W. H. MORGAN.

FILM AND PHOTOGRAPH DRIER.

APPLICATION FILED JAN. 25, 1916.

1,250,618. Patented Dec. 18, 1917.

Fig. 1.

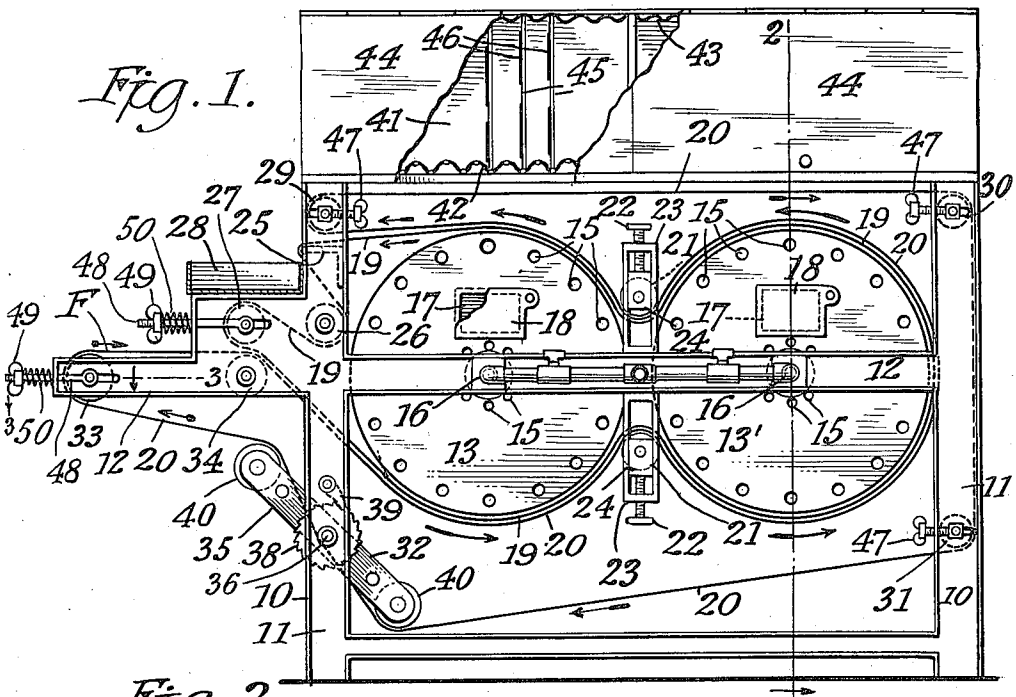


Fig. 2.

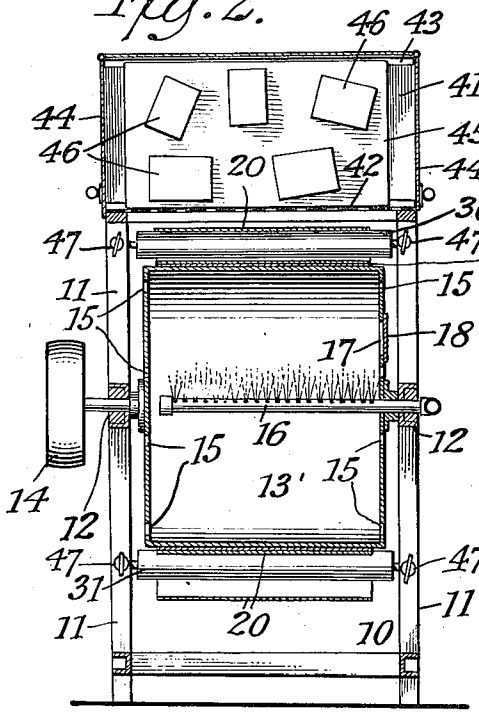


Fig. 3.

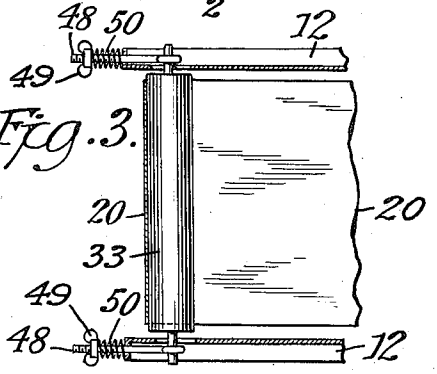
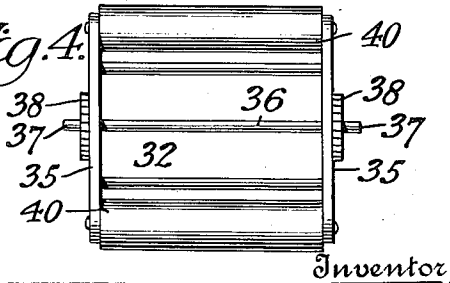


Fig. 4.



Inventor,

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UNITED STATES PATENT OFFICE.

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FILM AND PHOTOGRAPH DRIER.

1,250,618. Specification of Letters Patent. Patented Dec. 18, 1917.

Application filed January 25, 1916. Serial No. 74,175.

To all whom it may concern:

Be it known that I, WILBERT H. MORGAN, a citizen of the Dominion of Canada, residing at New York, county and State of New York, have invented new and useful Improvements in Film and Photograph Driers, of which the following is a specification.

My invention relates to film and photograph driers, the object being to provide a compact, efficient drier of this class having high working capacity and occupying minimum floor space, and which is constituted by rotatably mounted companion heating drums, adapted to carry a pair of belts or aprons which contact and travel one with the other, and between which, the films, photographs or the like are held and conveyed over and around the hot drums during the drying operation.

The invention further provides means for adjusting, tensioning and guiding the belts or aprons, and it further consists in utilizing the waste heat for treating photographs or the like to give a gloss finish thereto, thus obviating the necessity of supplying an additional heater for this purpose.

A further object of my present invention is to provide a drier of the above described class, possessing a new and novel construction and arrangement of parts, which will hereinafter be specifically described and pointed out in the appended claims.

In the drawings forming part of this specification similar reference characters are employed to designate corresponding parts throughout the several views, and in which:—

Figure 1, is a side elevation of my improved film and photograph drier, partly broken away.

Fig. 2, is a vertical transverse section taken on the line 2—2 of Fig. 1.

Fig. 3, is a partial horizontal section taken on the line 3—3 of Fig. 1.

Fig. 4, is a detail of a belt tensioning frame employed in the construction.

In the drawings I show at 10, a frame consisting of corner posts or members 11, and horizontal side bars or members 12, between which are rotatably mounted a pair of companion heating drums 13, and 13′, which may be driven by any suitable means such as, by a pulley 14, which may be belted to a suitable source of power. The ends of the drums are provided with apertures 15, for the escape of hot gases of combustion produced by centrally arranged burners 16, projecting into the drums from one side of the frame and which may be lighted by thrusting the hand through the openings 17, provided for this purpose, said openings being normally closed by pivoted doors 18, as shown.

Carried on the companion drums 13, 13′ is an inside endless belt or apron 19, and an outside endless belt or apron 20, adapted to contact and travel one with the other and between which the films, photographs, or the like to be dried, are conveyed over and around the drums during the drying operation.

The belts pass nearly around the drum 13′, and from thence inside of and over a pair of rollers 21, adjustable through the instrumentality of screws 22, having threaded engagement with frames 23, arranged at either side of the drier and which are provided with sliding bearing blocks 24, as clearly shown in Fig. 1 of the drawings, and from the rollers 21, the belts or aprons 19, 20, pass partially around the drum 13, the inside belt 19, being passed over an L bar 25, and from thence under a fixed roller 26, and then over an adjustable roller 27, and as the said inside belt 19 passes over the L bar, the films or the like having been thoroughly dried are delivered into a suitable receptacle 28, provided under the edge of the L bar, as clearly shown in Fig. 1.

The outside belt 20, is carried around adjustable rollers 29, 30, 31, and from thence through a tensioning frame 32 and then around an adjustable roller 33, and from thence over a fixed roller 34. The tensioning frame is constituted by end bars 35, having a central shaft 36, extended to provide trunnions 37, on which the frame is adapted to rock.

To enable me to retain the tensioning frame in a desired adjusted position, I provide the end bars 35, with fixed ratchets 38, adapted to be engaged by pawls 39, pivoted to the forward posts or members 11, of the frame, and mounted between the end bars 35, are a pair of rollers 40, over which the outside belt 20, travels during the operation of the drier.

Mounted at the top of the frame 10, is a heating and drying compartment 41, having a perforated, corrugated bottom 42, and an

imperforate correspondingly corrugated top 43, said compartment being closed at the sides by hinged doors 44. The corrugated construction just described, is provided for the purpose of supporting in upright or vertical position, a plurality of plates 45, on which wet photographs 46, have been placed to be dried and heated, which operation imparts to the said photographs a gloss finish, as is well known to those skilled in this art.

The means for adjusting the rollers 29, 30, 31, consists of push screws 47, having threaded engagement with the frame 10, which is slotted to allow of free movement of the roller trunnions. The means for adjusting the rollers 27, and 33, consists of pull screws 48, having wing nuts 49, bearing on springs 50, to give a yielding tension to the belts 19, and 20, as will be understood.

If the belts should run toward one side of the drier or the other, the adjusting screws may be manipulated to change the positions of the rollers as required, to cause the belts to travel straight, as will be apparent.

In operation, the films or the like, in a wet condition, are placed on the belt 20, at the point F and are carried between the belts over and around the drums 13, and 13' in the direction of the arrows and thoroughly dried, after which they are discharged into the receptacle 28.

What I claim is:—

1. In a drier of the class described, a frame having a heating and drying compartment mounted thereon, companion drums and adjustable rollers supported in the frame, endless belts, contacting one with the other, carried by the said drums and rollers, a rocking tensioning frame provided with pawl and ratchet control, and means for rotating the said drums for the purpose specified.

2. In a drier of the class described, a supporting frame, rotatable drums, adjustable rollers and a rocking tensioning frame mounted therein, similar contacting belts carried on said drums, rollers and tensioning frame, and means for rotating said drums for the purpose specified.

In testimony whereof, I, WILBERT H. MORGAN, have signed my name to this specification this 8th day of January, 1916.

WILBERT H. MORGAN.