

No. 722,670.

PATENTED MAR. 17, 1903

F. BRITZ.
PIPE CORE MACHINE.

APPLICATION FILED AUG. 15, 1902

NO MODEL.

2 SHEETS—SHEET 1.

WITNESSES:
Wm. F. Doyle
Alfred T. Sage

INVENTOR
Frank Brigg
E. B. Stocking
 Attorney

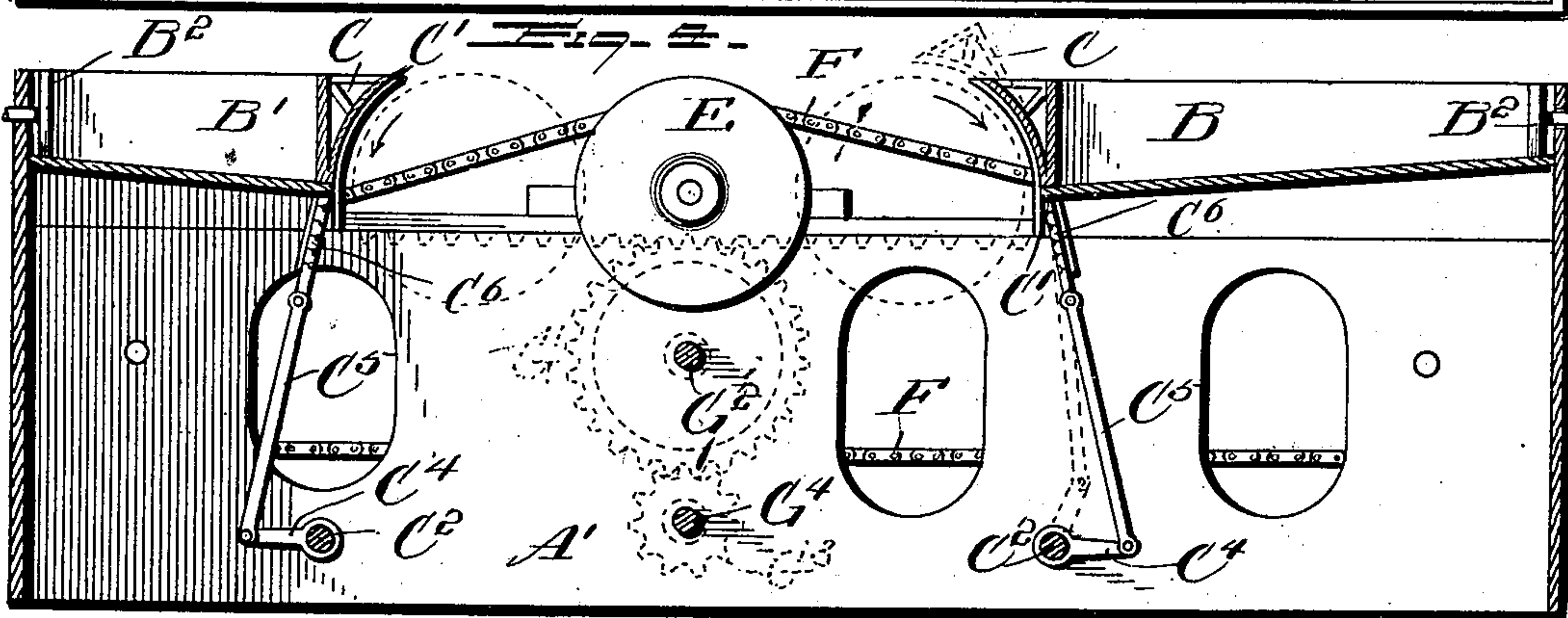
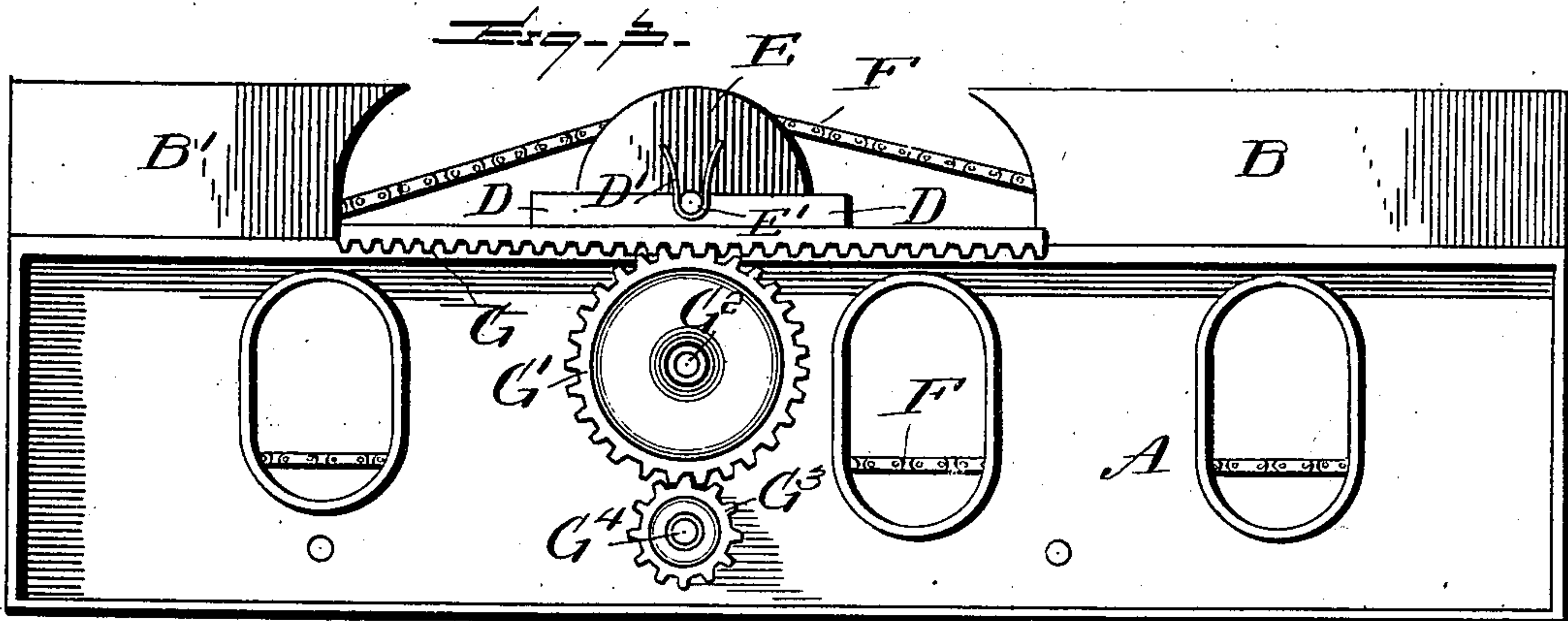
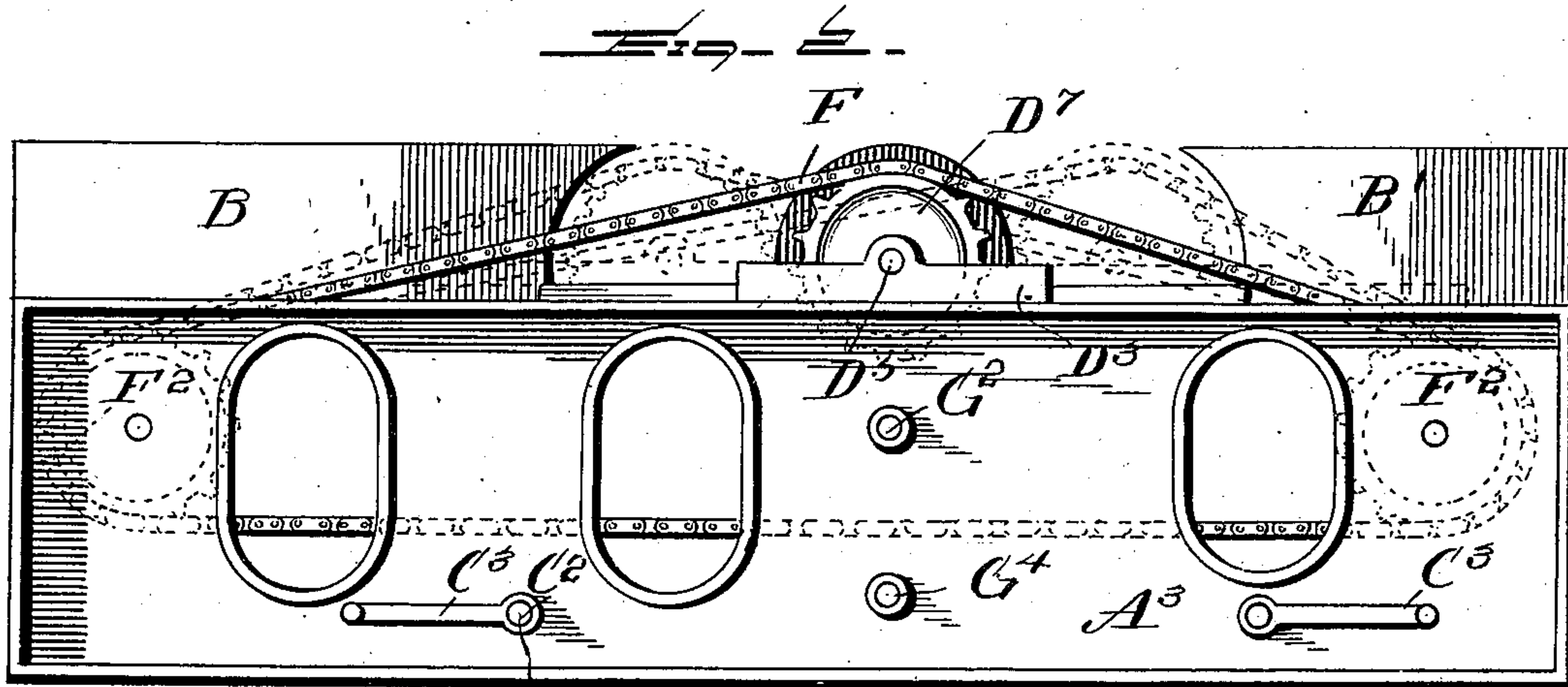
No. 722,670.

PATENTED MAR. 17, 1903.

F. BRITZ.
PIPE CORE MACHINE.
APPLICATION FILED AUG. 15, 1902.

NO MODEL.

2 SHEETS—SHEET 2



WITNESSES:

W. F. Doyle.
Alfred T. Page

INVENTOR

Frank Britz.

BY

E. B. Stocking
Attorney

UNITED STATES PATENT OFFICE.

FRANK BRITZ, OF WEST SUPERIOR, WISCONSIN.

PIPE-CORE MACHINE.

SPECIFICATION forming part of Letters Patent No. 722,670, dated March 17, 1903.

Application filed August 15, 1902. Serial No. 119,776. (No model.)

To all whom it may concern:

Be it known that I, FRANK BRITZ, a citizen of the United States, residing at West Superior, in the county of Douglas, State of Wisconsin, have invented certain new and useful Improvements in Pipe-Core Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to a machine for forming cylindrical cores, and is particularly adapted for the construction of such cores in pipe-casting where coatings of different materials are applied to the core-barrel.

15 The invention has for an object to provide a construction embodying receptacles adapted to retain the coating materials located upon opposite sides of a support for the core-barrel, which support may be shifted to bring
20 the core into contact with the strike carried by either of the receptacles.

A further object of the invention is to provide an improved construction of strike adapted to be raised and lowered upon its mounting to control the supply of coating material
25 from the receptacle.

Another object is to provide a construction of driving means for rotating the core-barrel and also for shifting the same laterally between the opposite receptacles.
30

Other and further objects and advantages of the invention will be hereinafter set forth, and the novel features thereof defined by the appended claims.

35 In the drawings, Figure 1 is a plan of the invention. Fig. 2 is an elevation showing the right end in Fig. 1. Fig. 3 is a similar view showing the left end in Fig. 1. Fig. 4 is a central vertical section through Fig. 1 on the
40 line 4-4, and Fig. 5 is a detail vertical section of one bearing for the core-barrel.

Like letters of reference refer to like parts in the several figures of the drawings.

45 The machine is provided with opposite end frames A and A', upon which the principal parts are supported, although longitudinal supports may be provided at any point desired. At opposite sides of these frames receptacles B and B' are provided adapted to
50 receive the core materials, and, if found desirable, they may be of different sizes, as shown in Fig. 1, where the larger receptacle

B is adapted to receive the loam for coating the core, while the smaller receptacle B' may contain the blaking placed upon the core after the formation thereof. The bottom of the
55 receptacles forms a main strike and is provided with a feed-plunger B², connected by means of a stem B³ with a pivoted lever B⁴ upon the exterior of the receptacle. Each of
60 the receptacles is also provided at its inner edge and at opposite ends with ways C' to receive a movable curved strike or plate C, preferably of skeleton structure, with a smooth curved face-plate extended at each end beyond
65 the body thereof, as shown in Figs. 1 and 4, and slidably mounted at its opposite extended ends in tracks or ways C' of similar curvature to the face-plate, so as to provide at its lower
70 portion when raised an outlet for material within the receptacles and when lowered forms a closing gate therefor. These strikes may be raised and lowered in any desired manner—for instance, by means of the rock-shafts
75 C², extending longitudinally of the machine and provided at one end with a lever-arm C³ for operation, while the opposite ends of the strikes are connected to these shafts by crank-arms
80 C⁴ and pitmen C⁵, having jointed connections C⁶, so as to operate the strikes thereby. It will be seen that if the strike be raised to
85 open the receptacle, as shown at the right of Fig. 4, an oscillation of the shaft C² will draw the strike downward to cut off the supply of material from the receptacle. Between the
90 receptacles sliding bearing-supports D are mounted upon the end frames A and A', so as to travel thereon, and one is provided with suitable journal boxes or bearings D', adapted to receive the shaft E' of the core-barrel
95 E, as shown at the left of Fig. 1, and each bearing or support D may have a suitable track connection to enter the groove or ways D², formed in the upper surface of the end plates. At the opposite or right end of the
100 machine, as shown in Fig. 1, a bearing-frame D³ is provided, which rests upon the support D of the frame A' and is provided with a bearing-yoke D⁴ to receive the shaft E² of the core-barrel, while beyond this yoke a bearing
D⁵ is formed and adapted to ride upon an extension A³ from the frame A'. This bearing
D⁵ is spaced from the yoke D⁴ by the sides D⁶ of the frame and adapted to receive a

driving-wheel D⁷, mounted in the bearing D⁵ and having a clutch connection D⁸ to the shaft E². For the purpose of driving the wheel D⁷ a driving-chain F may be provided
 5 and connected with any suitable source of power. For instance, one of the bearing-wheels F² at the sides of the frame may be driven from a suitable power-shaft, so that an endless chain may be used, which permits
 10 the shifting of the bearings and the core-barrel to bring the core into contact with the strikes upon either of the receptacles without disconnecting or changing the driving connections, as shown in Fig. 2, it being simply necessary to reverse the direction of rotation under such conditions.

For the purpose of reciprocating the core-barrel from one receptacle to the other I have provided each of the bearings D with a series
 20 of rack-teeth G, depending downward therefrom and meshing with a gear G', carried upon a stub-shaft G², extending longitudinally outward from the end frames of the machine, which gearing is suitably driven by
 25 pinions G³, meshing therewith and carried by the opposite ends of the power-shaft G⁴, thus providing means for shifting the core-barrel between the opposite strikes by power and also for continuously rotating the barrel at an
 30 even speed in order to secure the most advantageous coating thereof.

From the foregoing description it is believed that the operation of the several parts will be understood, and it will be seen that
 35 when the core-barrel E is shifted to bring the core into contact with the strike mounted on the receptacle B, the material issuing therefrom will be rubbed into the barrel by the pressure of the plunger and the contact
 40 with the face of the strike in the continuous rotation thereof, so as to secure a most thorough and efficient coating of the barrel without the necessity of any hand operation therefor, while the feed of material forward
 45 upon the inclined bottom of the receptacle may be facilitated by means of the plunger B². When the desired amount of material has been placed upon the core-barrel, the same may be shifted to the opposite receptacle to receive a continuous coating by means
 50 of the gearing just described, which keeps the shaft of the barrel constantly in driving relation with its rotating means. The core and its barrel are then removed from the
 55 open bearings and a fresh barrel may be inserted in position for a subsequent operation.

It will be obvious that changes may be made in the details of construction and configuration without departing from the spirit
 60 of the invention as defined by the appended claims.

Having described my invention and set forth its merits, what I claim, and desire to secure by Letters Patent, is—

65 1. In a pipe-core machine, a bearing for a core-barrel, strikes upon opposite sides thereof, feeding-receptacles adjacent to said

strikes, and means for shifting said parts toward and from each other; substantially as specified.

2. In a pipe-core machine, a bearing for a core-barrel, strikes upon opposite sides thereof, feeding-receptacles adjacent to said strikes, means for shifting said parts toward and from each other, means for mounting
 75 said strikes to form the outlets from said receptacles, and means for rotating said barrel in relation to said strikes; substantially as specified.

3. In a pipe-core machine, a bearing for a core-barrel, strikes upon opposite sides thereof, feeding-receptacles adjacent to said strikes, means for shifting said parts toward and from each other, means for mounting
 80 said strikes to form the outlets from said receptacles, means for rotating said barrel in relation to said strikes, a rock-shaft, a crank-arm thereon, and a connection extending therefrom to operate said strikes; substantially as specified.

4. In a pipe-core machine, a material-receptacle, a support for a core-barrel adjacent to the delivery end of said receptacle, and a strike having a curved operating-face disposed concentric to said barrel; substantially
 90 as specified.

5. In a pipe-core machine, a material-receptacle, a support for a core-barrel adjacent to the delivery end of said receptacle, a strike having a curved face adjacent to said barrel, and means for mounting said strike upon
 100 said receptacle to form the outlet-gate therefor; substantially as specified.

6. In a pipe-core machine, a frame, receptacles at opposite sides thereof, bearings mounted at the opposite ends of said frame, a core-barrel removably supported in said bearings, means for rotating said barrel, and means for oscillating said bearings between the receptacles; substantially as specified.

7. In a pipe-core machine, a frame, receptacles at opposite sides thereof, bearings mounted at the opposite ends of said frame, a core-barrel removably supported in said bearings, means for rotating said barrel, means
 115 for oscillating said bearings between the receptacles comprising a depending rack carried by the bearings, and a gear meshing therewith to reciprocate the bearings upon their support; substantially as specified.

8. In a pipe-core machine, a frame, receptacles at opposite sides thereof, bearings mounted at the opposite ends of said frame, a core-barrel removably supported in said bearings, means for oscillating said bearings between the receptacles comprising a depending rack carried by the bearings, a gear meshing therewith to reciprocate the bearings upon their support, a driving-wheel having a clutch connection with the shaft of said barrel and
 125 mounted upon one of said movable bearings, and an endless chain for rotating said wheel in either direction; substantially as specified.

9. In a pipe-core machine, a frame, recep-

tacles at opposite sides thereof, bearings
mounted at the opposite ends of said frame, a
core-barrel removably supported in said bear-
ings, means for oscillating said bearings be-
5 tween the receptacles comprising a depending
rack carried by the bearings, a gear meshing
therewith to reciprocate the bearings upon
their support, a driving-wheel having a clutch
connection with the shaft of said barrel and
10 mounted upon one of said movable bearings,
an endless chain for rotating said wheel in
either direction, a strike forming the outlet-
gate for each of said receptacles and pro-
vided with a curved face, and means carried
15 by said frame for operating said strikes; sub-
stantially as specified.

10. In a pipe-core machine, a frame, recep-
tacles at opposite sides thereof, bearings
mounted at the opposite ends of said frame, a
20 core-barrel removably supported in said bear-
ings, means for oscillating said bearings be-

tween the receptacles comprising a depending
rack carried by the bearings, a gear meshing
therewith to reciprocate the bearings upon
their support, a driving-wheel having a clutch 25
connection with the shaft of said barrel and
mounted upon one of said movable bearings,
an endless chain for rotating said wheel in
either direction, a strike forming the outlet-
gate for each of said receptacles and pro- 30
vided with a curved face, means carried by
said frame for operating said strikes, a plun-
ger in each of said receptacles, an operating-
lever therefor, and an extended lever from
the strike-operating means; substantially as 35
specified.

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

FRANK BRITZ.

Witnesses:

H. J. SCHOMMER,
C. A. ERHART.