

WHITE'S CYLINDER OIL CUP.

The two accompanying engravings exhibit a new oil cup for the cylinders of engines, whether stationary, marine, locomotive, or portable, which was patented by Nelson J. White, Aug. 21, 1866. From an examination of one of them we are of the opinion it is well adapted to the work for which it is intended, and that the advantages claimed for it are not exaggerated. These are, in the words of the manufacturer: first, simplicity; there being no cocks to be opened or shut: second, durability; nothing to get out of order by use: third, efficiency; by which the cylinder can be oiled under any and all pressures: and, fourth, economy; as the oil or other lubricator may be compelled to trickle slowly into the cylinder, and not, as in some others, be injected with a rush, to be as quickly ejected with the exhaust steam.

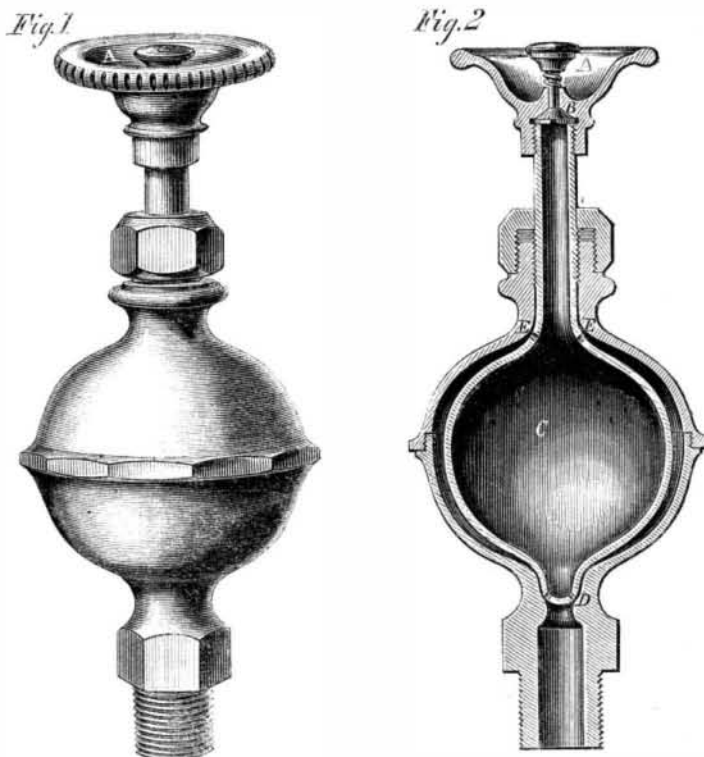
Its operation may be easily comprehended. Fig. 1 is a perspective view of the cup, and Fig. 2 a vertical section showing the parts. A is a cup into which the oil is poured or the tallow placed. It is furnished with a downward opening spring valve, B, operated by the thumb. The oil passes from the cup down into the interior hollow globe, C, which is seated at D, forming another valve. When this globe is secured to its seat by the serrated hand-wheel, A, there is no passage between the steam chest or cylinder to the cup. By turning slightly to the left the hand-wheel forming the cup, the inner globe is raised from its seat, and the steam, passing into the annular space between the two globes, and through the two apertures, E, at the top of the inner globe, equalizes the pressure, allowing the oil to descend by its own gravity through the two apertures at the bottom. Only one packing is required for this cup, that at the top under the receiver, and as there are only two valve seats, which have but a slight upward and downward motion, it seems hardly possible to get the device out of order with proper usage. The power of governing the admission of the oil to the cylinder is an advantage which will be recognized by engineers. This cup is already introduced into the navy, on locomotives, and on stationary engines, with the most satisfactory results. It is manufactured by S. C. Woodward, Lawrence, Mass., who should be addressed for any further information.

Turning Tapers.

A correspondent from Connecticut writes:—In a former number of the SCIENTIFIC AMERICAN I noticed in answer to a correspondent, a statement that a lathe set

turn a true cone with a tool above the center. Mistakes are seldom found in your valuable paper, but this I think is one; for in this case the tool does not move in a plane with the axis of the article to be turned, and in passing from the small to the larger end, the tool relatively approaches nearer the plane of this axis in consequence of its being further from its center of rotation.

By experiment the above theory is found to be correct. It may be such a statement has been made in this paper, although we do not recollect it. But it is erroneous. If the



one is 3 inches diameter at one end and only 1 inch at the other and the tool is 1/4 inch above the axis of rotation there will be a departure from the desired taper, because while the difference between the diameter and the altitude of the tool at one end is as 1 to 12, at the other it will be as 1 to 4.

Sounding and Sensitive Flames.

Prof. Tyndall has recently unfolded in a lecture at the Royal Institution, the result of his investigations of the effect of sounds upon flames. Every one has observed the musical sounds emitted by flames, and many will remember observing a curious susceptibility of flames to shocks of sound. The

jumping of a naked fish-tail flame in response to musical sounds was first noticed by Professor Lecomte at a musical party in America. Prof. Tyndall exhibited a most wonderful set of experiments on flames or gas jets thrown through glass tubes. These tubes were of all varieties of length and size, and by singing to them, reciting lines of poetry to them, and sounding tuning-forks at them, the lecturer exhibited from each flame a distinct note or song, and the room was at times filled with harmonies as of many Eolian harps. One flame was so sensitive that although 20 inches long, the slightest tap on a distant anvil knocked it down to 8 inches, and the dropping of a sixpence threw it into a violent commotion. Another flame could not tolerate the utterance of a letter S, and a hiss from some one, which the Professor invited, made it flare and shiver in the most odd and ludicrous way. Another danced in response to measured sounds.

Illustrations for Patent Reports.

We are happy to state that the contract for engraving the illustrations accompanying the report of the Commissioner of Patents has been awarded, by the joint committee of the two Houses of Congress, to E. R. Jewett & Co., of Buffalo, to be executed in their new style of relief line engraving. The award was made on the ground of the superior character of their work over all competing specimens offered. The number of patents to be engraved is something over 8,000, larger than during any previous year. The Patent Office is the only self-sustaining branch of the Government. The fund now on hand, after paying the entire expense of the Office, is \$280,000, all paid by inventors.

It was the determination of the Committee that the standard of the engravings should not be lowered. The illustrations furnished by Messrs. Jewett & Co., have been of a very excellent quality.

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Foreign Patents.

American Inventors should bear in mind that, as a general rule, an invention which is valuable to the patentee in this country is worth equally as much in England and some other foreign countries. In England the law does not protect the right of a foreign inventor as against the first introducer of an invention from abroad. For twenty years past the great majority of patents taken out by Americans in foreign countries have been obtained through Munn & Co's agency. Patents are secured with the utmost dispatch in Great Britain, France, Prussia, Belgium, Russia, Austria, Italy, The Netherlands, Spain, Sweden, Australia, and other foreign countries. Models are not required, but the utmost care and experience are necessary in the preparation of applications. Patentees who intend to take out Foreign Patents should send to us for a Pamphlet of full advice. Address

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