

H. MARCUS.
CONVEYING CHANNEL.
APPLICATION FILED APR. 10, 1908.

988,644.

Patented Apr. 4, 1911.

2 SHEETS—SHEET 1.

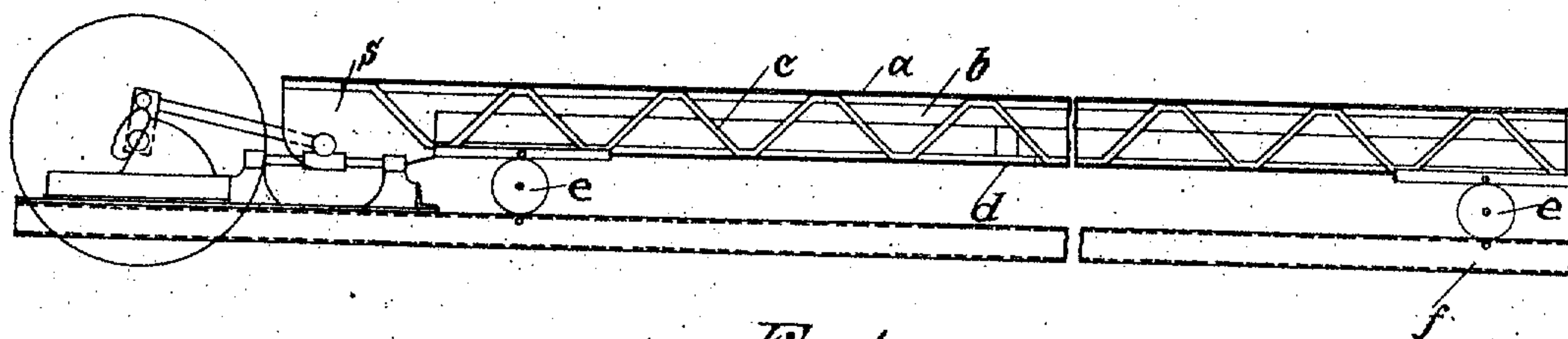


Fig. 1.

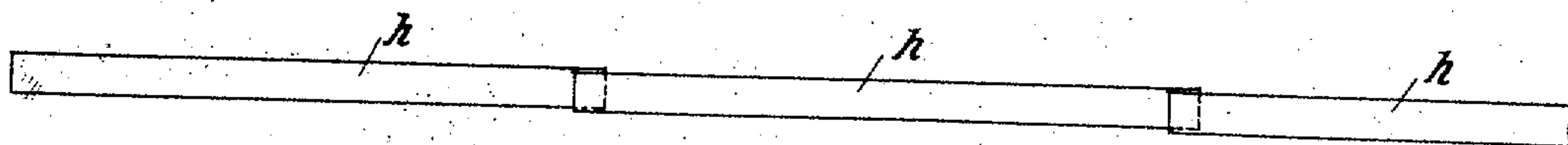


Fig. 3.

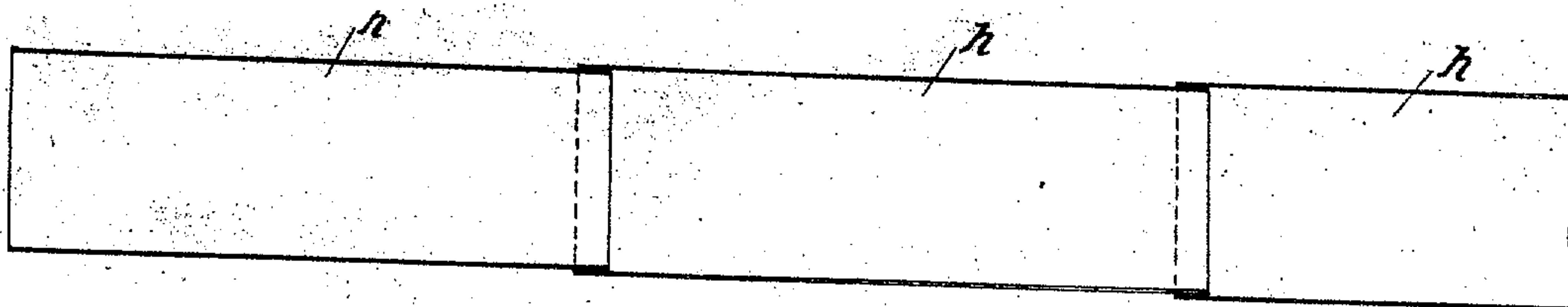


Fig. 4.



Fig. 5.

Witnesses
J. M. Munroop
A. E. Scott

Inventor,
Hermann Marcus,
By Knight & Co.
Attorneys.

H. MARCUS.
CONVEYING CHANNEL.
APPLICATION FILED APR. 10, 1908.

988,644.

Patented Apr. 4, 1911.

2 SHEETS—SHEET 2.

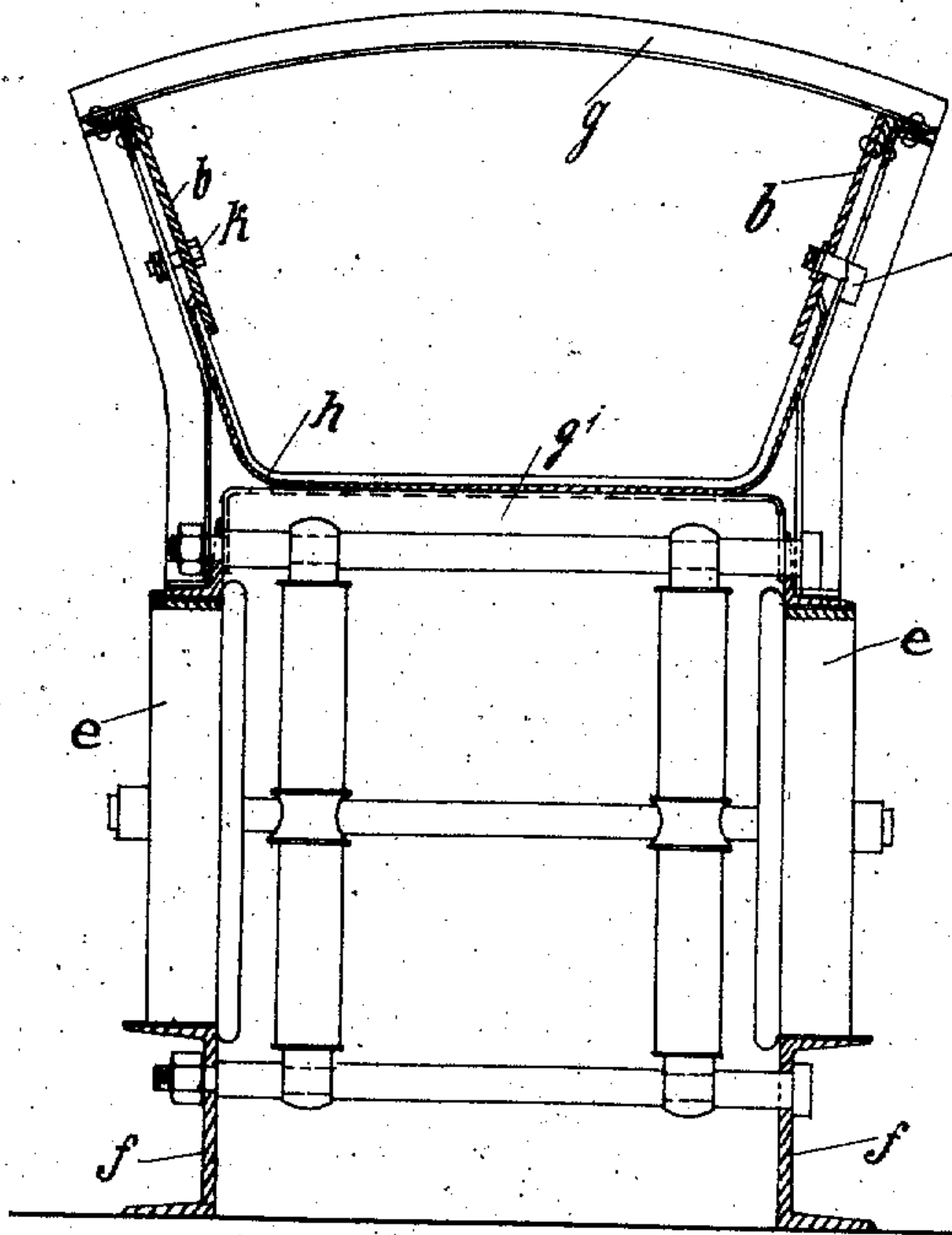


Fig. 2.

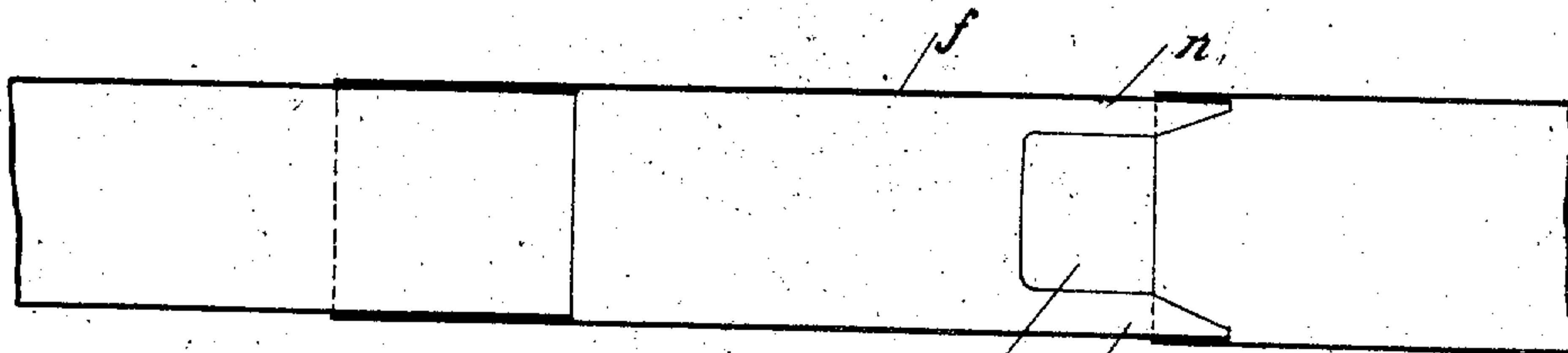


Fig. 6.

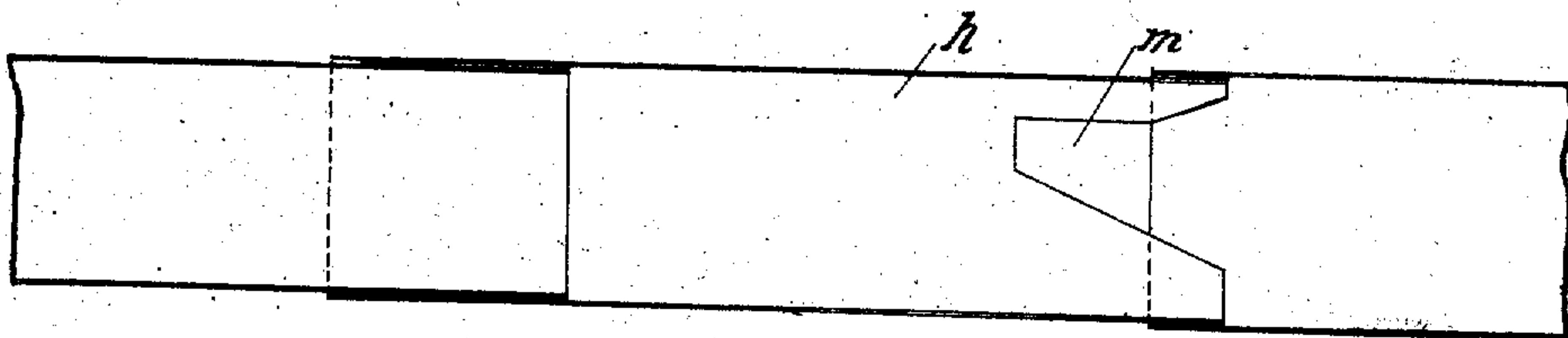


Fig. 7.

Witnesses:
J. M. Myntke
L. E. Scott

Inventor
Hermann Marcus
By Knight Bros
Attorneys

UNITED STATES PATENT OFFICE.

HERMANN MARCUS, OF COLOGNE, GERMANY.

CONVEYING-CHANNEL.

988,644.

Specification of Letters Patent.

Patented Apr. 4, 1911.

Application filed April 10, 1908. Serial No. 426,300.

To all whom it may concern:

Be it known that I, HERMANN MARCUS, a citizen of the German Empire, and resident of Cologne, Germany, have invented certain new and useful Improvements in Conveying-Channels, of which the following is a specification.

This invention relates to a conveying-channel whose trough is formed of a number of sheet metal chutes.

The invention consists in the main in the arrangement that the single chutes are fastened in a frame or trellis connected directly with the driving-gear, and in a manner in which they can be easily exchanged.

All conveyer gutters known until now consist namely of a row of shoes or chutes connected with each other, whereby the whole gutter, from a suitable gear, is driven back and forth in such a manner that, through this the conveying is accomplished. Such gutters must therefore be made very massive, as they are exposed to considerable and lasting shocks, being unsupported for considerable lengths. It will therefore be evident that the mounting and dismounting of the massive and heavy gutters will be attended with great difficulties.

The present invention has therefore for its object to provide a conveyer of the type in question wherein the gutter structure of the conveyer consists of a plurality of assembled sections constructed of such material as will render the same light and durable, and wherein said sections may be separately removed for the purpose of replacement through wearing. And for supporting the gutter a trellis like frame is provided thus permitting of a very light gutter structure and one free from the disadvantages indicated of the aforesaid type of conveyer.

In order to be able to discharge the load at certain places, some of the gutter sections or chutes are so constructed that they can be shifted, so that, when they are drawn asunder, there are formed between them gaps through which the load can be discharged.

The chutes have preferably openings at one end of the bottom, so that the slide-walls of the same, on forming the discharging-gaps, serve as a guide. If the openings in the bottom of the chutes are made to slope at the sides, a part of the load can be discharged at a certain place, and the other part be conveyed farther.

In the drawing the subject of the invention is illustrated in a sample form of construction.

Figure 1 shows it in a side-view and Fig. 2 in a cross-section on an enlarged scale. Figs. 3 and 4 show a part of the conveying-channel in a side-view and in a plan view, while Fig. 5 shows a cross-section through the channel. Figs. 6 and 7 represent modified forms of construction of the channel.

Similar letters refer to similar parts throughout the several views.

As shown in Figs. 1 and 2 the trellis frame consists of side-stays *c* of light angle iron, stiffened by the top and bottom straps *g* and *g'* also made of light angle iron. In this manner a trellis-frame is obtained not only of light weight but also of great stiffness, which is able to withstand great pressures as well as shocks. Inside of this frame is fastened the conveyer-gutter proper, which now may be made thin and light, the trellis frame being the supporting body and the gutter itself transporting the material with ease. According to practice, this present conveyer-gutter is many times lighter than all older similar gutters; so that, on the one hand, considerable saving in material is gained, and on the other hand, the mounting and dismounting of the new gutter can be done simpler and quicker than before. In consequence of lessened weight a saving is naturally made in motive power. It is, at all events, of importance that the trellis frame, in which the gutter is resting and not the gutter proper, is connected with the driving gear.

At either end and also in the middle the trellis or supporting frame *C* is mounted on rails *f* whereby to permit of the usual to and fro movement. Said frame has a portion *S* connected with the cross-head of the driving gear.

In Figs. 1 and 2 the trellis is shown as constructed with side plates *b* arranged along the upper edges thereof and secured in place on the trellis through the medium of fixed bolts *k* and cam bolts *i*. The chutes *h* are thus by means of the binding-screws *i* or *k* fastened in the frame in a manner that they can be exchanged. The chutes themselves are of a slightly tapered shape, so that the widened end of one chute receives the tapering end of the next. The exchangeability of the chutes not only facilitates the construction of the channel, but has also the

very important advantage that those parts of the channel which are most subject to wear and tear can be replaced without any great trouble and expense. In order to be able to discharge the load at certain places of the channel, some of the chutes can be shifted and are for this purpose provided with any suitable adjusting device. By shifting the chutes discharging-gaps can be formed between them through which the load is discharged. The slidable chutes *h* are advantageously provided at one end in the bottom with openings *m*, as shown in Fig. 6. The side-walls *n* of the end of the plate of which a part has been cut out at the bottom form, when drawn out, a guide.

In the form of construction of the channel according to Fig. 7 the opening *m* is made to slope on one side. As a consequence of this one part of the load can be discharged when the movable chutes are drawn asunder, while the other part continues moving along in the channel on the overlapping parts.

What is claimed is:—

1. A conveyer comprising a supporting and reciprocatory frame, and a plurality of assembled trough like sections detachably mounted within the frame.

2. A conveyer comprising a trellis frame, means for reciprocating the frame, and a plurality of relatively light and assembled trough like sections detachably mounted within the frame.

3. A conveyer comprising a supporting frame, a plurality of assembled trough like sections detachably mounted within the frame, and a power mechanism connected directly with and adapted to impart reciprocating movement to the frame.

4. A conveyer comprising a supporting and reciprocatory frame, a plurality of assembled trough like sections mounted within the frame, and means whereby the material conveyed may be permitted to leave the trough at points intermediate the ends thereof.

5. A conveyer comprising a supporting and reciprocatory frame, and a plurality of assembled trough like sections detachably mounted within the frame and one of said sections having an outlet opening adjacent the end of the next adjoining section permitting of the conveyed material to pass there-
through.

6. A conveyer comprising a supporting and reciprocatory frame, a plurality of assembled trough like sections detachably mounted within the frame, and one of said sections having a variable opening there-
through adapted to coöperate with the adjacent end of the adjoining section whereby to permit of part of the conveyed material to pass therethrough and the remainder of the material to pass on to the next conveying
trough section.

7. A conveyer comprising a supporting and reciprocatory frame, a plurality of assembled trough like sections detachably mounted within the frame, and means associated with the trough sections whereby to provide a variable outlet opening for the material being conveyed.

8. A conveyer comprising a supporting and reciprocatory frame, a plurality of trough like sections assembled in telescope relation within the frame, the end portion of one of said sections being cut away at the base thereof and adapted to coöperate with the edge of the next adjacent section to provide an outlet opening for the material being conveyed, and means permitting of relative movement between the sections whereby to vary the opening; and the side walls of the opened section serving as the support-
ing means for said section when the same is in open position.

9. A conveyer comprising a supporting and reciprocatory frame, a plurality of assembled trough like sections mounted within the frame, and detachably mounted strips carried by the frame and engaging with the side edges of the trough sections and holding the same in assembled relation.

10. A conveying channel comprising a plurality of communicating sheet metal chutes, each of said chutes being provided with openings adjacent one end thereof, said openings normally being closed by the adjacent chute, and said chutes adapted to be moved relatively to each other, whereby variable discharge openings may be formed between adjacent chutes.

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

HERMANN MARCUS.

Witnesses:

LOUIS VANDORN,
MAX NOMIUS.