

(No Model.)

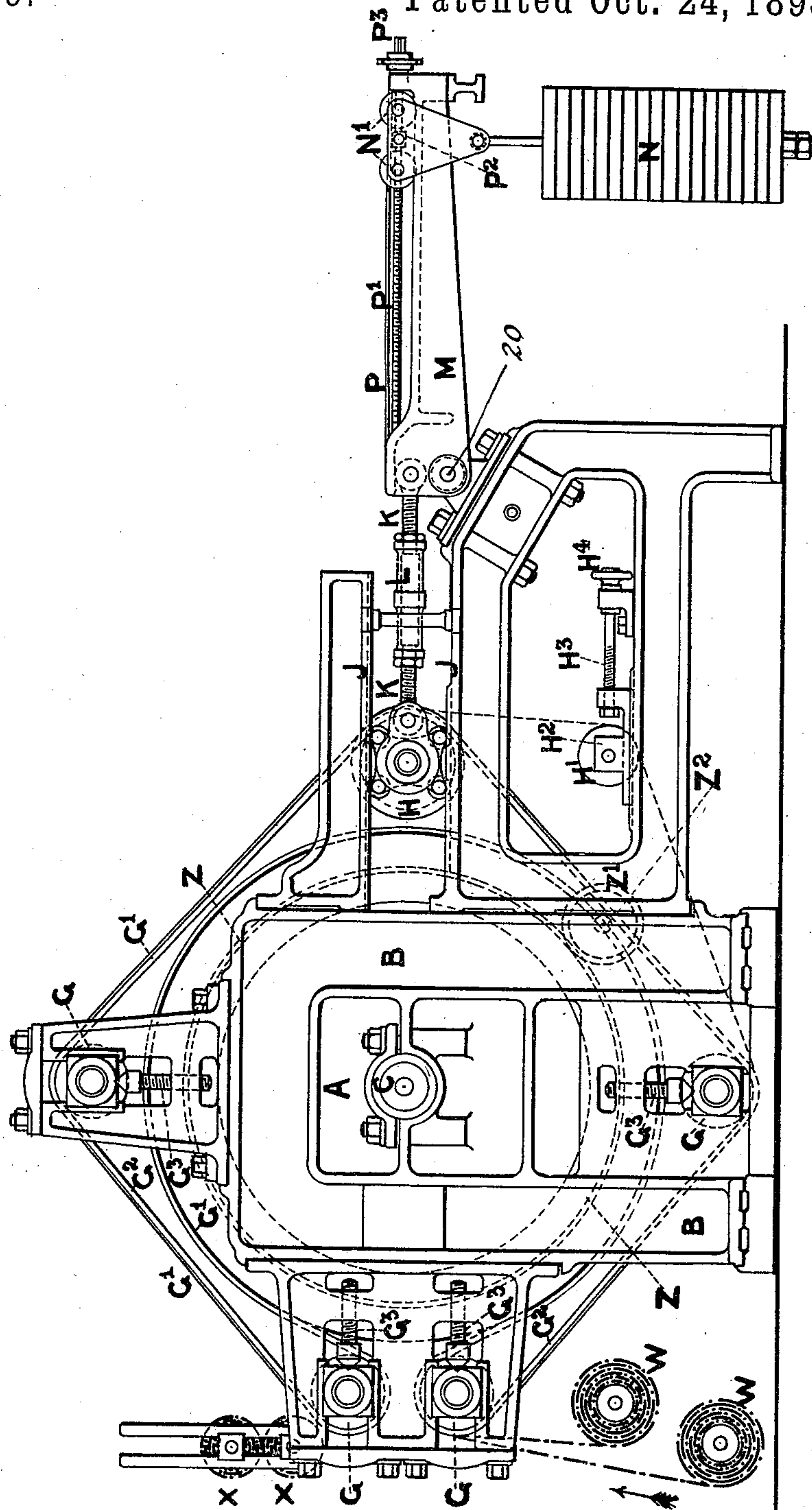
3 Sheets—Sheet 1.

J. KIRK & B. LEE.  
CLOTH PRESSING MACHINE.

No. 507,229.

Patented Oct. 24, 1893.

FIG. 1.



Witnesses  
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Chas J. Gooch

Inventors:  
John Kirk, and  
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Attorney

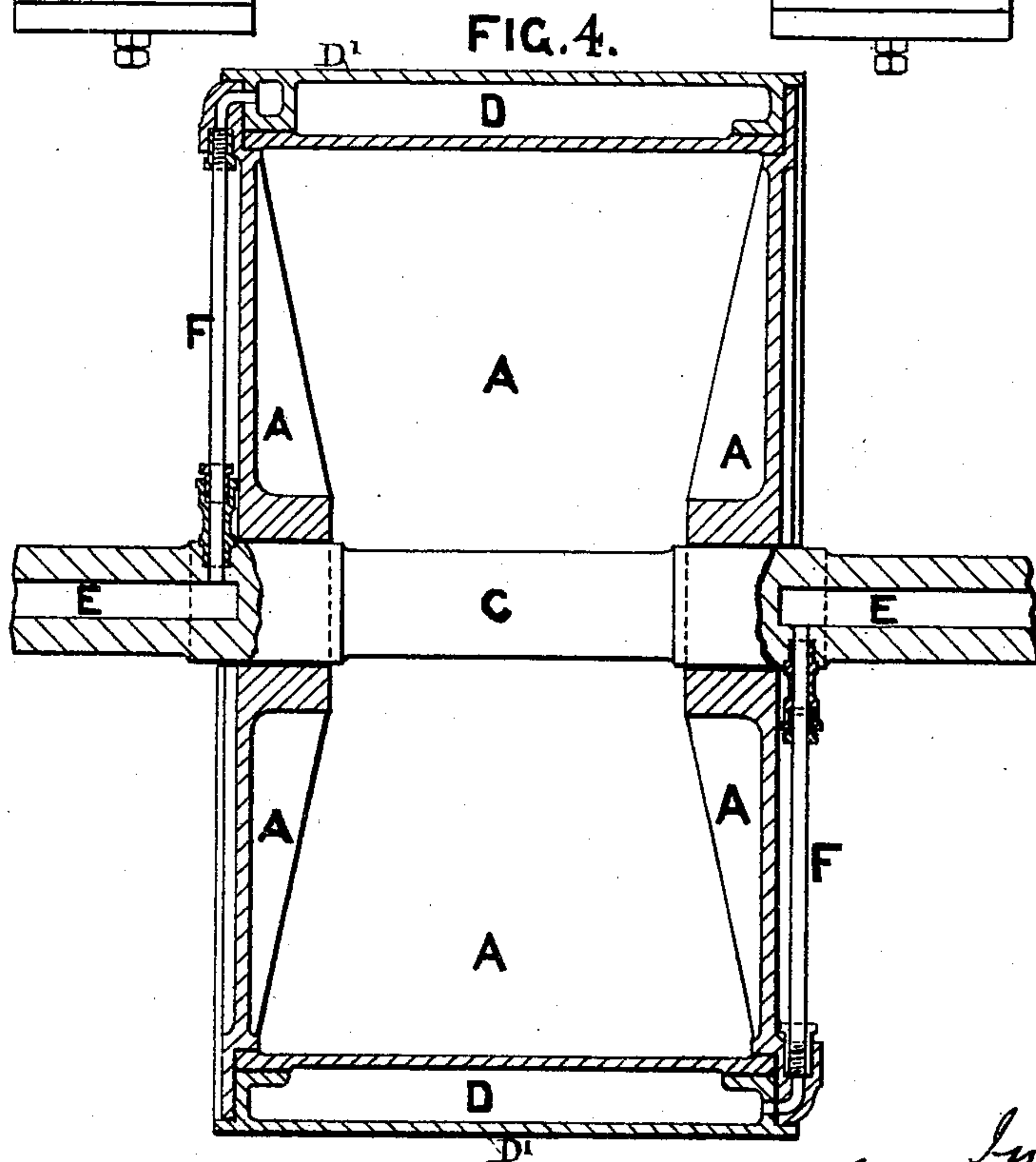
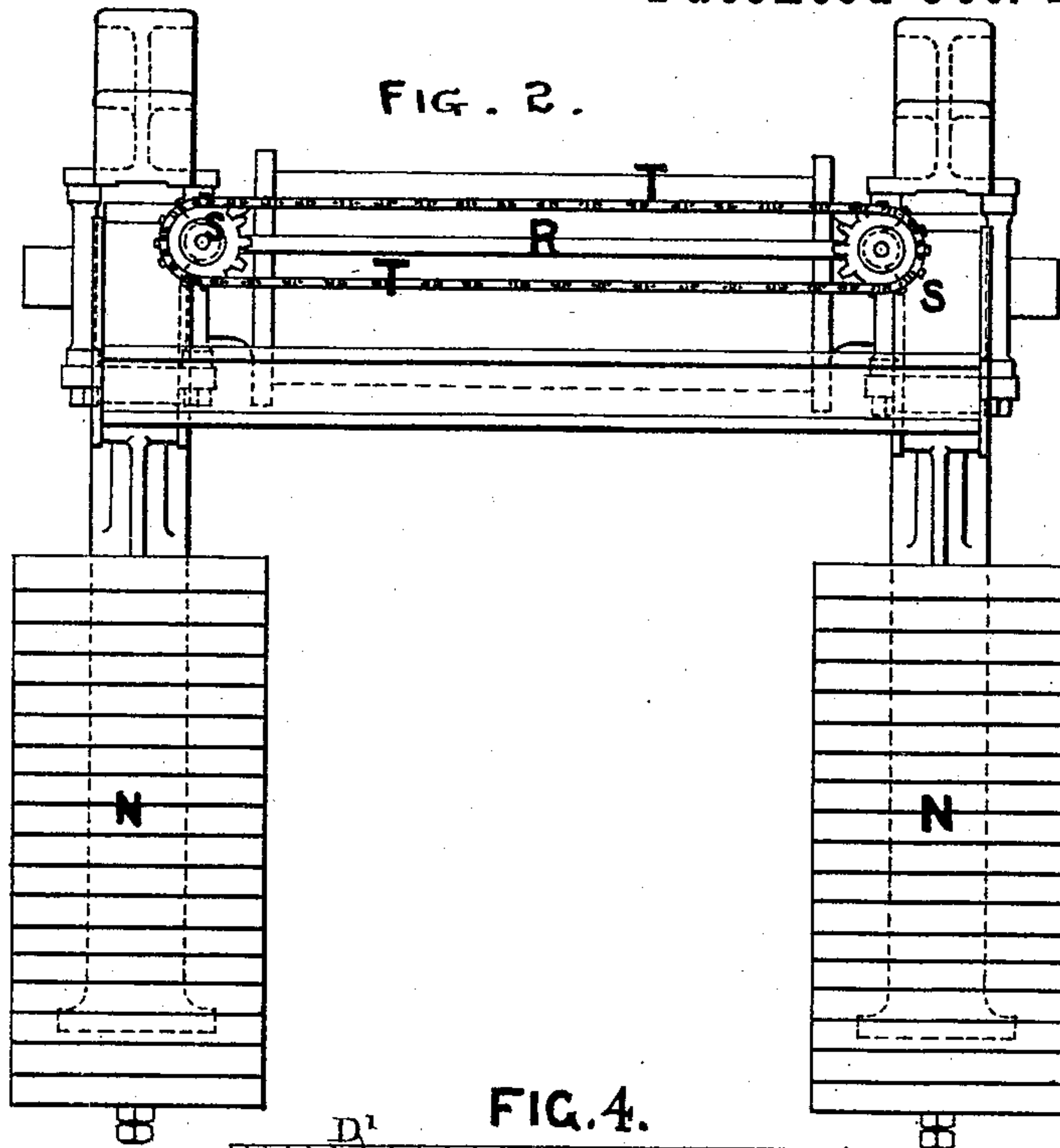
(No Model.)

3 Sheets—Sheet 2.

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CLOTH PRESSING MACHINE.

No. 507,229.

Patented Oct. 24, 1893.



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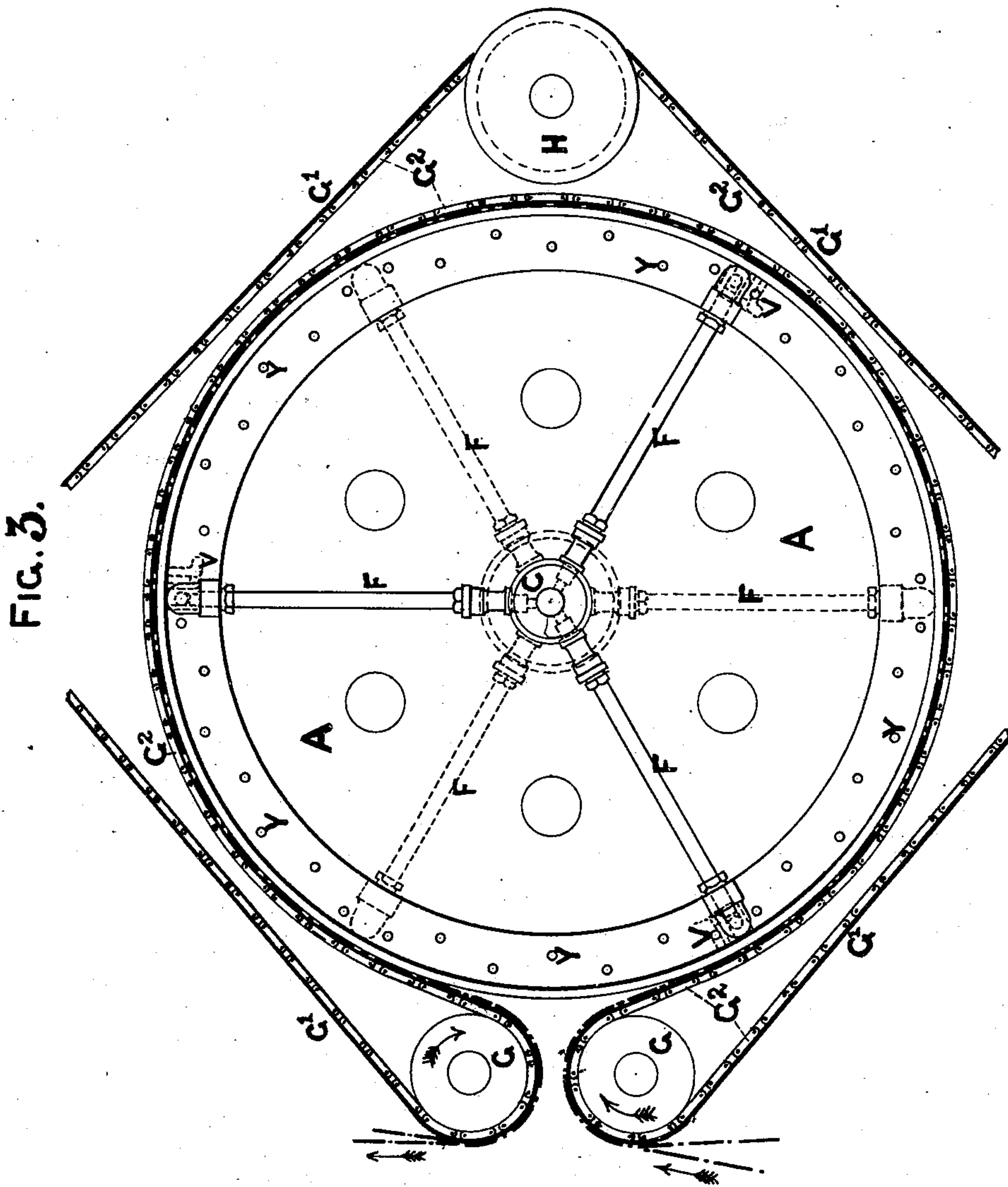
(No Model.)

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# UNITED STATES PATENT OFFICE.

JOHN KIRK AND BENJAMIN LEE, OF LEEDS, ENGLAND.

## CLOTH-PRESSING MACHINE.

SPECIFICATION forming part of Letters Patent No. 507,229, dated October 24, 1893.

Application filed June 13, 1893. Serial No. 477,457. (No model.) Patented in England July 1, 1892, No. 12,234.

*To all whom it may concern:*

Be it known that we, JOHN KIRK and BENJAMIN LEE, subjects of the Queen of Great Britain, residing at Leeds, in the county of York, England, have invented new and useful Improvements in Cloth-Pressing Machines, (for which we have obtained a patent in Great Britain, No. 12,234, dated July 1, 1892,) of which the following is a specification.

10 The object of our invention is to obtain a fixed and permanent finish upon textile piece goods by pressing them around a heated cylinder under regular indicated pressure, which can be varied or regulated as desired.

15 In the drawings, Figure 1 is a front elevation of our improved pressing and finishing machine. Fig. 2 is an end view of Fig. 1 showing weighting apparatus. Fig. 3 is an enlarged elevation of the cylinder showing the endless sheet and steel belt; also the steam pipes. Fig. 4 is an elevation in section of the cylinder.

We employ a large cylinder A mounted upon a suitable frame B, such cylinder having a central shaft C, and an annular space or chamber D around the inside of the periphery of the cylinder. Steam under high pressure is supplied to the annular space or heating chamber through the hollow chamber or passage E in the central shaft C, and then by a number of suitable connections and tubes F, to the heating chamber or annular space around the cylinder; and by similar means the steam escapes from the opposite side. An endless sheet G' and an endless chain G<sup>2</sup> are bent around the cylinder for the purpose of supporting the material to be pressed. Around the cylinder at intervals are guide rollers G, for the endless sheet G' and chain G<sup>2</sup>, and a tension roller H upon runners in a slide J, having two connecting rods K, with right and left hand threads, and nut L to correspond, so as to take up or let out the sheet as required, by turning the nut one way or the other. For keeping tight the endless sheet G' we employ a roller H', carried in brackets H<sup>2</sup>, adjustable by screws H<sup>3</sup>, and hand wheels H<sup>4</sup>, arranged upon each side or frame of the machine. In order that the pressure may be evenly distributed around the cylinder, the tension roller H is placed

opposite the center of the large cylinder A. To the end of the connecting rod, at each side, is a fulcrum lever M, pivoted to a bracket secured to the machine frame, by the pin 20. 55 Each lever M carries a weight or weights N, upon runners N', and a scaled or graduated rod P, to show the amount of pressure put on the goods, which pressure is varied by moving the weight along the fulcrum lever by means of the screwed rod P', nut P<sup>2</sup>, there being a square portion P<sup>3</sup>, upon the end of the screwed rod, upon which a handle may be placed for moving the weight nearer to or farther from the fulcrum of the lever M. 65 The two running weights are connected by a cross rod R, and by chain wheels S, and chain T or other similar means, so that they both move simultaneously.

The guide rollers G are preferably all adjustable by means of screws G<sup>3</sup>, acting upon their bearings, and, setting them up separately, so tightening the endless sheet and chain at the various points as required. The cloth passes from the feed rollers W, over the guide rollers G, and between the endless sheet G' and the revolving cylinder A, onto the receiving rollers X, X. The said cylinder A is not perforated upon its periphery. Cast within the annular space of the cylinder at intervals is a series of buckets or troughs V for conveying off the water of condensation. Y are the bolt holes for holding the cylinder together. The piece passes around the large cylinder A, and lies between it and the endless sheet G, such sheet putting upon the piece the required pressure, which can be regulated as described. The outer periphery of the cylinder presents one solid surface D', without joint, so that there cannot possibly be any escape of steam upon the surface of the cylinder. 80 85 90

The large cylinder A is driven by means of a large spur wheel Z, upon its shaft C, gearing with a pinion Z' upon a shaft Z<sup>2</sup>, driven by suitable pulleys and belt, or by friction or other means. 95

What we claim as the invention, and desire to secure by Letters Patent, is—

1. In a cloth pressing and finishing machine, the combination, with the revoluble heating cylinder, the guide rollers, and the endless 100

sheet and the endless chain passing around  
the said cylinder and rollers; of the pivoted  
levers M, the tension rollers, and the rods op-  
eratively connecting the said tension rollers,  
5 with the said levers; the weights N suspended  
from the said levers and driving devices op-  
erating to move the said weights longitudi-  
nally of the levers, to adjust the tension, sub-  
stantially as set forth.  
10 2. In a cloth pressing and finishing machine,  
the combination, with the revoluble heating  
cylinder, the guide rollers, and the endless  
sheet and the endless chain passing around  
the said cylinder and rollers; of the pivoted  
15 levers M, the tension rollers, and the rods op-

eratively connecting the said tension rollers  
with the said levers; the runners provided  
with nuts P<sup>2</sup>, the weights suspended from the  
runners, the revoluble screwthreaded rods en-  
gaging the said nuts, and the chain wheels 20  
and drive chain connecting the said rods,  
whereby the said weights are adjusted simul-  
taneously, substantially as set forth.

In testimony whereof we affix our signatures  
in presence of two witnesses.

JOHN KIRK.  
BENJAMIN LEE.

Witnesses:  
JOHN E. WALSH,  
HERBERT DUNN.