

No. 762,291.

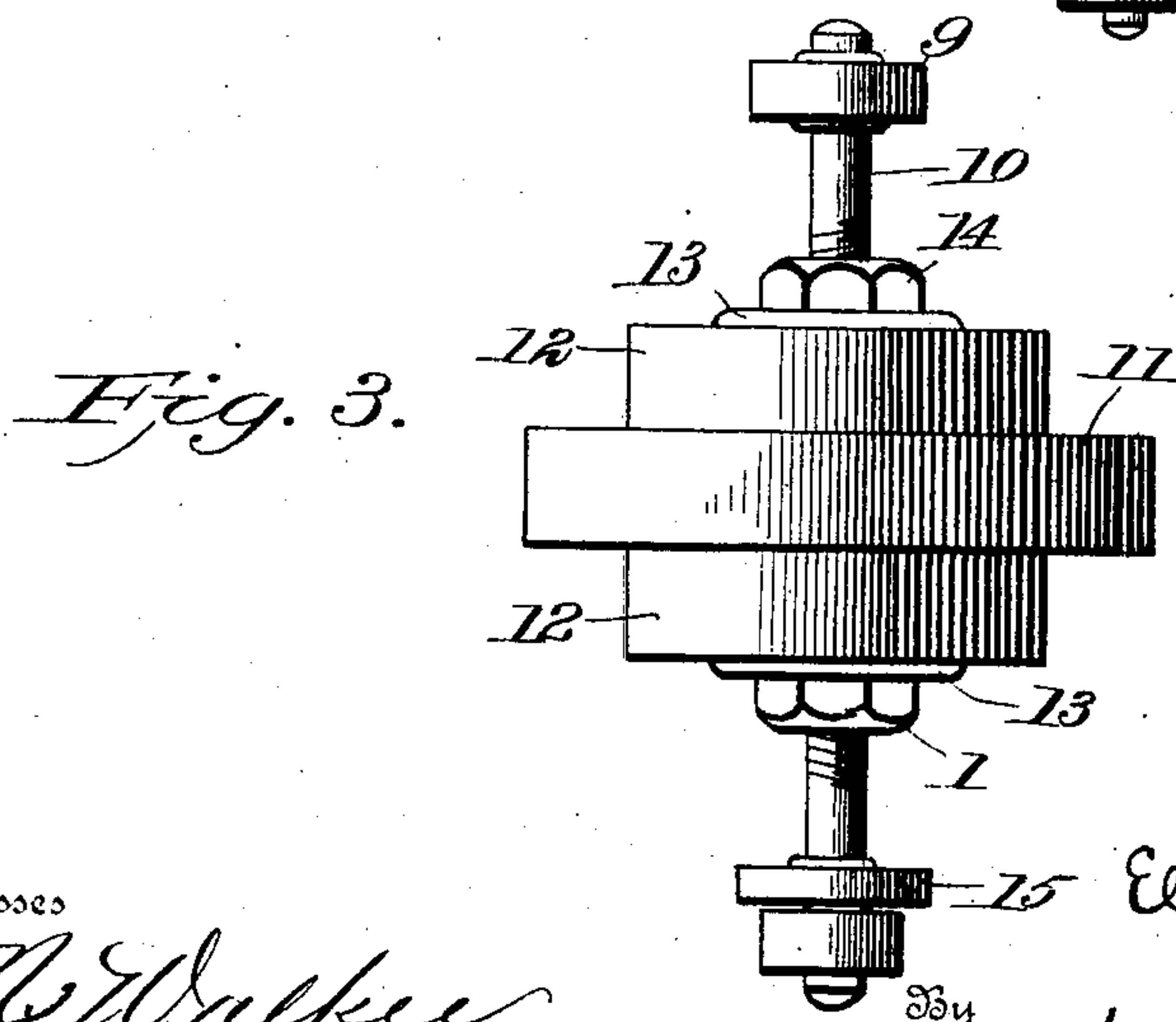
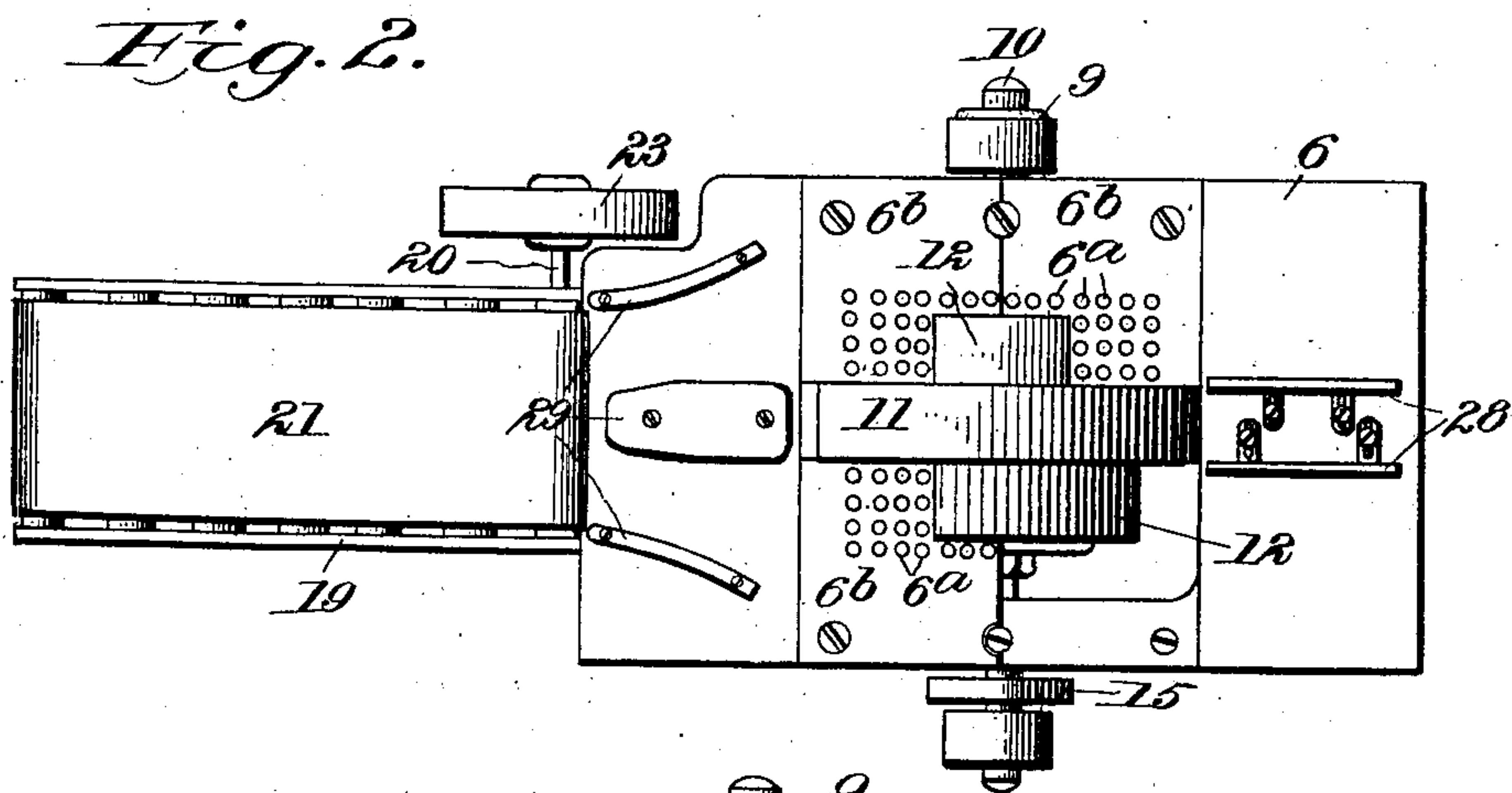
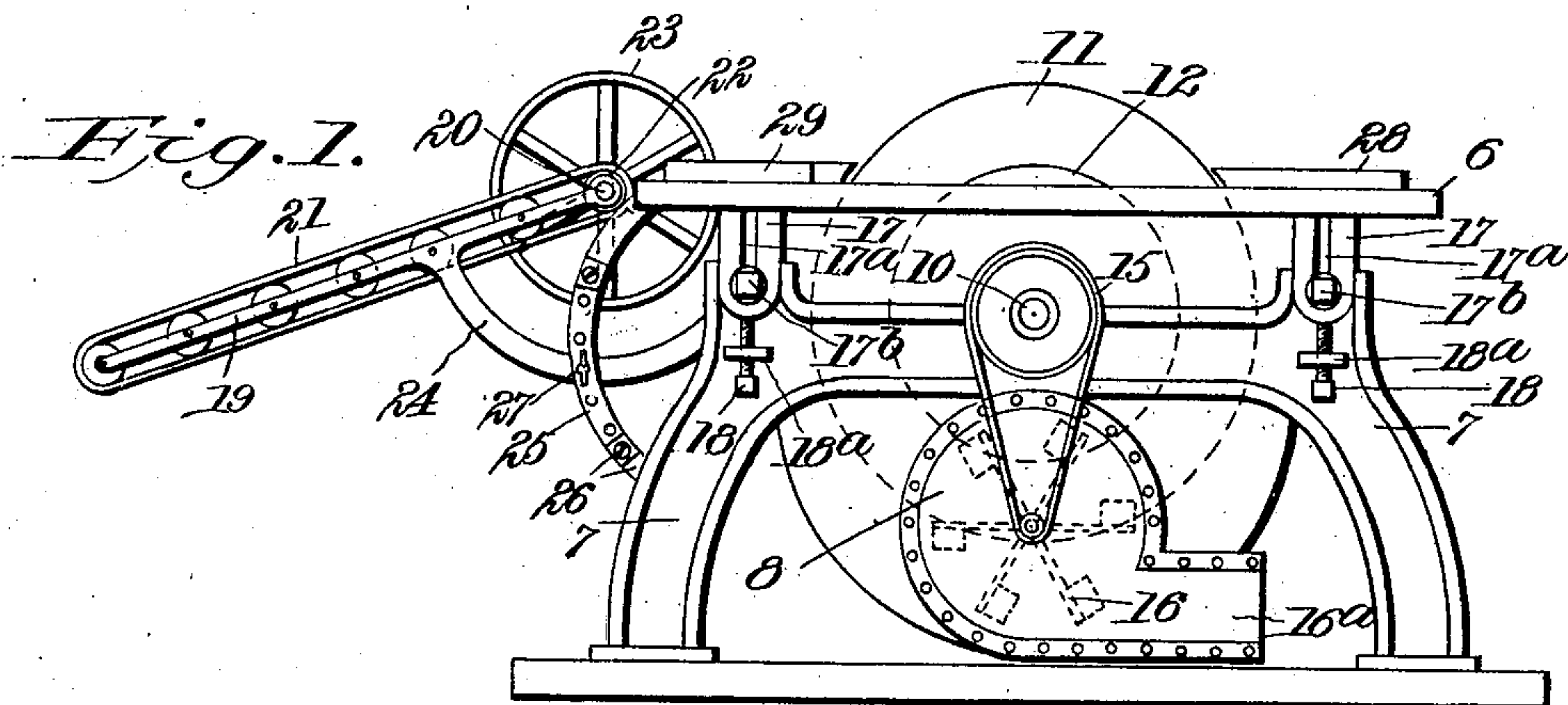
PATENTED JUNE 14, 1904.

E. A. DOOLITTLE.
GRINDING MACHINE.

APPLICATION FILED OCT. 19, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses

C. N. Walker
Geo. E. Jew

Inventor

E. A. Doolittle

Milo B. Stevens
Attorneys

No. 762,291.

PATENTED JUNE 14, 1904.

E. A. DOOLITTLE.
GRINDING MACHINE.

APPLICATION FILED OCT. 19, 1903.

NO MODEL.

2 SHEETS—SHEET 2.

Fig. 4.

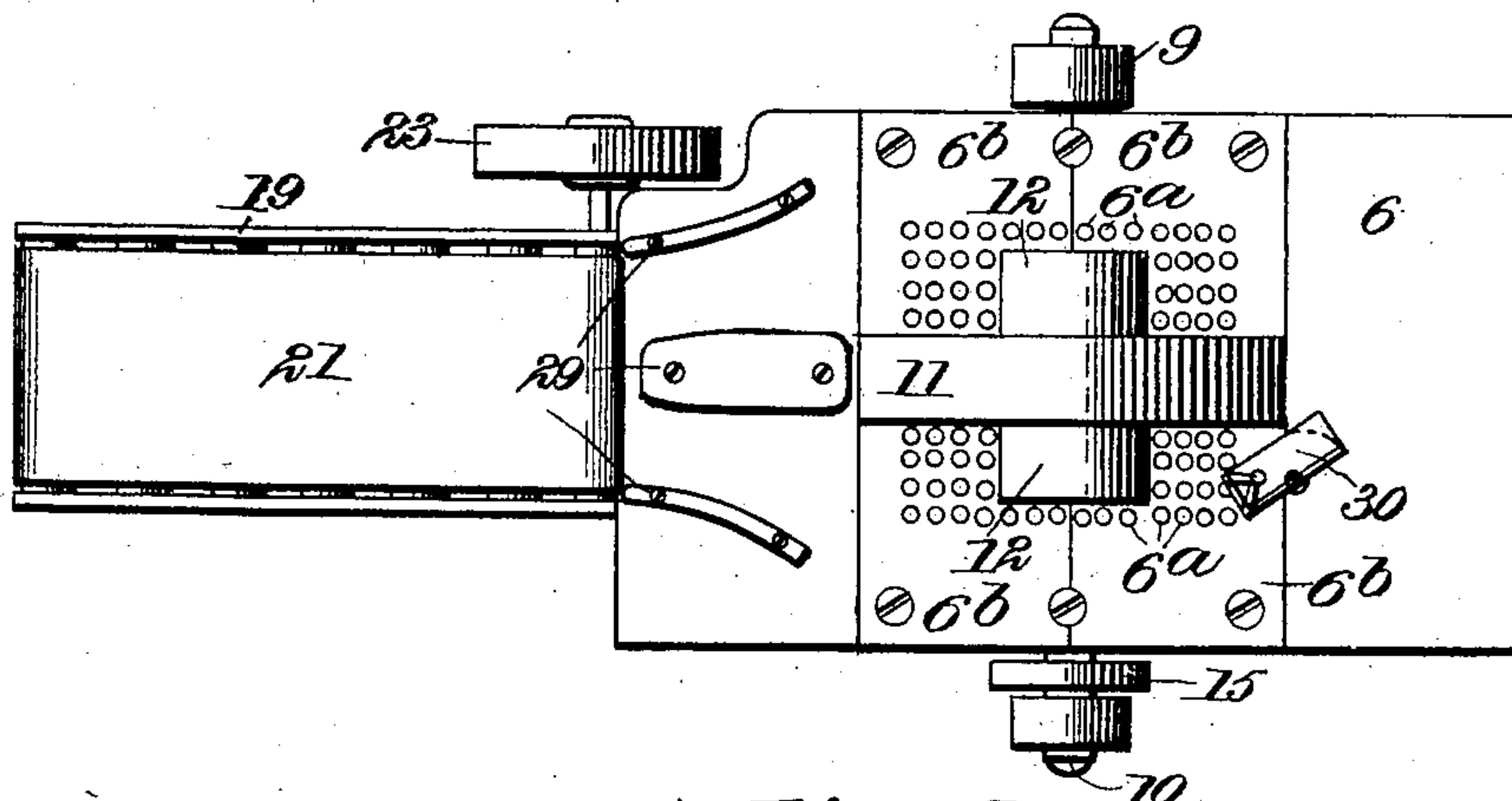


Fig. 5.

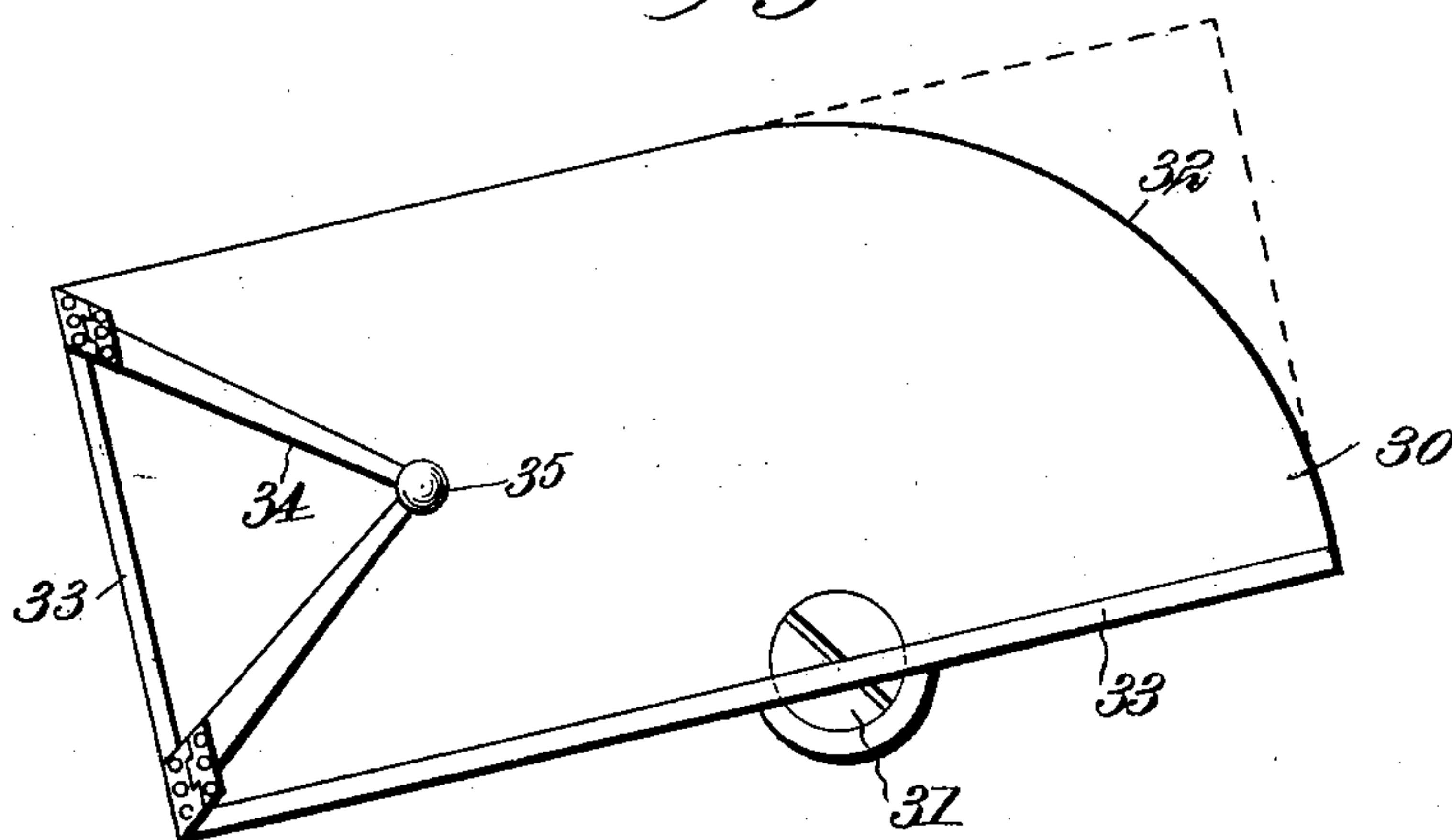
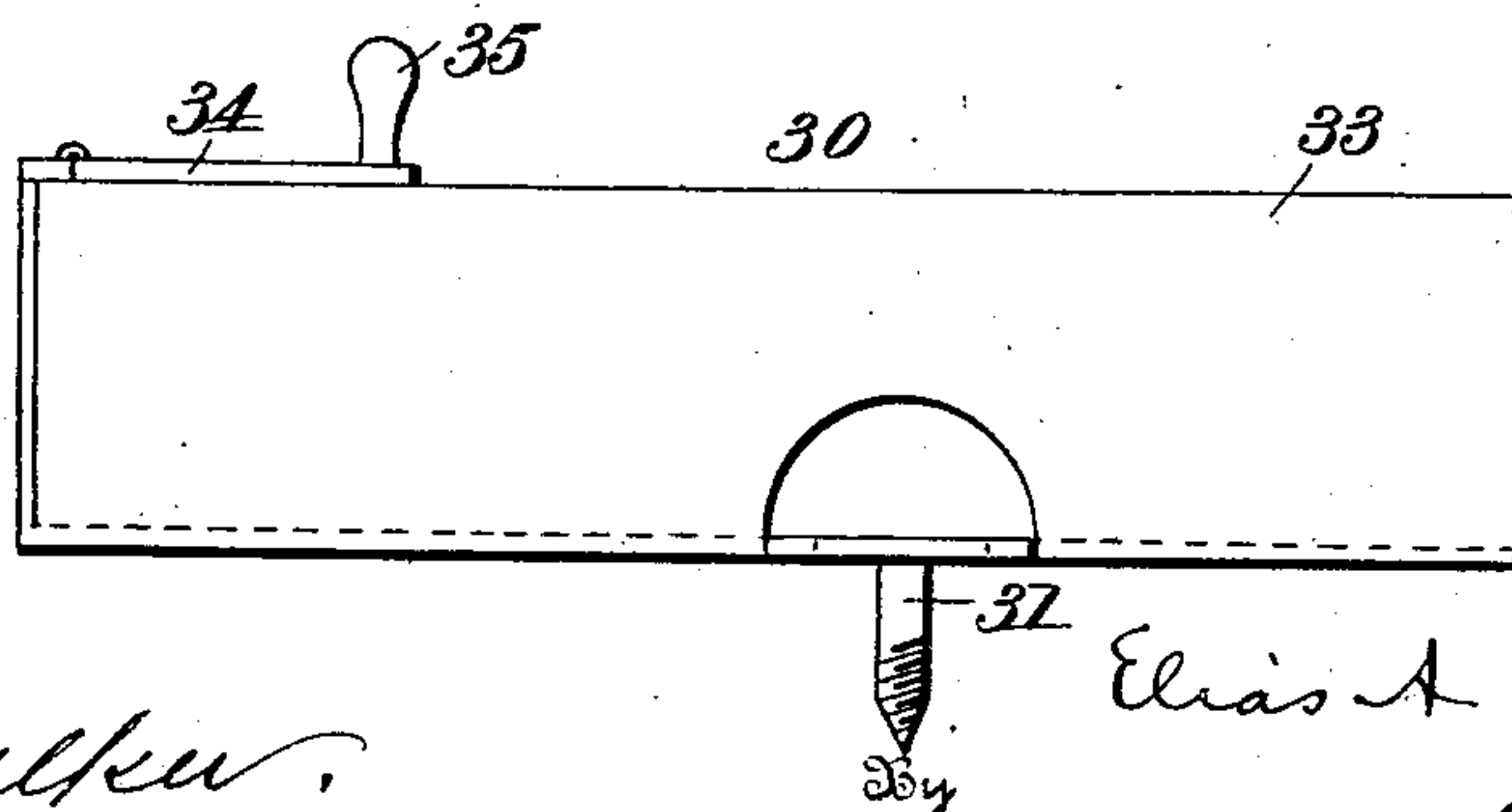


Fig. 6.



Inventor

Witnesses

C. H. Walker.
Geo. E. Tew

Elias A. Doolittle
Miss B. Stevens & Co
Attorneys

UNITED STATES PATENT OFFICE.

ELIAS A. DOOLITTLE, OF GLENVILLE, OHIO.

GRINDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 762,291, dated June 14, 1904.

Application filed October 19, 1903. Serial No. 177,596. (No model.)

To all whom it may concern:

Be it known that I, ELIAS A. DOOLITTLE, a citizen of the United States, residing at Glen-
ville, in the county of Cuyahoga and State of
Ohio, have invented certain new and useful
Improvements in Grinding-Machines; and I
do hereby declare the following to be a full,
clear, and exact description of the invention,
such as will enable others skilled in the art
to which it appertains to make and use the
same, reference being had to the accompany-
ing drawings, and to the figures of reference
marked thereon, which form a part of this
specification.

This invention relates to machines for clean-
ing and facing brick, and particularly to a
machine for cleaning the mortar or cement
from old brick by contacting the same with
rapidly-rotating carborundum wheels so ar-
ranged as to grind the plaster or cement from
the face and side of a brick at one operation.

The objects of the invention are, first, to
remove all plaster or cement or other material
that may adhere to bricks by grinding the
same upon a new and convenient form of
wheel; second, to provide an adjustable table
which may be adjusted to take up wear of the
wheels or tilted to vary the feed thereover;
third, to apply an exhaust-fan to such a ma-
chine to take away all dust from the machine
and the operator; fourth, to provide an im-
proved conveyer to deliver the brick from the
machine, such conveyer being adjustable to
various angles to deliver the brick high or
low, and, fifth, to provide means whereby the
corners of bricks may be shaped or rounded
accurately when desired.

With these and other objects in view the in-
vention is hereinafter described and is illus-
trated in the accompanying drawings, in
which—

Figure 1 is a side elevation of the machine.
Fig. 2 is a top plan view thereof with one of
the wearing-plates detached. Fig. 3 is a plan
of the grinding-wheels and their shaft. Fig. 4
is a plan view illustrating the device for round-
ing the corners of a brick; and Figs. 5 and 6
are detail views, in plan and edge view, of
said device detached.

Referring specifically to the drawings, the

table or bed 6, its legs or standards 7, and the
fan-box 8 on the under side of the table con-
stitute the framework of the machine. The
pulley 9 rotates the shaft 10, carrying the car-
borundum wheels 11 and 12, which are located
at the middle of the shaft, the larger wheel 11
being placed between the two smaller wheels
12, producing a rectangular corner on each
side. Outside the wheels are the washers 13,
followed by right and left hand nuts 14, which
are screwed upon the shaft which is threaded
right and left to receive the same to bind the
wheels tightly to the shaft.

15 is a pulley for driving fan 16, which
draws the dust away through holes 6^a in table
6. The table-top is made in sections, as indi-
cated at 6^b, these sections being removable, so
that they may be taken off and replaced when
they become worn, and the exhaust-holes are
made in these removable sections adjacent the
grinding-wheels and over the fan-box. The
sections of the table-top are properly recessed
to leave an opening through which the wheels
project above the table, the smaller wheels
slightly and the larger wheel to a greater ex-
tent, as of course. The discharge from the
fan-box is indicated at 16^a, to which any suit-
able pipe may be connected for conducting the
dust away.

17 represents lugs on under side of table at
each corner thereof with slots 17^a, and through
the slots are bolts 17^b, tapped into the legs 7
and capable of being tightened or loosened,
as occasion may require, to raise, lower, or
tilt the table at various angles by means of
the adjusting-screws 18 through the lugs 18^a,
cast on the legs for that purpose.

19 is a belt-frame hung on the shaft 20,
which drives the belt 21 through the roller 22,
the shaft being driven from pulley 23. The
belt acts to carry the brick away from ma-
chine, and means of raising or lowering car-
rier are shown, comprising segmental brack-
ets 24, which are slidable under straps 25,
fixed to bars 26, and which may be fixed at
adjustment by hand-screws at 27.

At 28 are feeding-guides bolted to the top
of the table and having slots through which
the bolts extend, so that they may be set in
line with the side of the larger wheel.

At 29 are delivery-guides to direct the bricks from the wheels onto the conveyer-plate 21.

For rounding the corners of bricks I provide the device indicated in Figs. 4, 5, and 6.

5 This comprises a holder 30, adapted to be secured to the top of the table adjacent the forward edge of the larger wheel by means of a pivot-bolt 31, and one corner of the holder is rounded, as at 32, the opposite corner and
10 sides having a raised rim 33, which serves to hold the brick in place in the holder in connection with a grip 34, which is hinged to the rim 33 and adapted to be pressed down upon the brick to hold it in place by means of a
15 handle 35.

In the operation of the machine, to clean and polish square bricks they are fed over the table in opposite direction to the turn of the wheels, and they contact with the wheels in
20 the corner produced where the wheels join, so that one face and side are ground at each pass. After the first pass the bricks are turned over and run over the wheels again, which completes the cleaning operation. Two operators
25 may work on the same machine at the same time, if desired, one on each side, or two machines may be arranged tandem and the belt 21 utilized to carry the bricks from one machine to the other. The adjustment of the de-
30 livery-belt 21 permits the bricks to be lowered gently to the ground or to a pile to avoid breaking the corners or edges, and the conveyer can be lifted as the pile grows higher.

The dust produced is drawn through the
35 holes 6^a by means of the fan and conveyed away to any desired discharge. By tilting the table-top or adjusting it vertically the contact or pressure of the brick on the wheels may be varied.

40 In using the device for rounding the corners of bricks the brick is placed in the holder and

clamped therein, and then by turning the holder on its pivot 31 the corner of the brick is presented to the edge of the larger wheel and is thus ground off to the desired shape. 45

The use of the machine above described will remedy the present slow and laborious method of cleaning old brick by chopping off the mortar by hand and will enable old brick to be re-
50 stored to their original clean, square, and smooth condition.

The invention is not limited to the exact construction illustrated in the drawings nor otherwise than is indicated in the following
55 claims.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a rotary grinding-wheel having a stepped periphery, of a table
60 having guides leading to the step, to present two sides of an article to the wheel simultaneously.

2. The combination with the table, and the grinding-wheel projecting therethrough, of an article-holder pivoted to the table adjacent
65 the wheel and adapted to swing horizontally to present the article to the wheel.

3. The combination with a grinding-wheel, of an article-holder pivoted to swing in a plane
70 at an angle to the plane of rotation of the wheel, to present the article to the wheel.

4. The combination with the table and grinding-wheel, of the holder pivoted to the table
75 adjacent the wheel and having a clamp to hold an article therein.

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

ELIAS A. DOOLITTLE.

Witnesses:

JOSEPH LUCAS,

JOHN A. BOMMARDT.