

No. 799,322.

PATENTED SEPT. 12, 1905.

A. A. GERY.
CAR PUSHING MECHANISM FOR TUNNEL KILNS.

APPLICATION FILED OCT. 12, 1904.

2 SHEETS—SHEET 1.

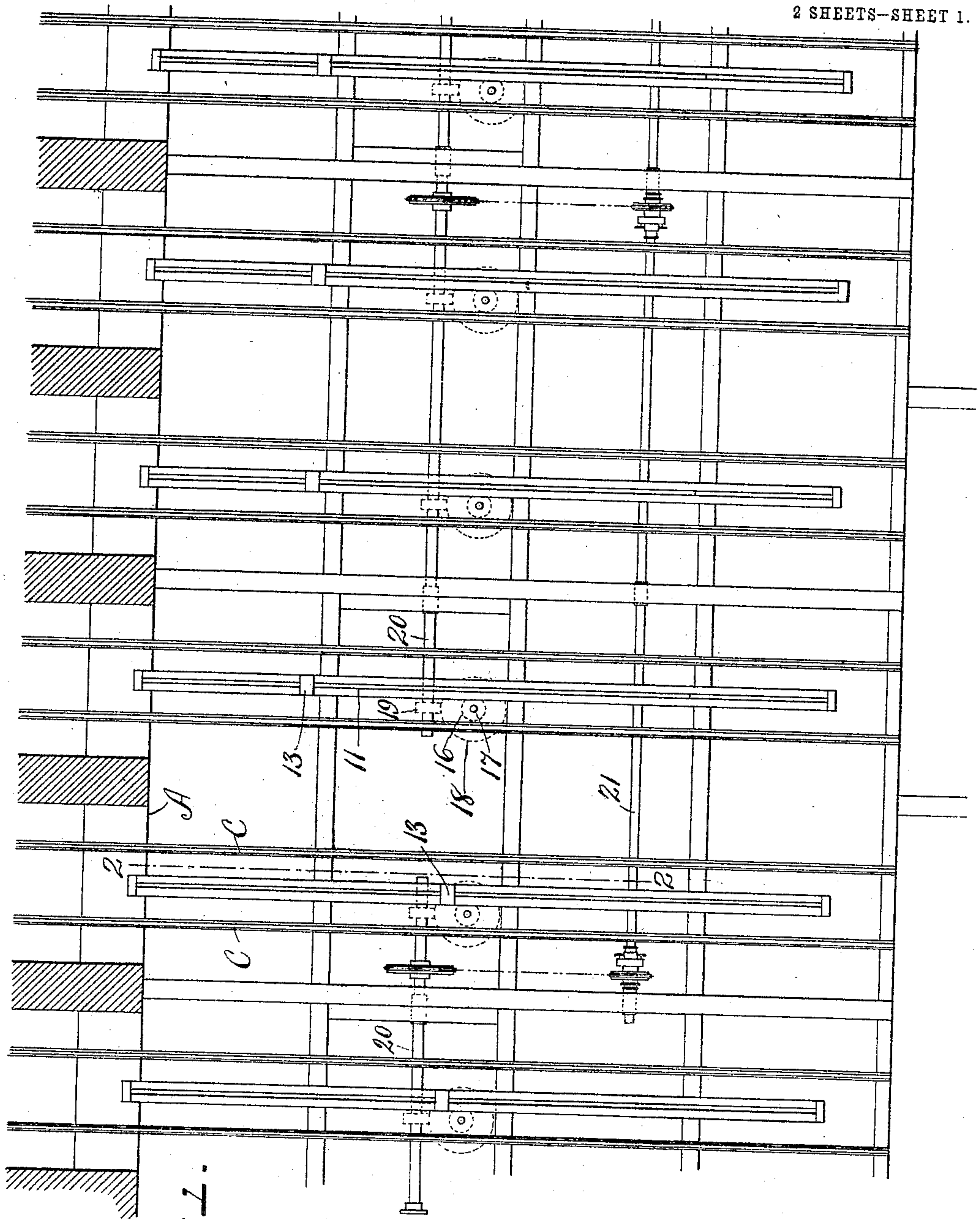


Fig. 1.

Witnesses
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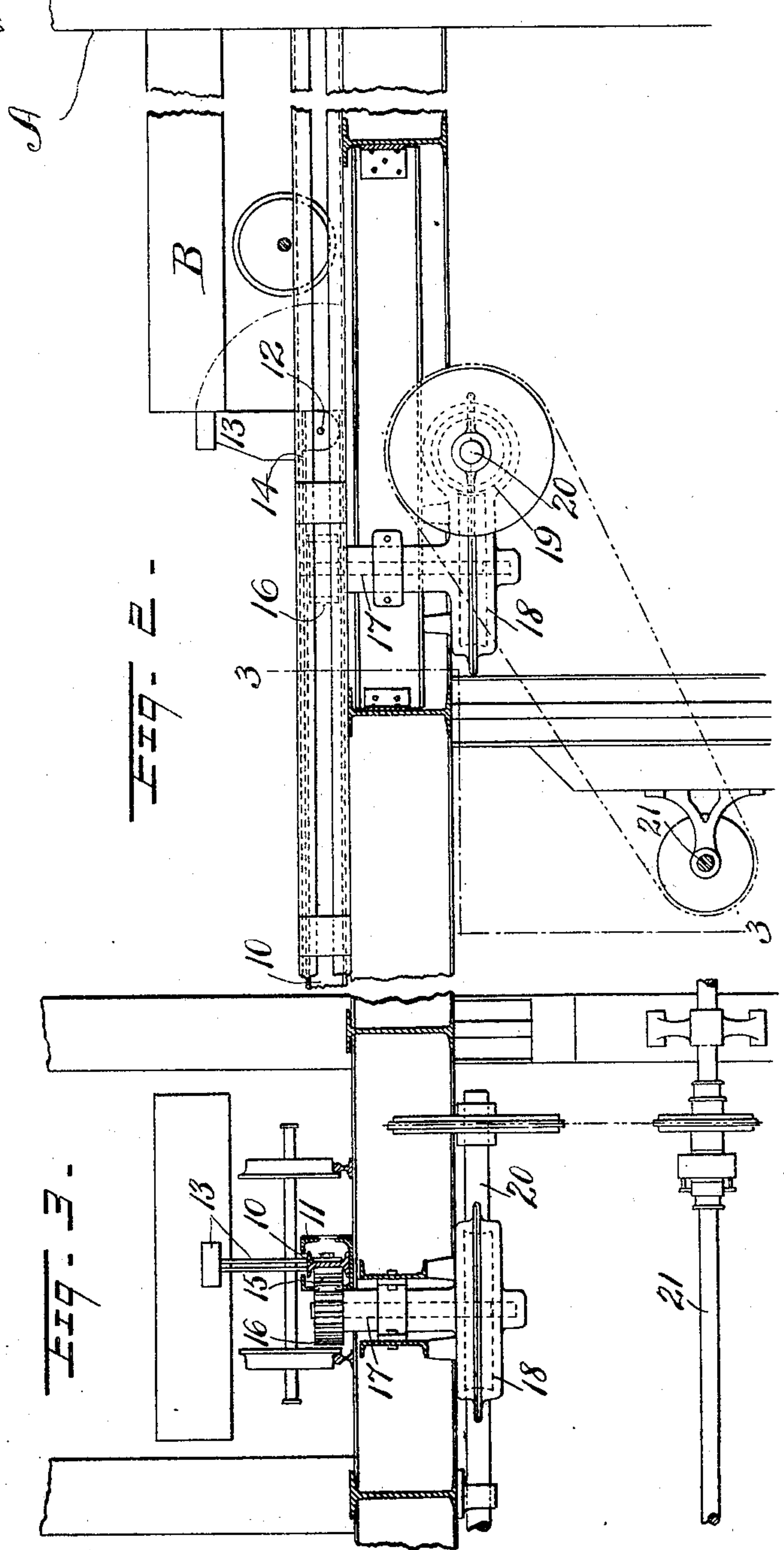
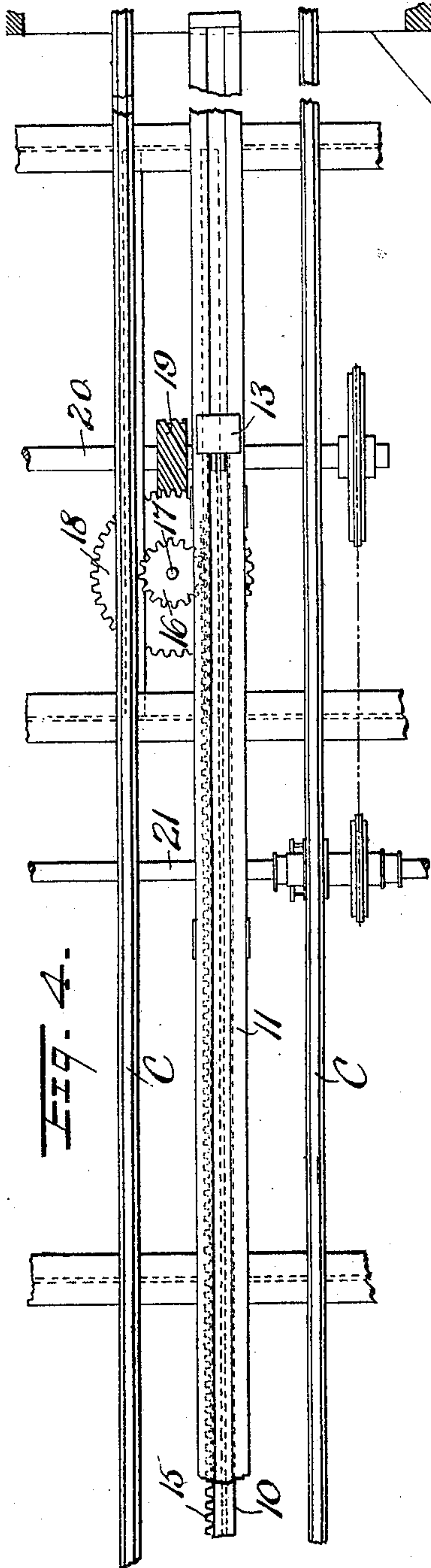
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UNITED STATES PATENT OFFICE.

ALBERT A. GERY, OF READING, PENNSYLVANIA.

CAR-PUSHING MECHANISM FOR TUNNEL-KILNS.

No. 799,322.

Specification of Letters Patent.

Patented Sept. 12, 1905.

Application filed October 12, 1904. Serial No. 228,127.

To all whom it may concern:

Be it known that I, ALBERT A. GERY, a citizen of the United States, residing in the city of Reading, county of Berks, State of Pennsylvania, have invented certain new and useful Improvements in Car-Pushing Mechanism for Tunnel-Kilns, of which the following is a specification.

My invention relates to car-pushing mechanism adapted for use in connection with what are commonly known as "tunnel-kilns," in which class of kilns loaded cars of unburned bricks or the like are introduced in succession at proper periods, while at the same time the line of loaded cars already under treatment in the tunnel is correspondingly advanced, so that each load of brick is thus successively subjected to the required treatment during its passage through the tunnel.

The object of my invention is to provide means for effecting the required uniform movement of each added car and of the line of abutting cars in advance of it, so as to insure at all times the proper location of each car of the series in the tunnel and to accomplish this positively, quickly, and economically.

The accompanying drawings illustrate a preferred embodiment of my invention, and the novel features are particularly pointed out in the claims.

Figure 1 is a diagrammatic plan view indicating the rear or entering portions of a parallel series of tunnel-kilns, the extended car tracks or ways, and the relative location of my car-pushing mechanism for the several tunnels. Fig. 2 is a partial longitudinal section on the line 2 2 of Fig. 1 of a portion of the pushing mechanism. Fig. 3 is a cross-section on the line 3 3 of Fig. 2. Fig. 4 is a plan view corresponding mainly with Fig. 2.

A represents the rear or entering ends of a series of parallel tunnels, such as are described in my application, Serial No. 228,128, filed October 12, 1904, into each of which tunnels loaded cars are to be introduced and moved forward uniformly at intervals, so as to successively occupy determined positions in respective tunnels relative to the firing means provided in connection therewith during the intervals between the car movements.

C C indicate the track-rails of each tunnel as extended rearwardly of the entering ends A to receive in succession the newly-loaded cars preparatory to introducing them to the tunnels.

The periodic forward movement of the cars in each tunnel is effected positively and uniformly by means of a pushing-bar 10, located between the extended track-rails C C and having a reciprocating movement in a guideway 11, arranged parallel with the rails. To the forward end of this pusher-bar is pivoted at 12 a pusher-arm 13, the top of which when it is raised to vertical position is adapted to contact with the bumper end of a car B, placed in its line of travel. During the forward movement of the pusher-bar this arm is maintained in vertical position by a supporting-shoulder 14, so that a contacting-car is pushed ahead by it; but during its rearward movement it is swung forward and downward by such contact, as indicated by the dotted line in Fig. 2, so as to pass freely under a car to the rear end thereof, after which it is again raised preparatory to pushing the car ahead on its next stroke.

The travel of the pusher-arm is somewhat greater than the length of a car, and it is so located relative to the face A of the tunnel as to enter the latter just a sufficient distance on its forward stroke to leave the pushed-forward cars in predetermined position in the tunnel relative to the firing means.

The pusher-bar 10, as shown, is formed of an I-beam to the web portion of which is secured a toothed bar or rack 15, which is engaged by a pinion 16 on a vertical shaft 17, so that the rotation of the latter in one direction or the other will move the pusher-bar forward or backward in its guideway 11. The vertical shaft 17 of each pusher is provided with a worm-wheel 18, which is engaged by a worm 19 on a horizontal worm-shaft 20, which is suitably driven from a common counter-shaft 21, running parallel with the face A of the series of tunnels, the several shafts being mounted in conveniently-located bearings and provided with ordinary coupling and driving connections as required.

The preferred construction specifically shown and described may obviously be modified in many respects without departing from the spirit of my invention, and I do not desire to be unduly limited thereto; but

What I claim is—

1. The combination with a tunnel-kiln having a car-track extending beyond the introduction end thereof, of a car-pushing mechanism comprising a suitably-guided reciprocating pusher-bar located between the extended track-rails and a pusher-arm carried by

said bar and arranged to swing in a vertical plane so as to engage or pass beneath a car placed in its forward and rearward travel respectively.

5 2. The combination with a tunnel-kiln having a car-track extending beyond the introduction end thereof, of a car-pushing mechanism comprising a longitudinal guideway located between the extended track-rails, a
10 pusher-bar in said way with means for reciprocating the same, and a pusher-arm pivoted to said bar and arranged to engage or pass beneath a car placed in its forward and rearward travel respectively.

15 3. The combination with a series of parallel

tunnel-kilns having car-tracks extending beyond the introduction ends thereof, of a car-pushing mechanism comprising a series of parallel guideways located respectively between the extended track-rails, a pusher-bar 20 in each of said guideways carrying a pusher-arm having a limited swing, and a common operating-shaft for said pusher-bars with separate connections to the latter.

In testimony whereof I affix my signature in 25 the presence of two witnesses.

ALBERT A. GERY.

Witnesses:

D. M. STEWART,

W. G. STEWART.