

(No Model.)

E. W. BARTON.
ROLL FOR JORDAN PULP ENGINES.

No. 407,276.

Patented July 16, 1889.

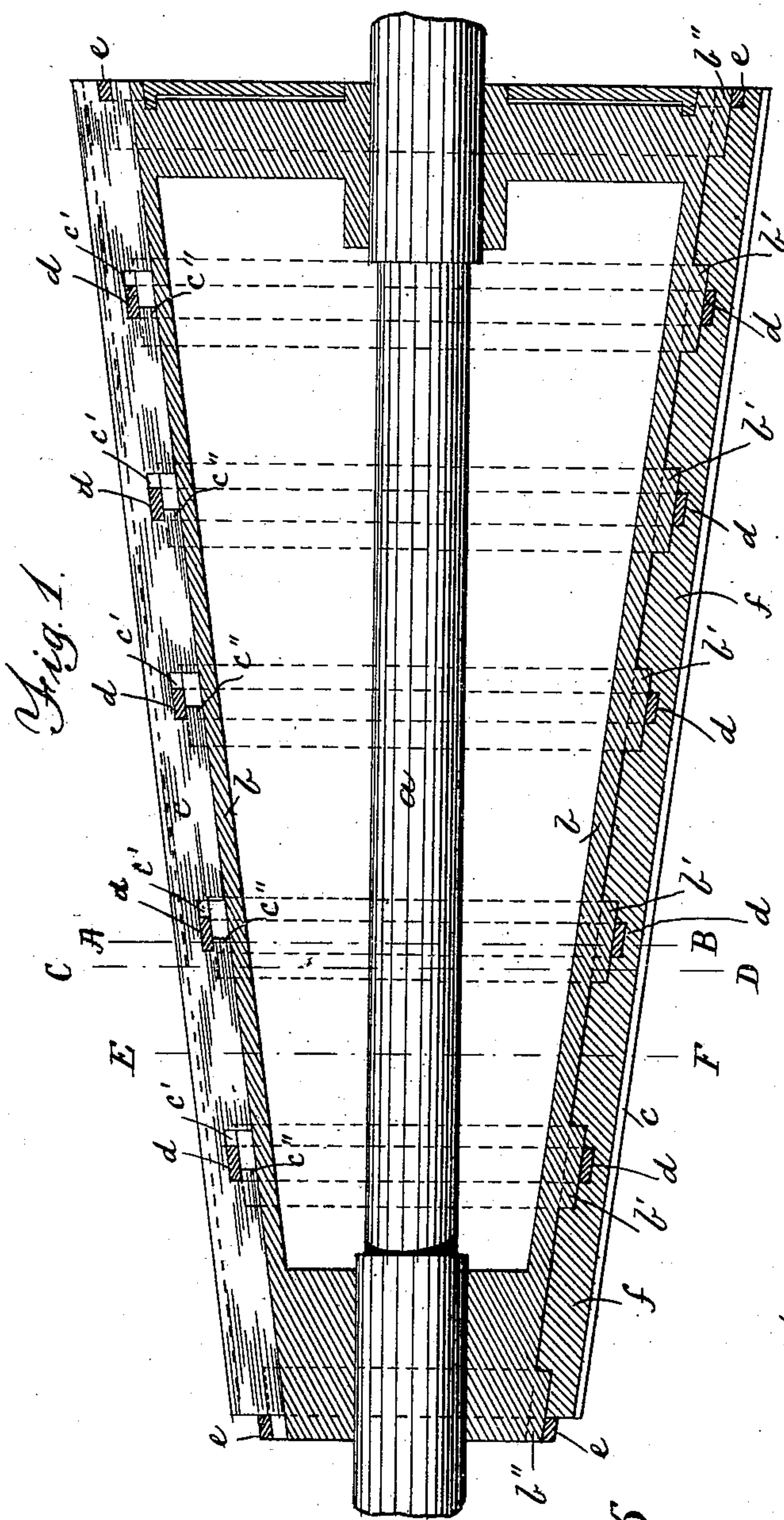


Fig. 3.

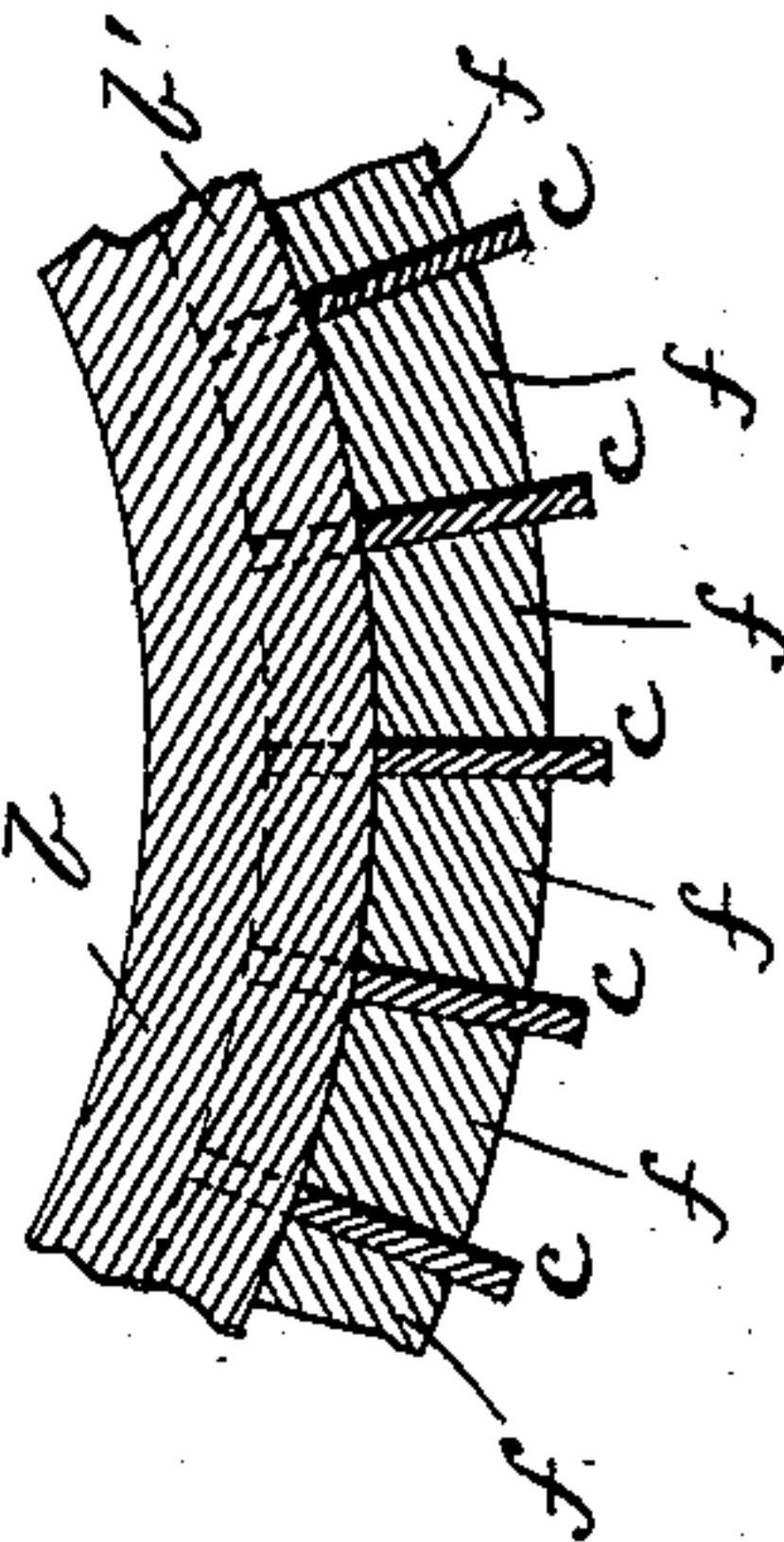


Fig. 4.

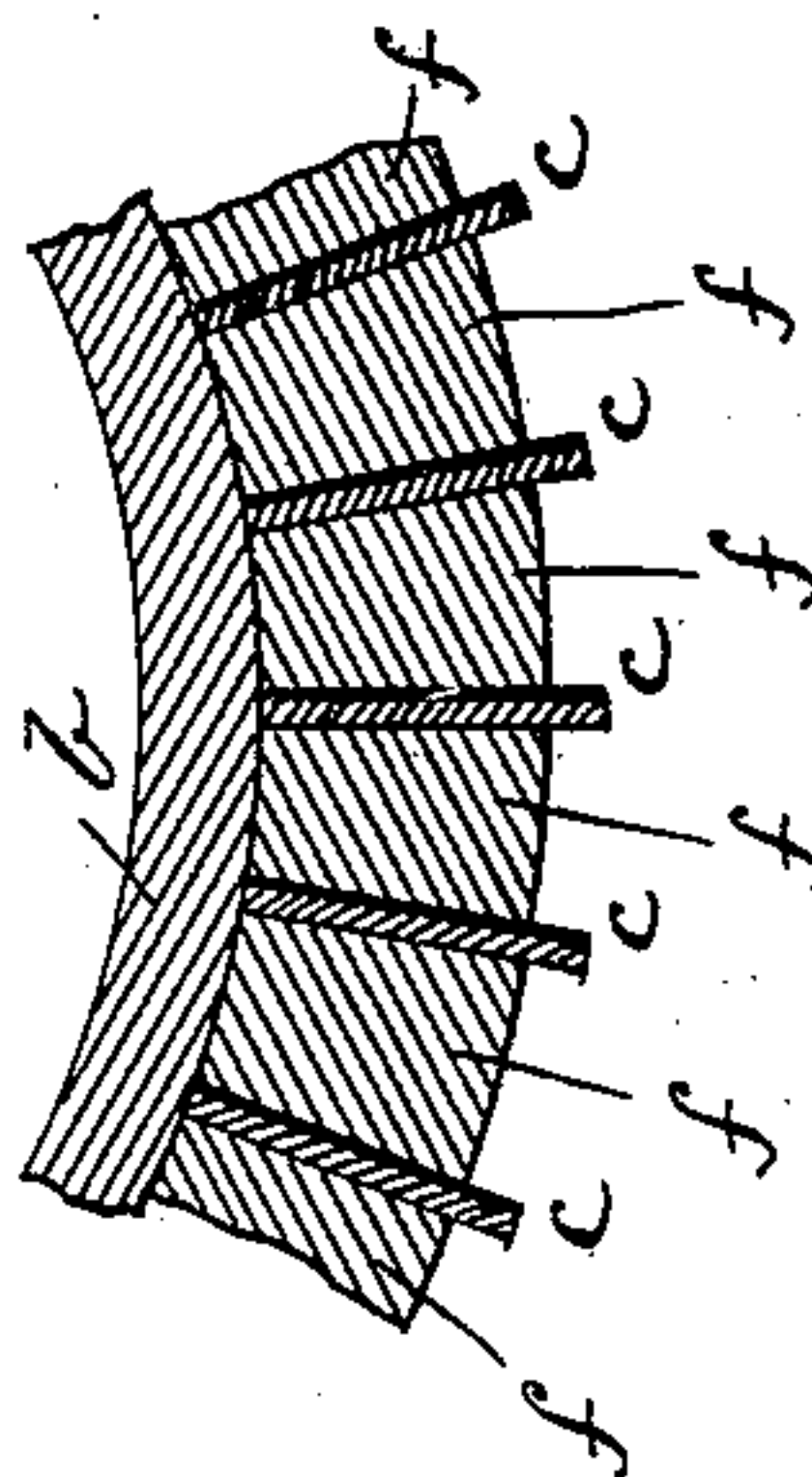


Fig. 2.

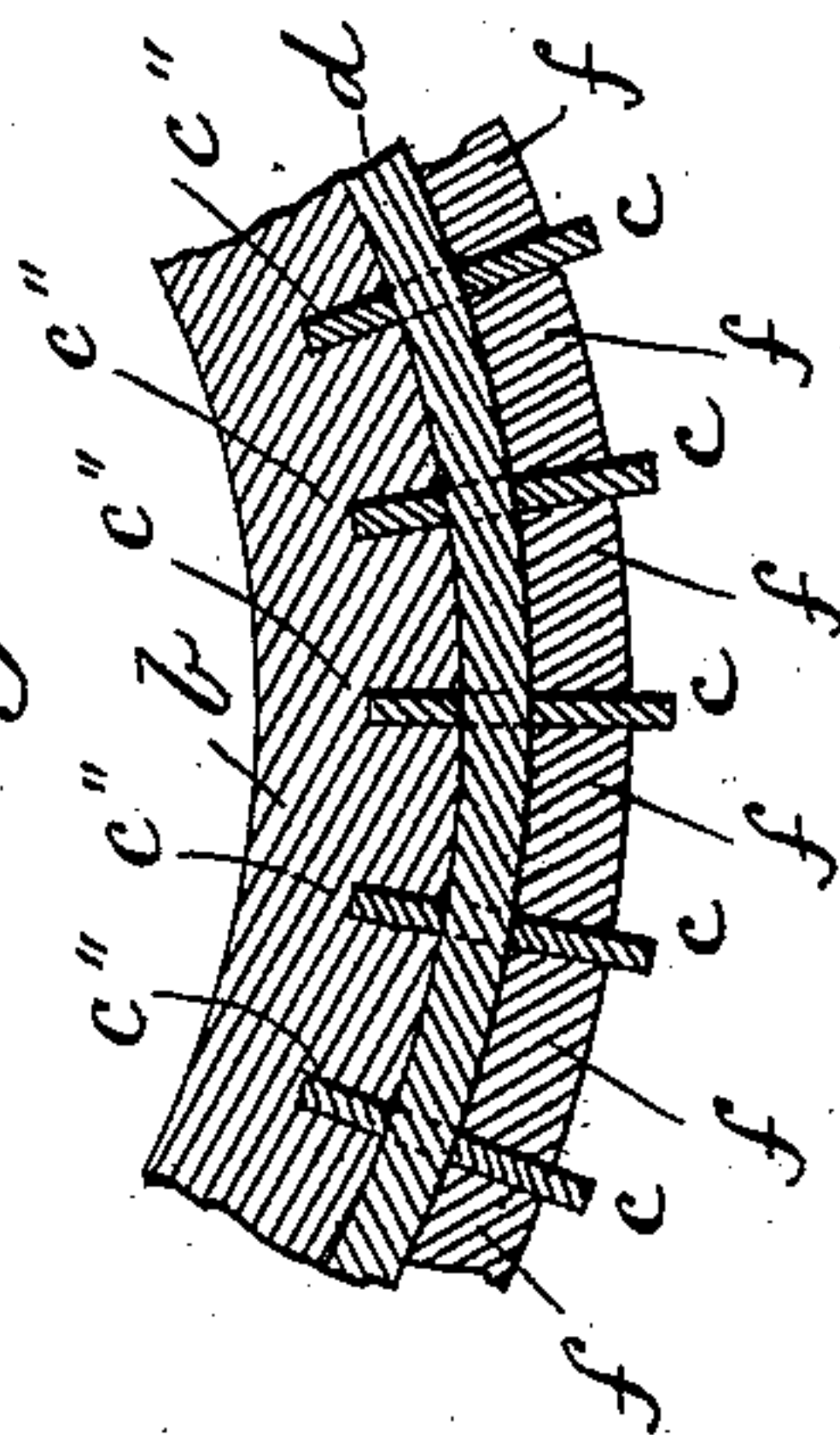
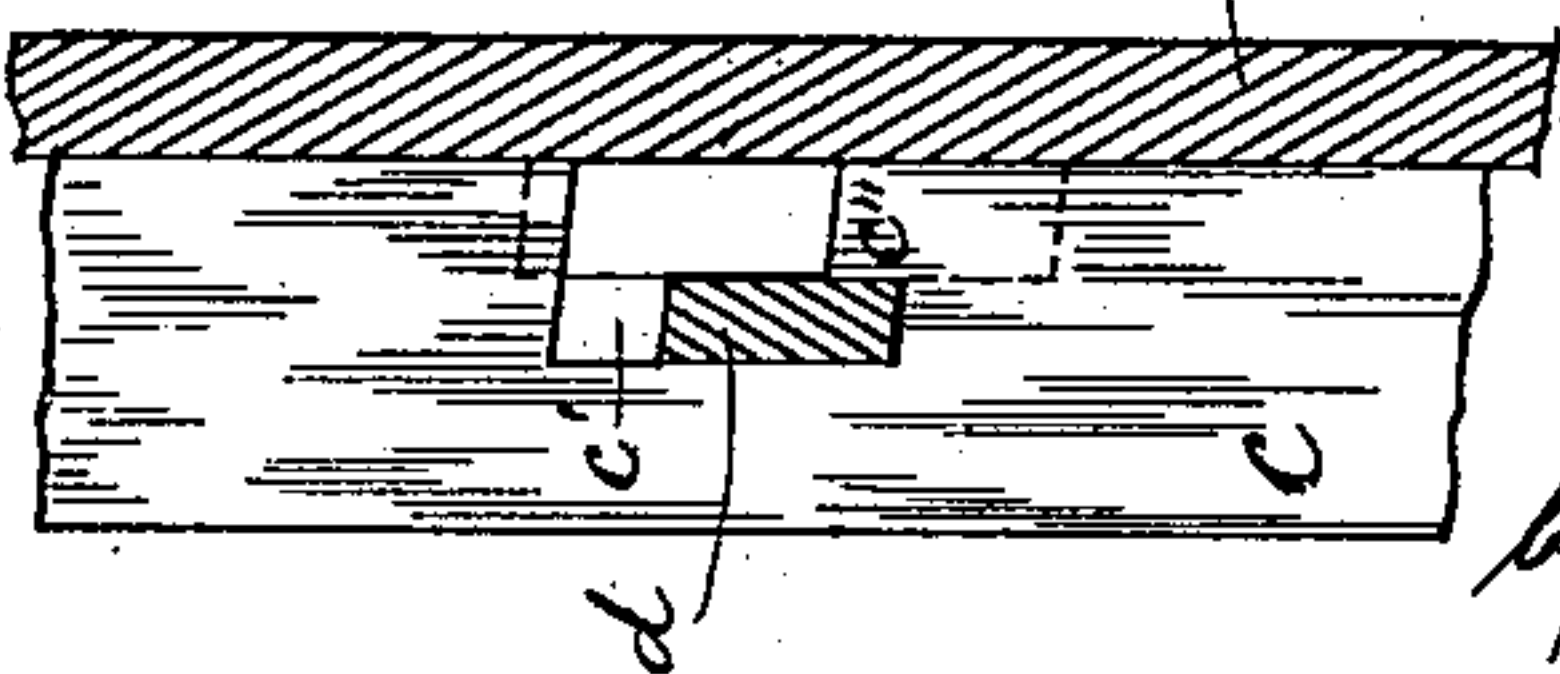


Fig. 5.



Witnesses.

Selma Schelin
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Inventor.

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UNITED STATES PATENT OFFICE.

EDWIN W. BARTON, OF LAWRENCE, MASSACHUSETTS.

ROLL FOR JORDAN PULP-ENGINES.

SPECIFICATION forming part of Letters Patent No. 407,276, dated July 16, 1889.

Application filed June 25, 1888. Serial No. 278,169. (No model.)

To all whom it may concern:

Be it known that I, EDWIN W. BARTON, a citizen of the United States, and a resident of Lawrence, in the county of Essex and State of Massachusetts, have invented new and useful Improvements in Rolls for Jordan Pulp-Engines, of which the following, taken in connection with the accompanying drawings; is a specification.

10 This invention relates to improvements in rolls for Jordan pulp-engines, and it is carried out as follows, reference being had to the accompanying drawings, wherein—

15 Figure 1 represents a central longitudinal section of a Jordan roll made according to my invention. Figs. 2, 3, and 4 represent enlarged partial cross-sections on the respective lines A B, C D, and E F shown in Fig. 1. Fig. 5 represents an enlarged side elevation of a portion of one of the blades, showing its attachment to the roll.

Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

25 *a* represents the roll-shaft, to which the conical metal roll *b* is secured, as is usual in Jordan pulp-engines. On the exterior of the roll *b* are made a series of annular projections *b'*, which are grooved longitudinally for the reception of the knives or blades *c c*, the latter having bayonet-recesses composed of notches *c'* with shelves *c''*, like the knives for this purpose shown and described in the patent granted to Charles J. Bradbury, May 25, 1875, No. 163,728.

35 Around the annular projections *b' b'* are located the metal hoops *d d*, which latter are preferably made of wrought metal, but may, if so desired, be made of composition or other suitable metal. These hoops or rings *d* are each somewhat narrower than the annular projections *b'*, on which they are driven or otherwise secured. Said rings or hoops serve two purposes, namely: as means for fastening the knives to the roll *b*, and also for imparting additional strength to the shell, which may therefore be made lighter than the ordinary ones with beneficial results.

50 The inner edge of each knife rests against the outside of the roll throughout its length, and is locked in position, as shown, by pushing the shelves *c''* beneath the edge of the

hoop or ring *d*, as shown in Figs. 1, 2, and 5, causing the shelf portion *c''* to rest in the longitudinal groove in the annular projection *b'*, thus giving a metallic support to each side of the shelf *c''*, by which it is held firmly in its proper working position, thus securing the knife more firmly to the surface of the roll.

The knives after being inserted in the longitudinally-grooved annular projections *b'* and locked to the hoops *d* by means of the bayonet-slots above mentioned are prevented from longitudinal motion on the roll by means of the end hoops *e e*, driven or otherwise secured to annular projections *b''* on the ends of the roll, which projections have also longitudinal grooves similar to the intermediate projections *b'* for the reception of the inner edges of the knives or blades *c*.

70 *f f* represent the wood fillings between the knives, as is usual in devices of this kind.

The advantages of this my improved device are as follows: I am enabled to make the longitudinal grooves with one continuous cut for each blade through all the annular grooves, by which the manufacture of the roll is very much simplified and cheapened.

I obtain metal side supports for the shelves *c''* in the grooved annular projections, as above mentioned. The roll may be made lighter than the ordinary ones, of increased strength by reason of the metal hoops *d d*, and I am enabled to use deeper wood fillings fitting against the entire length of the roll, its annular projections, and the metal hoops by which the blades are held more rigidly in position.

85 The knives may be easily removed by detaching the smaller end ring *e* from the narrow end of the roll and sliding each blade toward such narrow end until the shelves *c''* pass by the edges of the hoops *d*, when the blades may be moved freely outward from the roll as may be desired for repairs or the substitution of new blades for old and worn-out ones.

What I wish to secure by Letters Patent, and claim, is—

1. The tapering ungrooved roll *b*, having the annular projections *b' b'*, grooved transversely for the reception of the blades *c c*, in combination with the hoops or rings *d d*, surrounding the said annular projections and

adapted to serve as means for holding the said blades secured to the roll *b*, substantially in a manner and for the purpose specified.

2. In combination with the blades *c c*, having the bayonet-shaped notches *c'* and ledges *c''*, as described, the ungrooved roll *b*, having annular projections *b'*, transversely grooved for the reception of said blades, and the annular hoops *d*, surrounding said projections *b'* and adapted to receive between their inner surfaces and the grooved portions of the projections *b'* the ledges *c''* of the notched bars *c*, substantially as and for the purpose set forth.

3. The roll *b*, having the annular projections *b'* and end projections *b'' b''*, transversely grooved and having the respective hoops or rings *d e e*, in combination with the blades *c*,

having the bayonet-notches *c'* and ledges *c''*, substantially as and for the purpose set forth. 20

4. The ungrooved roll *b*, having the annular and transversely-grooved projections *b'*, and the hoops or rings *d*, surrounding the same, in combination with the blades *c*, having the notches *c'* and ledges *c''*, and the filling-pieces *f f*, all arranged and combined substantially as and for the purpose set forth. 25

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 22d day of June, 30 A. D. 1888.

EDWIN W. BARTON.

Witnesses:

ALBAN ANDRÉN,
ZELMA R. SCHELIN.