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M. B. WATERMAN.
FREIGHT TRANSFER SYSTEM.
APPLICATION FILED AUG. 17, 1910.

Patented Feb. 28, 1911.

3 SHEETS—SHEET 1.

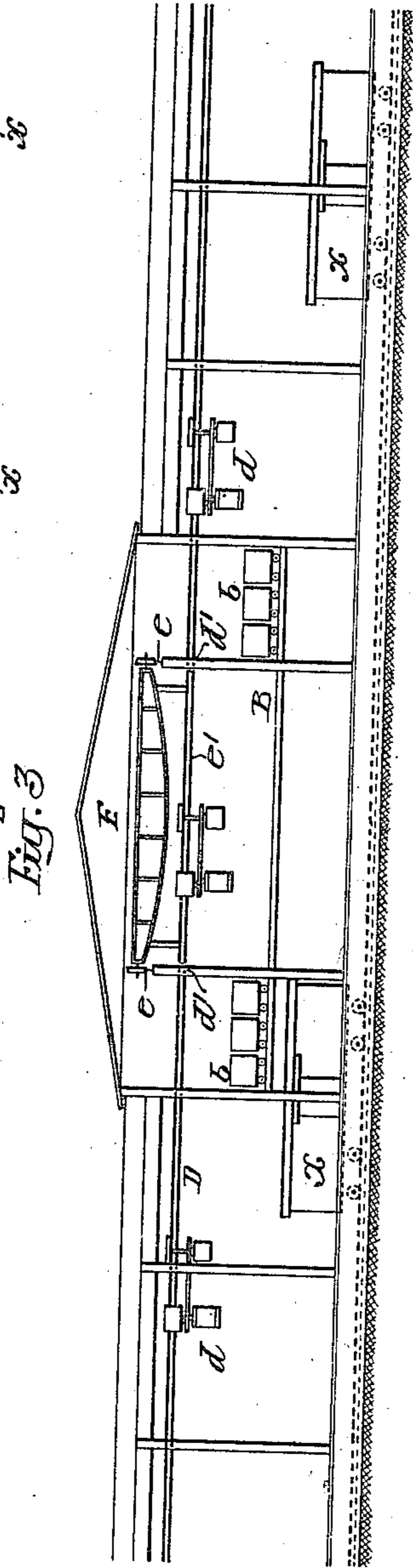
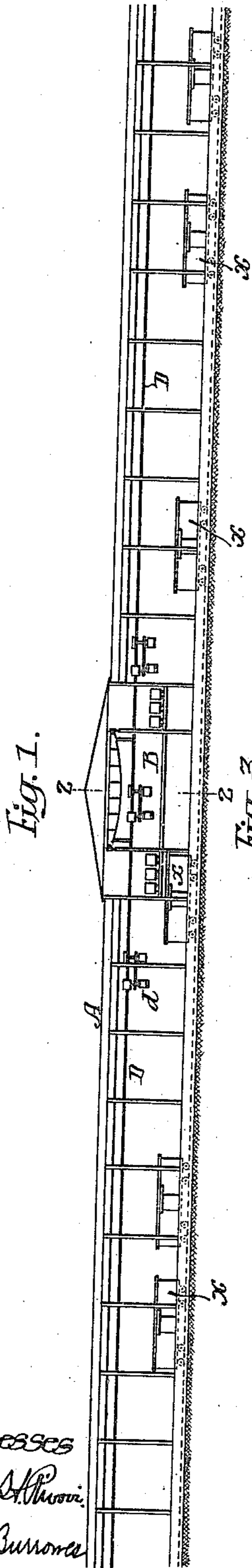
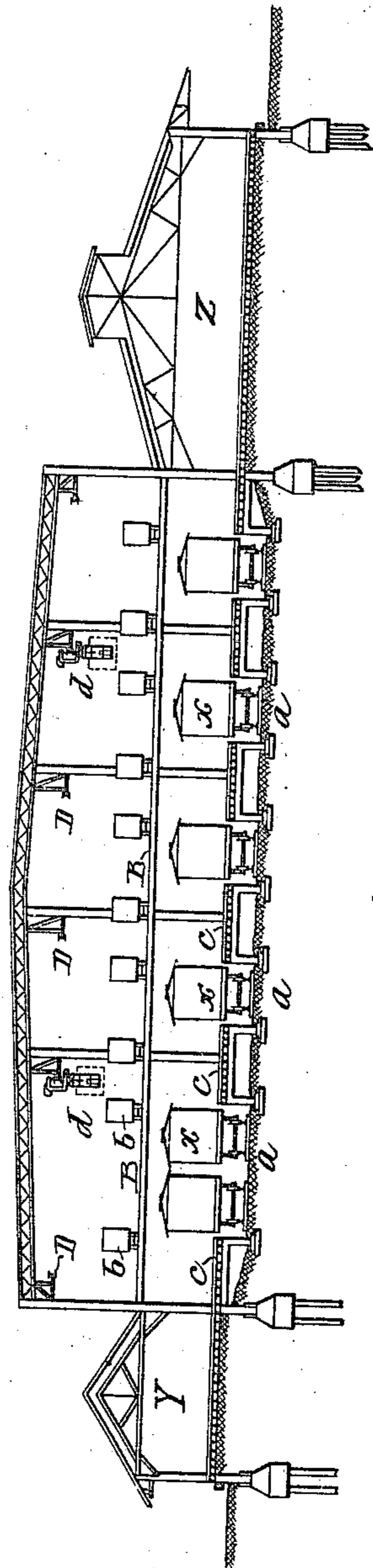


Fig. 2



Witnesses
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Inventor:
Marcus B. Waterman.
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3 SHEETS-SHEET 2.

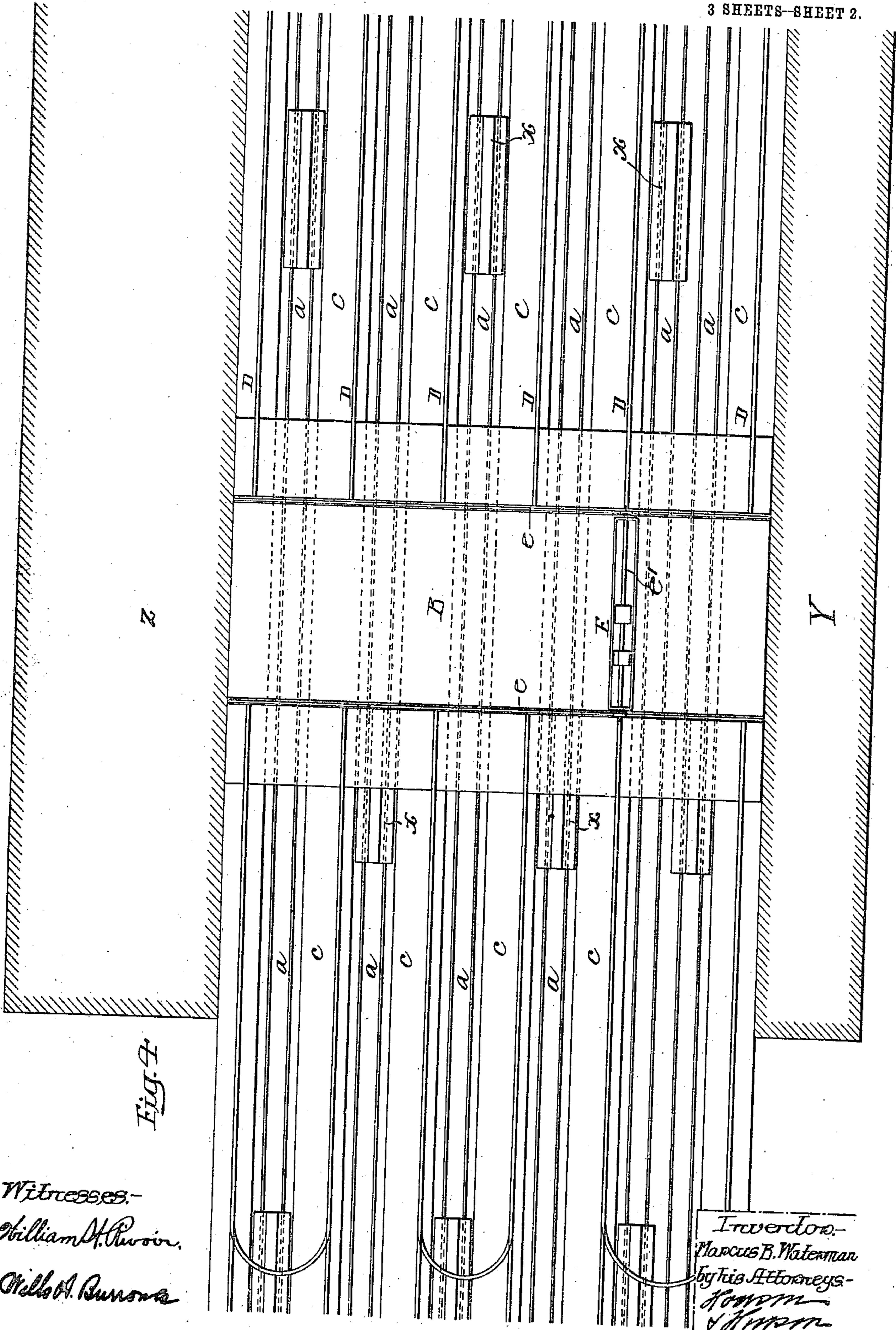


Fig. 7

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3 SHEETS—SHEET 3.

Fig. 5.

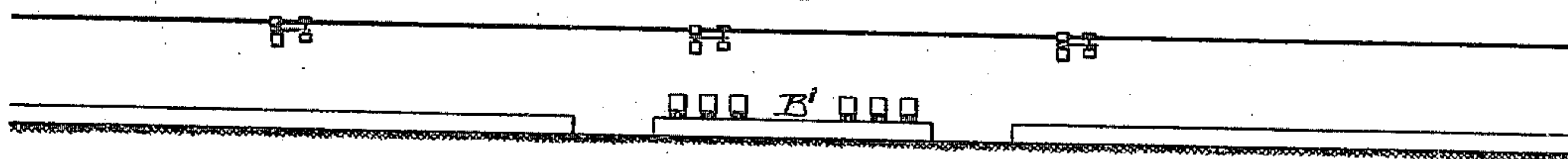


Fig. 6.

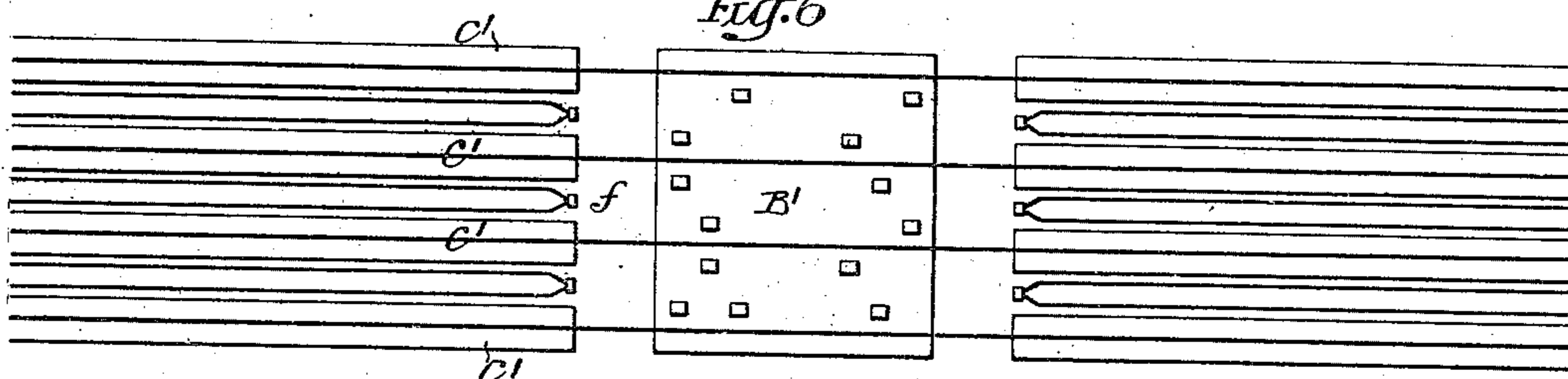


Fig. 7.

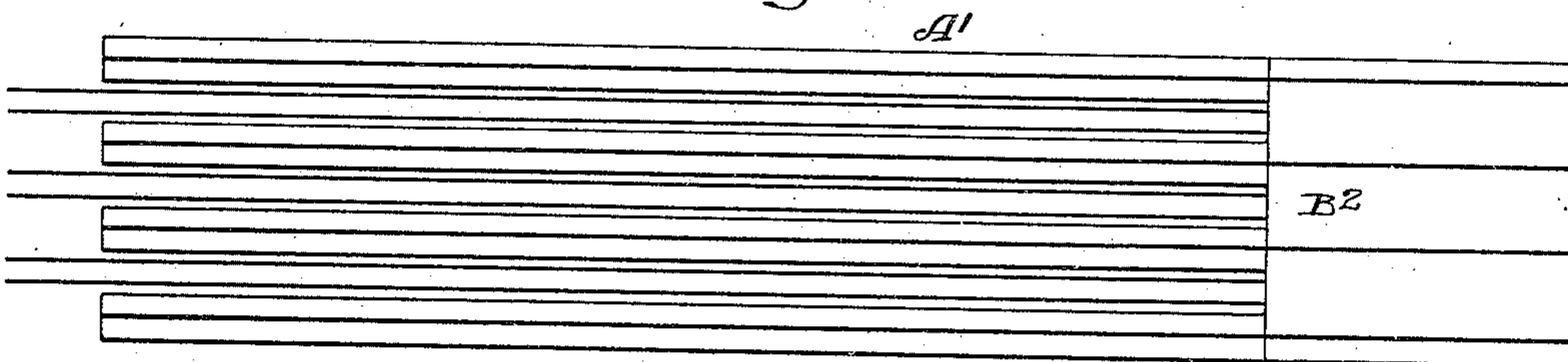


Fig. 8.

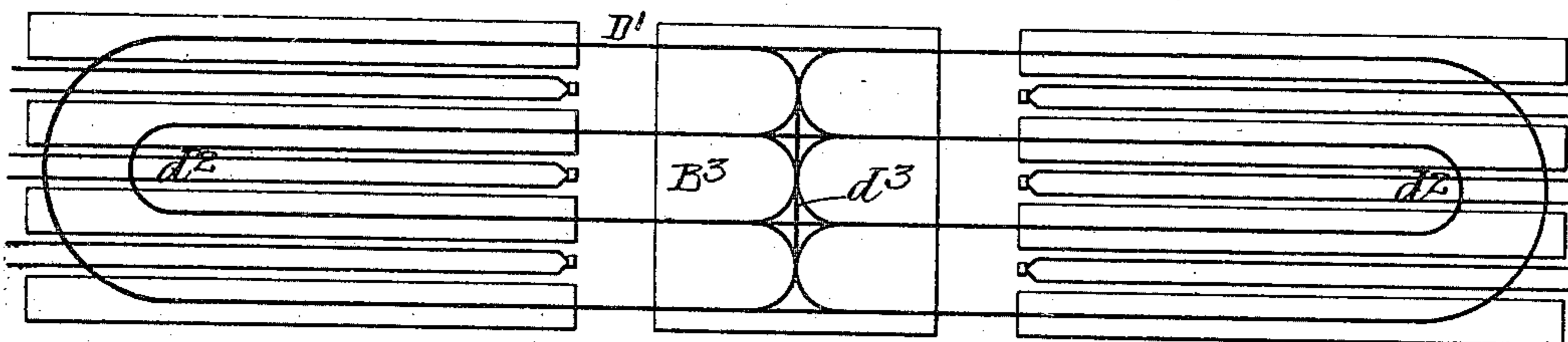
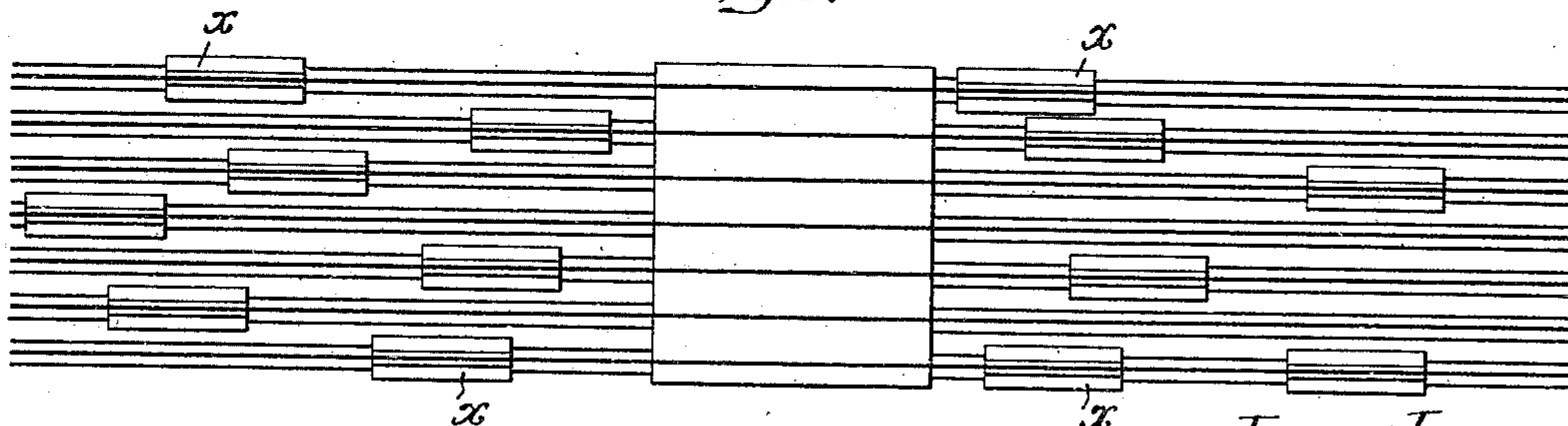


Fig. 9.



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UNITED STATES PATENT OFFICE.

MARCUS B. WATERMAN, OF AMBLER, PENNSYLVANIA, ASSIGNOR TO THE J. M. DODGE COMPANY, OF NAUGATUCK, CONNECTICUT, A CORPORATION OF CONNECTICUT.

FREIGHT-TRANSFER SYSTEM.

985,647.

Specification of Letters Patent.

Patented Feb. 28, 1911.

Application filed August 17, 1910. Serial No. 577,712.

To all whom it may concern:

Be it known that I, MARCUS B. WATERMAN, a citizen of the United States, residing in Ambler, Montgomery county, Pennsylvania, have invented certain Improvements in Freight-Transfer Systems, of which the following is a specification.

The object of this invention is to provide a freight station with a system of transfer apparatus so that the freight as it is received, either from cars or wagons, can be sorted and loaded in freight cars without being handled more than is absolutely necessary for its proper distribution.

By my invention a sorting floor or platform is provided upon which the freight is discharged and sorted; the smaller articles of freight being placed on trucks which can be picked up and conveyed to any point desired.

In the accompanying drawings:—Figure 1, is a longitudinal sectional view of a railroad freight station illustrating my invention; Fig. 2, is an enlarged transverse sectional view on the line 2—2 Fig. 1. Fig. 3, is an enlarged view of the central portion of Fig. 1; Fig. 4, is a sectional plan view of Fig. 3; Figs. 5 and 6, are views illustrating modifications in which the sorting platform is on the same level as the station platform; Fig. 7, is a plan view illustrating the sorting platform at one end of the structure; Fig. 8, is a view illustrating a modification of the arrangement of the telpher rails, and Fig. 9, is a view of a modification in which open cars are used and the platforms at the side of the tracks are dispensed with.

Referring to Figs. 1 to 4 of the drawings, in the first instance, A is the railway freight station of any length desired and at the center of the station, preferably midway between the ends, is a raised platform B of a sufficient height to allow the freight cars *w*, which travel on the tracks *a*, to pass thereunder. These tracks *a* are spaced a given distance apart and between the tracks are the platforms *c*, preferably on a level with the floor of the cars as illustrated in the transverse sectional view, Fig. 2.

D—D are the telpher rails. In the present instance there is a telpher rail above each platform *c*. The rails are preferably suspended from the roof of the building and

of such a height that the telfers, with their load, are over the elevated sorting platform B. Adapted to travel on the rails is a telpher *d* and there may be any number of telfers according to the capacity of the freight station. Each telpher consists, in the present instance, of a pair of trolleys, hoisting mechanism for carrying the load, and a platform for the operator. Several telfers with hoists may be coupled together and operated as a single train by one man, if desired. Other forms of telfers may be used if found desirable, such as man trolleys, automatic mechanism &c., without departing from the main features of the invention. The telpher tracks D terminate at *d'* over the platform B.

E is a movable bridge adapted to travel on transverse tracks *e* carried by suitable posts and suspended from the bridge E is a rail *e'* which is on the same line as the telpher rails D, so that when it is desired to transfer a telpher from a rail D at one side of the center to a rail D on the opposite side the bridge is moved so as to bring its rail into alinement with the said rails D. This bridge can be used when it is desired to shift a telpher from one track to another on the same side of the center, or to tracks on the opposite side of the center. The tracks may be connected in any manner at the ends, preferably as shown in Fig. 4, if desired, so that the telpher can be transferred from one track to another at one end of the structure without using the transfer bridge E.

Located on the sorting platform B is a series of trucks *b*, which are mounted on suitable wheels so that they can be transferred to any point desired on the platform B. These trucks are preferably open at the top so that they can be loaded with goods directly from the telfers, if desired.

In Figs. 1 and 2, the sorting platform is above the level of the car platform to enable the cars to pass freely under the sorting platform, but in Fig. 5, I have illustrated the platform B' on the same level as the platforms C' and there is preferably a space between the platform C' and the platform B' forming a passageway *f* for wagons. In this instance a one story building can be used; the telpher rails being of sufficient height to carry the cars.

In Fig. 7, I have shown a sorting plat-

form B² at one end of the structure A' and this platform may be on the same level as the platform for the cars or raised above the platforms, as in Figs. 1 and 2.

5 In Fig. 8, I have shown a construction in which the telpher rails D' are connected by loops d² at each end and preferably by one or more loops d³ over the sorting platform B³. In some instances it will be only nec-
10 essary to run independent straight telpher rails as the telfers can be transferred from one rail to another by the bridge E, but when a transfer bridge is not used, then it is desirable for the telpher rails to be con-
15 nected by loops or switches.

The operation is as follows:—Referring to Figs. 1 to 4 inclusive, one end of the station can be used for inbound freight and the other end for outbound freight, or some of
20 the tracks on one side may be used for inbound freight and the others for outbound freight. The inbound cars are unloaded and the load is transferred by the telpher which travels on the rail above the platform on
25 which the freight is placed to the sorting platform B and if it is mixed freight for different points then it is sorted on this platform and placed on the trucks. The trucks can be marked or can be located at
30 different points on the platform to indicate that the freight on a particular truck is to be transferred to a given point. When the trucks are full or the inbound freight sorted then the trucks are picked up by the
35 telfers and carried to the cars selected for the particular destination. In this way a car may be readily loaded with freight bound to one city or town without having to transfer at any point *en route*. If the
40 car is loaded with freight for two or more places, then the freight can be so loaded in the car that the freight for one point can be quickly discharged without handling the entire contents of the car. The large
45 freight, if desired, can be transferred by a telpher directly from one car to another over the platform B but without being discharged onto the platform, but where miscellaneous freight is carried by the telpher
50 then it is discharged on to the platform B so that it can be sorted. The telfers, as above remarked, can be transferred from one track to another, either by the transfer bridge E or by the loops at one or both ends
55 of the station. These loops may be arranged as shown in Fig. 4, or as illustrated in Fig. 8, or any modification can be used which will enable the telfers to be handled on any track desired.

60 The above system can be economically installed, is not complicated and can be operated at a comparatively small cost.

In Fig. 9, I have illustrated a modification in which the platforms adjacent to the
65 tracks are dispensed with, the telpher tracks

being directly above the railway tracks and extending over the sorting platform. The cars used must be either open cars or cars with removable or movable roofs so that the telpher hoisting mechanism may be directly
70 over the car to remove a load or to place a load therein.

Y and Z are freight stations, one on either side of the main building A; one of these buildings may be arranged to receive in-
75 bound freight and the other outbound freight. The stations may be of one or more stories and may be equipped with telfers and telpher tracks, and sorting platforms, as desired. 80

I claim:

1. The combination of a series of longitudinal tracks for cars, a transverse sorting platform, a series of telpher tracks extend-
85 ing parallel with the said car tracks and over the sorting platform.

2. The combination in a freight handling plant, of railway tracks, platforms adjacent to the said tracks, a transverse sorting plat-
90 form, telfers, with telpher tracks extending over the platforms adjacent to the railway tracks and over the sorting platform so that freight can be transferred from the cars to the sorting platform and sorted and
95 transferred to other cars for re-shipment, said sorting platform being common to all the telpher tracks.

3. The combination in a freight handling plant, of a series of railway tracks, plat-
100 forms adjacent to the said tracks, an elevated sorting platform above the platforms and tracks, a series of telpher rails extending over the platforms adjacent to the tracks and over the sorting platform.

4. The combination of a series of tracks, platforms adjacent to the tracks, a sorting
105 platform, a series of telpher rails above the said platforms, a transfer bridge, transfer rails upon which the bridge travels, a telpher rail carried by the said bridge and
110 adapted to a line with any one of the telpher tracks.

5. The combination in a freight handling plant, of a series of tracks for the reception
115 of freight cars, a central elevated sorting platform, two sets of main telpher tracks above the said platforms and terminating at a point above the sorting platform, transfer bridge above the sorting platform, a
120 transfer bridge adapted to said rails, a telpher track carried by the rails and arranged to span the space between the two sets of rails, with a series of telfers adapted to the tracks, the parts being so arranged that a
125 telpher can be transferred from one main track to another through the medium of the transfer bridge.

6. The combination in a railway freight station of a series of tracks arranged therein
130 for the reception of freight cars, platforms

adjacent to the tracks, an elevated, centrally located transfer platform, a series of elevated telpher tracks extending directly over the platforms adjacent to the railway tracks and over the transfer platform, telpers arranged to travel on said rails, trucks mounted on the transfer platform and arranged to receive goods, said trucks being so formed that they can be handled bodily by the telpers.

7. The combination, in a freight handling plant, of a series of tracks for the reception of freight cars, platforms alternating with the tracks, a main sorting platform, telpers for transferring freight to and from the cars and between the sorting platform and the cars, an outbound freight station on one side of the building and an inbound freight station on the opposite side of the building, said telpers also being capable of

carrying freight between any parts of the several platforms.

8. The combination in a freight handling plant of a series of tracks for the reception of freight cars, a sorting platform, telpher rails running parallel with the car tracks the space being open between the tracks occupied by cars and the telpher rail, so that freight can be transferred directly from one car to another, or from a car to the sorting platform and from the sorting platform to a car.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

MARCUS B. WATERMAN.

Witnesses:

WM. E. SHUPE,
WM. A. BARR.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
