Patent Department

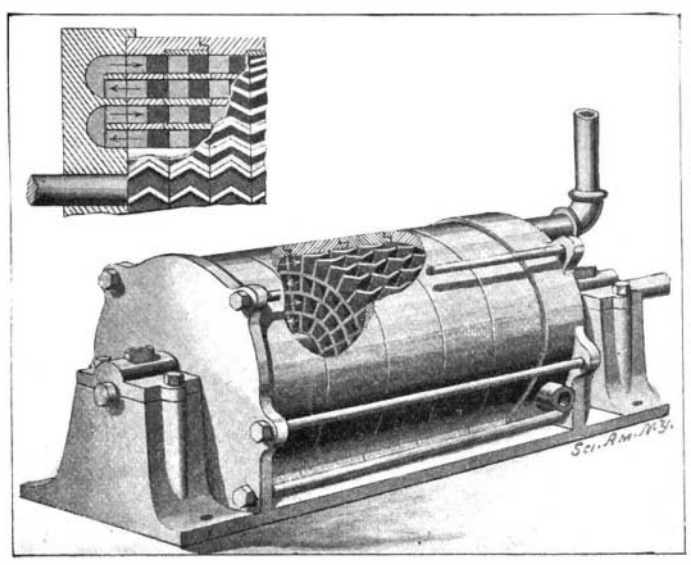
OIL-CAN.

By a novel construction of parts the oil-can here illustrated is made to forcibly and copiously eject oil upon flexing its bottom diaphragm. The can, which is similar in shape to the ordinary oil-can, is provided with a false bottom to which are secured two tubes; the longer tube, which is central, projects into the spout of the can, while the shorter tube opens near the top of the body portion. At the base of each tube is a valve, that in the longer tube opening upward, and the valve in the shorter tube opening downward into the bottom compartment. A nipple is removably fastened in the wall of the body near the top. An inwardly-opening valve in this nipple forms a passage for the admission of air at atmospheric pressure. The oil, filling the body and flowing through the shorter tube, passes into the compartment below the false bottom. Now, when the bottom of the can is flexed inwardly, the valve of the shorter tube will seat, but that of the center tube will open, and the oil will be forced out through the spout. As the bottom returns, because of its resiliency, to its normal position, this latter valve will seat, while that of the shorter tube will open, allowing a fresh supply of oil to flow into the bottom compartment. As the oil is removed from the body portion, air takes its place by way of the valve in the nipple. On outward pressure, however, this valve closes. To fill the can the nipple is removed, thus affording an opening through which the oil may be poured. The device has recently been patented by Mr. Thomas Vojta, of Mound City, So. Dak.

IMPROVED OIL-CAN.

NEW TURBINE ENGINE.

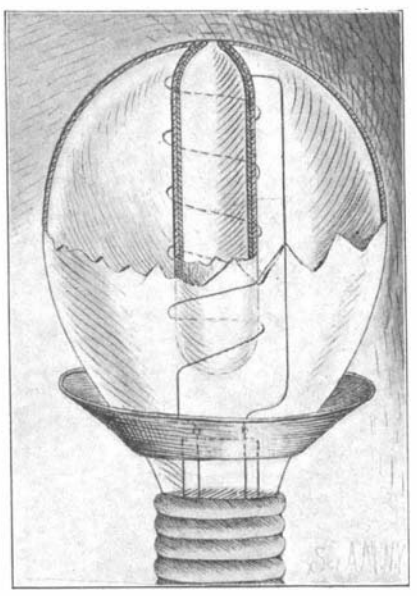
Our illustration shows a new turbine engine of novel construction which has recently been invented by Mr. William D. Linscott, of Piedmont, So. Dak. The inventor has built a toy experimental engine of this design, which weighs but 63 pounds and which, under 40 pounds' pressure, has developed enough power to run a small lathe, a grindstone, a sawmill and several other devices. The construction is such as to require little or no attention, for there are no complicated running parts to cause wear, and require packing to make them steam-tight. The steam is economized and continually reused. The simple construction of the engine is clearly shown in the engraving. The cylinder or casing is made up of a number of annular sections which are held together by the tie-rods that bind the cylinder heads together. Each cylinder section is provided with a honeycombed web formed by annular series of ribs or partitions separated by circular partitions. These honeycombed webs are formed at one side of the sections, leaving cavities for the reception of the piston webs. The latter have a construction similar to that of the cylinder webs, the circular partitions being respectively in registry with each other. Steamtight connection can be made between them by providing the circular partitions of the pistons with ribs to fit loosely in corresponding grooves in the edges of the cylinder partitions. Each piston is provided with an elongated hub, these hubs being keyed to the shaft and projecting under the cylinder webs so as to give them support. The feed-pipe at one end of the engine communicates with an annular cavity in the cylinder head. This feeds steam to the innermost series of openings in the cylinder and piston webs. Reference to the illustration will show that these openings are in line with each other and form steam passages extending completely through the engine. The steam flowing into the innermost passages enters an annular return port in the opposite cylinder head. This leads the steam back to the next outer series of steam passages, whence it is again returned and passed back and forth through the successive series until the outermost passage has been traversed, whence it passes out through the exhaust pipe. The ribs or veins which form the side walls of the steam passages are V-shaped, as clearly shown in the small detail view. Now it will be seen that the steam acting on the veins of the piston webs will give them a rotary motion, while the veins of the cylinder frame act continually to deflect the steam and re-direct its flow against the piston webs. The steam has a continuous course through the various passages of the engine, and thus its entire energy is made use of to drive the pistons continuously in one direction. These in turn impart movement to the shaft. Obviously any number of annular steam passages can be formed in the engine, thus increasing its power.



NEW TURBINE ENGINE.

ELECTRIC LAMP.

In order to increase the illuminating power of an incandescent electric lamp, a California inventor forms the bulb with an interior tube open at one end. The tube and bulb are so connected that the vacuum is not destroyed and that a brush can be exerted in the tube to appy silver to the walls in order to form a reflector. The filament is coiled around the tube, so that a maximum amount of light-producing surface is provided.



A NEW INCANDESCENT LAMP.

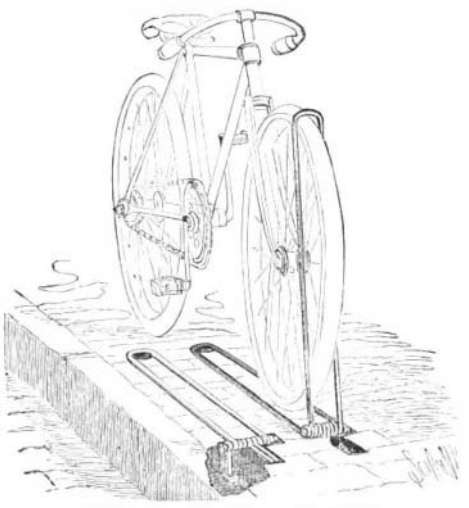
A Self-Lighting Cigar.

An inventor, who is evidently wearied of the many fruitless attempts to light a cigar in a windy street, has invented a combustible tip, which is intended to do away with the use of matches. The tip is composed of a mixture of ground glass, saltpeter, potassium chlorate and gum arabic. This mass is molded into a cap on the end of a cigar, and a frictional igniter, such as that used on the tips of matches, is placed on the surface of the cap. When the igniter is scratched, the cap burns freely and cannot be extinguished by an ordinary wind. The combustion fuses the ground glass and renders the cap incandescent. The fused glass forms an airproof cover on the end of the cigar and prevents any of the fumes from entering the tobacco, so that no unpleasant taste results.

A process has been discovered in France by which garbage is converted into briquettes, which consists in mincing the refuse from abattoirs, fish markets, etc., straw, paper, etc., and adding tar and naphthalene. The mass is then mixed in a kneading apparatus, dried, and pressed into briquettes. The briquettes have a slight odor of gas, burn brightly and engender heat slowly, it is claimed, and with a more highly perfected method of manufacture they will produce less ash, and the heat-producing qualities will be about the same as those of common coal. They will also possess the advantage of burning slowly and developing no smoke.

BICYCLE STANDS.

Most bicycle stands now used on sidewalks are bulky contrivances, occupying considerable space and presenting annoying obstructions to pedestrians. We show here a stand of very simple construction which, when not in use, folds down automatically into the sidewalk, thus offering no obstacle to foot travel. The stand consists merely of a rod bent to an elongated U-shape, and designed to engage the sides and upper surface of a bicycle wheel. The two legs of this stand are coiled at their lower ends about a bar secured in a recess in the sidewalk. The sidewalk is also provided with a channel for receiving the device when folded. The ends of the rod extend outward, and form anchors to prevent the device from swinging too far rearward. These ends may be brazed together, and when the device is turned up in operative position, the ends will engage a metal plate secured to the wall of the recess, thus holding the stand at a slight forward incline, so that when the wheel is removed, it will fall by gravity to its position in the sidewalk. The channel can be easily formed in a wooden or stone sidewalk by the use of suitable tools, or if a concrete walk is used, the simplest way of forming the channel is to press the rod into the concrete while the material is still wet. The inventor of this simple stand is Mr. Louis H. Knoche, San Jose, Cal.

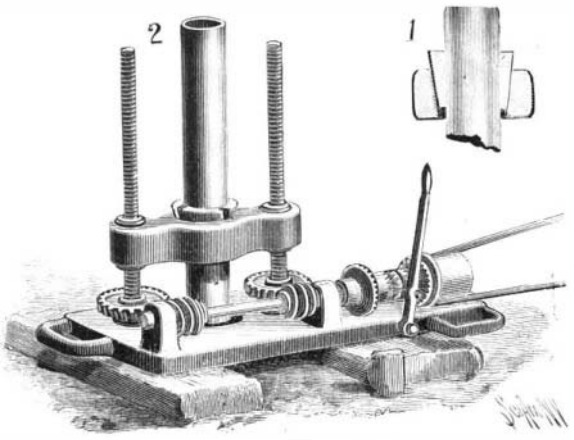


A CONVENIENT BICYCLE STAND.

PIPE PULLER.

A patent has recently been granted to Mr. James A. Haire, of Weyauwega, Wis., for a pipe puller of improved design. The device, which is portable, is so constructed that power may be taken from a driving belt or chain and communicated to the lifting screws with the least possible amount of machinery. The pull on the pipe is straight, and obviates any tendency to torsion or wind on the crosshead.

The device as illustrated comprises two parallel upright screws mounted to turn in a baseplate and connected by a crosshead provided with nuts which travel along the screws. A hole is provided in the baseplate, through which the pipe to be pulled passes; the pipe also passes through a taper opening in the crosshead, to which it is secured by tightly-driven wedges. The screws are provided with worm gears, which mesh with worms on the driving shaft. It will be noticed that the screw on the left has a right-hand thread, and that on the right has a left-hand thread; the pitch of the worms also is such as to turn the screws in opposite directions. The object of this arrangement is to obviate any tendency to torsion or wind in the crosshead, while the right-hand or left-hand worms tend to balance the end-thrust of the driving shaft, thus making a pipe puller that is light in weight, compact and very durable, and one which will easily do the required work. A reversing



PORTABLE PIPE PULLER.