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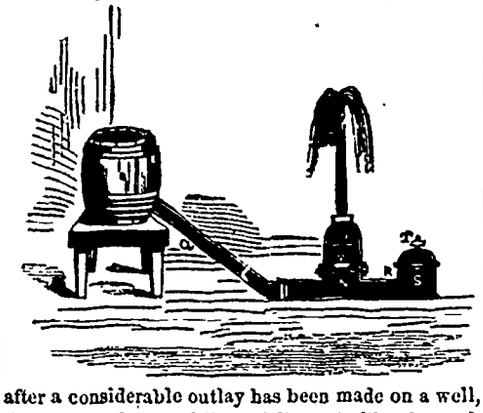
The Field.

The Hydraulic Ram.

ABUNDANCE of water is a great acquisition to a farm, and scarcity of it is a serious drawback. This is, generally speaking, a well-watered country, and there are few estates which cannot, by some contrivance or other, be furnished with a plentiful supply. It is, however, a somewhat laborious and troublesome affair when all the water needed about a farm has to be raised from a deep well. If a large quantity of stock is kept, watering them becomes a serious item in the daily labour. Indeed we have known cases in which want of water, except at the cost of constant pumping, has been urged as a reason for not keeping such a number of animals as the farm really needed, to consume its forage products, and provide manure. The best pumps are tedious affairs when you have to raise a large quantity of water by hand, and as to windlasses and "old oaken buckets that hang by the well," they are indeed slavish institutions. Windmills have been extensively used in some localities where water can only be got by lifting from a considerable depth. They are becoming common on the Western prairies, and are found to answer well. We have observed an advertisement of a self-acting cattle pump, made in London, C W., but cannot speak of its merits from knowledge. Well-digging, when it is necessary to go down any great distance, is expensive work, and is accompanied with more or less uncertainty as to striking a good vein of water. It often happens that



after a considerable outlay has been made on a well, the supply of water fails, and it must either be sunk farther down or a new one tried in another spot. Settlers on land and purchasers of improved farms, do well to have an eye to the water supply, for it is a matter of no little consequence. In the choice of sites for the dwelling and barn-yard, the question of water conveniences ought to be taken into consideration. There are on many farms creeks and springs that may be turned to most useful account by locating the buildings near them, and where other circumstances do not forbid, a wise economy of time and labour would dictate such a location of them.

We have received some enquiries in reference to the best means of obtaining a supply of water from an adjacent spring, which we cannot better answer than by describing and recommending that ingenious machine known as the hydraulic ram. And as the subject is one of much importance and of very general interest, we present our readers with some illustrations of it. By means of the contrivance just named, a small stream, brook or spring may be made to force itself to a very high point, whence the water may be distributed at pleasure, to return finally to the source whence it came. The improved hydraulic ram will raise water ten feet for each foot of fall. Its operation will at once be understood by a glance at the accompanying engravings. The small one at the top of this page explains the principle upon which the ram is constructed, and shows its mode of action. Suppose that the water from a barrel be required to be carried to a cistern at the top of a house. A pipe, *a*, is laid from the barrel to the ram, and to a valve beyond it, which is

forced down and kept open by the weight, T. The water rushing down the pipe, *a*, acquires momentum, and striking against the underside of the valve, S, closes it. The course of water is stopped, but the momentum cannot be so easily overcome, therefore that part of the column nearest the barrel still endeavours to escape, and as it cannot do so