you when firing.
15. *Don't* allow water to remain on the floor about the boiler.
16. *Don't* fail to blow off steam once or twice per day, according as the water is more or less pure.
17. *Don't* fail to close the blow-off cock, when blowing off, when the water in the boiler has sunk one to one and a half inches.
18. *Don't* fail, while cleaning the boiler, to examine and clean all cocks, valves, and pipes, and look to all joints and packings.

The above is a sample page (44) of "Maxims and Instructions for the Boiler Room," from the "Hand-Book of Calculations for Engineers," sold by Theo. Audel & Co., New York.

## HOW TO PRESERVE HEALTH.

One of the best ways to keep in good health, says the *Monthly Bulletin*, is not to think or worry too much about it. If you feel strong and well, don't imagine that some insidious disease may be secretly attacking your constitution. Many people are like the inexperienced traveler, who anxiously inquired about the symptoms of sea-sickness, and how he should know when he had it. One generally knows when he is sick, and frequently many supposably alarming symptoms prove, upon investigation, to be either perfectly natural occurrences or of very slight importance.

Eat and drink what you desire, as long as it agrees with you. Your stomach knows pretty well what it can digest. Plain, simple food is desirable, as a general thing, but the luxuries of the table, in moderation, will do no harm.

Alcoholic beverages are not fit for habitual use. They are true medicines, and should only be used like any other medicines—under the advice of a physician. As a regular beverage they can do no good, but will almost certainly do harm.

Take all the sleep you can get, but remember that the

necessary amount varies greatly for different persons. Some must sleep at least nine hours, while others thrive under six. Only don't rob yourself of what you really need. The "mid-night oil" is a terribly expensive illuminant to burn either for purposes of labor or study.

Always treat a common cold with great respect. Ninety-nine times out of a hundred it will get well any way, but the hundredth cold, if neglected, may lead to bronchitis, pneumonia, or consumption. It is best to take no such chances.

If you are sick enough to need any medicine at all, beyond the simple remedies familiar to all, you are sick enough to need the attendance of a physician.

By all means take as much exercise as you can, and be in the open air as much as possible. Out-door life is the natural condition of mankind, and the more one can have of it, the better. The practice must not be carried to extremes, however. There are many days when one is much better off in a warm, comfortable, well-ventilated house than trying to take out-door exercise in a mid-winter storm, or under a July sun, and no one ever strengthened his constitution by sleeping with his bed-room window open with the outside temperature at zero, or allowing the snow to drift in upon his pillow.

Fresh air, sunlight, good and sufficient food, pure water, out-door exercise, temperance in all things, and a cheerful disposition, are the chief remedies in nature's dispensatory, and are worth more than all the drugs and medicines of the shops. Dr. Holmes has truly said that if nine-tenths of all the medicines, patent, proprietary and otherwise, in the world were poured into the ocean, it would be all the better for mankind and all the worse for the fishes; and the best physician can do little without good nursing, and thus aid nature in throwing off disease.

## TAKING TIME FROM THE STARS.

No time-piece is perfect, and there are no means on earth of keeping perfect time. The stars, however, furnish the necessary means. At the observatory in Cambridge there are two principal clocks employed in keeping the standard time—the standard mean time clock, which telegraphs its signals over the surrounding country, and the normal sidereal clock, which is the main standard at the observatory, to which everything is referred. The sidereal clock, as its name implies, keeps sidereal or star time, which gains about three minutes and fifty-eight seconds per day over solar time, with which we are all familiar.

The clock is of the finest workmanship, and is kept in a brick vault, underneath the observatory, where the temperature is as nearly constant as possible.

Every effort is made to protect it from any influence which might affect its "rate," or, in other words, the amount of its gain or loss per day. This is necessary in order that the "rate" may be depended upon to give the correct time during spells of cloudy weather, when no observations can be made.

On every clear morning the error of this clock is carefully determined by observing certain bright stars with an instrument known as the meridian circle.

This instrument consists of a telescope mounted on trunnions like a cannon and supported by a pier of solid masonry. It is so arranged that it can be directed toward any point of the meridian line. On looking into the eye-piece of this telescope one sees a series of fine parallel lines running north