

No. 692,750.

Patented Feb. 4, 1902.

T. S. WILES.
DRIER.

(Application filed Aug. 28, 1901.)

(No Model.)

2 Sheets—Sheet I.

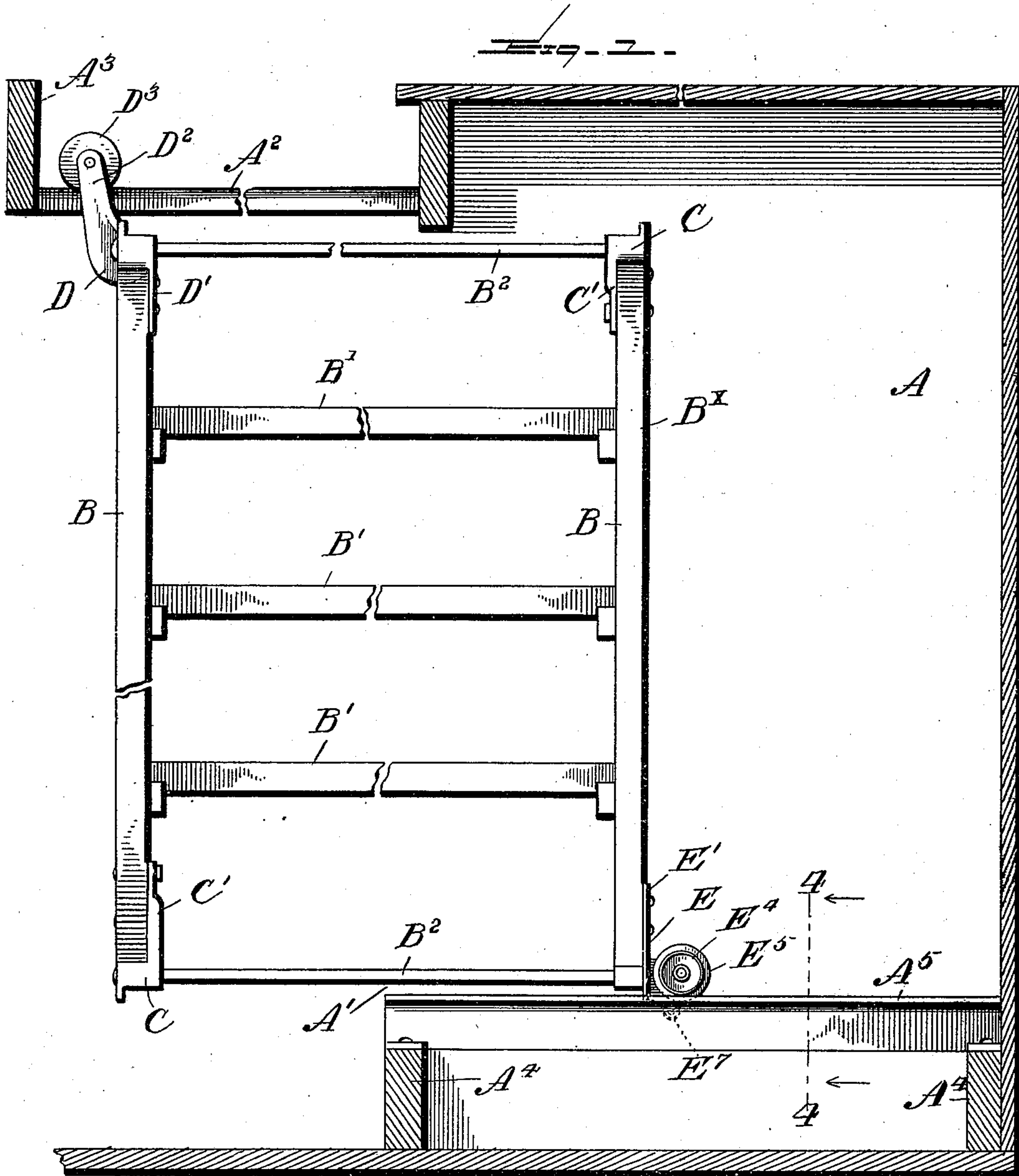
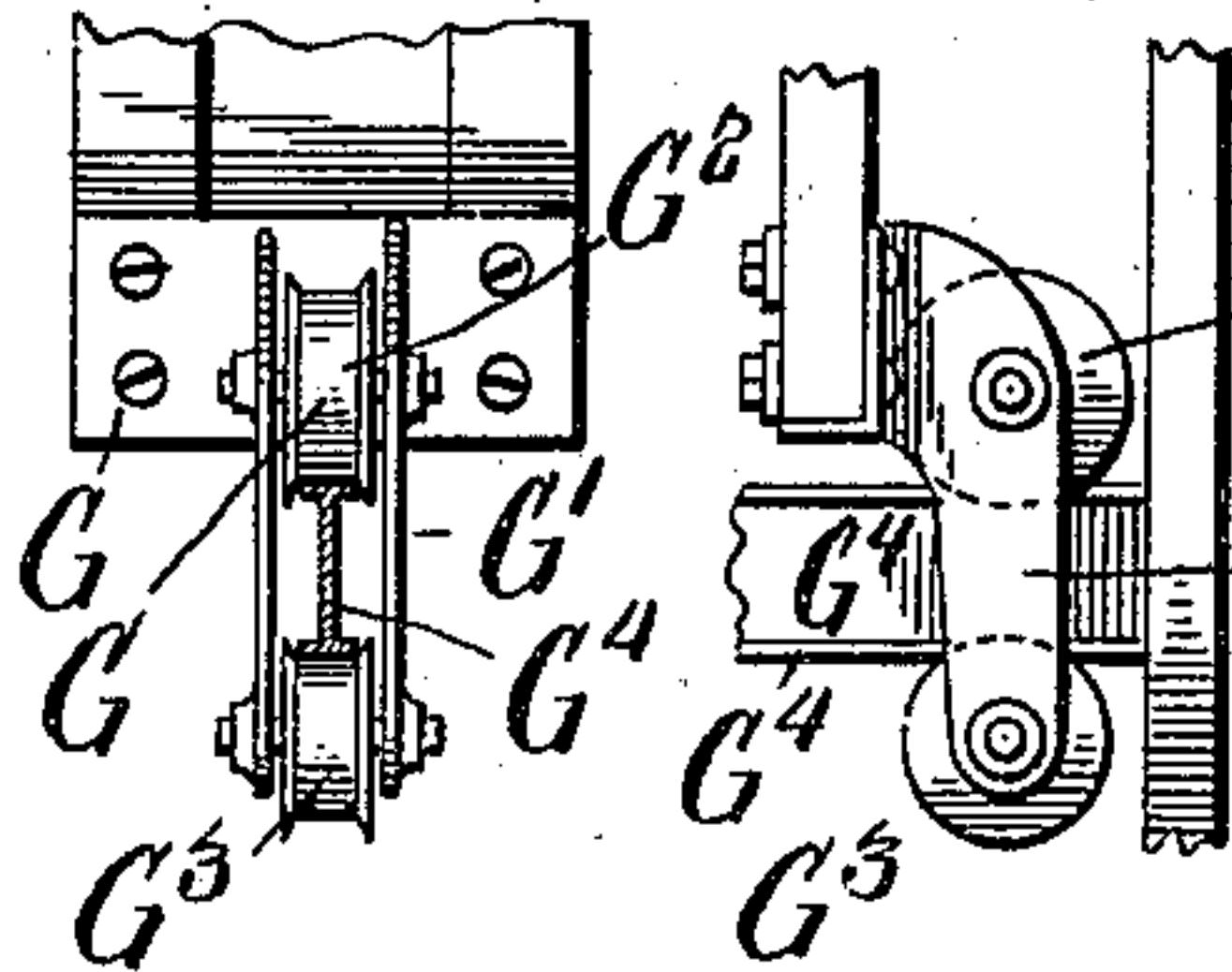


Fig. 7-

Fig. 8-

WITNESSES:
Wm. F. Doyle
Alfred T. Sage



INVENTOR

Thomas S. Wiles

By

E. B. Stocking
Attorney

No. 692,750.

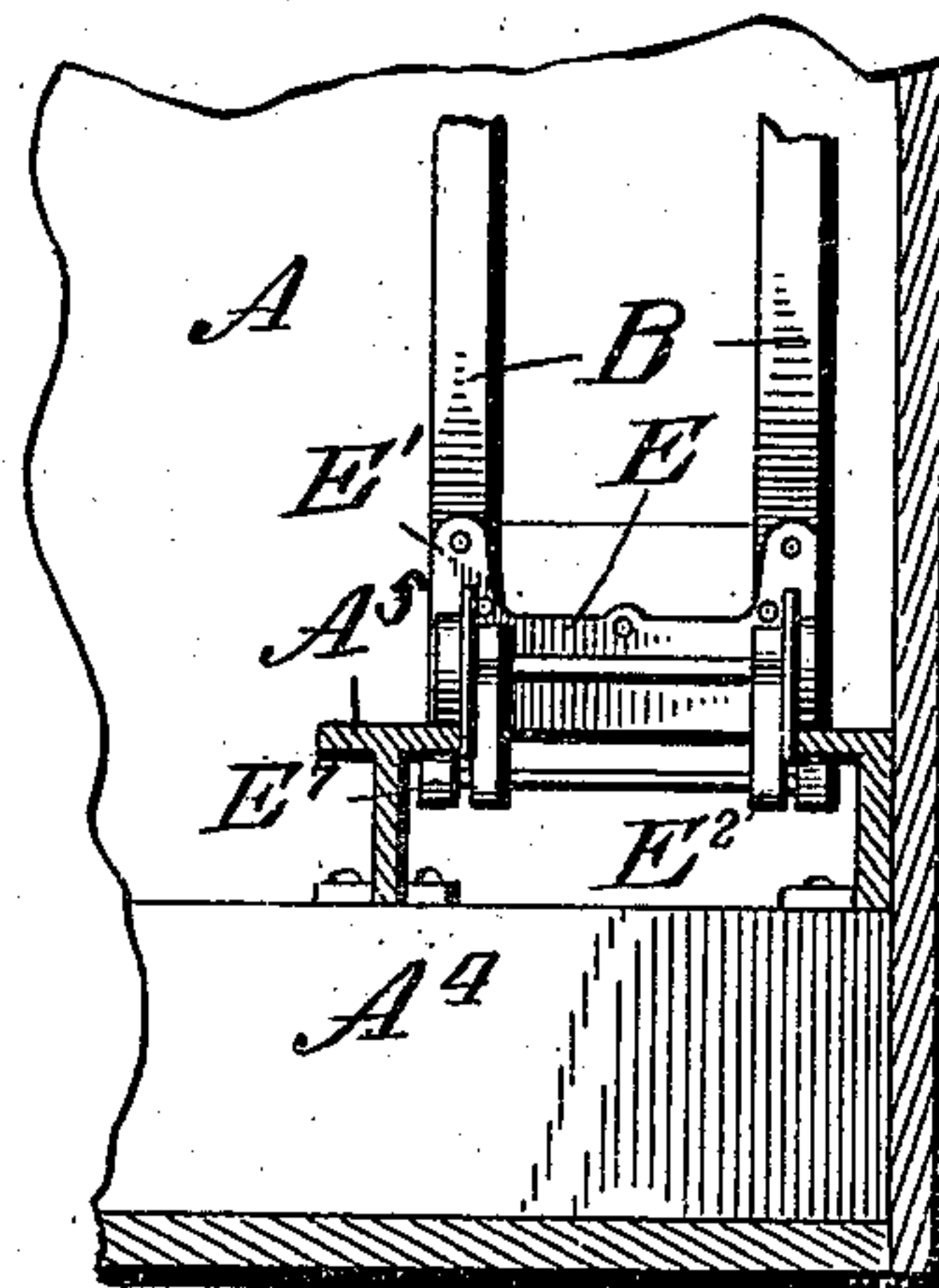
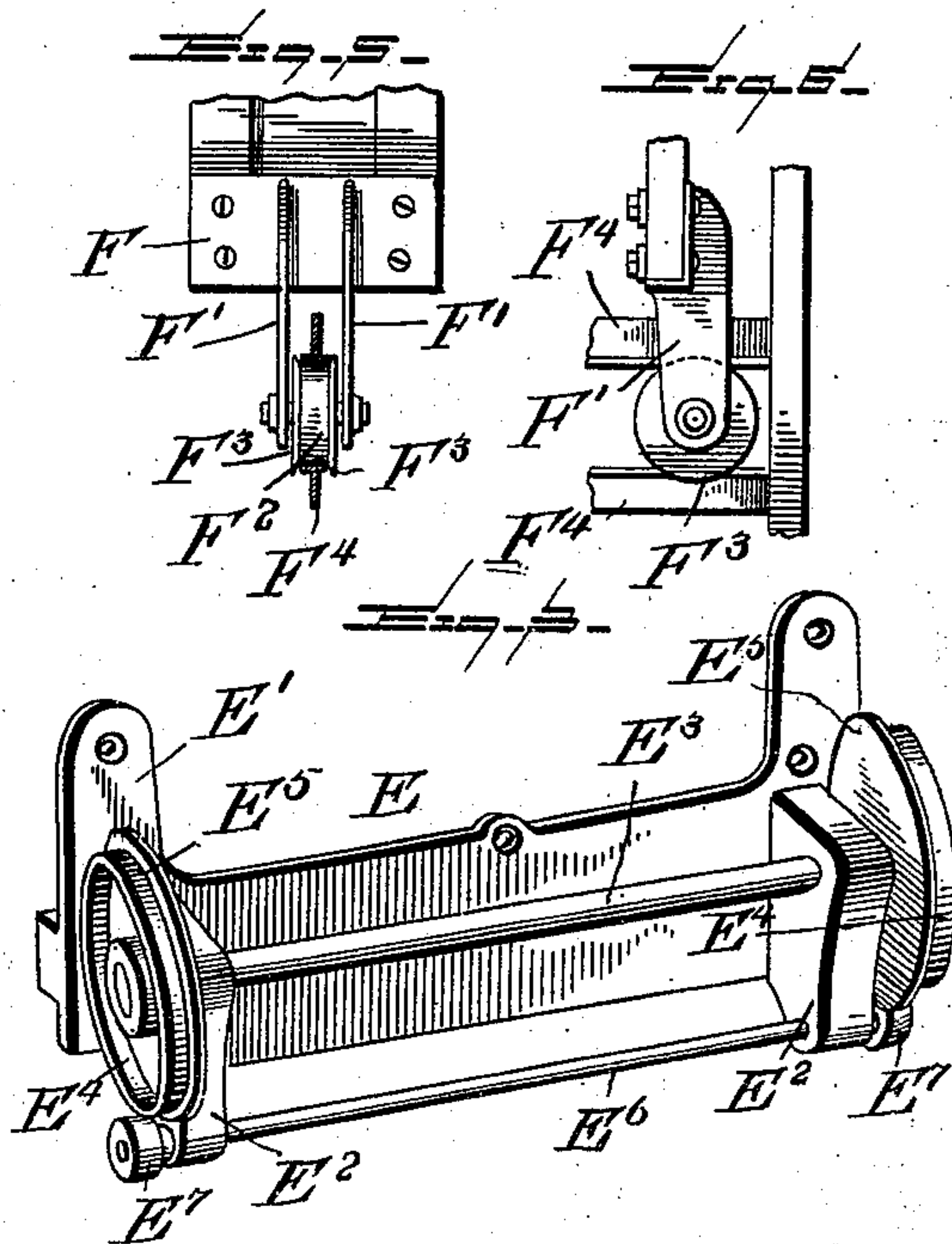
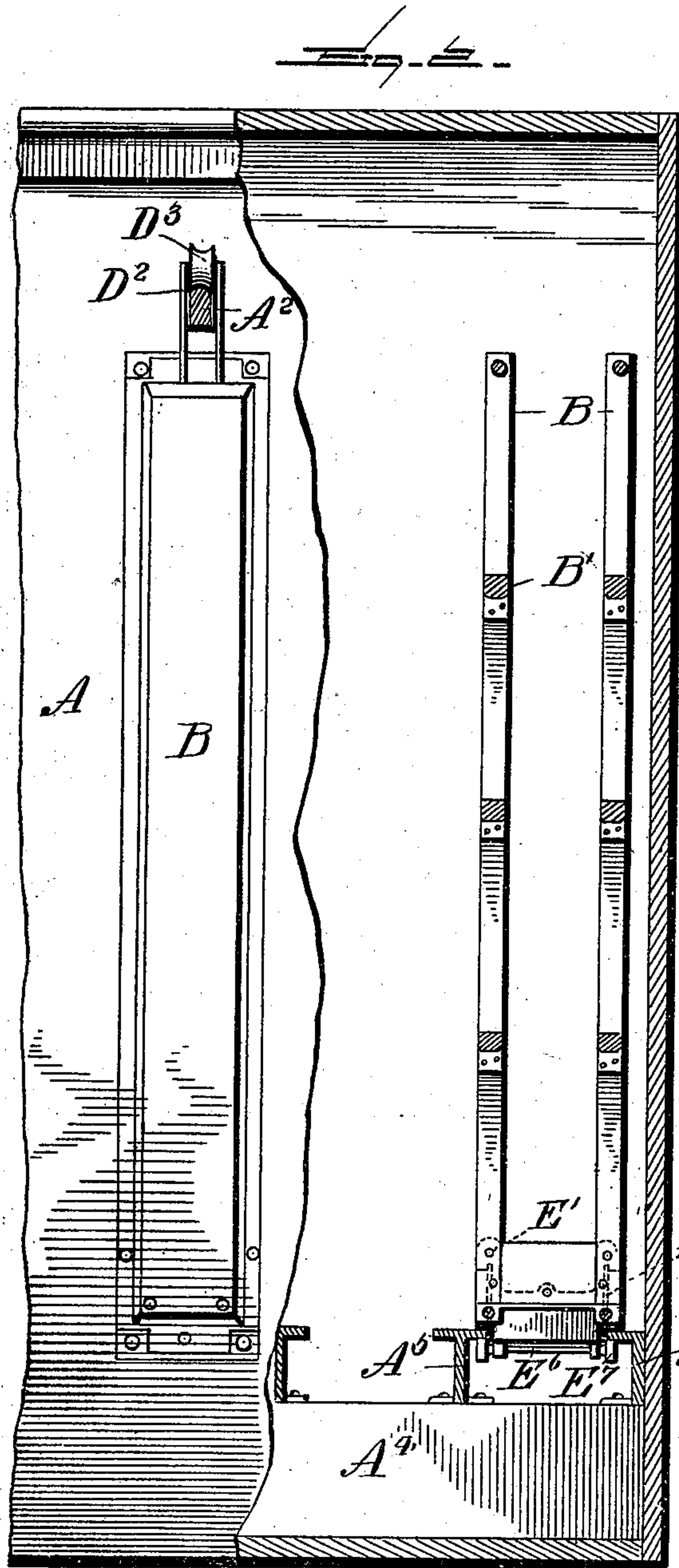
T. S. WILES.
DRIER.

Patented Feb. 4, 1902.

(Application filed Aug. 28, 1901.)

(No Model.)

2 Sheets—Sheet 2.



WITNESSES:

Wm. F. Doyle
Alfred T. Gage

INVENTOR

Thomas S. Wiles

BY *E. B. Stocking*
Attorney

UNITED STATES PATENT OFFICE.

THOMAS S. WILES, OF ALBANY, NEW YORK.

DRIER.

SPECIFICATION forming part of Letters Patent No. 692,750, dated February 4, 1902.

Application filed August 28, 1901. Serial No. 73,624. (No model.)

To all whom it may concern:

Be it known that I, THOMAS S. WILES, a citizen of the United States, residing at Albany, in the county of Albany, State of New York, have invented certain new and useful Improvements in Driers, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to laundry-driers, and more particularly to improvements upon the construction of parts shown in my prior patent, No. 314,500, dated March 24, 1885, although the application of the invention is not limited to use in laundry-driers or in connection with the particular structure shown in said patent.

The invention has for an object to provide an improved construction of bearings and running-gear for the drying-frame whereby there shall be no bearing-surface or running-gear at the top of or over the frame within the room or compartment.

It has been found that where a track or bearing-surface in the upper part of the drying-room is employed with running-gear attached to the upper portion of the drying-frame the frictional contact between the frame and the track upon which it is carried or guided and between the wheels of the running-gear and their bearings grinds or wears away small particles of the material of the tracks and running-gear, which, falling upon the articles supported by the frame or adjacent frames, cause said articles to be discolored. It is an important object in this class of inventions to prevent any such discoloration of the goods being dried, and the present invention therefore provides a structure in which the bearings and running-gear within the room are entirely at the lower portion thereof and below the articles upon the frame, while the track or bearing and running-gear for the front portion of the frame are outside of the drying-room, in such position that any particles dropping therefrom will not fall on goods suspended on the frame or frames.

A further object of the invention is to provide a bearing at the lower end of the frame within the room constructed to prevent or minimize lateral movement of the frame and also to prevent the wheels which support the frame within the dry-room from leaving the

tracks upon which they travel when pressure is applied at the front of the frame for withdrawing from or returning the same into the drying-room.

Other objects and advantages of the invention will hereinafter appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 represents a vertical longitudinal section with the frame partially removed from the drying-room. Fig. 2 is an elevation of the exterior of the drying-room with part in vertical cross-section. Fig. 3 is a detail perspective of the running-gear for the lower portion of the frame. Fig. 4 is a detail in vertical section on the line 4-4 of Fig. 1, showing this running-gear. Fig. 5 is an end elevation of a modified form of running-gear for the lower portion of the frame embodying a roller disposed between opposite tracks. Fig. 6 is a side elevation of the parts shown in Fig. 5. Fig. 7 is a detail similar to Fig. 5 of a further modified form embodying a track disposed between opposite rollers, and Fig. 8 is a side elevation of the parts shown in Fig. 7.

Like letters of reference indicate like parts throughout the several figures of the drawings.

In the application of the invention herein illustrated the parts are shown in connection with a structure of frame, drying-room, and castings substantially as shown in my prior patent, No. 314,500; but the invention is capable of application to other and different forms of drying apparatuses and is not confined to the particular application here shown.

In the drawings the letter A designates a drying-room, heated by steam-pipes or other suitable means and of any desired dimensions, which is provided at its front portion with a series of openings A' of substantially the dimension of the front end of the frame B^x, which is adapted to be located within this room or compartment. At the upper portion of the frame and above the opening A', outside of the room or compartment, a track or rail A², of any suitable construction, is supported in any desired manner—for instance, at one end on the front wall of the room and at its other end by a suitable hanger A³, de-

pending from any fixed support. The lower portion of the drying-room A has arranged therein a track or rail, as shown at A⁵, which, if preferred, may be a T-rail, as shown in Figs. 2 and 4, supported above the base of the room by means of blocks or standards A⁴, by which a space is provided for the introduction of steam-pipes or other heating means beneath the rails A⁵.

The frame, as before stated, is substantially of the construction shown in my prior patent and is composed of the opposite end walls B, having longitudinal bars B' extending between the same, upon which bars the articles or goods to be dried are supported. These walls B are connected together at their upper and lower ends by means of tie-bars B², which are adapted to fit and to be secured at one end in a casting C, bolted to one of the end walls B by means of a flange C', provided for that purpose. The casting C is duplicated at the diagonally opposite corner of the frame. The opposite end of the tie-rod B', at the upper portion of the frame, is secured in a casting D, substantially similar to that illustrated in my former patent, which casting is provided with a securing-flange D' and an upwardly-extending forked bracket D², within which a bearing-wheel D³ is suitably journaled and adapted to travel upon the track or rail A² at the upper end of the frame and outside of the room A.

At the diagonally opposite lower corner of the frame a casting E is suitably secured by means of a plate E', adapted to be bolted to the end wall B, so as to provide an extended bearing for the lower inner end of the frame. This casting E is provided at opposite ends with lugs E², projecting posteriorly therefrom, within which the journal E³ for the bearing-wheels E⁴ is suitably supported. These wheels are each provided upon the side adjacent to the lugs with a flange E⁵, which is adapted to engage the inner edge of the T-rail A⁵, while the tread of the wheel bears upon the upper face of said rail. Within the said lugs E² and at a point beneath the wheels E⁴ a shaft E⁶ is suitably journaled and provided at its opposite ends with guard-rollers E⁷, arranged to engage the under face of the head of the rail A⁵, thereby preventing any vertical movement of the wheels E⁴ from said rail when the frame is withdrawn or replaced within the room, while the flanges E⁵ of the wheels securely hold the frame at such times against lateral movement.

Figs. 5 and 6 show a modified form of gearing adapted to support the inner lower corner of the frame upon a track arranged below the frame and inside of the dry-room. In this form there is employed a casting F, similar to the casting E, adapted to be secured to the lower corner of the frame and having brackets F' F' for the support of a wheel F², having at each side a peripheral flange F³, while the track comprises a pair of T-rails F⁴, the upper rail being inverted and

both arranged in a common vertical plane, one above and one below the wheel F². It will readily be seen that the wheel F² will ride upon the lower rail and that the upper rail and the flanges embracing the edges of both rails will retain the wheel in operative relation with the track as well as to maintain the inner end of the frame in a vertical position.

Figs. 7 and 8 show still another form of gearing which is adapted to be secured to the same point of the frame and to perform the same functions as the forms heretofore described. In this modification the wheels are duplicated and an I-beam is utilized as a track, one wheel running upon the top of the track and the other coacting with the lower surface. The casting G is similar to the castings E and F and is provided with brackets G', in which are journaled the flanged wheels G² G³, spaced to embrace the I-beam or track G⁴.

From the foregoing description the construction and operation of the several parts will be clearly apparent, and it will be further seen that all danger of discoloration of the articles upon the drying-frames is avoided by removing from the room the bearing or track at the upper portion thereof, which, as before stated, grinds and wears away small particles of dust and dirt, and if made of iron becomes rusty and small particles thereof are deposited upon the articles and cause stains, which are difficult to remove, requiring a re-washing of the articles. It will furthermore be seen that the particular construction of roller-bearing for the inner ends of the frame is an important improvement in this class of inventions, as it secures a broad bearing at opposite sides, thereby preventing any lateral tilting of the frame when the same is withdrawn or replaced in the room, which, if occurring, would throw the frame into contact with an adjacent one or displace the traveling rollers from the track. The structure of these wheels and the rollers beneath the rail-head also guards against any lateral or vertical movement of the inner end of the frame when the same is pushed into place or withdrawn from the room. Such displacement is very liable to occur, as the operators frequently carelessly push upon the frame at one side or the other of its front wall instead of in a direct line, thus producing a sidewise swing upon the single roller at the front of the frame, which will throw the rear rollers off the track unless the same are properly guarded.

It is obvious that various modifications may be made by persons skilled in the art involved which would secure the absence of any support with and at the top of the compartment, and such changes could involve the substitution of the well-known mechanical equivalent frame-supporting means without a departure from the invention as specified in the appended claims.

Having described my invention, what I claim is—

1. A drier comprising a compartment, a frame adapted to travel therein, a support for the front end of said frame arranged wholly outside of said compartment, and a support for the rear end of said frame arranged within said compartment and below the frame; substantially as specified.

2. A drier comprising a compartment, a frame adapted to travel therein, a support for the front part of said frame arranged wholly outside of said compartment, a support for the rear part of said frame constituting its only bearing within the compartment and comprising a track arranged within said compartment and below said frame, and gearing operatively connecting the rear part of said frame with said track; substantially as specified.

3. A drier-frame comprising end walls, end-wall-connecting bars, and frame-supporting devices comprising a single suspending-roller having one upper bearing-point at one corner of the frame and a frame-carrying support having more than one bearing-point at the diagonally opposite corner; substantially as specified.

4. A drier comprising a compartment, a frame adapted to travel therein, a support for the front part of said frame, arranged wholly outside of said compartment, and a support for the rear part of said frame comprising a track located within said compartment and below said frame, and rotatable gearing having opposite points of contact with said track; substantially as specified.

5. A drier comprising a compartment, a frame adapted to travel therein, a support for said frame at its upper end at the outside of said compartment, oppositely-located bearing-wheels having flanges and adapted to ride upon rails at the lower portion of said compartment, and guard-rollers beneath said wheels adapted to engage the under surface of the heads of said rails; substantially as specified.

6. A drier comprising a compartment, a frame adapted to travel therein, a support for the front part of said frame at the outside of said compartment, gearing adapted to ride upon rails at the lower portion of said compartment, and means adapted to engage the under surface of the heads of said rails to keep said gearing upon said track; substantially as specified.

7. A drier comprising a compartment, a frame adapted to travel therein, a support for the upper front part of said frame arranged outside of said compartment, oppositely-located bearing-wheels having flanges connected with the lower rear wall of said

frame and tracks for said wheels at the lower portion of said compartment and below said frame; substantially as specified.

8. A drier comprising a compartment, rails located at the lower portion thereof, a supporting-track at the upper portion of said compartment and outside of the same, a frame provided at its front upper corner with a roller-bearing adapted to travel upon said upper track, and bearing-wheels carried by the lower rear corner of said frame and adapted to travel along tracks within said compartment; substantially as specified.

9. A drier comprising a compartment, tracks located at the lower portion thereof, a supporting-track at the upper portion of said compartment and outside of the same, a frame provided with a roller-bearing adapted to travel upon said upper track, and oppositely-disposed bearing-wheels having flanges adapted to engage the edges of said lower tracks to prevent lateral movement of the frame; substantially as specified.

10. A drier comprising a compartment, flanged rails located at the lower portion thereof, a supporting-rail at the upper portion of said compartment and outside of the same, a frame provided with a roller-bearing adapted to travel upon said upper rail, oppositely-disposed bearing-wheels having flanges upon their inner sides adapted to engage the edges of the flange of said lower rails to prevent lateral movement of the frame, and rotatable rollers beneath each of said bearing-wheels adapted to engage an under surface of the rail; substantially as specified.

11. A roller-bearing for a drier-frame comprising a securing-plate provided with a frame-seat on one face, lugs extending from the opposite face thereof, a shaft journaled in said lugs and carrying flanged bearing-wheels, and means opposite said wheels for preventing vertical movement of the wheels upon the tracks; substantially as specified.

12. A roller-bearing for a drier-frame comprising a securing-plate, lugs extending from the opposite ends thereof, a shaft journaled in said lugs and carrying at opposite ends bearing-wheels having flanges upon their faces next to said lugs, and an additional shaft journaled in said lugs beneath said wheel-shaft and carrying at opposite ends guard-rollers; substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

THOMAS S. WILES.

Witnesses:

E. J. BEVERSTOCK,

WM. D. SHOEMAKER.