

share to pay for the cows, and to pay for his stock in the factory of \$4 for each cow, thus giving him his stock on his farm and in the factory for the trouble of pasturing and milking during the summer. If this is not sufficiently profitable we know not what is.

The Hon. Robert Read has presented the company with the bonus of \$100, which he offered a year ago for the establishment of the first cheese factory in the county.—*Belleville Intelligencer*.

### Soluble Glass for Surgical Splints.

M. Velpeau has called the attention of scientific men to "anammo-inamovible" bandages made of soluble glass, to replace the starch, plaster-of-Paris and glue applications now used for bandaging fractures in England. The great advantage possessed by this glass is that it affords a firmer support, becoming quite hard in two or three hours, at the same time being readily removed by moisture. All these recommendations do not apply to the substances now in use, nor is their application as easy and neat as that of the soluble glass. It can be procured at a very moderate price from Mr. Rumney's Chemical Works, Manchester, and we hope that as fair a trial will be given to it in England as has already been done on the Continent. The discovery of this glass was made by Fuch, in Munich; he prepared it by fusing together sodic sulphate and charcoal and sand, or either potassio or sodic carbonate with sand. It is of extensive use in the arts for stereo-chromic painting, and protecting substances of all kinds that might be damaged by moisture, etc., from atmospheric action.—*Chemical News*.

### Novelty in Tanning.

A tannery has been located at Rockford, Ill., in which is employed the patented process by exhausting the air from the vat. The tanning is said to be accomplished in twelve hours, and that of sheep skin in fifteen minutes. The weight of leather from a given weight of hides is ten per cent greater than by the ordinary process, and the cost of the works is but ten per cent that of the old. It is also claimed that the leather is better; but this point can only be determined by wear.

### The French Pine Wool.

This curious novelty in manufacture, lately noticed among our patents, is said to be already in active manufacture and sale in Paris. As wadding it is recommended as adding to those usually demanded in that article highly medicinal qualities for catarrh, bronchitis, sore throat, rheumatism, etc. As mattress stuffing, it is but half the price of wool and hair, and better still, its resinous principles gets it the abhorrence of bugs. As flannel for all purposes, it peculiarly promotes the functions of the skin. The etherated pine oil prepared at the same time is highly praised as an application for incipient paralysis and apoplexy, recent burns, worms, fits, etc. etc.

### Steel Fusee Watch-chains.

The manufacture of steel fusee watch-chains for the internal machinery of watches is and has been

for nearly a hundred years a staple of Christ-church, Hants, England; young girls with small fingers and delicate touch being the manufacturers. Each chain is about eight inches in length, and contains upwards of 500 links, riveted together. It is not thicker than a horse-hair, and the separate links can but just be perceived with the naked eye. Modern invention has as yet discovered no substitute for this chain equal to it in slenderness, strength, and flexibility.

### Malleable Cast-iron.

Few of our readers may be aware that screw-propellers, and we mention the propeller of the Danish iron-clad gunboat *Rolf Krake*, are cast of Mr. McHaffie's malleable cast-iron or steel, as made by Messrs. McHaffie, Forsyth & Miller, of Glasgow. This material, as made by the firm just named, is not the subject of a patent, but is made by a process known, we believe, only to the manufacturers. Of its merits, however, there can be no doubt. It is of great absolute strength, great toughness, and great hardness; and although necessarily much more expensive than iron, it is of less than one-half the cost of brass. Messrs. R. Napier & Sons have employed it for the mast-caps and scupper-pipes of the frigates they have constructed for the Turkish Government; and as these vessels were built under Admiralty superintendence, one of the mast-caps was carefully tested some time since, at Woolwich Yard, and with excellent results. Several ships in the India trade, as well as several of the English and French transatlantic steamers, have their hawse-pipes made of this material. They are of but one-half the weight of cast-iron hawse-pipes, and are far more durable. The toughness of this metal is remarkable. We have seen pinions cast of it, with their teeth hammered down closely to the solid boss, and yet without any apparent cracking of the metal.

Messrs. Shand, Mason & Co., have employed this material, cast at Glasgow from their own patterns, for the pumps of their lighter steam fire-engines, for which, as well as for many other purposes, it is admirably adapted.—*Engineering*.

### The Band Saw for Iron.

Among the many samples of War Department ingenuity now ready for shipment in Woolwich Arsenal, for the Industrial Exhibition at Paris, is a work hitherto unattempted—namely, a device in iron cut by the circular or riband saw. The letters, although carved from a slab of solid iron one inch thick, are all correctly formed, and are of perfect uniformity throughout. The saw it appears, is the invention of M. Perrin, and was exposed at the Paris Exhibition of 1855, where it was purchased by Colonel Tulloh, then Superintendent of the Royal Carriage Department at Woolwich. Until very recently it has been used solely for the purposes for which it was designed—cutting and carving difficult and irregular curves in wood, &c., of which some specimens in mahogany, lignum vitæ, and other hard woods, are preserved in the pattern-room of the department. The tedious and laborious hand process, by means of the punch and chisel, being the only method hitherto used in carving the angle plates