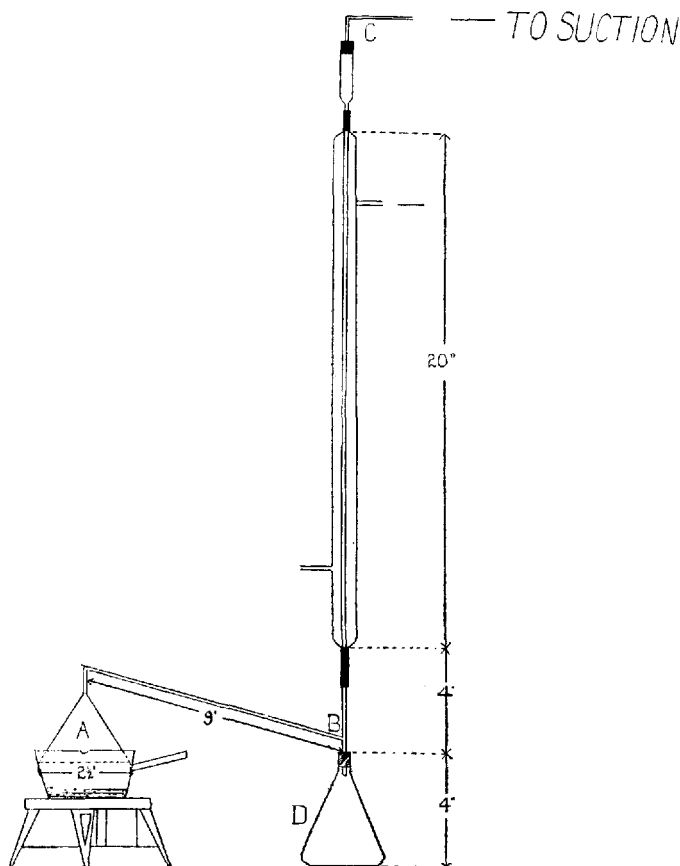


A SIMPLE APPARATUS FOR THE RECOVERY, DURING EVAPORATION,  
OF ORGANIC SOLVENTS.\*

BY HARRY F. LEWIS.

The author has recently had to make a great number of determinations with ten to twenty Cc. portions of organic solvents, and this simple piece of apparatus has been devised for the recovery of these small portions after their evaporation.



Ordinary methods of distillation are not satisfactory here, because it is extremely difficult to remove all the residue from a distilling flask, and in such determinations, it is the residue that is important. Moreover, it is not at all handy to take the time required for such an operation. The ordinary laboratory method, as a rule, is to evaporate the solvent on the steam bath, in an evaporating dish with the subsequent loss of the solvent. This is an expensive procedure, where the amount of solvent lost would average a liter or two a week.

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The apparatus is easily made. A  $2\frac{1}{2}$ " funnel (*A*) with a long stem, is bent as shown in the illustration, and the end of the stem connected with a water condenser at *B*, about an inch from the end of the inner tube of the condenser. The length of the stem, from the bend to the condenser, should be about nine inches. The top of the condenser is fitted to a water suction by tubing (*C*), so that a gentle draft may be had. At the lower end of the condenser, a flask (*D*) is fitted tightly, by means of a cork.

The evaporating dish, beaker, or crucible with its contents, is set on a hot plate, under the inverted funnel, the height of which should be regulated so that it is about a half inch above the surface of the liquid, where the dish has a greater diameter than the funnel. In the opposite case, the dish is simply set underneath the funnel. Enough suction is then applied at the condenser to draw the vaporized solvent through the funnel into the condenser, where it condenses and collects in the flask. By this method small amounts of chloroform, ether, petroleum ether, alcohol, carbon bisulphide, etc., which would ordinarily be discarded, may be recovered for further use.

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#### SOME OF HENRY FORD'S RULES FOR SUCCESS.

Everything begins with thought.

If a man knows where he is going nothing will stop him.

Every man gets what he deserves; if his thinking is wrong he will lose out.

Most people make the initial mistake in business of thinking about the dollar.

If a man is trying in his business to serve the good of others, the money will come, it is bound to come, he cannot fail.

One of the first things every man must realize if he is going to succeed is how little he can accomplish alone; the second is that everyone has some good in him and can do something well.

I believe in big business: the bigger the organization the bigger the opportunity for more men to contribute the special good in themselves.

Every man can do some one thing well, but no man can do a lot of things well at the same time.

In business there is no escaping the law of compensation; if you do a man a mean trick, you pay; if you do yourself a mean trick, you pay.

If a man worries it is because he has done something that's not on the square or else because he hasn't thought deeply enough to clearly understand his problem.

Most people eat too much, and in consequence they sleep too much and don't think enough.

My advice to every business man is: work and read and think and then work some more and then some, but don't ever stop thinking.

Don't ever be afraid of criticism: criticism is the greatest educator in the world if we will only let it be.