

*cable also for reducing flax, hemp and other fibrous materials into tow.* Dated May 6, 1861.

This invention consists in scutching flax, hemp and other fibrous materials, by means of a revolving cylinder fixed in a frame, round which cylinder are placed combs and beaters, and to which the flax or other fibrous material is pressed by the hand through an opening provided for the purpose in front of the machine. After having been sufficiently acted on the flax is withdrawn and reversed end for end; this done, it is then put through the same operation, when it is finished. The patentee sometimes uses rollers to pass the flax or hemp into the machine. When hemp, flax or other fibrous material is to be reduced into tow, he then places round the cylinder by preference five combs or heckles. *Patent completed.*

(This machine is highly recommended by some leading flax manufacturers of Belfast, Ireland, as a useful invention.—Ed. Journal.)

1144. W. E. NEWTON. *An improved lubricating compound.* (A communication.) Dated May 6, 1861.

This consists in the preparation of a composition obtained by uniting an alkaline base, such as potash or soda, with oleine or stearine (the proximate acid principles of animal and vegetable oils, fats and tallow,) and with erine (the acid principle of wax). *Patent completed.*

1170. H. SWAN. *Improvements in lubricating apparatus for lubricating the journals and bearings of shafts and other frictional surfaces of machinery.* Dated May 8, 1861.

The patentee claims the use and application of lubricators having measuring delivery cups in which the capacity of the cup can be regulated and adjusted to the capacity of the bearing or part to be lubricated as described. Also the arrangement by which the oil passes from a measuring and delivery cup through its hollow supporting arm and is delivered as described. *Patent completed.*

1186. L. W. RODDEWIG. *Improvements in steam boilers.* (A communication.) Dated May 10, 1861.

This consists in the construction of boilers with an inner and an outer chamber, the inner chamber being in more immediate contact with the head of the furnace, and is surrounded with the outer chamber, the water level in the inner chamber being considerably higher than usual. There is a pipe communicating from the upper part of the outer chamber to the lower part of the inner chamber, through which the water passes from the former to the latter, when it has attained a sufficiently high level in the former. By this arrangement, the water being fed into the outer chamber is made to circulate around the inner chamber, in a direction contrary to that in which the heat passes along the flue around the outer chamber from the furnace to the chimney. By this arrangement, also, the sediment is caused to be collected in that part of the chamber which does not come in contact with the flue. *Patent completed.*

1195. J. WAREING. *Improvements applicable to Ryder's forging machine, which render it better adapted for forging mule spindles and articles of similar form.* Dated May 11, 1861.

This consists in making the acting forces of the swages or hammers narrow in the direction of the

length, but broad or long in the direction across the rod or bar operated upon, and in forming and arranging them so that the space between the two faces at one side will be wide enough to admit the largest part of the intended taper, the space gradually diminishing to the other side, where the space between the faces is only sufficient to admit the smallest part of the intended taper. *Patent completed.*

1214. T. BELL. *Improvements in the decomposition of the compounds of aluminium, and in coating metals with aluminium or its alloys.* (A communication.) Dated May 13, 1861.

This consists in effecting the decomposition of the compounds of aluminium (for instance, the double chloride of aluminium and sodium) by the agency of galvanic electricity, and also in coating metals with aluminium by the same agency. By this process the patentee converts the surface of copper (for instance) into aluminium bronze. *Patent completed.*

1223. W. CLARK. *Improvements in the manufacture of steel.* (A communication.) Dated May 14, 1861.

The patentee claims the simultaneous purification and conversion of iron by calcining it in the presence of coal or other hydrogenous or azoted matter, in combination with a carbonate, alkali or other substances capable of absorbing sulphuretted hydrogen. *Patent completed.*

1228. R. A. BROOMAN. *Improvements in working sugar refineries, and in sugar moulds and apparatus for trimming the loaves therein.* (A communication.) Dated May 14, 1861.

This invention consists in placing the pan or copper, from which the sugar for filling the moulds is to be taken, at the bottom or lower floor of the building, in forming the building with a shaft fitted at top with a hoisting and lowering apparatus, and communicating with each of the floors in which the moulds to be filled are kept. The pan is fitted with a valve commanding an outlet pipe in the bottom thereof, from which the sugar is run into a jacketed filling pot, formed by preference with a spout and fitted with a cover. The filling pot, after being charged, is run upon a truck into the shaft and hoisted to one or other of the floors where the moulds to be filled are placed; it is then put upon another truck, and is suspended from a tackle and blocks in such a manner that it may be tilted and the contents poured into the moulds. The moulds are formed at bottom with an aperture, which is threaded, and which is closed by a pointed metal spile which rises a slight distance inside the mould, and forms a hole in the head of the loaf of sugar; the spile terminates inside the mould in a button, on which a washer rests to make a tight joint. The moulds with the spiles screwed in are held in frames constructed of wood, with apertures for the moulds to be supported in. Double lines of rails are laid on each floor, and the frames with the moulds are run about for the purpose of filling, and otherwise in carriages on them. Water cans are also provided, and these, being filled, are wheeled in the carriages to the moulds, for the purpose of their being washed, so that they need not be taken from the particular floor on which they are placed; spouts for carrying off the water after having been