

F. P. BONINIE.
TIN TRANSFERRING MACHINE.
APPLICATION FILED AUG. 6, 1908.

930,138.

Patented Aug. 3, 1909.

2 SHEETS—SHEET 1.

FIG. 1.

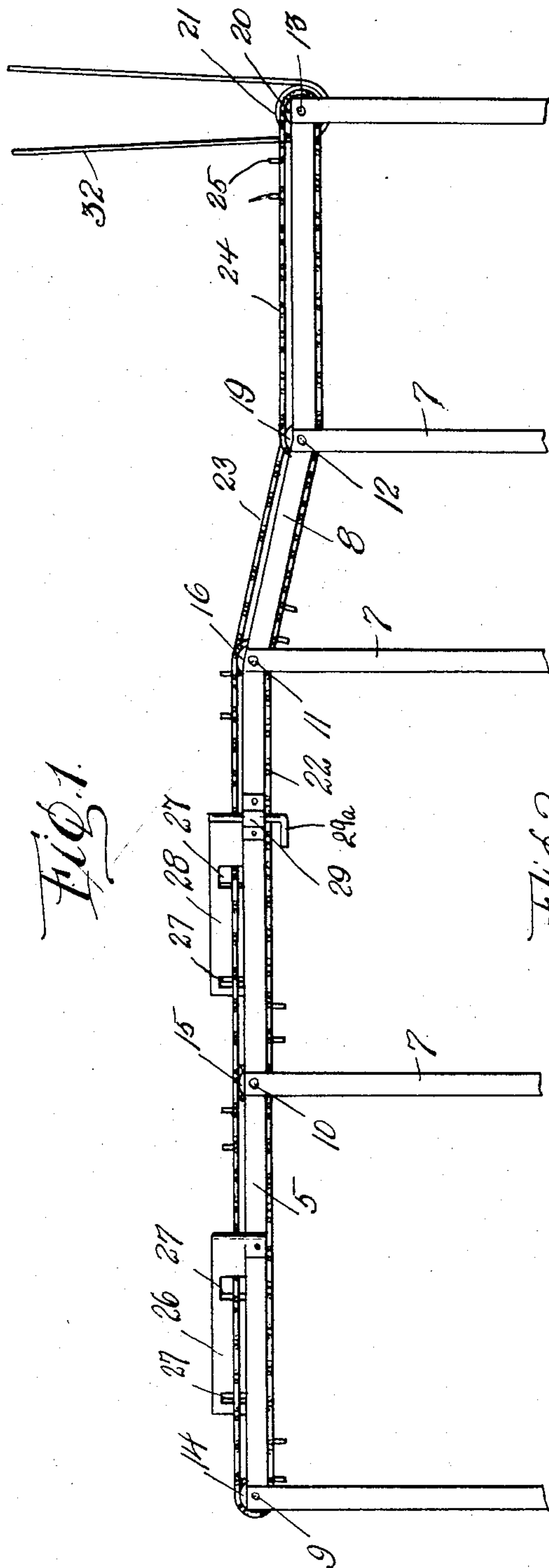
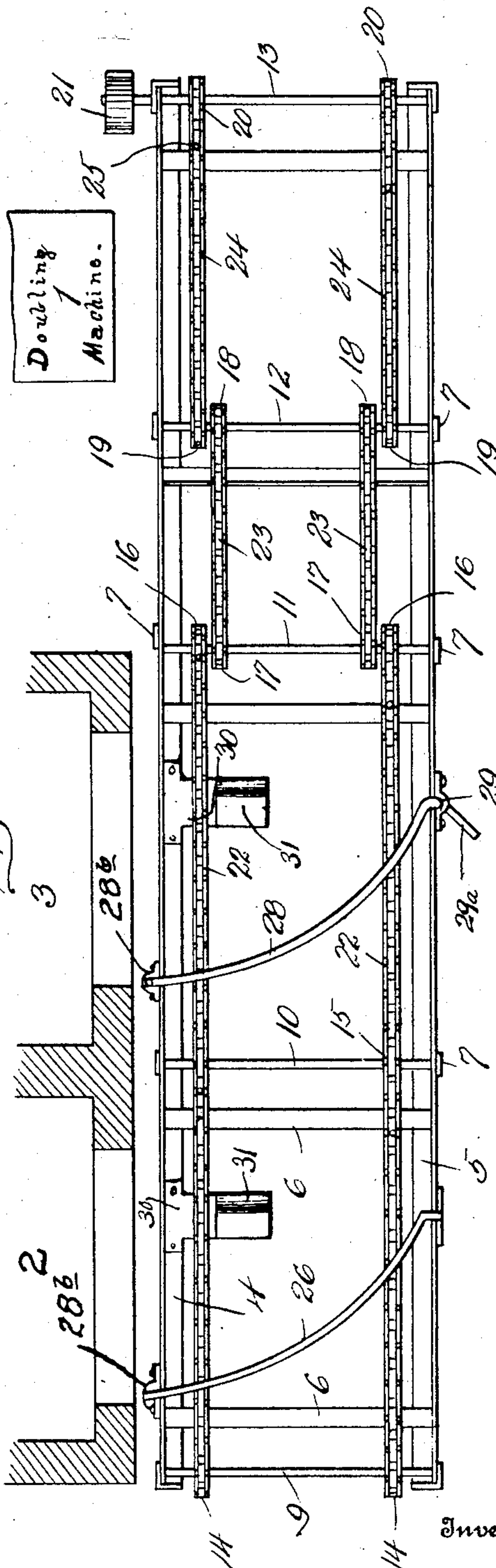


FIG. 2.



Doubling
Machine.

Witnesses

Samuel Payne.
R. H. Butler

Inventor

F. P. BONINIE

By

A. E. Smith

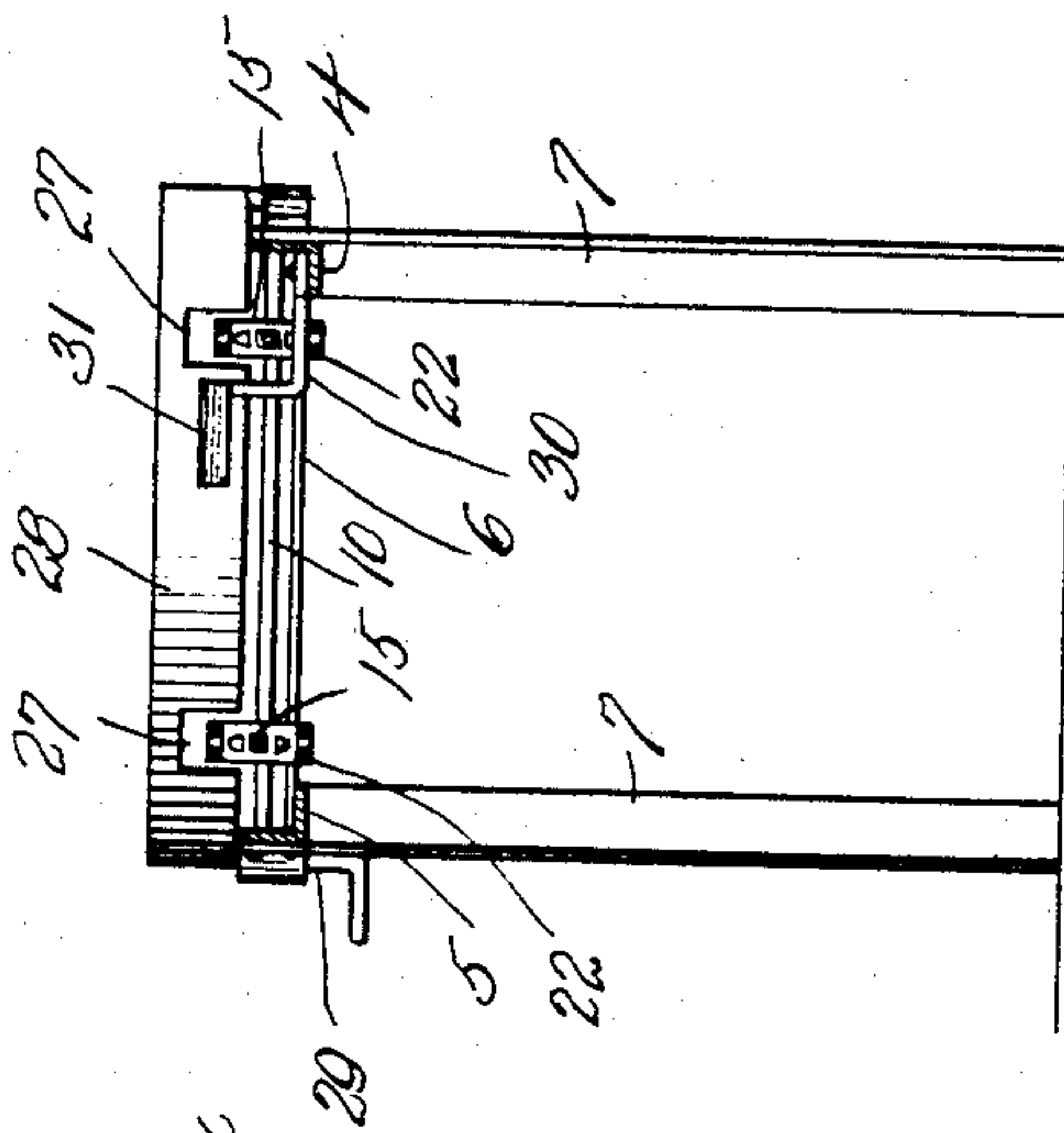
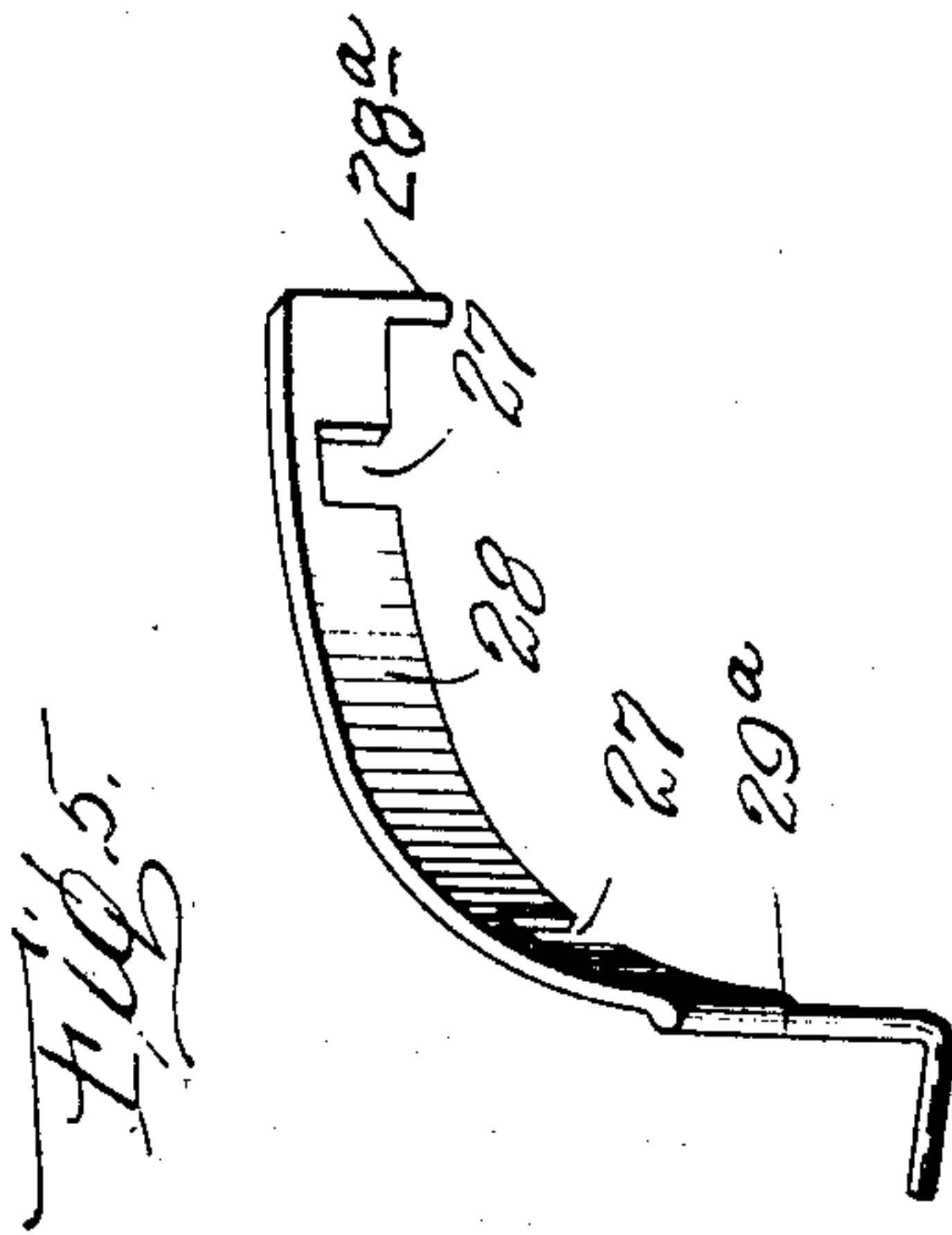
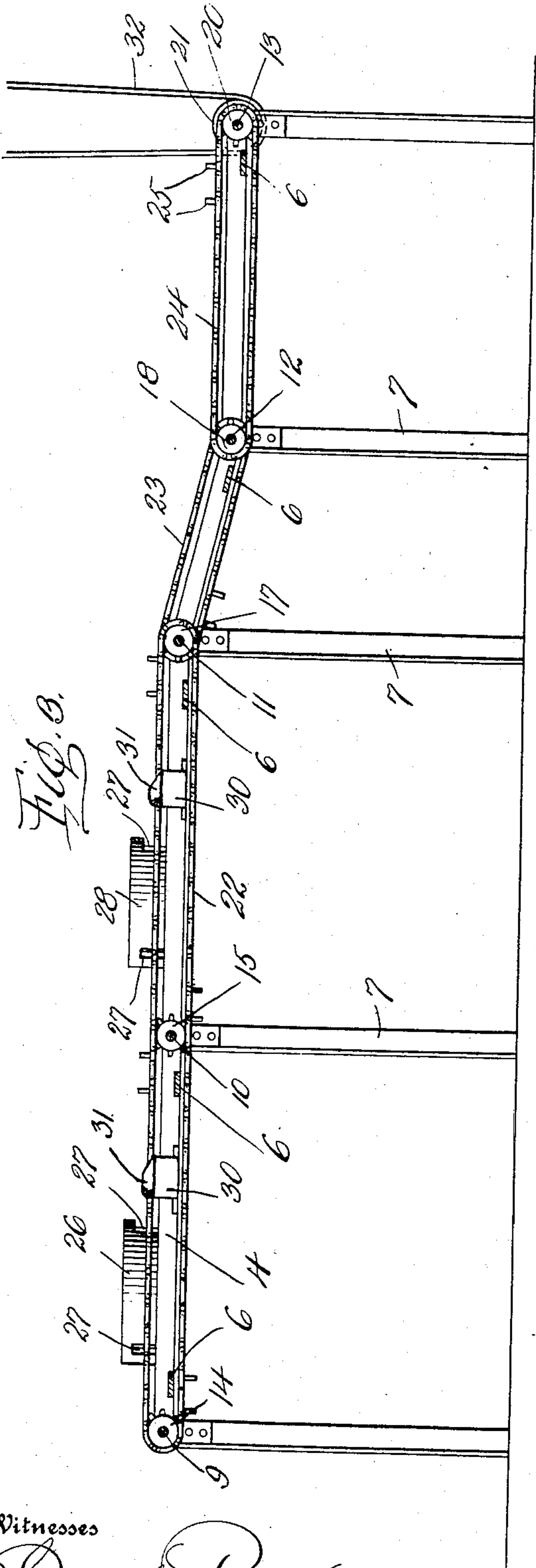
Attorneys

F. P. BONINIE.
TIN TRANSFERRING MACHINE.
APPLICATION FILED AUG. 6, 1908.

930,138.

Patented Aug. 3, 1909.

2 SHEETS—SHEET 2.



Witnesses

Samuel Taylor.
W. H. Butler.

Inventor

F. P. BONINIE

By

H. E. Smith & Co.

Attorneys.

UNITED STATES PATENT OFFICE.

FRANK P. BONINIE, OF MONESSEN, PENNSYLVANIA.

TIN-TRANSFERRING MACHINE.

No. 930,138.

Specification of Letters Patent.

Patented Aug. 3, 1909.

Application filed August 6, 1908. Serial No. 447,318.

To all whom it may concern:

Be it known that I, FRANK P. BONINIE, a citizen of the United States of America, residing at Monessen, in the county of Westmoreland and State of Pennsylvania, have invented certain new and useful Improvements in Tin-Transferring Machines, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to a tin transferring machine, particularly designed for transferring packs of tin from the doubler to a furnace.

The primary object of my invention is to provide a labor saving device that will dispense with the use of workmen, heretofore employed for transferring tin from a doubling machine to the heating furnaces.

Another object of this invention is to provide a conveyer of a simple, durable and inexpensive construction that will positively convey packs of tin to a heating furnace.

With the above and other objects in view which will more readily appear as the invention is better understood, the same consists in the novel construction, combination and arrangement of parts to be presently described, and then specifically pointed out in the appended claims.

Figure 1 is a side elevation of a transferring machine constructed in accordance with my invention, Fig. 2 is a plan view of the same showing the arrangement thereof with respect to the heating furnaces and the doubling machine, Fig. 3 is a longitudinal sectional view of the machine, Fig. 4 is a cross sectional view thereof, and Fig. 5 is a perspective view of one of the deflectors employed, detached from the machine.

To put my invention into practice, I provide a conveyer embodying a trestle or a stand provided with means for conveying packs of tin plate from a doubling machine 1, (shown conventionally in Fig. 1) to a heating furnace or furnaces, two of such furnaces being indicated at 2 and 3 in Fig. 2 in the present illustration. Said conveyer or transferring machine is located in front of the furnace or furnaces, and in front of the doubling machine 1, whereby it is only necessary for an operator to place the double packs of tin plates upon the conveyer, by which they will be carried to the furnace or furnaces, and, by means hereinafter described, will be directed into the furnace or

furnaces as the case may be. The conveyer or transferring device as before stated, comprises a trestle or stand embodying side bars or rails 4 and 5 connected together by transverse bars 6, and supported by suitable uprights or lugs 7. The side bars may be advantageously formed of a structure of metal of angle bar form, and are inclined for a portion of their length intermediate their ends as at 8, see Figs. 1-3, to provide for the distance in height between the doubling machine and the entrance to the furnace or furnaces 2 and 3.

Journaled in the side bars 4 and 5 are shafts 9, 10, 11, 12, and 13, the shaft 9 having sprocket wheels 14, the shaft 10 having sprocket wheels 15, the shaft 11 having sprocket wheels 16 and 17, the shaft 12 having sprocket wheels 18 and 19, and the shaft 13 having sprocket wheels 20, this latter shaft being also provided with a pulley or belt wheel 21. Engaging the sprocket wheels 14, 15, and 16 are sprocket chains 22, engaging the sprocket wheels 17 and 18 are sprocket chains 23, and engaging the sprocket wheels 19 and 20 are sprocket chains 24. The sprocket chains 22, 23 and 24 are provided with pins 25 for engagement with a pack of tin plates, the pins 25 of the chains 22, 23, and 24 which lie adjacent the outer side rail of the stand being arranged slightly in advance of the pins on the chains 22, 23 and 24 which lie adjacent to the inner side rail of the conveyer stand.

The conveyer is provided in front of the furnace 2, with a deflector 26 and a similar deflector 28 is provided in front of the furnace 3, whereby the packs of tin plates as they are carried along by the conveyer chains are deflected from the straight path and caused to be projected into either the furnace 2, or the furnace 3, as may be desired. The deflectors 26 and 28 are substantially similar in construction, each having notches 27 to provide clearance for the conveyer chains 22. Each deflector is also provided on its inner end with a pin 28^a received in sockets 28^b provided therefor on the side rail 4. The outer end of the deflector 28 is however provided with a pintle 29^a which is received in a bearing 29 carried by the side rail 5, this pintle being of sufficient length to permit of the deflector 28 being elevated so as to disengage the pin 28^a on the inner end thereof from its socket 28^b,

at which time the deflector 28 may be swung around on its pintle 29^a so as to be out of the way of the tin plates on the conveyer chain 22, that said plates may be carried into engagement with the deflector 26, and by said latter deflector projecting into the furnace 2.

Secured to the side rail 4 are arms 30 which are bent upwardly at their inner ends, and are provided with beveled blocks 31 adjacent to the sprocket chain 22 that travels beside the side rail 4, the function of which blocks is to elevate the packs of tin plates so as to release the same from the pin 25 on the conveyer chains, as will more fully appear in the operation.

Operation: With the transferring machine driven from a suitable source of power by a belt 32 driving the shaft 13, a pack of tin plates is placed upon the conveyer chains 24, and by said chains is carried and delivered to the conveyer chains 23, and by these chains the tin plates are carried by and delivered to the conveyer chains 22. The location of the pins 25 in the manner afore described, causes the pack of tin plates to be supported at an angle upon the conveyer chain whereby the outer edge of the pack will first engage the deflectors 26 or 27. These deflectors are adapted to twist the packs around until they enter the furnace or furnaces, the beveled blocks 31 at this time elevating the packs so that they are released from the conveyer chains 22, and by this time the packs have been so positioned that they will readily slide into the furnace or furnaces. When the first pack of tin plates is placed on the conveyer chains, the deflector 28 is elevated and swung out of the way of the pack of tin plates to allow the latter to be carried to the deflector 26, and by it projected into the furnace 2. The deflector 28 is then dropped, so that the next pack of plates on the conveyer chains will engage the said deflector and be projected into the furnace 3. When only one furnace is being used, it will be understood that only a single deflector is employed.

While in the drawings forming a part of this application I have illustrated a preferable and practicable embodiment of the invention, it will be understood that various changes may be made in the details of construction without departing from the spirit of the invention.

Having now described my invention what I claim as new, is:—

1. A tin transferring machine for conveying tin plates from a doubling machine to furnaces, comprising a conveyer support, shafts journaled in said support, sprocket wheels mounted upon said shafts, conveyer chains adapted to travel over said wheels, pins carried by said chains for engaging

packs of tin plates and supporting the same at an angle to said chains, curved deflectors carried by said support for guiding packs of tin plates therefrom, one of said deflectors being pivotally connected to said support and adapted to be elevated and swung out of the path of travel of said chains, and beveled blocks arranged adjacent to said deflectors for elevating said packs of tin plates and releasing the same from said conveyer chains.

2. A tin transferring machine for conveying tin from a doubling machine to furnaces, comprising a conveyer support, shafts carried thereby, sprocket wheels mounted upon said shafts, conveyer chains adapted to travel over said wheels, pins carried by said chains for engaging packs of tin plates and supporting the same at an angle to said chains, and curved deflectors carried by said support for guiding packs of tin therefrom, one of said deflectors being pivotally connected to said support and adapted to be elevated and swung out of the path of travel of said chains.

3. A tin transferring machine for conveying tin plates from a doubling machine to a furnace, comprising a conveyer support, conveyer chains carried by said support, a curved deflector arranged in front of the furnace for deflecting packs of tin from said conveyer chains into said furnace, and means arranged in front of said furnace for engagement with the tin plates to elevate same and release them from the conveyer chains.

4. A tin transferring machine for conveying tin plates from a doubling machine to a furnace, comprising a conveyer support having portions thereof on different horizontal planes, conveyer chains carried by said support, means arranged in the path of travel of said conveyer chains for deflecting the pack of tin plates into said furnace, said means being movable out of the way of the path of travel of said chains.

5. In a tin transferring machine, means for conveying packs of tin plates from a doubling machine and transferring the same into a furnace, comprising a plurality of conveyer chains, means extending across the path of travel of said chains for projecting packs of tin plate into said furnace, and means arranged adjacent the chains to be engaged by said packs of tin plates for elevating the latter out of engagement with the chains.

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

FRANK P. BONINIE.

Witnesses:

LEWIS V. DENNICK,
JOHN J. LEONARD.