

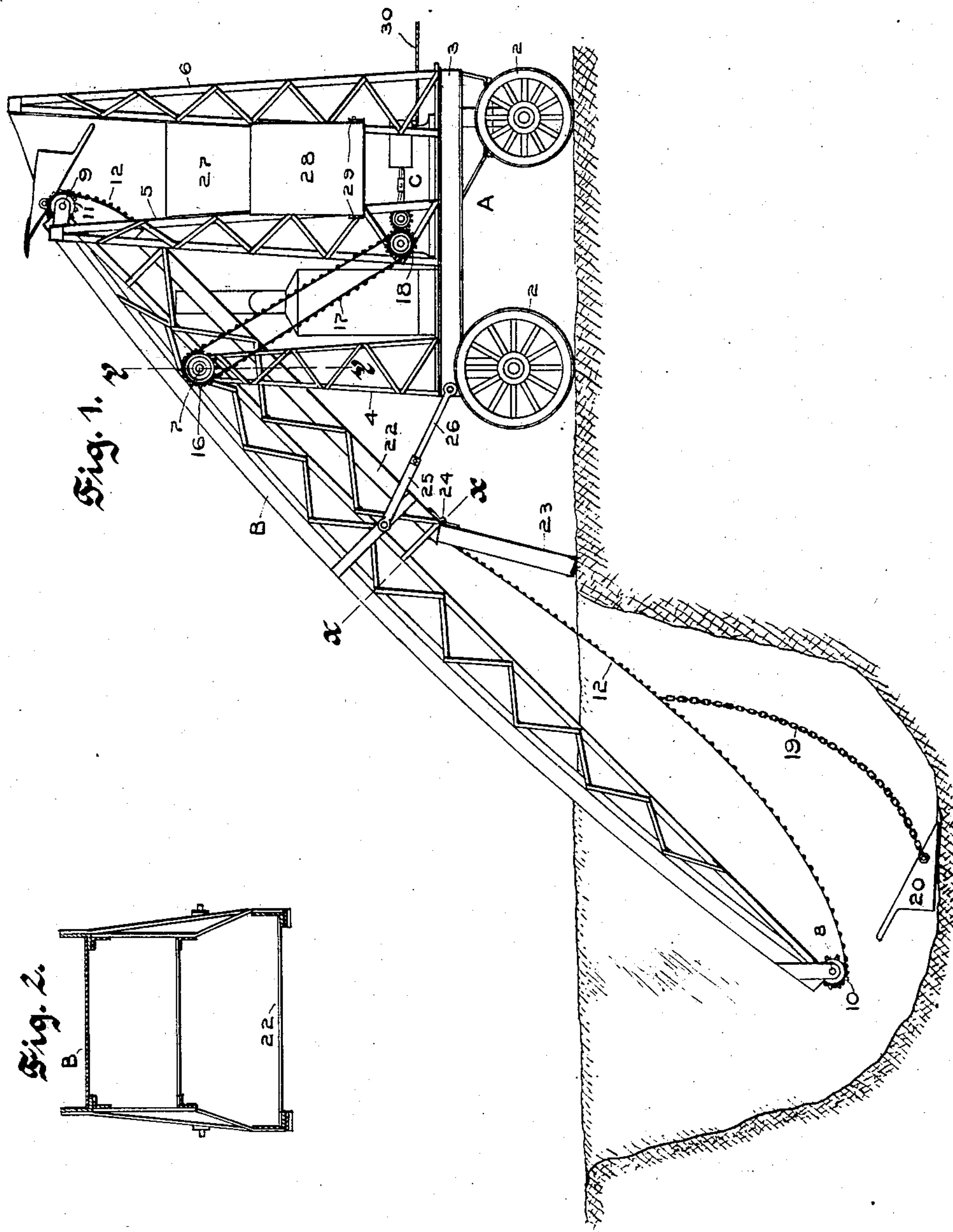
No. 754,480.

PATENTED MAR. 15, 1904.

J. D. MORAN.
EXCAVATING MACHINE.
APPLICATION FILED JULY 16, 1902.

NO MODEL.

3 SHEETS—SHEET 1.



Witnesses.

W. H. Palmer.

Emily Eastman Pitt

Inventor,
John D. Moran.
by Lathrop Johnson
his Attorneys.

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3 SHEETS—SHEET 2.

Fig. 3.

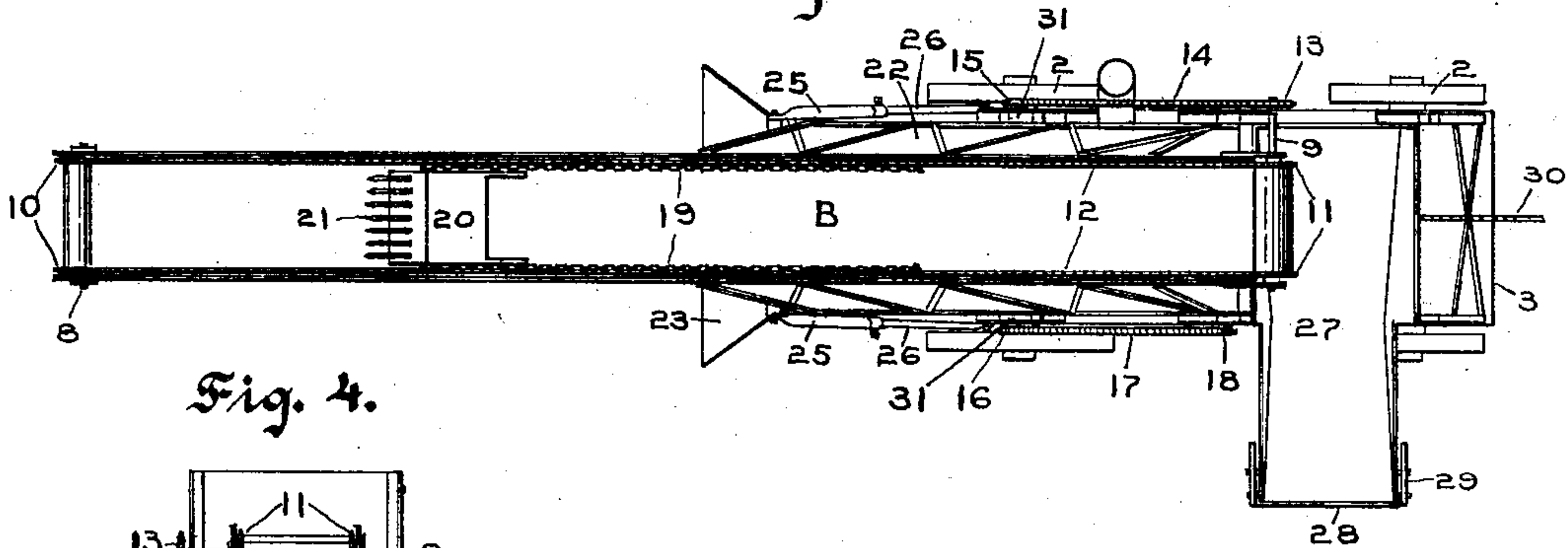


Fig. 4.

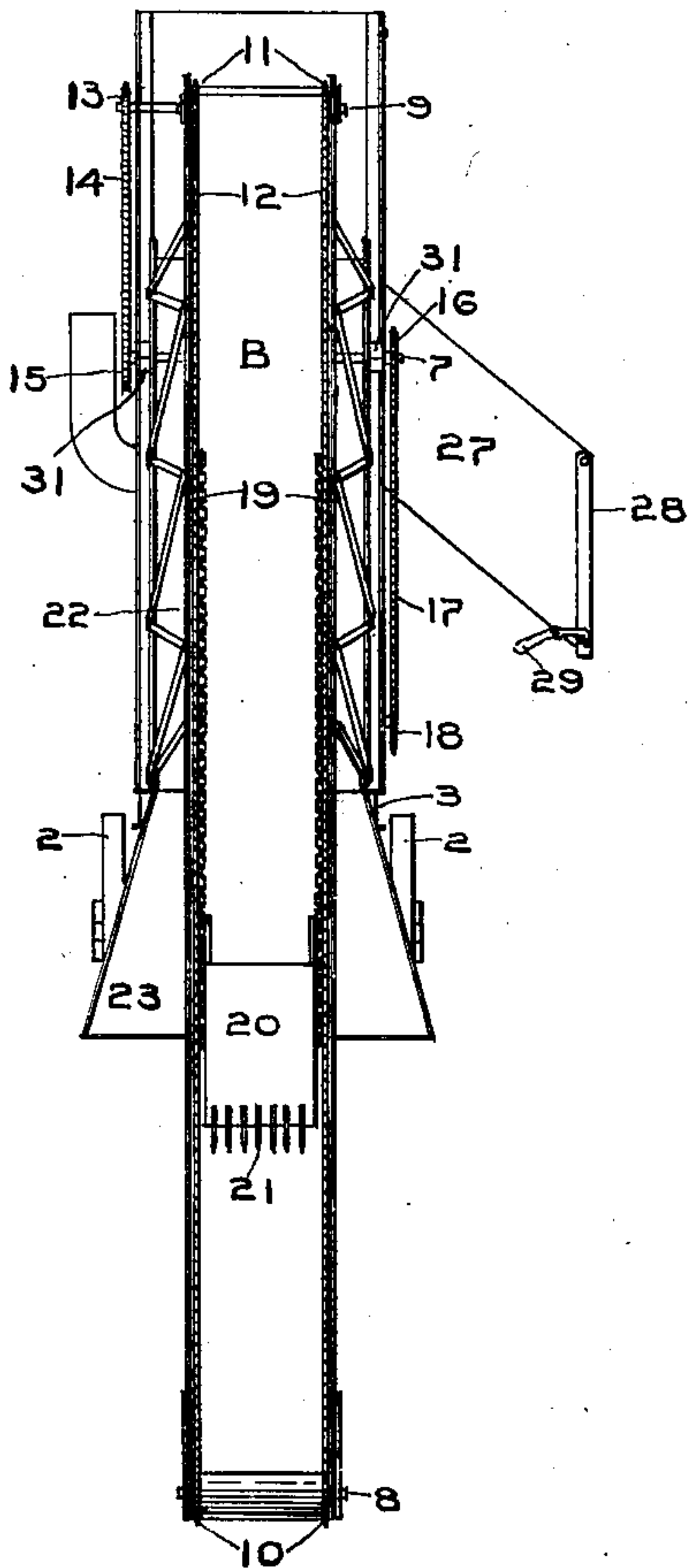
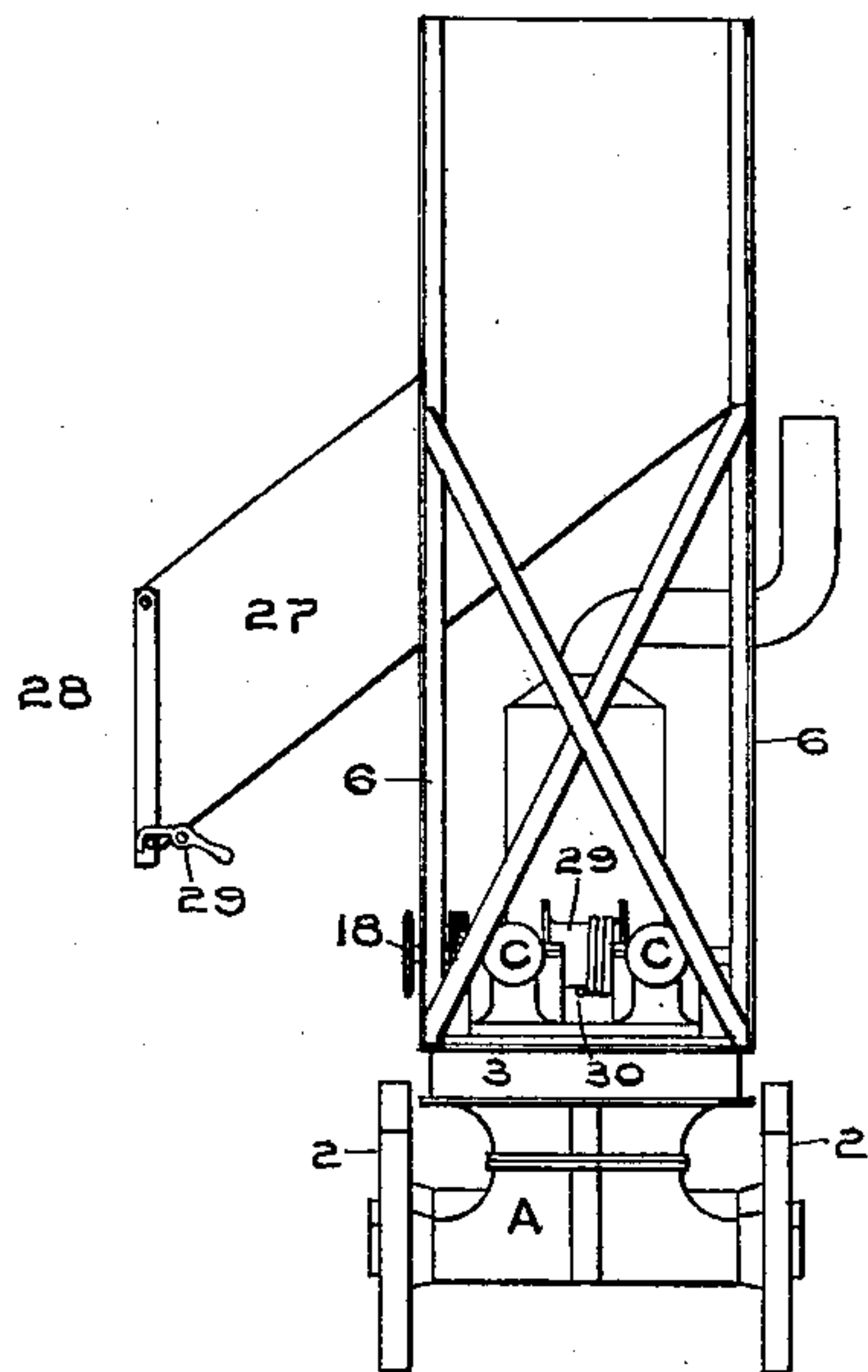


Fig. 5.



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3 SHEETS—SHEET 3.

Fig. 6.

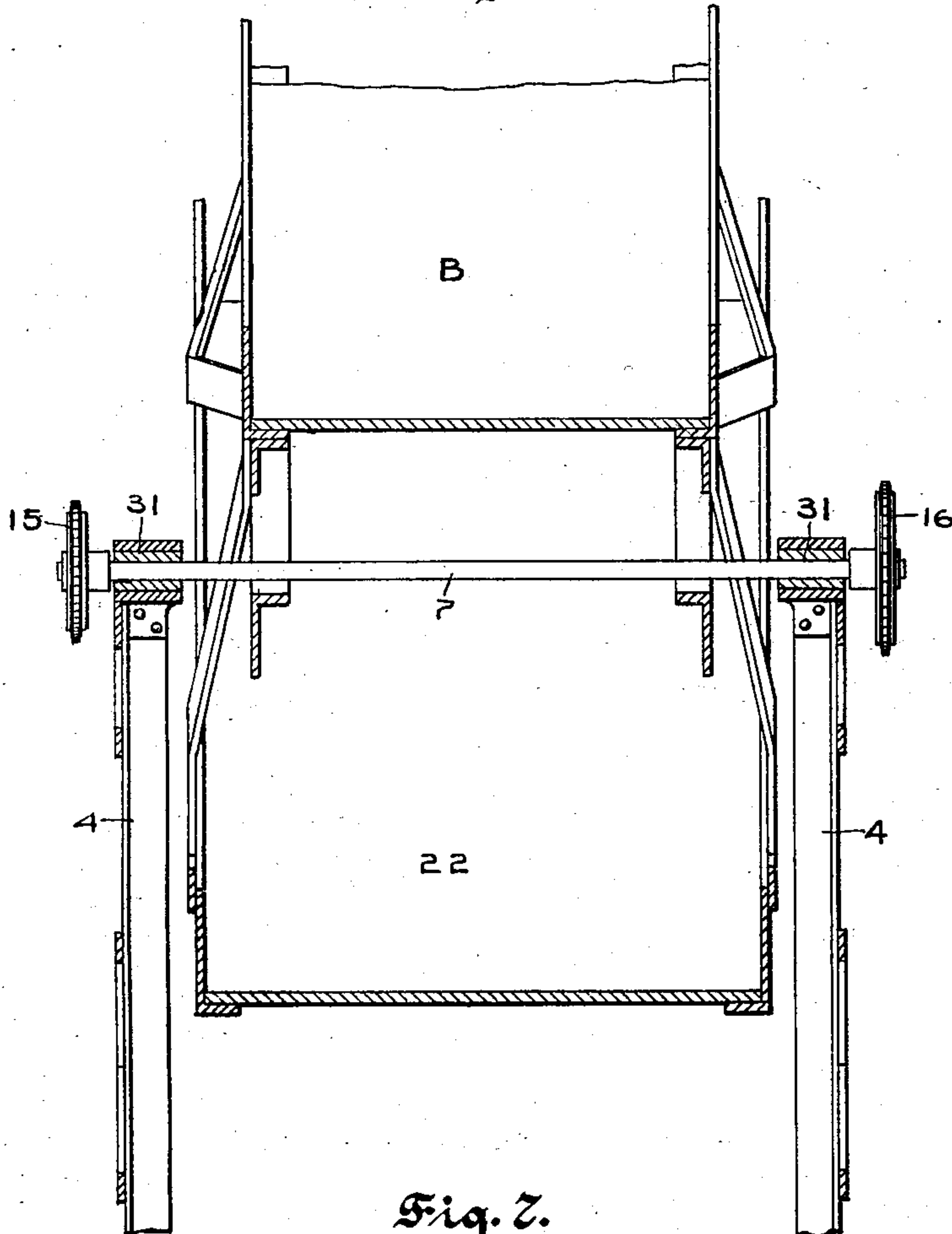
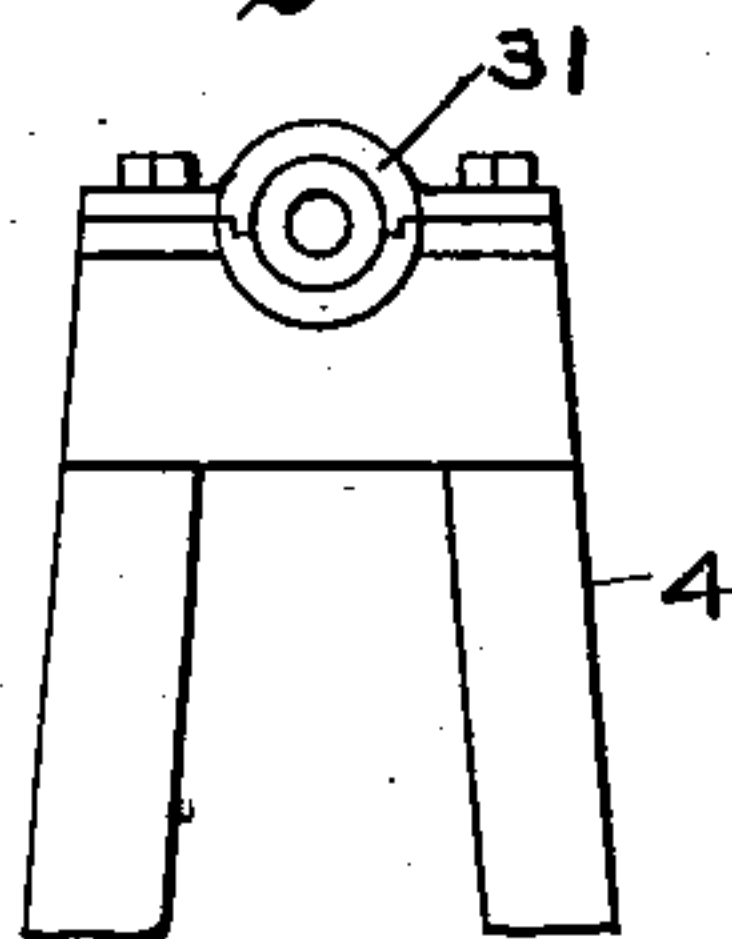


Fig. 7.



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UNITED STATES PATENT OFFICE.

JOHN D. MORAN, OF ST. PAUL, MINNESOTA.

EXCAVATING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 754,480, dated March 15, 1904.

Application filed July 16, 1902. Serial No. 115,805. (No model.)

To all whom it may concern:

Be it known that I, JOHN D. MORAN, a citizen of the United States, residing at St. Paul, in the county of Ramsey and State of Minnesota, have
5 invented certain new and useful Improvements in Excavating-Machines, of which the following is a specification.

My invention relates to improvements in excavating-machines, and is designed particularly for the excavating of ditches and sewers.
10

My invention consists in the features of construction and combination hereinafter particularly described and claimed.

In the accompanying drawings, forming
15 part of this specification, Figure 1 is a side elevation of my improved excavating-machine shown in operation. Fig. 2 is a section on line *xx* of Fig. 1. Fig. 3 is a plan view of the machine. Fig. 4 is a front elevation. Fig.
20 5 is a rear elevation. Fig. 6 is a section on line *yy* of Fig. 1, and Fig. 7 is a detail of the support for the runway.

In the drawings, A represents the supporting-wagon of the machine, provided with carrying-wheels 2. Carried by the wagon A is the base 3 of the excavator-framework, upon which are supported the standards 4, 5, and 6. Fulcrumed upon the shaft 7 is a runway B, the ends of said shaft having journal-support 31 in the upper ends of the standards 4. Journalled in the lower and upper ends of the runway are the shafts 8 and 9, upon which are mounted sprocket-wheels 10 and 11, respectively. Chains 12 run over said sprocket-wheels. A sprocket-wheel 13 upon one end of the shaft 9 is connected by a chain 14 with the sprocket-wheel 15, mounted upon one end of the shaft 7. Upon the opposite end of the shaft 7 is mounted a sprocket-wheel 16, connected by a chain 17 with a sprocket-wheel 18, constituting part of the driving mechanism of the engine C. Arranged intermediate of the chains 12 and connected thereto by chains 19 is a scoop 20. Said scoop may be made of
40 any desired construction, being preferably provided with forwardly-extending fingers 21 to assist in breaking the ground.

Supported underneath the upper end of the main runway B is a guide or runway 22.

A wing or apron 23 has hinge connection 24 50 with the lower end of said guideway and is adapted to rest at its lower end upon the ground, as shown in Fig. 1.

In order to support the runway B at the desired angle, I provide the telescoping rods 25 55 and 26, connected with the sides of the runway and base of the framework, respectively, as shown in Fig. 1.

Supported between the standards 5 and 6 below the upper end of the runway is a chute 60 27, the lower end of the chute being provided with a hinged door 28, adapted to be held in closed position by a catch 29 to control the outlet of material from the chute.

In order to draw the wagon and excavating-machine over the ground, I preferably provide a windless 29, connected by a cable 30 with suitable support. (Not shown.) 65

The apron 23 forms an extension of the runway 22 to rest upon the ground. The chains 70 17, as shown, allow the scoops to be moved away from the chains 12 in excavating.

As will be seen by the drawings, the runway and supporting-framework of the excavator is preferably constructed of metal bars, 75 connected to form a skeleton construction.

It will be evident that the arrangement of operating mechanism and the particular construction of framework, &c., may be more or less modified without departing from my invention, the scope of which is defined in the claims. 80

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is— 85

1. In a machine of the class described, the combination with a suitable framework, of an inclined runway having fulcrum - support therein, endless chains carried by said runway, scoops connected by auxiliary chains to said 90 endless chains, means for actuating said endless chains, and an adjustable connection between said runway and framework.

2. In a machine of the class described, the combination with a suitable framework, of an inclined runway having fulcrum - support 95 therein, endless chains carried by said runway, scoops connected by auxiliary chains to said

endless chains, a discharge-chute supported in the framework below the inner end of said runway, and means for actuating said chains.

3. In a machine of the class described, the
5 combination with a suitable framework, of a downwardly - inclined runway having fulcrum - support in said framework, endless chains carried by said runway, scoops connected with said chains, a guideway supported
10 below the upper end of said runway, a hinged

apron at the lower end of said guideway, a discharge-chute supported in said framework adjacent to the inner end of said runway, and means for actuating said chains.

In testimony whereof I affix my signature in 15 presence of two witnesses.

JOHN D. MORAN.

Witnesses:

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EMILY EASTMAN OTIS.