

DAVIS' QUILTING FRAME.

The engraving shows a new and valuable attachment for all family sewing machines. By its use one lady can make a full size quilt within two hours, a heavy comfortable in one hour, can also quilt children's winter cloaks, bonnets, dress skirts, and coat linings, and do all manner of quilting, from the largest size quilt to the smallest cloak. It is easily understood and operated. The lining of the article to be quilted is rolled up on one of the outside rollers, and the top of the quilt is rolled up on the top outside roller, and when the cotton or wool is to be placed on the lining, the top roller is lifted out of its place and laid back on the machine table, and the cotton placed on the lining, and then the top roller is returned to its place; these operations are repeated until the quilt is finished.

This quilting frame is manufactured by the Davis Quilting Frame Co. Further particulars can be had from the inventor, Mr. Henry T. Davis, 182 and 184 West Houston Street, New York city.

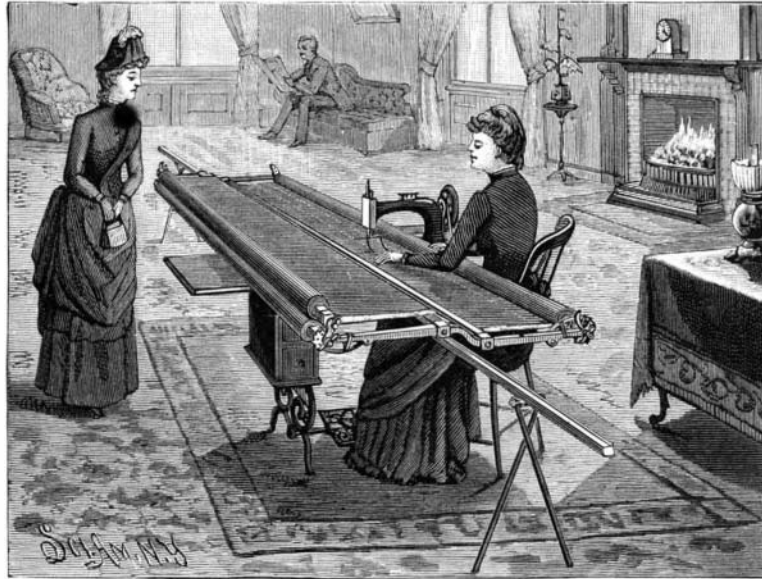
Antiquity of Wheat.

President Charles Barnard, in an article in the *Century* for January, says that the wheat plant is one of the oldest in cultivation. The Chinese recorded its culture as early as 2700 B. C., and it is one of the prehistoric plants, remains of wheat seeds being found in the ruins of the houses of the lake dwellers. While there are several races of wheat, and while these have been crossed, producing hybrids, it has retained its true character, and been entirely independent of other plants since its culture began. Compared with wheat, rye is a modern plant. It is not figured on any Egyptian monuments, and seems to have been first cultivated in the Roman empire about the beginning of the Christian era, though it may have been known somewhat earlier in Russia and Tartary. While these two commercial plants have been cultivated side by side for centuries, the first plants appearing to be true hybrids between them bore seeds this year in this country. Wheat and rye may have been crossed before, yet there appears to be no record of anything like the results here obtained.

Art of Making Butter.

Under this title the Patent Office has lately granted a patent to Lyman Guinnip, of Chicago, Ill., for the following:

Take, say, one gallon of cream, keep it in temperature of 60 deg. to 64 deg. for 36 hours, or so that it will clabber; take another gallon of cream, keep in same temperature for 24 hours; put both into a churn, and



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churn one minute. Then turn out one-third of the mixture and put one pound of butter into this one-third and stir well and let it stand, while you continue churning the two-thirds remaining until seeds of butter appear; then add or put in eight pounds of butter and churn four minutes; then return the one-third which you had previously taken out, and churn the whole until butter is made. If you desire to color the butter, this should be done just before you cease churning.

To make butter from milk only, you follow the same process, and keep the proportions the same. I use no chemicals whatsoever, and make the butter pure and sweet from milk or cream only. The butter put into the churn, if it be of an inferior quality, will come out vastly improved, the rancid part disappearing with the water of the milk.

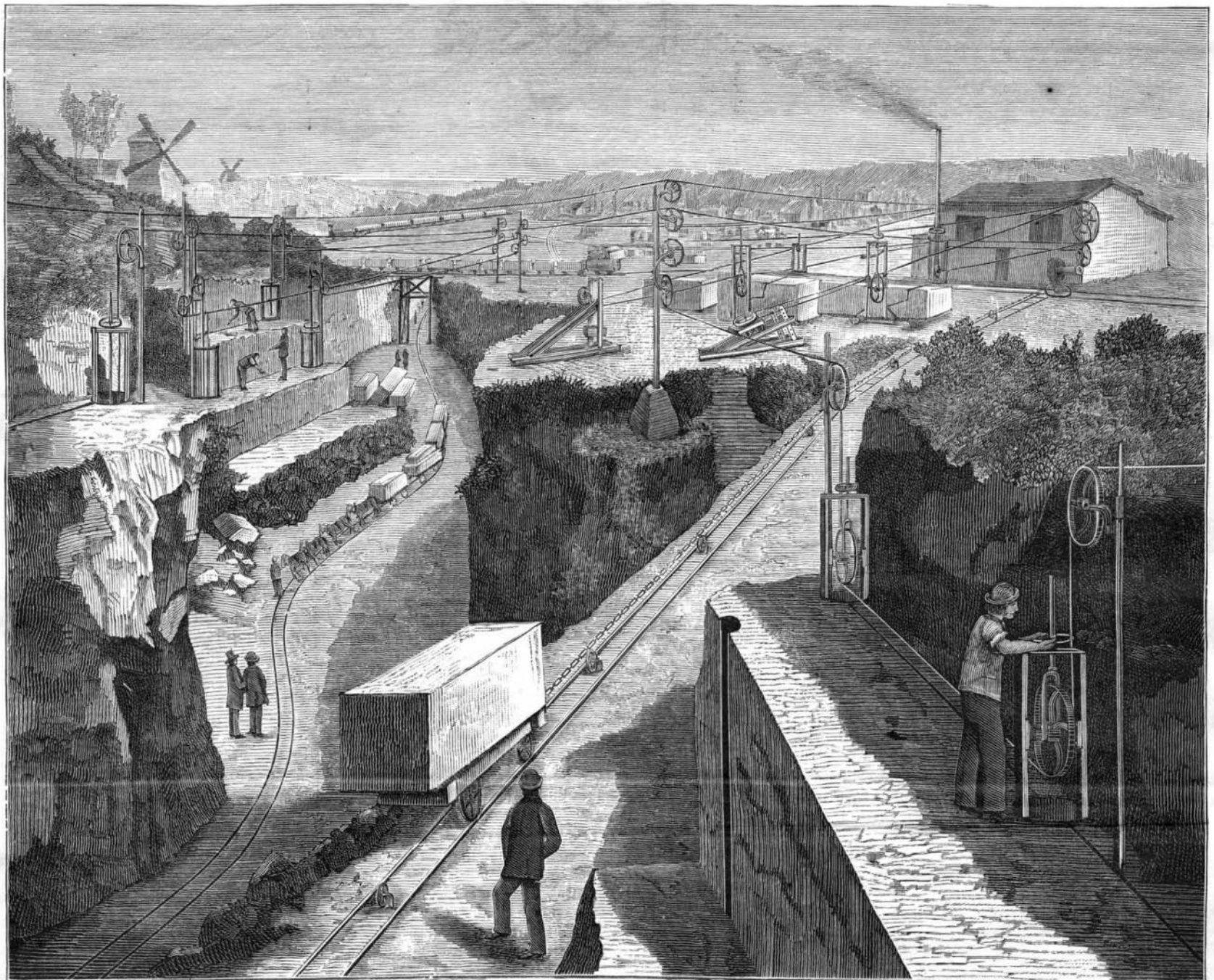
THE HELICOIDAL OR WIRE STONE SAW.

The sides of solid bodies, whatever be the degree of hardness, and however fine the texture, possess surfaces formed of a succession of projections and depressions. When two bodies are in contact, these projections and indentations fit into one another, and the adherence that results is proportional to the degree of roughness of the surfaces. If, by a more or less energetic mechanical action, we move one of the bodies with respect to the other, we shall produce, according as the action overcomes cohesion, more or less disintegration of the bodies. The resulting wear in each of them will evidently be inversely proportional to its hardness and the nature of its surface; and it will vary, besides, with the pressure exerted between the surfaces and the velocity of the mechanical action. We may say, then, that the wear resulting from rubbing two bodies against each other is a function of their degree of hardness, of the extent and state of their surface, of the pressure, of the velocity, and of the time.

According as these factors are varied in a sense favorable or unfavorable to their proper action, we obtain variations in the final erosion. Thus, in rubbing together two bodies of different hardness and nature of surface, we obtain a wear inversely proportional to the hardness and state of polish of their surfaces. Through the interposition of a pulverized hard body we can still further accelerate such wear, as a consequence of the rapid renewal of the disintegrating element.

The gradual wear effected over the entire surface of a body brings about a polish, while that effected along a line or at some one point determines a cleavage or an aperture.

The process usually employed in quarries or stone-yards for sawing consists in slowly moving a stone saw backward and forward, either by hand or machinery, and with scarcely any pressure. Mr. P. Gay, of Paris, has, however, devised a new process, which is based upon the theoretical considerations given above. His *helicoïdal saw* is, in reality, an endless cable formed by twisting together three steel wires in such a way as to give the spirals quite an elongated pitch.



APPLICATION OF GAY'S STONE SAW IN A MARBLE QUARRY.