E. S. KRANTZ & J. W. KNUTESON.

PRINT DRIER.

APPLICATION FILED MAR. 4, 1911.

1,036,268.

Patented Aug. 20, 1912.

2 SHEETS—SHEET 1.

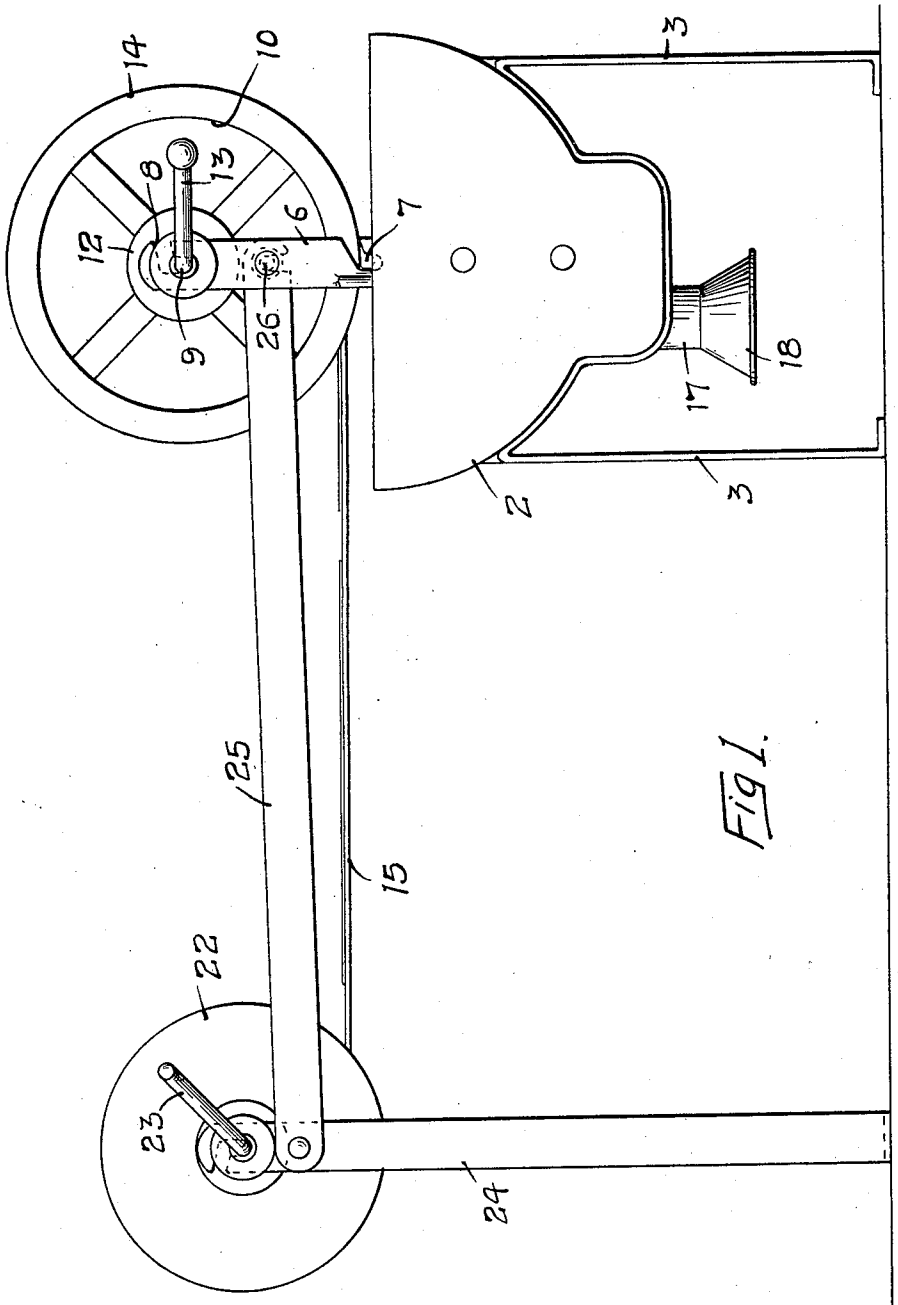

Fig 1.

WITNESSES

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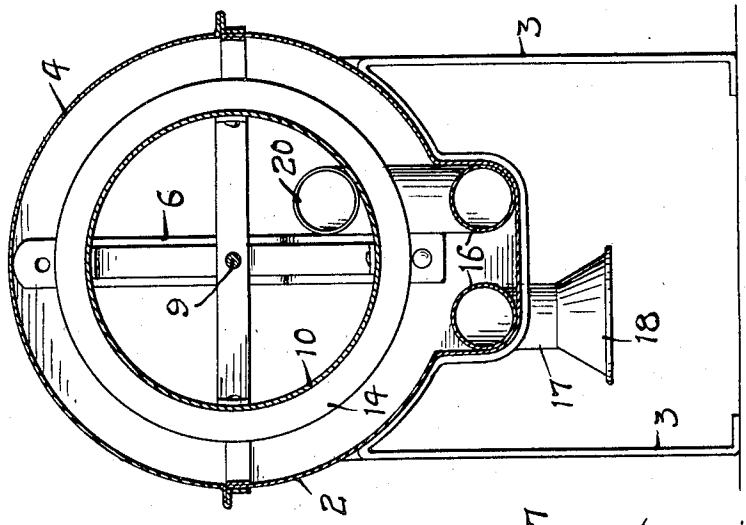

Fig 3.

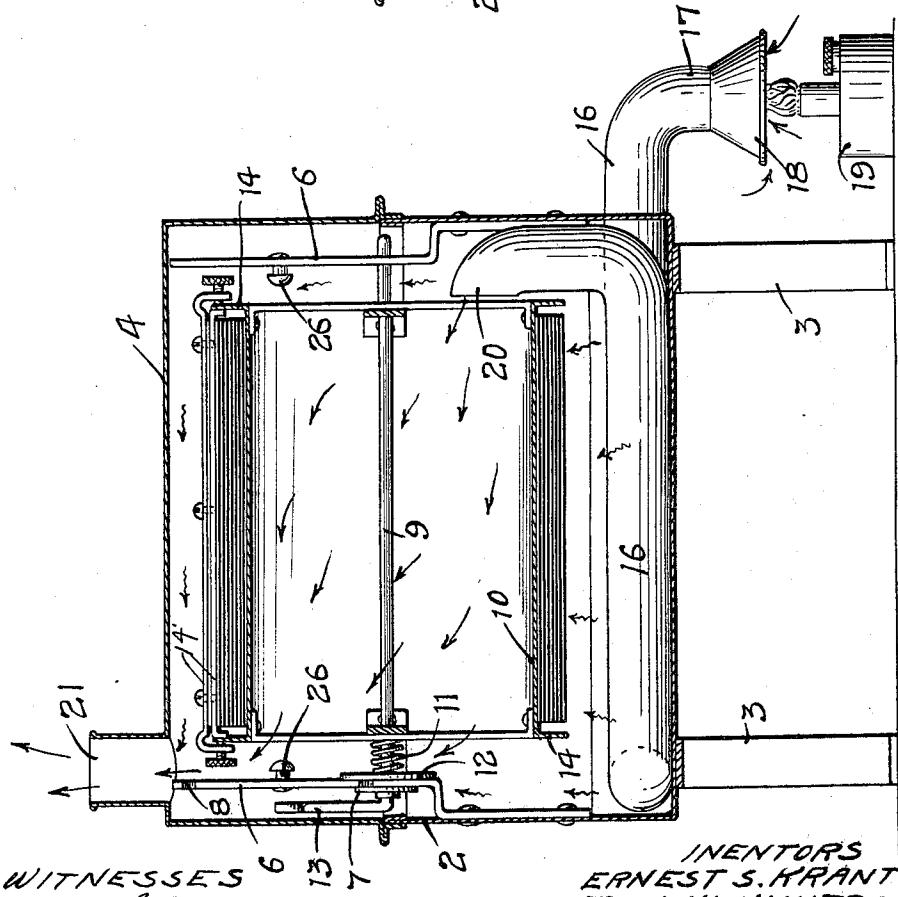

Fig 2.

WITNESSES

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PRINT-DRIER.

1,036,268. Specification of Letters Patent. Patented Aug. 20, 1912.

Application filed March 4, 1911. Serial No. 612,323.

To all whom it may concern:

Be it known that we, ERNEST S. KRANTZ and JOHN W. KNUTESON, of Minneapolis, Hennepin county, Minnesota, have invented certain new and useful Improvements in Print-Driers, of which the following is a specification.

The object of our invention is to provide an apparatus for drying photographic prints which will dispense entirely with the use of flat blotter sheets, generally employed for this purpose, will protect the prints from exposure to dust and dirt and will enable the operator to dry a large number of prints at one time.

A further object is to provide a print drying apparatus which can be easily handled and will be compact and durable.

The invention consists generally in various constructions and combinations, all as hereinafter described and particularly pointed out in the claims.

In the accompanying drawings forming part of this specification, Figure 1 is a side view of a print drying apparatus embodying our invention, Fig. 2 is a longitudinal sectional view of the same, Fig. 3 is a transverse sectional view.

In the drawing, 2 represents the lower portion of a casing, composed of suitable material, preferably sheet metal, having supporting legs 3 and an upper section 4, said lower section having its upper edge rolled inwardly and said upper section having a flanged edge to form a close joint with the upper edge of the lower section. The lower section is provided with upright brackets 6 having notches 7 and 8 formed therein to receive the ends of a shaft 9. Upon this shaft a hollow drum 10 is mounted having open ends and held against turning too freely on said shaft by a spring 11 and a friction disk 12. The shaft 9 has a crank 13 formed on one end by means of which, when the shaft is seated in the upper notches of the brackets, the drum can be easily and freely revolved. The drum is provided with a smooth, peripheral surface having flanges 14 at each end and between these flanges a long strip of material, 15, preferably blotting paper, is wound and between the coils of this blotting paper the wet prints are placed in the usual way and the paper wound on the drum until the capacity of the drum or the casing has been reached. The notches 7 are adapted to receive the shaft 9 when the drum is arranged within the casing during the drying operation, and the notches 8 receive the shaft 9 when the drum is lifted for reeling purposes. In connection with the flanges 14 we prefer to provide bars 14′ to hold the coils in place on the drum.

It is desirable in a device of this kind to provide an artificial means for hastening the drying of the prints, and we therefore provide a pipe 16 extending horizontally in the bottom of the section 2 and having a downwardly turned end 17 terminating in a funnel 18 beneath which a suitable heating means, such as the lamp 19, is arranged. At the other end of the pipe an upwardly turned portion 20 is provided having its open end opposite the open end of the drum so that the heat will not only radiate from the walls of the pipe beneath the drum but the air currents will be discharged through the open end of the pipe into the interior of the drum, causing a circulation around and through it, thus hastening the drying of the prints and insuring the uniform continuous application of the artificial heat to both sides of the blotter strips. This heat will not only hasten the drying of the prints but will also keep the sheet or strip of blotting paper dry so that as fast as one set of prints have been dried they may be removed from the paper and another set substituted therefor without waiting for the drying of the blotting paper, as is often necessary. To promote circulation through the drum an outlet 21 is provided through which the heated air may escape.

In using the device, the drum is raised and supported on the upper ends of the brackets 6 in the slots 8. In this position the crank 13 will be accessible and may be revolved for winding or unwinding the blotter strip. We also prefer to provide a reel 22 having a crank 23 supported on legs 24 and pivotally connected by bars 25 with pins 26 which are mounted in the brackets 6. These bars are readily detachable from the brackets and the reel may be set aside until such time as it is desired to wind the blotter upon the reel or unwind it from the reel and transfer it to the drum.

We claim as our invention:

1. A print drier comprising a closed casing, a drum fitting therein and having open ends, said drum being adapted to support a strip of blotting paper wound thereon,

between the coils of which the prints are placed, a warm air pipe provided in the bottom of said casing and having an open end near the open end of said drum, and a discharge pipe provided in the top of said casing.

2. A print drier comprising a casing having an upper and a lower section, brackets mounted in said lower section and projecting vertically into said upper section when the sections are placed together, the upper portions of said brackets being exposed when said upper section is raised, a drum having bearings in the lower and upper portions of said brackets and adapted to be revolved when placed in said upper bearings to wind a drying material on said drum or to unwind it therefrom, and means for revolving said drum.

3. A print drier comprising a casing having a warm air intake and an exhaust opening, a drum mounted in said casing and having open ends, the currents of warm air circulating around said drum and through said open ends, the periphery of said drum being adapted to receive a strip of drying material wound thereon between the coils of which the prints are placed, substantially as described.

4. A print drier comprising a casing having upper and lower sections, brackets mounted in said lower sections and having notches in their upper and lower portions, a drum having a shaft adapted to enter said notches and support said drum in its raised or lowered position, said shaft having an operating crank, and said drum being adapted to support a strip of drying material wound thereon, between the coils of which the prints are placed, the upper section of said casing being separable from the lower section to allow the insertion of said shaft into the upper notches in said brackets and the free revolution of said drum.

5. A print drier comprising a casing, a drum mounted therein adapted to support a strip of drying material, between the coils of which the prints are placed, said drum having open ends, a space being provided between said drum and said casing to allow circulation around and through said drum, means for introducing warm air into said casing and said casing having an exhaust opening through which the heated air may escape, substantially as described.

In witness whereof we have hereunto set our hands this 27th day of February, 1911.

ERNEST S. KRANTZ.
JOHN W. KNUTESON.

Witnesses:
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