Aug. 16, 1932. H. UYTTENBROECK 1,871,484

PHOTOGRAPHIC PRINTING APPARATUS

Filed July 11, 1929 2 Sheets-Sheet 1

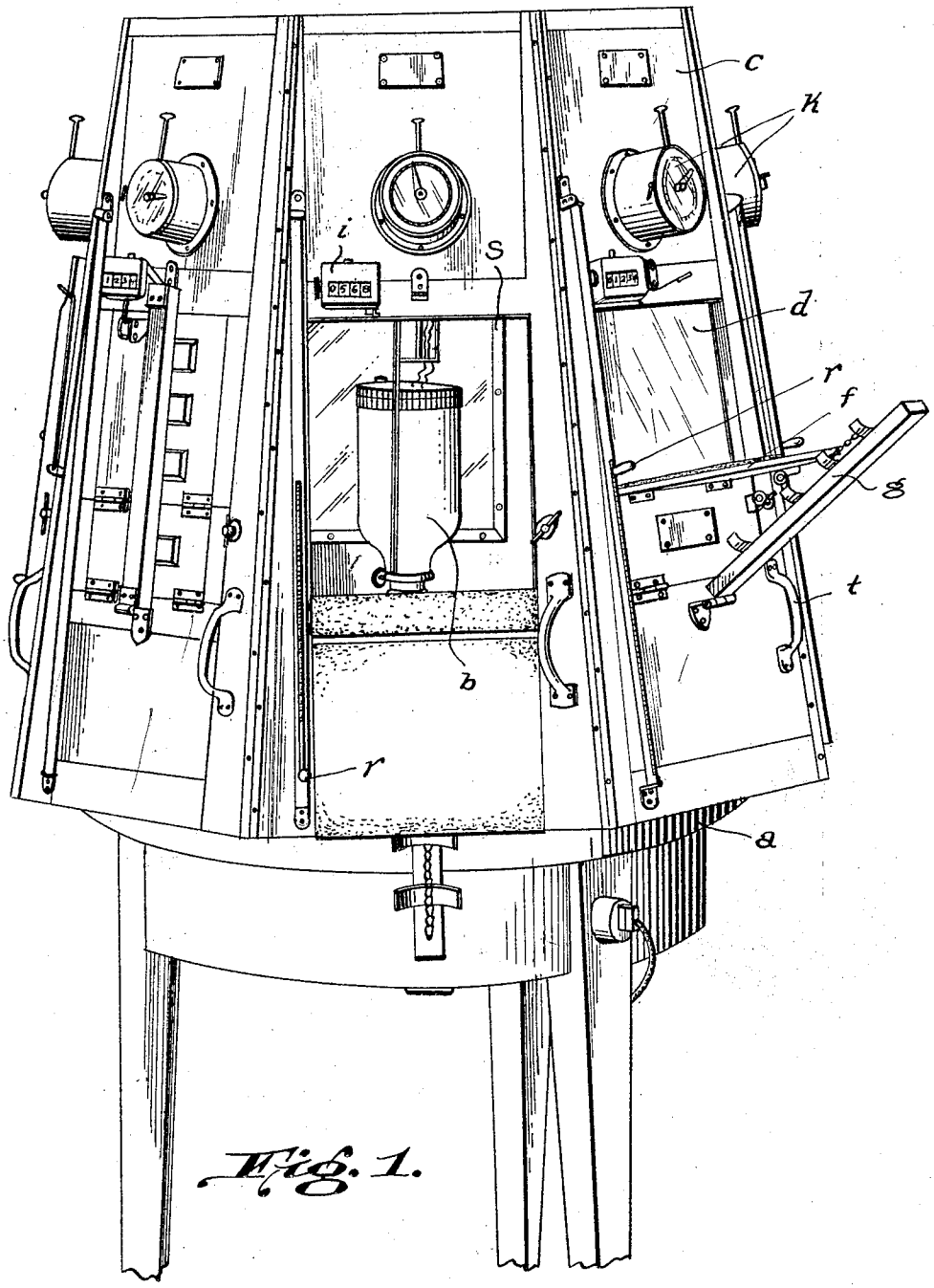


Fig. 1.

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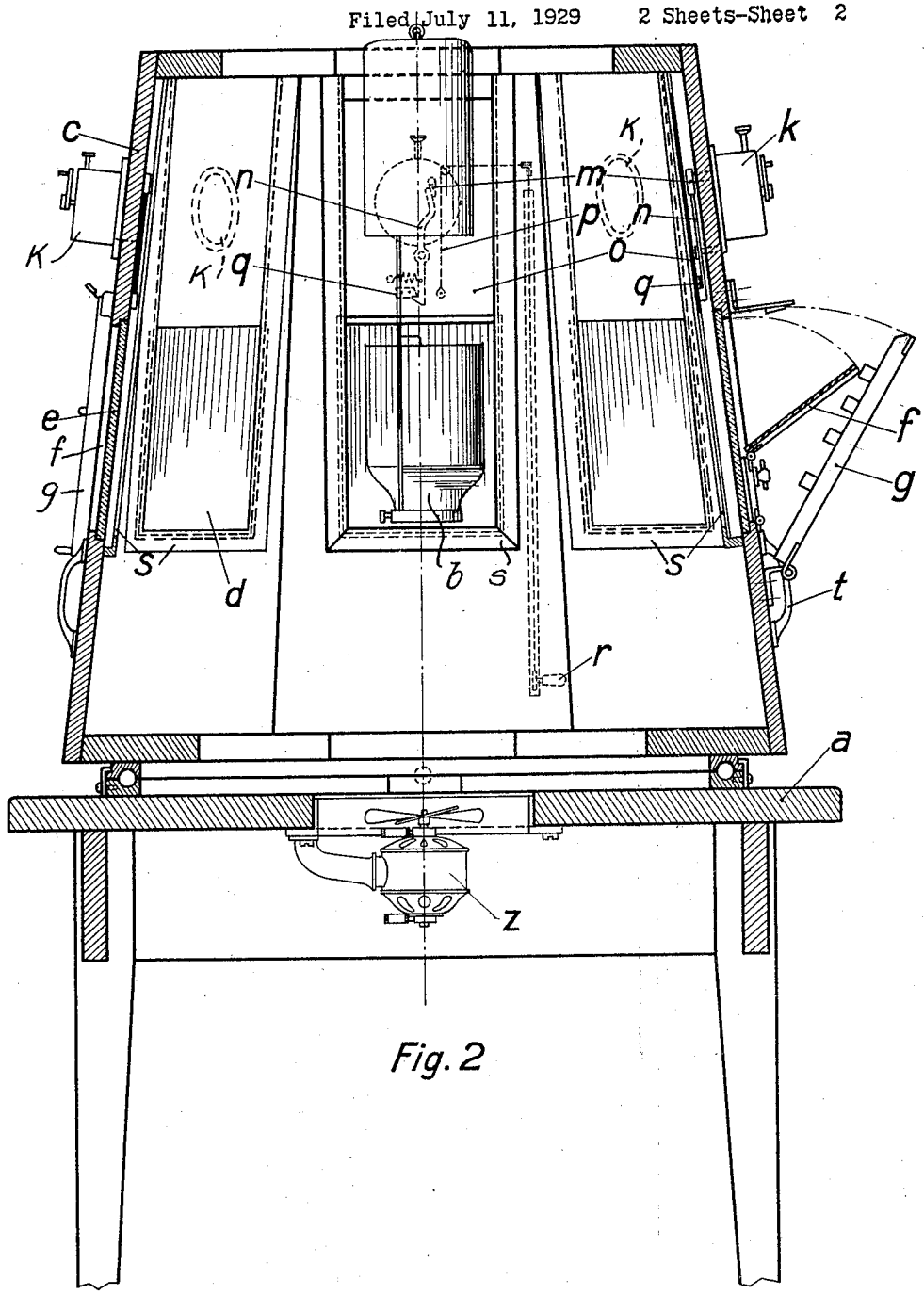


Fig. 2

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Patented Aug. 16, 1932

1,871,484

UNITED STATES PATENT OFFICE

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PHOTOGRAPHIC PRINTING APPARATUS

Application filed July 11, 1929, Serial No. 377,515, and in Germany June 11, 1928.

It has already been proposed to make photographic prints of several negatives simultaneously by employing a box-like casing which is provided with windows and surrounds the source of light and placing in the windows normal printing frames containing the negative and the printing paper. This arrangement has the disadvantage that the changing of the printing frames for making several prints from the same negative takes a considerable amount of time, it being left to the operator to judge the time of exposure for each print. The employment of printing clocks is per se also known.

The present invention relates to a photographic printing apparatus for producing large numbers of prints from several negatives exposed simultaneously, the apparatus comprising a printing clock and a box-like casing surrounding a source of light, in which in accordance with the invention the windows are constructed so as to form printing frames and are each shut off from the source of light by a shutter released by a printing clock.

In the accompanying drawings a constructional example of the invention is shown, in Fig. 1 in elevation and in Fig. 2 in longitudinal section.

On the table *a* the box-like casing *c* which may be made of wood or metal rests on ball bearings so as to be rotatable about the arc light *b*. The arc light *b* is of conventional form and may be raised or lowered from the ceiling in any preferred manner. The base of the casing may be in the form of a triangle, a rectangle or a regular polygon, the casing forming either a prism or, as illustrated, a casing of tapered formation. The side walls of the casing *c* are provided with windows *d* constructed in the manner of printing frames. The printing frames are provided with the usual sheet of glass *e* and are closed by the divided cover *f* which is connected to the casing by hinges and is pressed against the same by the spring bow *g*. One half of the cover *f* can be fixed in position by the eccentric clamp *h* for the purpose of enabling the print to be inspected for ascertaining the time of exposure of a negative. Connected to the casing is a counter-mechanism *i* which is operated by closing the cover. The printing clock *k* is fixed above the printing frame window on the outside of the printing casing and is provided with a releasing member *m* actuated by the clockwork. The releasing member is in engagement with the two-armed spring-loaded lever *n* by which the shutter *o* is locked in its open position, through the hook-shaped end of the lever *m* engaging round a stop *q* on the shutter. After charging a printing frame with a negative and a sheet of printing paper and after setting the clock to the printing time which has previously been ascertained for the negative and noted on it, the shutter *o* is opened by means of the handle *r* and a pull cord *p* passing over pulleys, and is locked in the open position by the lever *n*. After the printing time has expired, the printing clock releases through the lever *m* the locking mechanism of the shutter which then falls down under gravity and shuts off the window from the source of light. The operating lever of the shutter is guided in the slot *s* and at the same time serves as a means for indicating the condition of a printing frame. Handles *t* are provided for facilitating the turning of the casing.

For carrying away the heat formed in the interior of the box-like casing of the printing apparatus, the casing is open at the top and the bottom. The heat can be carried away by the natural circulation of the air through the top of the apparatus or this action can be increased by artificial air circulation by means of an exhaust or blower fan *z* supported by the table *a*.

The printing apparatus according to the invention is more particularly suitable for making a large number of blue prints from a negative. The invention provides the advantage that the casing may be built up of separate sections of any size, which are all fitted in the same manner.

I claim:

A photographic printing apparatus including a rotatably mounted casing, printing frames mounted in the wall of the casing, each frame having a cover, a shutter for each frame slidably guided in the casing for ver-

tical movement, a stop member carried by each shutter, spring restrained levers pivotally mounted on the casing one adjacent each shutter and having hooks for detachably engaging the respective stops to maintain the shutters in open positions, a printing timing clock for each shutter, each clock being mounted on the casing and each being operable to actuate the associated levers to release a shutter to permit the same to close by gravity, a handle for each shutter slidably guided in the casing and operable to elevate the associated shutter to open position, and members hingedly connected to the casing for engaging the respective covers to hold the same in closed relationship with the printing frames.

In testimony whereof I have signed my name to this specification.

HUBERT UYTTENBROECK.