New Inventions.

Distilling Asphaltum.

A patent has lately been taken out in England, by James Stuart, of Chatham, for obtaining oil and other products from asphaltum and other bituminous matters by grinding and mixing any of these substances with lime, or chalk, then distilling them. A larger and more pure product is stated to be obtained by this invention. In its nature it appears to be similar to that of Halvor Halverson, of Cambridge, Mass., in the distillation of resin oils, for which a patent was granted some years ago.

Artificial Whalebone.

R. Wappenstein, of Manchester, England, has received a patent for making artificial whalebone, in long strips, from the horns of animals. He first cuts tbe horn spirally, by this he obtains a long spiral from a comparatively short horn. After this, he heats the coiled strips and straightens them out with a machine, they are then submitted to severe hot pressure to make them retain their shape. Tbese strips are colored and made to resemble whalebone suitable for umbrellas and crinolines.

New Telegraph.

The distinguished inventor of the stereoscope and of the first telegraph erected in England, Professor Wheatstone, of London, has just secured a patent for a recording telegraph, designed more exclusively, we understand, for ocean telegraphing. Its object is to use the positive and negative currents alternately, so as to obviate some of the evils of induction that prevent the rapid transmission of messages. He uses a perforated strip of paper to receive the records similar to that used by Bain in his large chemical telegraph. This strip is placed in connection with a rheomotor (or source of electric power) which, on being set in motion, causes it to move along and act on two pins in such a manner that, when one of them is elevated, the current of electricity is transmitted in one direction, and when the other is elevated, the current is transmitted in the opposite direction. These currents following each other, indifferently, in opposite directions, act upon the recording instrument at a distant station to produce corresponding marks on a strip of paper. Two recording pens are employed, and exact duration in the time of each signal is stated to be secured. The apparatus is quite complicated.

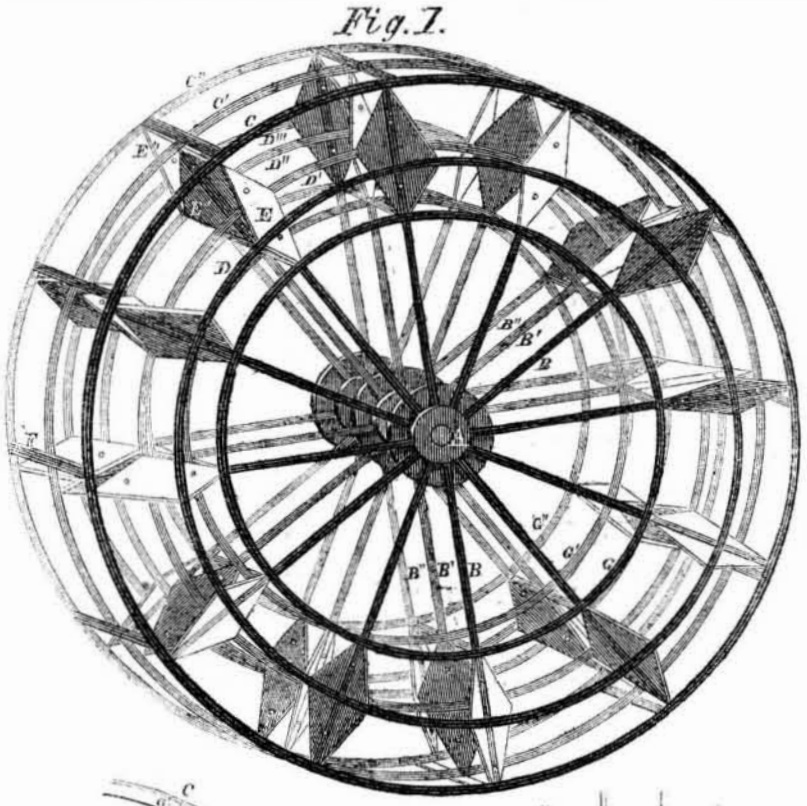
Improved Paddle-Wheel.

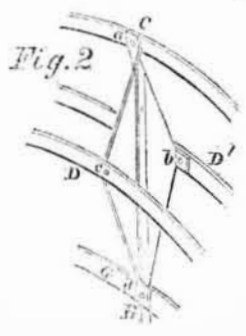
The great objections which can be brought against the paddle wheel as a means of propelling ships, this inventor—R. B. Locke, of Stapleton, Staten Island—has endeavored to remove by an improved arrangement of the buckets, and we must really say that he has been very successful. There is no concussion on the buckets entering the water, and the jarring or trembling, so unpleasant to passengers and injurious to the boat, is almost entirely avoided. The back water is obviated, as the paddles both enter and leave the water at an angle, though maintaining a firm hold upon it, while immersed, by their reversed position toward each other. As no water is lifted and carried up by the wheel, so there is no displacement caused behind it, and consequently no slip of the wheel. This wheel can be submerged to a greater depth, and worked in denser water than the common wheel. This last advantage is of great importance, as it not only accommodates ships heavily laden, but allows the shaft to be worked beneath the deck. It cannot well get clogged with ice or drift, and it is strong and durable, and easily repaired; and it has been proved by experiment to answer all tbat was expected of it.

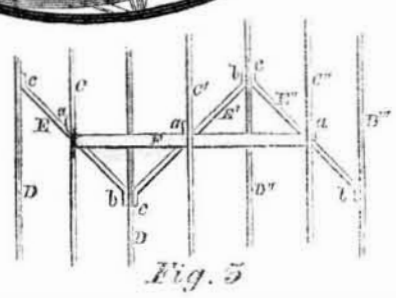
Our illustrations fully explain the construction, Fig. 1 being a perspective view, Fig. 2 a separate view of one bucket or paddle, and Fig. 3 a top view, showing the arrangement of the paddles. To a hub or shaft, A, are secured a series of radial arms, B B′ B″, connected together by rims or peripheries, C C′ C″, and each of these arms, B, carry a bucket of a diamond-shape, E E′ E″, placed at the angle at which the bucket takes the water (as seen in Fig. 3). The four corners of each bucket is shaped into a

LOCKE'S IMPROVED PADDLE-WHEEL.

Fig. 1.



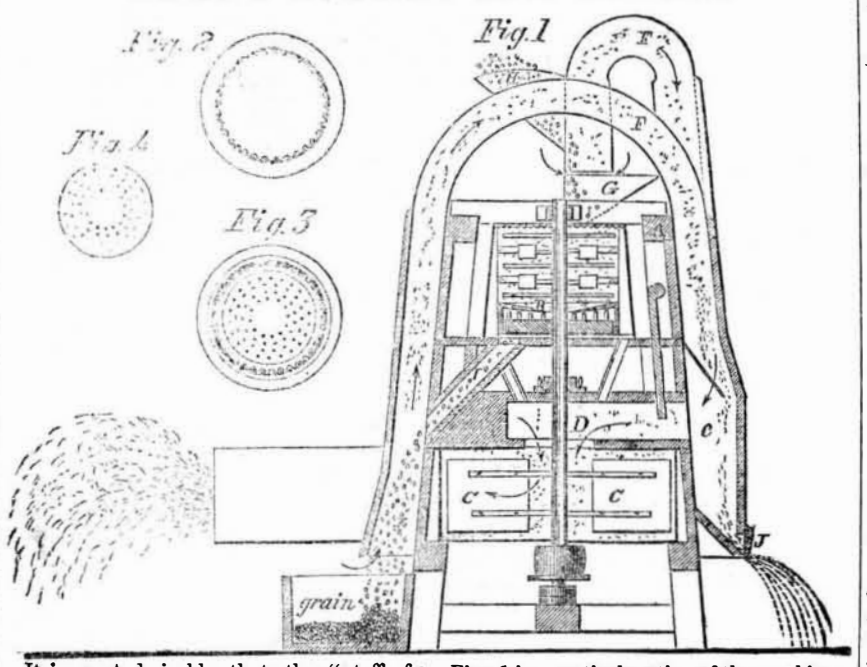




lug, *a b c d*, Fig. 2, and by these lugs they are secured to central rims, D D′ D″ D‴, bottom rims, G G′ G″ and the outside rims, C C′ C″, which are stayed from any warp or twist by cross-ties, F. The whole may be constructed of iron or wood and the propelling effect is equal, no matter in what direction the wheel rotates.

It was patented October 26, 1858, and the inventor will be happy to furnish any further particulars upon being addressed as above.

LANTZ & RUSSELL'S SMUT MACHINE.



It is most desirable that the "staff of life" should be pure and free from adulteration of all kinds, and the machine which is the subject of our engraving is designed to clean the wheat and remove from it all filth; and at the same time, while it separates the dirt from the wheat that is to be used for bread, it also saves the defective grains of wbeat or cheat for horse-feed, and cleans this from dust and cockle.

Fig. 1 is a vertical section of the machin e, Fig. 2 is a top view of the rubbing cylinder, Fig. 3 is a bottom view of the same, and Fig, 4 shows one of the rubbers.

The wheat is first passed through a small screen constructed with two riddles, H, which prevent anything larger than wheat passing into the machine, and the lower riddle allows all articles smaller than wheat to fall out of the machine. This hopper is moved by an eccentric, so that its motion riddles the grain. The wheat now passes into hopper, G, through the arch, F, where it is further cleaned by a blast of air passing to the fan, C. It is then conducted into the smut machine proper or rubbing cylinder, B. E is a draft arch into which the cleaned grain falls from B through the spout, I, where it meets with a suction draft passing to the fan. The smut balls, light grain, &c., that are separated from the wheat in F pass through F in the the direction of the arrows, and the light grain falls out at J, while the smut, &c., being separated at *c* passes through the tube, D, into the fan where it is blown away. The arrows indicate the direction of the draft. The whole machine is mounted on a stout frame, A, and is perfect in its operation. The addition of an extra tube is the novelty, in which the lighter grain hitherto blown away is saved and made of use, thus economizing all that is worth keeping of the wheat, and at the same time effecting a perfect separation. The whole of the motions are derived from the one shaft, the fan and rubbers being placed upon it.

It is the invention of J. Lantz and John Russell, of Wheeling, Va,, who may be addressed for further information. It was patented August 10, 1858, and is an excellent machine.

Water in Groups of Boilers.

We have just received a letter from H. H. Evart, of Cleveland, O., which was suggested by reading the article on page 145 of the present volume of the Scientific American, in reference to the water being at different levels in connected steam boilers. He informs us that, about two years ago, he set up an engine and two boilers side by side, connected in the usual manner by water and steam pipes. The steam pipe was too small, but as he was nearly 200 miles from the place where the engine was made, he concluded to try it. "When the engine was started, the water rose in the boiler nearest the engine and fell in the other until it was below the gages. On stopping the engine for a short time, the water soon rose in the back boiler to the same level as that in the other. This action afforded a good opportunity for experimenting as to the cause of this." As the water equalized itself when the engine was at rest, the difficulty became apparent as one in connection with the steam pressure, not the water arrangements, aud it was suggested, that the difference of pressure in the two boilers must be the cause. When the hottest fire was made in the front boiler, so as to generate most steam, the boilers operated better; but when a stronger fire was kept in the back boiler, the water rose too high in the front one, and passed over into the cylinder so as to stop the engine. After making repeated trials always with the same results, a remedy was applied. This was a copper pipe placed so as to equalize the pressure in both boilers. After this, the water maintained the same level in each boiler, and no difficulty was experienced.

The cause of the evil was the small steam pipe, and is explained by our correspondent as follows:—

"Your readers will bear in mind that a column of water one inch square and a foot high weighs nearly half a pound; consequently, if the steam pipes are so constructed that, in supplying the engine, half a pound more pressure is required in one boiler than in the other, the water in one will soon sink about one foot below the level of that in tbe other. Such extreme cases are rare; but a difference in pressure of two ounces is not uncommon in a group of boilers, and this makes a difference of three inches in the water levels. One great danger in having small steam connections in groups of boilers arises from unequal firing under them; the one in which the fire is kept hottest always exhibits a lower water level."

The electric cable between France and Algeria does not work well.