

**APPARATUS FOR CLEANING OILS.**

The apparatus herewith illustrated is particularly designed for cleaning oil which has been used upon machinery and in the processes of manufacturing. The upper tank has an opening in the upper side protected by a strainer, and is for the purpose of receiving and storing the oil to be cleaned. It is placed on a suitable frame above the filtering tank, in order that the oil will be forced through the filters by hydrostatic pressure. The lower tank is formed with a central cylinder, to each end of which is connected a larger cylindrical chamber. The central cylinder or tube is inclosed in a steam jacket; and into each end is inserted a removable perforated tube. The filter consists of a rod extending lengthwise through the lower tank, and wrapped with woolen batting or felt between perforated disks, to form a roll of the same diameter as the disks; between the layers of wool are thin layers of wood sawdust. The four disks are of the same diameter as the tube, and are placed, one at each end and one just with the end of each of the removable tubes. Between the outer disks, at each end, wool alone is used. The upper tank is connected by a pipe, with the annular chamber in one end of the lower tank. Each annular chamber is provided with a waste pipe, and the steam jacket has pipes for the passage of steam.

The oil flows from the upper tank into the annular chamber, where any water which is present collects with the coarse dirt below the perforated tube, and is drawn off through the waste pipe. While in this chamber the oil becomes warmed and more fluid, and passes through the perforations in the tube and the filtering material to the opposite annular chamber, being further heated and liquefied in its passage. In this chamber any impurity or water which may have passed the filter collects in the lower part, and is drawn off through the waste pipe, while the cleaned oil is drawn off through a faucet (not shown in the cut) at the side. When it becomes foul, the filtering material can be removed and easily cleaned. To cause the oil to flow freely, the second chamber is connected with an open pipe extending above the upper tank; steam may be sent through this pipe for the purpose of cleaning the chamber.

In actual service this cleaner has resulted in a saving of over 50 per cent in the oil used, and the same oil has been passed through it as many as sixty times, and each time being perfectly cleaned. The patentee, Mr. John C. Thornton, P. O. box 302, Mount Vernon, Ind., who will furnish further particulars, has received many letters strongly commending the cleaner.

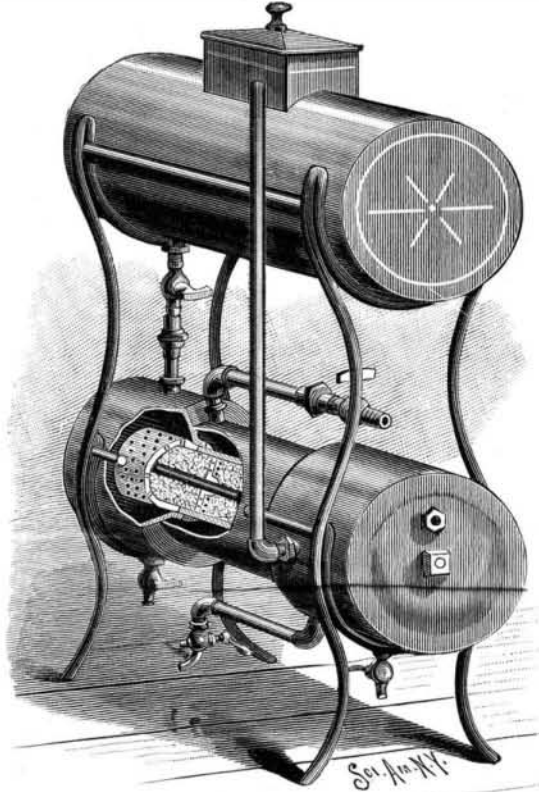
**A PORTABLE PHOTOGRAPHIC CAMERA.**

The wonderful impetus which has been given to the practice of photography in consequence of the introduction of the modern sensitive gelatine dry plate, and the increased attraction it offers to all who wish to undertake it, by reason of the simplification of the different processes, is evidence that it will, in time, become very popular, and afford useful and profitable amusement to many.

So easily are the sensitive plates worked that any person of ordinary intelligence may obtain, after a few lessons, excellent pictures. The absence of the old-fashioned nitrate of silver bath, which formerly was the most troublesome article, for the amateur, connected with photography, now simplifies the manipu-

lation very materially, and enables one to readily produce one or more negatives without the danger of soiling the fingers.

Ladies, in view of this advantage, are taking up the practice of photography to a very large extent as a pastime, and by the artistic talent which is so generally inherent in their nature often produce results which few adepts in the art can obtain.



**THORNTON'S APPARATUS FOR CLEANING OILS.**

It frequently happens, when a long journey is to be undertaken, that a portable camera, small and light, which will not be burdensome, is desirable, and of advantage in permitting the traveler to catch views, as he goes along, of whatever may attract his attention; and it was with a view to provide such an instrument that the apparatus we illustrate in our engravings was invented. If the nature of the article is concealed, so as to appear like something other than a camera, it enables the operator to take a picture without attracting the suspicion of the object photographed, and in consequence lifelike attitudes may oftentimes be easily caught and reproduced. Such instruments have been commonly named "detective cameras."

It will be our purpose to enter into a brief description of the Parsell camera, invented and recently patented by Mr. H. V. Parsell and Mr. H. V. Parsell, Jr., of this city. The primary object of the invention has been to condense the requirements of a camera into as compact a space as possible, and then to conceal its form by incasing it in a small leather covered rectangular box, provided on the outside with a neat leather handle and lock, as plainly indicated in Fig. 6, where it is intended to resemble a lady's reticule, or a case such as physicians frequently carry.

The essential features of the invention are the use of a lens of fixed focus, a peculiar snap shutter working within the lens tube, and released by a delicate trigger or pneumatic device, a miniature supplementary lens in connection with a balanced pivoted mirror for reflecting its image upward against a ground glass, arranged above the main lens, to act as a finder, and a receptacle for holding the extra plates.

Fig. 1 shows a longitudinal section and Fig. 2 a cross section of the box, near the front or lens tube end. The box is made in two parts, the upper portion forming a cover hinged on one side to the lower part. Near the front end of the top of the cover is a small square aperture (see Fig. 3), made directly over the ground glass screen, G, of the finder, and when the box is not in use this aperture is closed by a small metal slide.

Below the ground glass, G, of the finder is seen a pivoted balanced mirror, F, which reflects the reduced image from the small lens upward against the ground glass. The shaft which supports the mirror has a spring projection at right angles, which by slight friction bears against the exterior side of the metal finder box. This construction enables the operator to readily alter the angle of the mirror when it is desired to point the camera upward or downward.

It will be noticed the small lens is located directly over the main or view lens.

A pivoted diamond-shaped leather slide or door covers the main and finder lenses when the camera is not in use, and a similar false fixed leather slide is secured on the outside of the box at the opposite end. The main lens tube is fitted with lenses of the ordinary wide angle type, and is connected and supported at its rear by a conical metal chamber, which is secured to a wood partition provided with a rectangular aperture made to correspond with the size of the sensitive plate that is used.

Located midway between the lenses is a thin metal shutter, B, of peculiar shape (see Fig. 2, a view of the box looking from the rear to the front), which operates through a slot in the tube cut half way through it; the shutter rotates on a pivot supported by a small lug screwed to the outside of the tube. Near the edge of the shutter, in the lens tube, may be seen by the dotted lines a small rectangular aperture, which passes directly in front of the diaphragm of the lens when an exposure is made. Behind the shutter is pivoted an adjustable diaphragm plate, D, which is common to all wide angle lenses, and is used when time exposures are made.

Upon the face of the shutter, B, near the projecting edge next to the interior side of the camera box, are two small metal pins, arranged one above the other in such a manner as to allow the releasing trigger, C, to detain or hold the shutter at a proper point for making a "time" or an "instantaneous" exposure. If the shutter is pushed down until the upper pin comes under the narrow foot of the trigger, it will when released make an instantaneous exposure, as the aperture in the shutter will pass entirely by the diaphragm of the lens. If the lower pin is brought under the trigger, C, the aperture in the shutter will be brought opposite the center of the lens, and a time exposure may be made.

The shutter, B, is operated by a flat steel spring, A, having a slot in its upper end by which it can be passed over the screw peg and retained in position by a thumb



**PARSELL'S PORTABLE PHOTOGRAPHIC CAMERA AND TRIPOD.**