

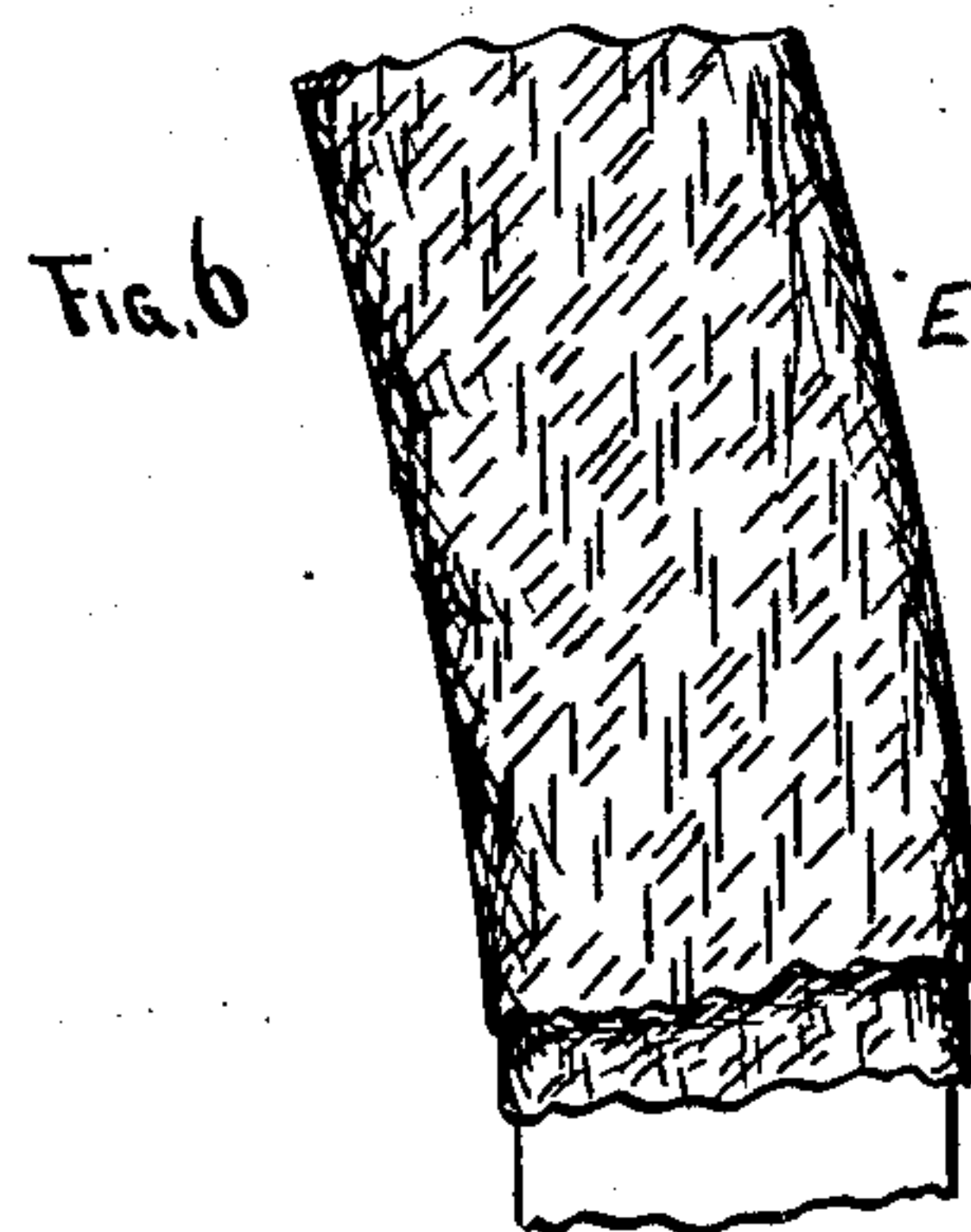
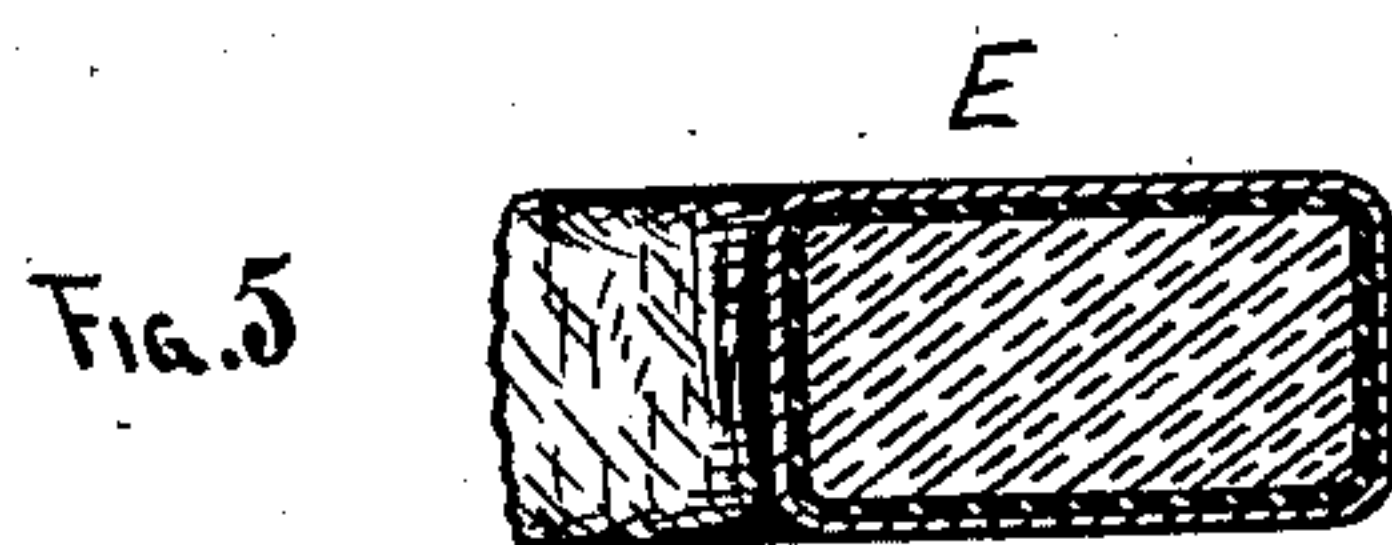
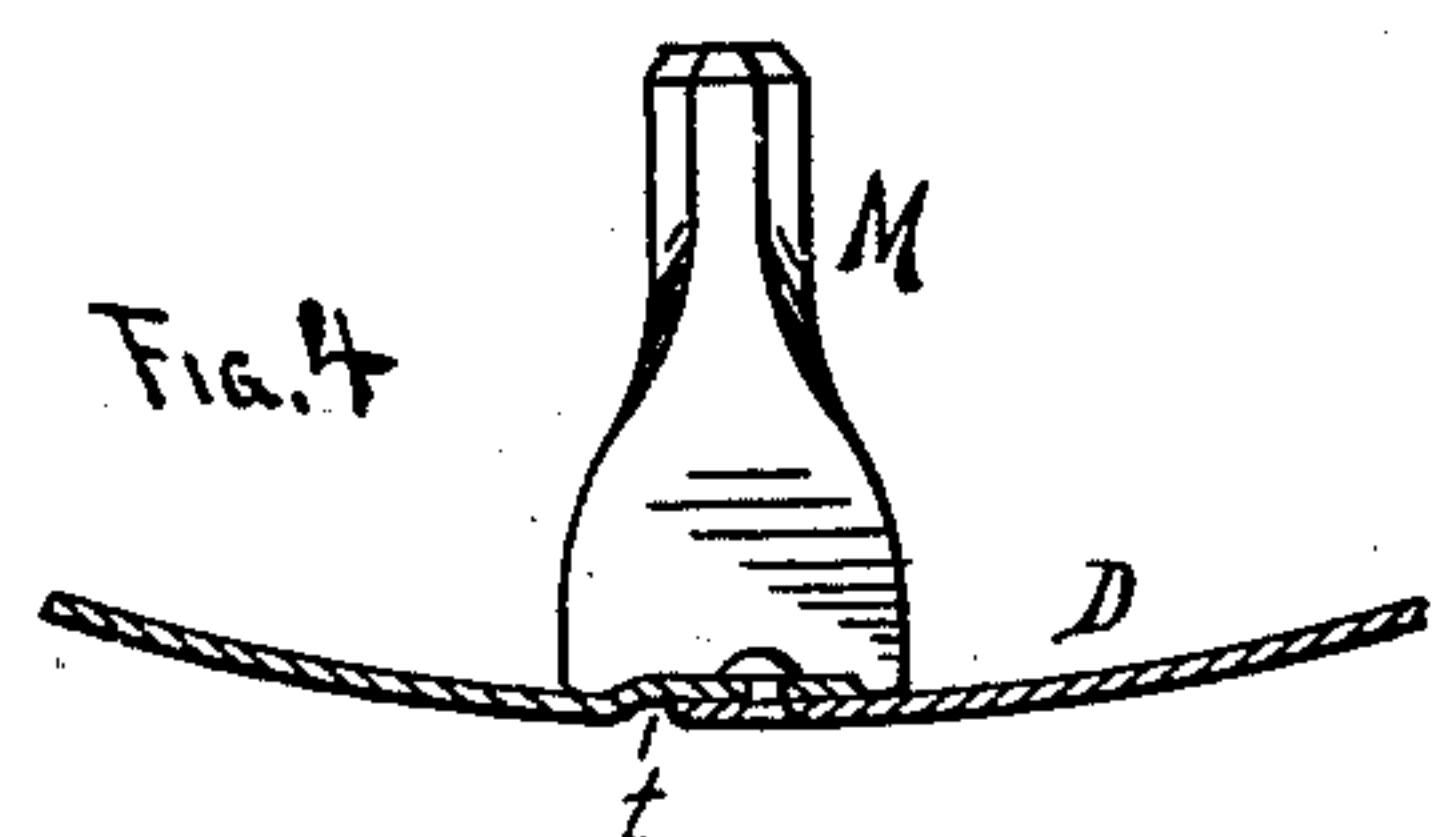
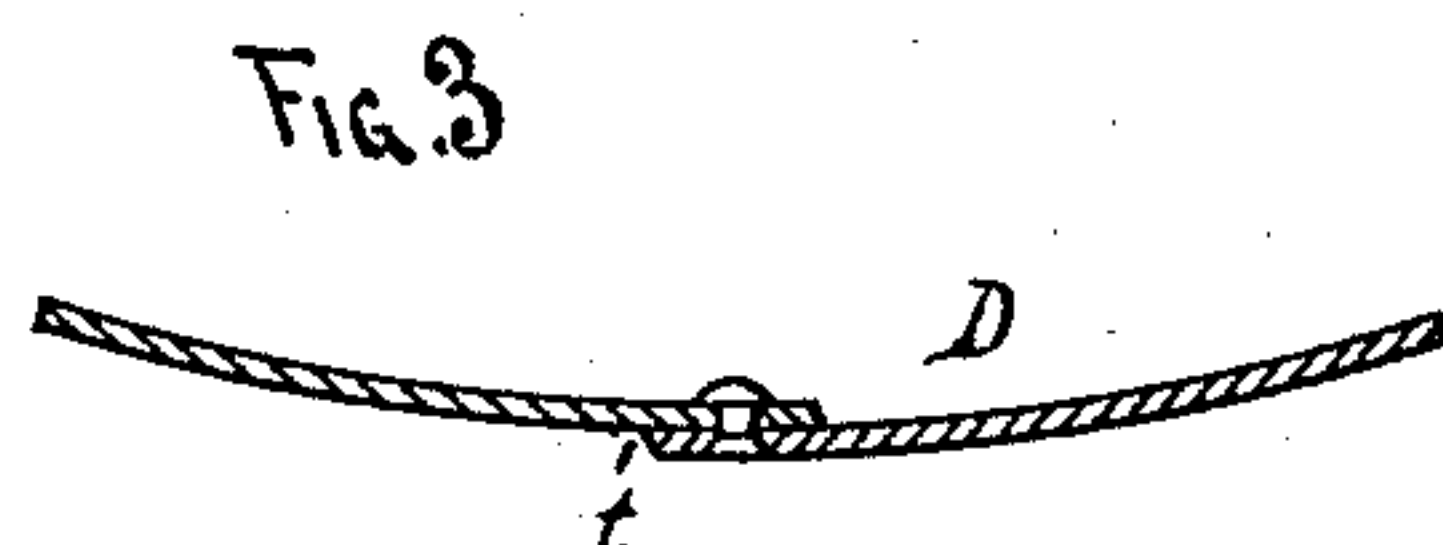
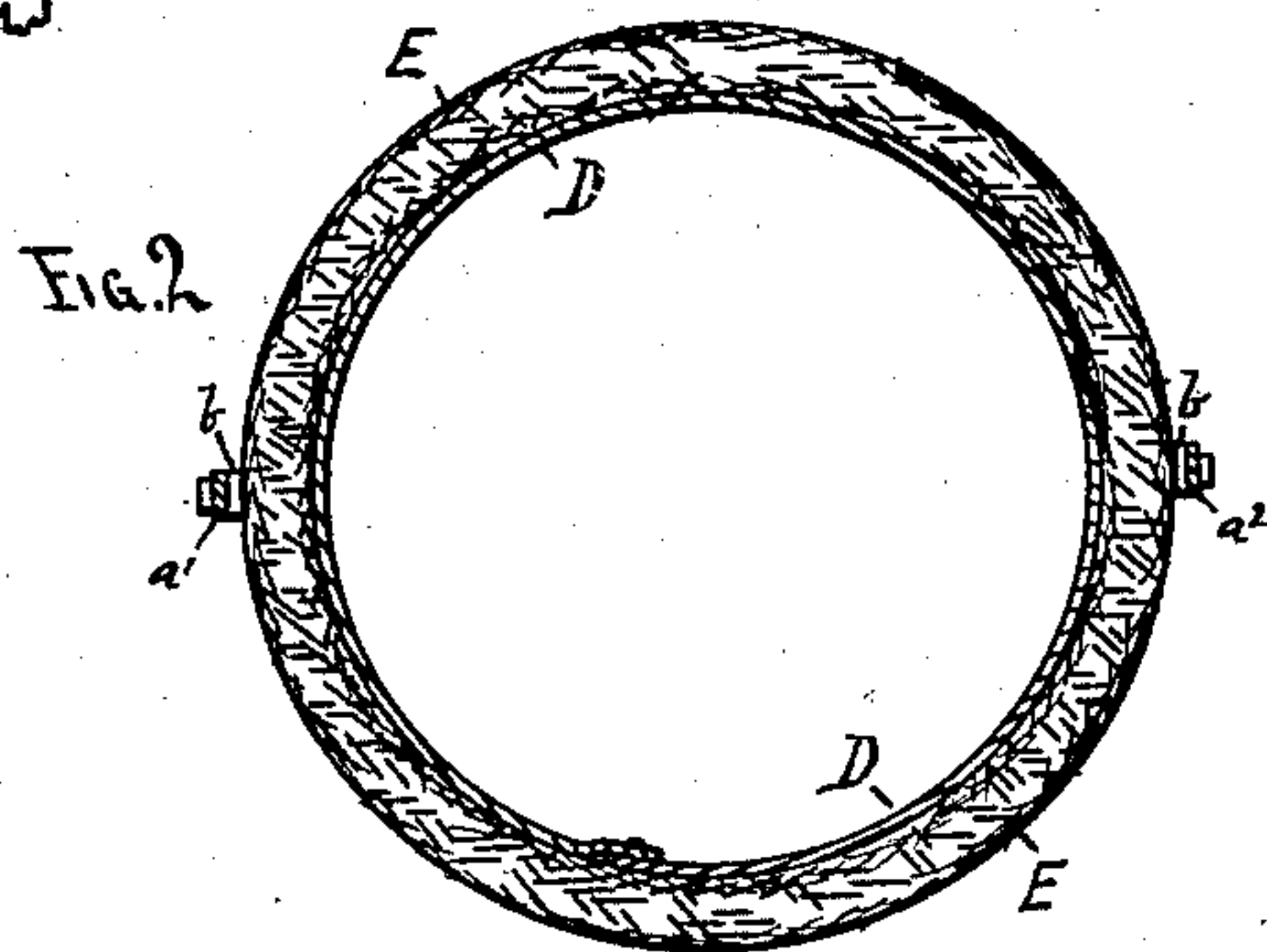
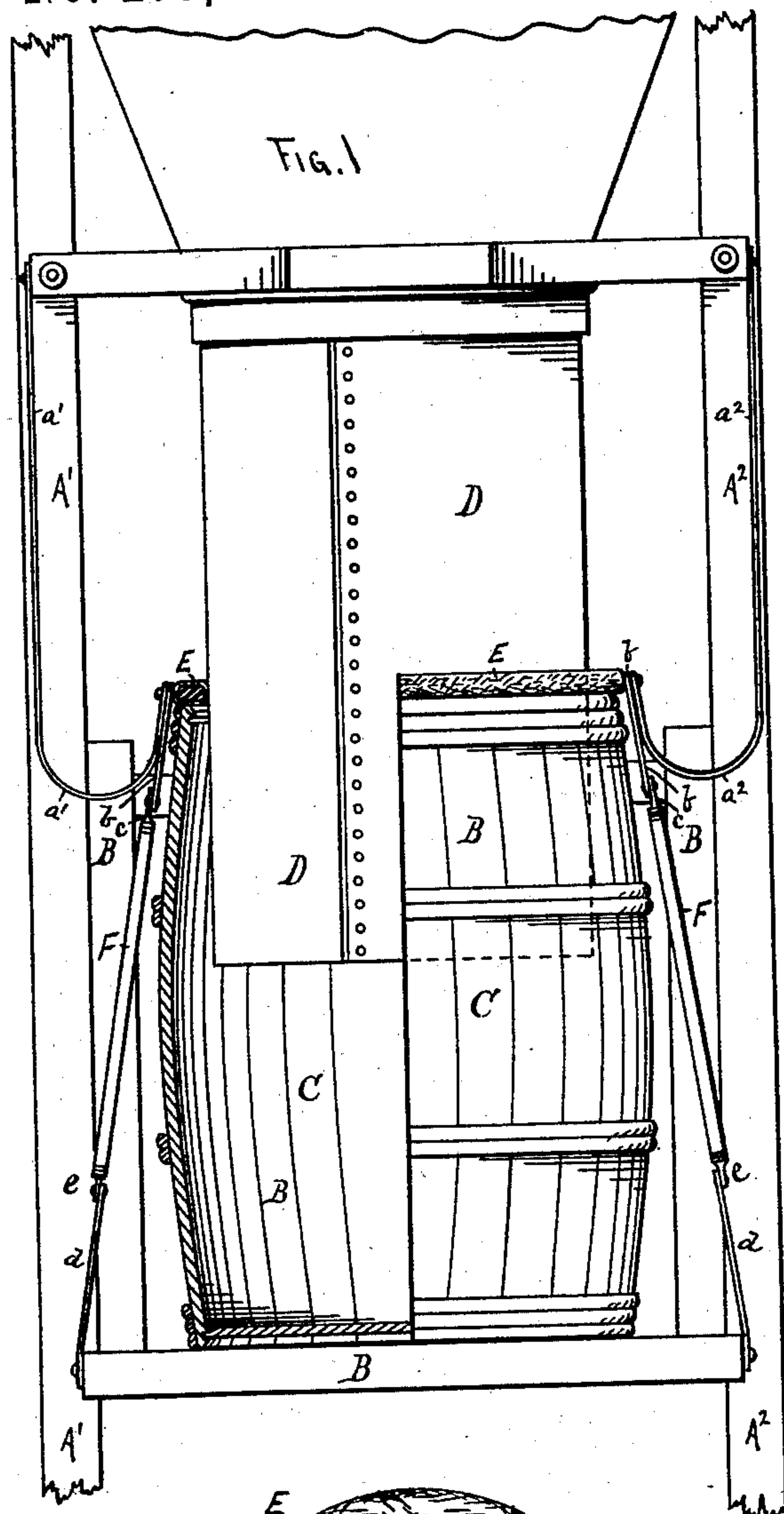
(No Model.)

J. HANDY & D. H. LORD.

FLOUR PACKER.

No. 277,895.

Patented May 22, 1883.



WITNESSES
W. J. Rodgers.
Louis Fisher Jr.

John Handy
Drew Hall Lord,
INVENTORS, BY
Louis Fisher & Co.
attys.

UNITED STATES PATENT OFFICE.

JOHN HANDY AND DREW H. LORD, OF NORTHFIELD, MINNESOTA.

FLOUR-PACKER.

SPECIFICATION forming part of Letters Patent No. 277,895, dated May 22, 1883.

Application filed January 6, 1883. (No model.)

To all whom it may concern:

Be it known that we, JOHN HANDY and DREW HALL LORD, both citizens of the United States, and both residing at Northfield, in the county of Rice and State of Minnesota, have jointly invented certain new and useful Improvements in Flour-Packers, of which the following specification is a full, clear, and exact description, reference being also had to the accompanying drawings, in which—

Figure 1 is a side view of a portion of a flour-packer with a section of a barrel arranged upon its platform, showing the manner of attaching our improvement thereon. Fig. 2 is a cross-sectional view of the packer-tube with the packing-ring arranged thereon. Figs. 3 and 4 are enlarged detail views of sections of the packer-tube, illustrating the manner of "swaging" the seam to render the outer surface symmetrical. Fig. 5 is a cross-section, and Fig. 6 is a plan view, full sized, of a portion of the packer-ring.

A¹ A² are the stationary upright guides; B, the barrel-supporting platform, adapted to slide up and down between said guides; C, the barrel into which the flour is packed, and D the packer-tube containing the usual packer-screw, all these parts being constructed in the ordinary manner of a flour-packing machine. The platform B will be elevated by any well-known mechanism, usually a system of ropes, pulleys, and counter-weights; but no means for operating it is shown in the drawings, as it forms no part of our invention.

Encircling the packer-tube D is a metal ring, E, suspended by straps a' a², or by other suitable means, from the upper part of the framework of the packer, so that while the ring is free to be raised upward the full length of the packer-tube the straps will prevent its falling below the lower edge of the same. Attached to opposite sides of the ring E, either at the same points where the straps a' a² are attached, as shown, or at any other points, are two smaller straps, b, projecting downward, and attached by their lower ends to blocks or plugs c, to which the upper ends of two rubber tubes, F, are securely connected by being wound with wire, or by any other means. To the lower ends of these rubber tubes two straps, d, similar to the straps b, are connected by their upper ends by plugs or blocks e, similar to the

plugs c, while the lower ends of the straps d are secured to the sides of the platform B, as shown. The tubes F, by their elasticity, will hold the ring E downward, so that when the ring is raised up by hand and the barrel C placed upon the platform B, beneath the tube D, and the ring E allowed to rest upon the upper edge of the barrel, it will be held down upon the barrel by the springs.

The ring E will be covered with one or more thicknesses of woolen cloth, felt, or other material having a long "nap" or "fuzzy" surface, and will be formed to fit the tube D closely enough to prevent flour or dust from passing up between the tube and cloth covering of the ring, the nap or fuzzy surface of the cloth permitting the air to pass freely through between the barrel and ring and packer-tube and ring, but catching and retaining all the dust and flour. The cloth or felt covering forms a packing that will fill the space between the ring and tube, and also between the ring and upper edges of the staves of the barrel, and by its flexibility press into all irregularities of the surfaces and prevent leakage. By these simple arrangements the packing-ring will be held down upon the barrel with an equal strain at whatever point of elevation the barrel may be with relation to the packer-tube and form a dust and flour tight joint between the barrel and packing-ring and between the packer-tube and packing-ring.

A large amount of flour has been lost heretofore in packing by the escape of the flour between the tube D and the barrel; but by this simple device all such loss is avoided.

The tube D is usually formed of a sheet of metal bent into a cylinder and with the edges overlapping and riveted together, as shown in Fig. 3; but this would leave an open space alongside the joint at t, between the tube and ring E, through which the flour would leak; but to prevent this we "swage" the inside part of the tube along the joint outward with a swaging-tool, M, or other suitable instrument, so that a symmetrical, even surface is presented on all sides and no openings left through which the flour can escape.

The straps a', a², or b may be made adjustable to alter the tension of the springs F, or to stretch them when they become weakened. Another important advantage secured by this

arrangement of the springs is that the tension of the springs is not increased by the elevation of the barrel, as the platform B, barrel C, and ring E all move upward together, and the strain on the springs is equal at all the points of elevation of the barrel.

In all forms where the springs are attached at other parts than the platform B and do not move up and down bodily with the barrel the higher the barrel is raised the more the springs are compressed; hence greater power is required to raise the barrel. In our arrangement the only increase of power required to operate the packer is caused by the small amount of friction of the ring E and its packing upon the tube D.

We also claim a great advantage in the use of coarse flannel or other similar material having a long nap or fuzzy surface for a covering to the ring E, as this material, being porous, allows the air to pass through readily, but catches and retards all dust or flour. This arrangement also permits the packer-screw to be lowered down a short distance below the lower edge of the tube D to permit a freer escape of the flour without danger of the flour being forced out over the top of the barrel, as the ring E holds it in, and thereby greatly increases the capacity of the packer. Any other form of spring than the rubber tubes F, or weights, could be also used under some circumstances, if preferred.

We are aware that packing-rings have been

used heretofore to prevent the escape of flour from between the packer-tube and the barrel being filled; but such we do not claim, broadly.

What we claim as our invention is—

1. In a flour-packer, a packer-tube, and a platform for supporting the receptacle for the flour, and adapted to be elevated to cause said receptacle to pass upward outside of said tube, in combination with a packing-ring encircling said packer-tube and resting upon the top of said receptacle, and springs for connecting said packing-ring and platform, substantially as and for the purpose set forth.

2. In a flour-packer, the combination of the packer-tube D, the flour-receptacle C, and a ring, E, covered with one or more thicknesses of cloth or similar material, and encircling said tube and resting upon the upper edge of said receptacle, substantially as and for the purpose set forth.

3. The combination of the packer-tube D, receptacle C, platform B, packing-ring, suspension-straps a' a^2 , and springs F, substantially as and for the purpose set forth.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

JOHN HANDY.
DREW HALL LORD.

Witnesses:

O. F. PERKINS,
G. M. PHILLIPS.