

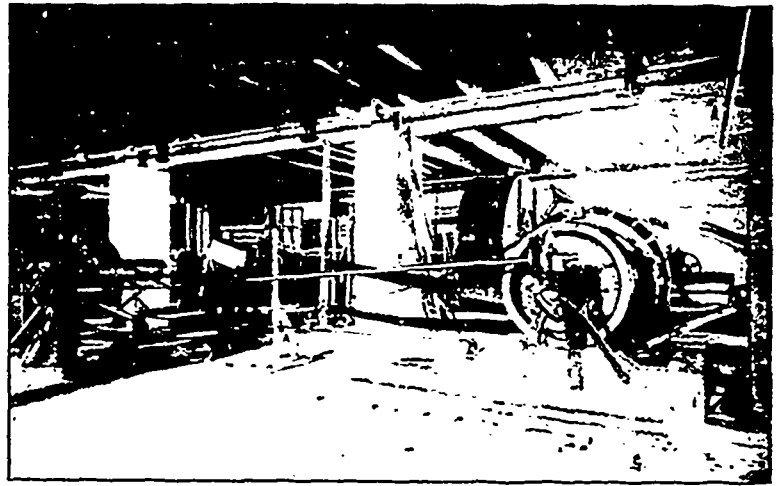
## CLING-SURFACE FOR BELTING.

Every user of power who has occasion to transmit power by means of belts knows that he is handicapped to greater or less extent by loss of power arising from slipping of his belts. He knows also that it is to his advantage to prevent this loss if possible, but how best to effect the saving is a conundrum that he is not always prepared to answer. If the belt is too tight it is liable to break, and if it is not tight it is apt to slip. The thing to be desired is something that will allow of the least possible amount of tension without slipping.

Having reference to an exhibit at the New York Electrical Exhibition a few months ago, the Electrical World and Engineer says:—

Those interested in belt transmission of power find in the display of the Cling-Surface Mfg. Company, of Buffalo, N.Y., an object lesson that is well worth, and generally receives, their careful attention. This exhibit is a practical one, for the practical man, and is devoid of any fancy frills which might detract from its real purpose. The object aimed at is to demonstrate that an average of 40 per cent. more power can be transmitted by a belt treated with Cling-Surface than with one not so treated. This is done by means of machines arranged in this manner: A direct current 10-hp 110-volt Westinghouse motor, running at 750-rpm, drives, by means of two four-inch belts on its one pulley, two 3½-kw, 125-volt Westinghouse multipolar dynamos, each running at 1000-rpm. Thus the two dynamos being of the same capacity and deriving their power from the same source enable a comparison of the performance of the two belts, which are of the same size, and made from the same piece of leather. The tension on the belts is obtained by means of heavy spring scales pulling at the back of the machines. The belt treated with Cling-Surface has a tension of 115 lbs., while that without Cling-Surface pulls on its machine with a tension of 200 lbs. The Cling-Surface belt runs slack while the other one runs tight, and the slackness of the former belt may be varied within a considerable range with but little effect on the lamps. A similar variation in the tension on the tight belt, however, produces a very marked

change in the light. Tests are made to show that there is no slip on the Cling-Surface belt, while on the other there is constant slippage. It is claimed that belts treated with Cling-Surface do not slip and that they will transmit power up to their breaking limit. In this exhibit the loose belt does twice the work of the tight belt, thus demonstrating the advantage to be gained by the use of Cling-Surface. The load on the machines consists of two lamp signs at the back of the booth, reading: "Without Cling-Surface," and "With Cling-Surface." These two signs



Belt Testing Machine, Sibley College.

Experimental Engineering in Sibley College, Cornell University, at Ithaca, New York, who in writing to Cling-Surface Mfg. Company, of Buffalo, N.Y., says:—

GENTLEMEN:—I beg leave to report that the Laboratory force of Sibley College have, under my directions, tested the effect of applying Cling-Surface to belt-

ing. The tests were in every case made on the belt-testing machine owned by Sibley College: this is so constructed that the belt can be tested under ordinary running conditions and measurements can be made for determining the power supplied, the power delivered, the tension of the belt, the arc of contact on either pulley and the slip. This machine has been used in extensive investigations for determining the efficiency of belting and is described in Volume XV., Transactions American Society of Mechanical Engineers. Three belts have been tested each before and after testing with Cling-Surface and each under various conditions of loading. In all over fifty tests have been made; a considerable number of observations have been repeated in order to check the accuracy of the results.

The belts before testing were in every case clean and in good condition and running under rather better than average conditions.

The Cling-Surface was applied on several successive days and in small quantities in accordance with the directions supplied by the manufacturers, before commencing the tests. The material was almost wholly absorbed at the time of starting the test, and none has since been applied. The material made the belt soft and pliable and gave it an inner surface somewhat resembling patent leather. This surface was only in the least degree sticky to the touch.

The general results of the test with Cling-Surface show an increased transmitting power as compared with the same belt in an untreated condition; it also shows an increased arc of contact, and very much less slip. It shows a very high transmitting power when the belt is run extremely loose or with very little tension on the pulleys, the reverse of which is true with the untreated belt. It will be seen by consulting the data that the

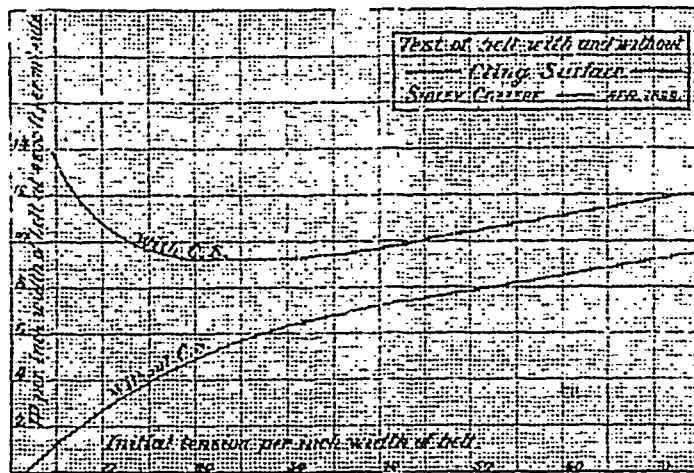


Fig 1.

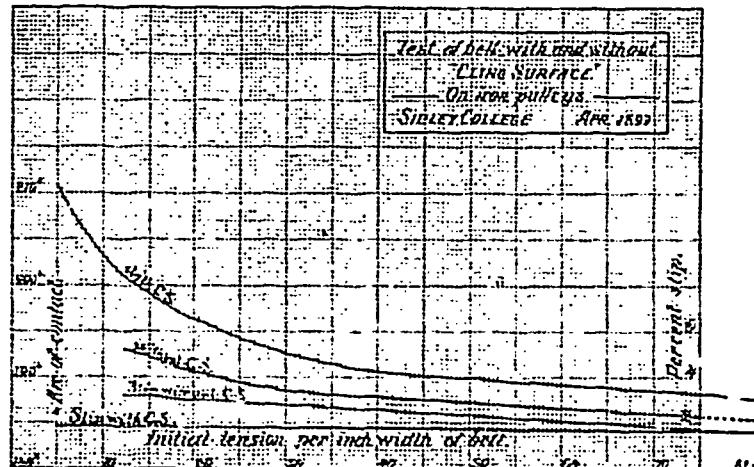


Fig 2.