

of small steam engines is sufficiently indicated when it is stated that all that is necessary to be done, without altering the engine in the slightest degree, is to uncouple it from the boiler and connect to the air main in the street with the interposition of a reducing valve and an air meter. The steam boiler may then be sold and the engine-tender may devote nearly his whole time to other duties.

The low price of small motors may be referred to. They cost less in Paris than even steam engines, which are of course easily the cheapest of all small motors; and the introduction of good rotary patterns has rendered their availability for small industries still more marked.

We have concluded from the calculations above elaborated, and which are based upon results already obtained with the Popp system in Paris, easily improvable, that a great economy in the cost of power to small employers can be effected by the adoption of a scheme for the centralised production of mechanical energy and its distribution by the use of compressed air. The question now naturally arises: Is this encouragement of small employers a wise thing to aim at from the point of view of the whole community, or ought we not rather to repress and altogether annihilate them in order that all industrial work may be confined to large factories?

A complete answer to this far-reaching question will not here be attempted; but the following considerations may not be out of place.

Statistics show that three fourths of the mechanical power now used in the world has originated within the last thirty years; and it has also been computed that one hundred times more work is done by the aid of machinery at the present day than by the combined efforts of the whole human race. The work of this vast and terrible mechanical agency must of necessity ever increase and grow in amount; it cannot in the slightest degree be limited or discontinued without the instant decline and final cessation of our material civilisation.

We are therefore face to face with this enquiry:—Are we to confide to the capitalists the sole mastery and control of this enormous power, upon the wielding of which the very destinies of the race depend? Or ought not rather the vast stores of Nature's energy to be at the common disposal of all, as a beneficent working agent?

It truly appears to the author that the results of the long continued operation of the former alternative are at the very root of the great Labour questions with their accompanying Socialisms and Communisms which are now so momentous in all the countries of Europe, and are beginning to agitate even the New World.

Consider the conditions of life of the factory hand. When a young workman, he sees no prospect of ever being able to compete as an independent employer with the large establishments producing the commodities he helps to make; he accordingly never dreams as a rule of saving his earnings for the purpose of establishing himself in business; but on the contrary uses the same to minister merely to his pleasures, and frequents the society of men like himself who, naturally ill content with their conditions of life, indulge in noxious political talking, if nothing worse. This state of things is certainly not improved, when, as he advances in life, from which the freshness and gloss have now been removed, he sees nothing before him but his day of toil unrewarded save by his weekly wage.

It is far otherwise with a man who can be his own employer. He takes pleasure in, and works with diligence and foresight at, an occupation from which he anticipates a personal reward for his own industrious skill. His intelligence is quickened by the invention of better methods for the carrying on of his work and in the buying of his own materials and the sale of his own finished products. He will have an apprentice or two who ought, if they are not already members of his family, to live in his house, and who consequently, from personal esteem, will take as keen an interest in the business as he does himself. They know that they themselves will some day be small employers, so that no detail of the whole organization will escape their vigilance.

There is no reason why these people should not have high moral and political aims; if only a strong government attends to the just protection of their rights and property; and they can then have no possible grounds of complaint.

It would seem therefore not illogical to draw the conclusion that in a state where small industries flourish there will reign peace, contentment, order, and prosperity; that discord imported from without can find no root, while discontentment from within can never arise.