

No. 724,377.

PATENTED MAR. 31, 1903.

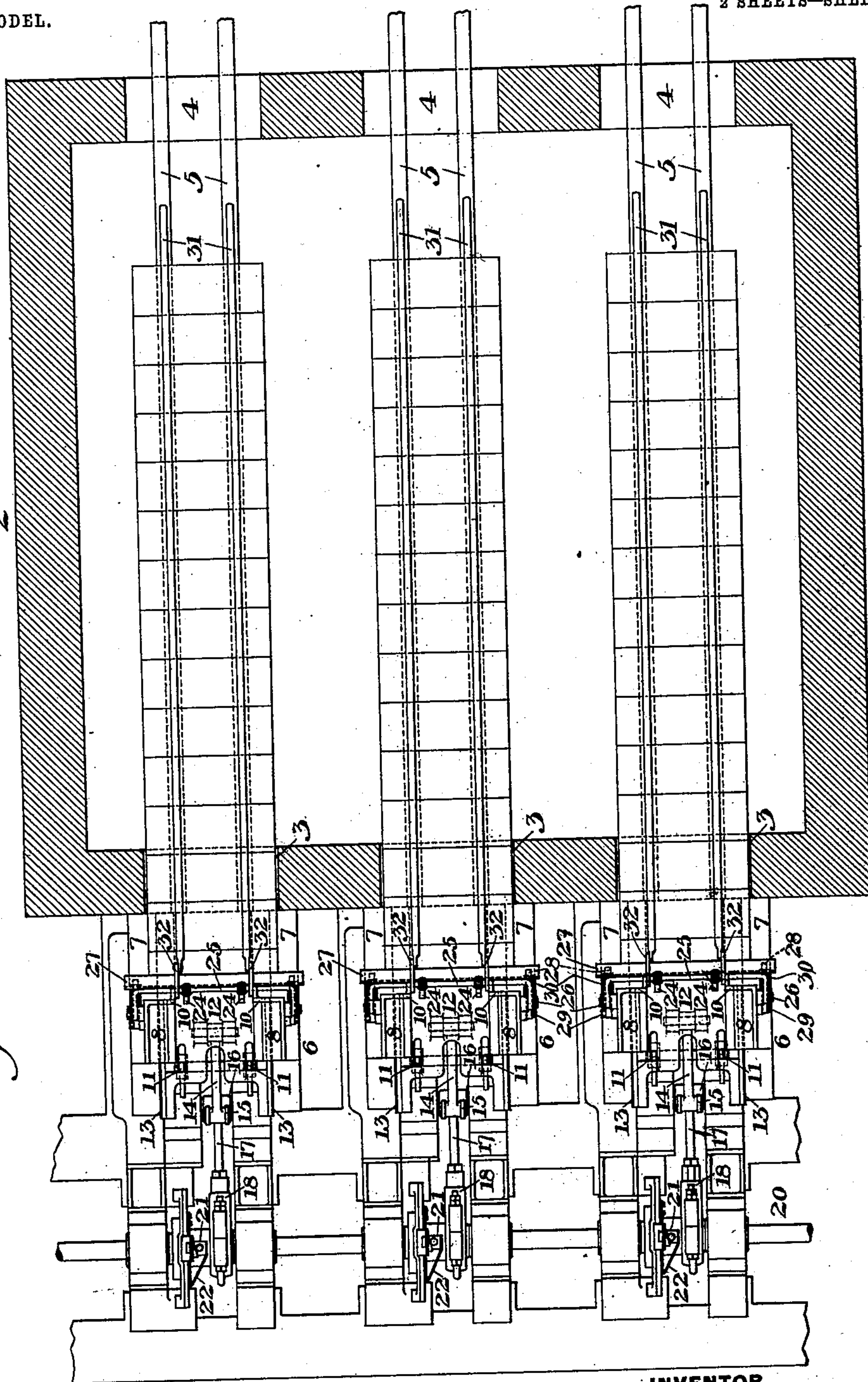
C. W. BRAY.  
FURNACE FEEDING APPARATUS.

APPLICATION FILED NOV. 7, 1902.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. 1.



WITNESSES

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INVENTOR

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his Attorneys

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2 SHEETS—SHEET 2.

Fig. 2.

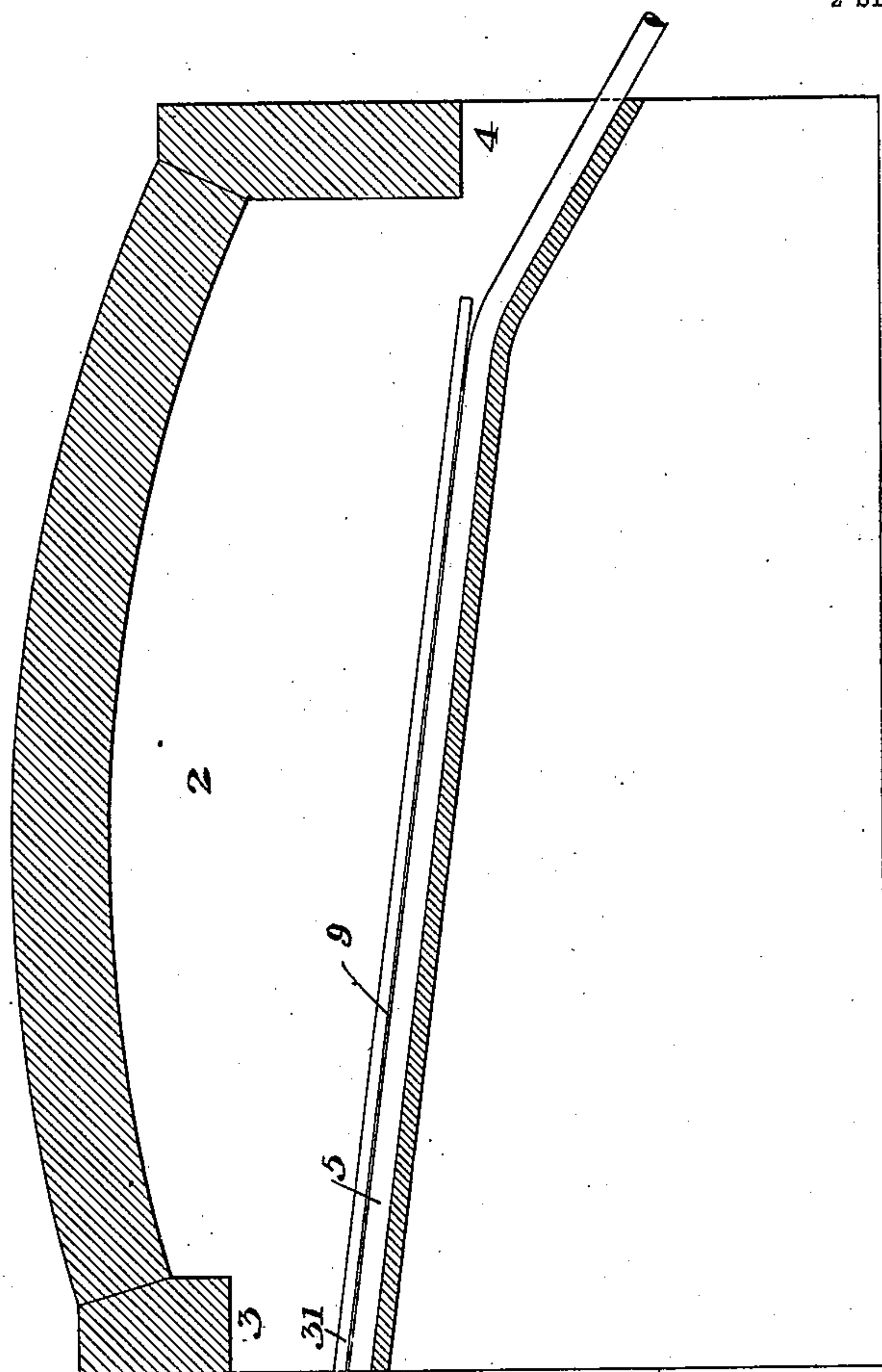
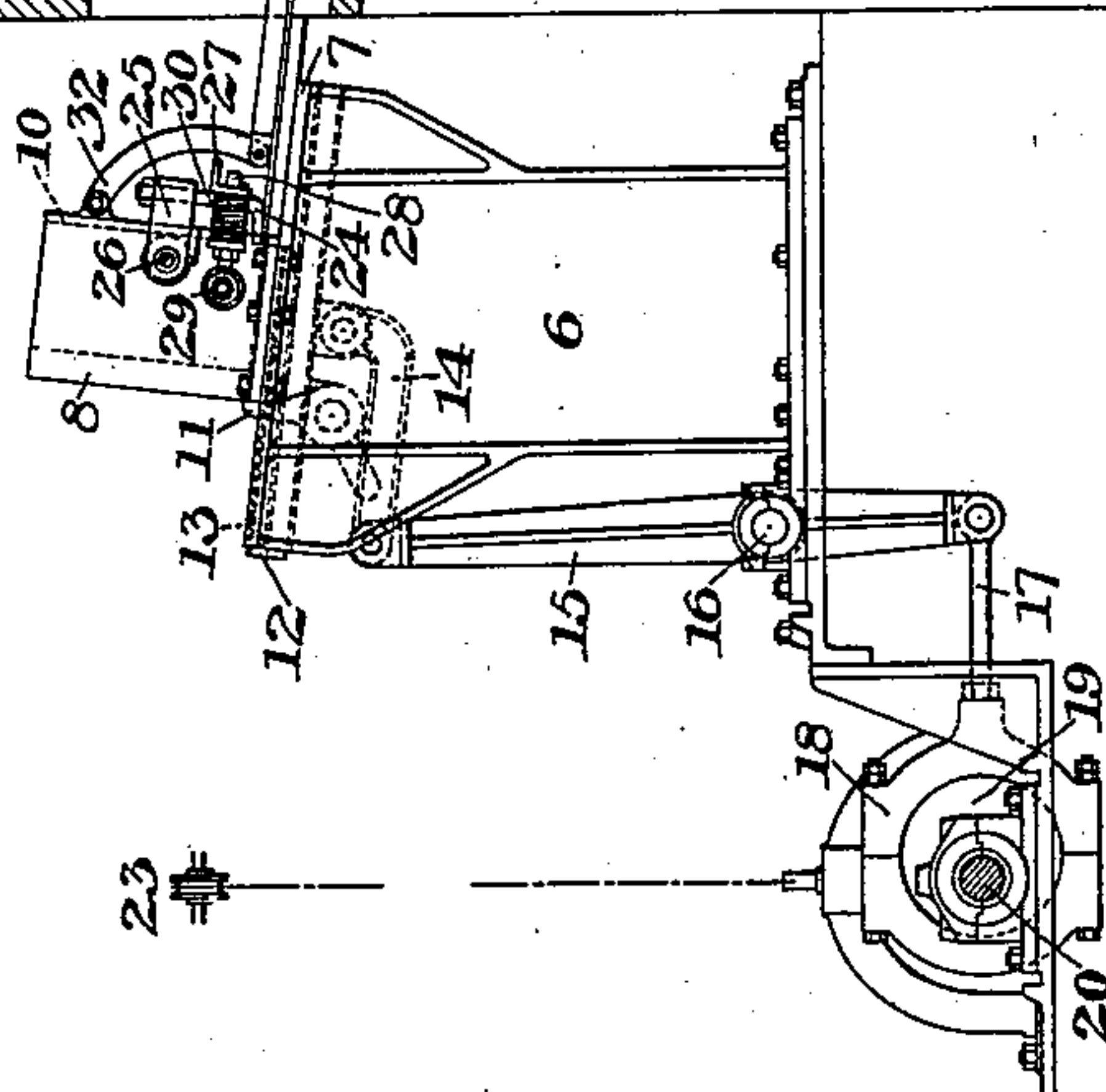
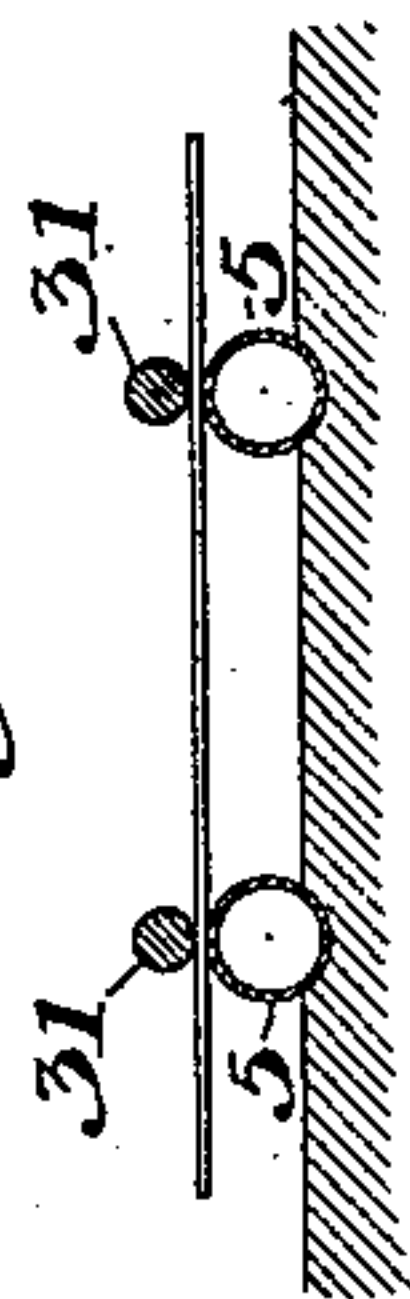


Fig. 3.



WITNESSES

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# UNITED STATES PATENT OFFICE.

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AMERICAN TIN PLATE COMPANY, OF ORANGE, NEW JERSEY, A COR-  
PORATION OF NEW JERSEY.

## FURNACE FEEDING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 724,377, dated March 31, 1903.

Application filed November 7, 1902. Serial No. 130,423. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES W. BRAY, of  
Pittsburg, Allegheny county, Pennsylvania,  
have invented a new and useful Furnace  
Feeding Apparatus, of which the following is  
a full, clear, and exact description, reference  
being had to the accompanying drawings,  
forming part of this specification, in which—

Figure 1 is a plan view of my improved  
furnace feeding apparatus. Fig. 2 is a lon-  
gitudinal section of the same, and Fig. 3 is a  
detail cross-section showing the supports for  
the plates and holding-rods.

My invention relates to an improvement  
upon the furnace feeding apparatus described  
and claimed in an application filed by me on  
March 12, 1902, Serial No. 97,823, and I show  
said apparatus in the present drawings with  
my improvement applied thereto. It should  
be understood, however, that the improve-  
ment may be applied to furnace feeding ap-  
paratus of other construction.

As described in my said application, I show  
in the drawings a continuous heating-furnace  
2, which may be one of a series, of which  
there may be any desired number. The fur-  
nace has a feeding-opening 3 and exit-open-  
ings 4, connected by suitable supports 5, upon  
which the row of plates rest as they are  
pushed forward. I preferably incline the  
supports 5 at an angle to the horizontal, either  
upwardly or downwardly, preferably the lat-  
ter, as shown in Fig. 2, in order to prevent  
one plate climbing upon the next as the row  
is pushed forward by the entering plate.

In front of each feed-opening I mount an  
inclined table 6 upon side supports 7 7, and  
to this table are adjustably bolted side  
guides 8 8, between which the plates are piled,  
as indicated at 9 in Fig. 2. The guides are  
provided in front with inwardly-projecting  
flanges 10, which hold the plates in place,  
these flanges terminating above the platform  
to allow one or more of the lower plates to be  
forced forwardly.

The table is provided with longitudinal  
slots, through which project push-fingers 11,  
pivotally mounted upon a sliding plate 12,  
moving within guides 13 at its side edges.  
This plate is reciprocated by a link connec-  
tion 14, with a rocking lever 15 trunnioned  
at 16 and pivotally connected at its lower end

with an eccentric-rod 17, extending from an  
eccentric-strap 18. The eccentric 19 for the  
lever loosely surrounds a common shaft 20  
and may be connected with the shaft by  
means of a clutch 21. This clutch is nor-  
mally held in unlocked position by a spring  
22 and is of the form known as a "pin-  
clutch," which will automatically disengage  
itself after one revolution. The actuating-  
cord for each clutch extends over suitable  
guide-pulleys 23 to an operator's pulpit.

In order to hold down the plate as it is fed  
along the table, I provide in front of each  
feed mechanism bent fingers 24, the stems of  
which extend up and are adjustably secured  
to a U-shaped cross-bar 25. The end legs of  
this cross-bar are pivoted to the outer sides  
of the guides 8, as shown at 26, and the fin-  
gers are yieldingly held in the position shown  
in Fig. 2 by means of the transverse angle 27,  
connected at each end to arms 28, pivoted to  
the sides of the guides at 29. The tension-  
springs 30 act normally to draw the fingers  
forward, leaving a space between them and  
the table of a thickness equal to the thick-  
ness of the plate or set of plates to be fed.

It is of great importance in the feeding of  
the plates through the furnace that they shall  
be prevented from mounting upon each other  
at any part of their course and that the for-  
ward edge of each plate be kept flush with  
the rear edge of the preceding plate with  
which it is in contact, and it is to this that  
my invention relates. To effect this result,  
I employ rods 31, secured in front of the charg-  
ing end of the furnace, preferably to a por-  
tion of the guides 8, by a link connection 32  
above the place of exit of the plates from the  
guides 8 and extending above the supports  
5 entirely across the furnace or as far there-  
in as may be desired. These rods are pref-  
erably vertically above the supports 5 and are  
preferably free at their ends within the fur-  
nace, so that they are flexible, and being free  
to expand and contract do not warp or become  
misshapen. As the plates are moved through  
the furnace on the supports 5 the rods bear  
upon them by gravity and hold them down,  
so that all occupy a single plane and each is  
prevented from climbing upon the preceding  
plate. Metal rods of about one and one-half  
(1½) inches diameter will answer for this pur-



pose or, if desired, I may use hollow rods or pipes through which streams of water may be maintained, and by fastening the rods or pipes at both ends they may be held rigidly, 5 in which case they would not necessarily act by gravity. I prefer, however, to use gravity-acting rods as being more certain in their operation and being capable of adjusting themselves to plates of varying thickness.

10 I claim—

1. A heating-chamber having supports extending within the same, means for moving plates thereon through the chamber, and holding-rods extending longitudinally of the chamber 15 and over the course of the plates to prevent them from climbing; substantially as described.

2. A heating-chamber having supports extending within the same, means for moving

plates thereon through the chamber, and holding-rods extending over the course of the plates and bearing upon the plates by gravity to prevent them from climbing; substantially as described. 20

3. A heating-chamber having supports extending within the same, means for moving plates thereon through the chamber, and holding-rods extending over the course of the plates to prevent them from climbing, said rods being free at their ends remote from the 25 feeding-opening of the furnace; substantially as described. 30

In testimony whereof I have hereunto set my hand.

CHARLES W. BRAY.

Witnesses:

GEO. B. BLEMING,

THOMAS W. BAKEWELL.