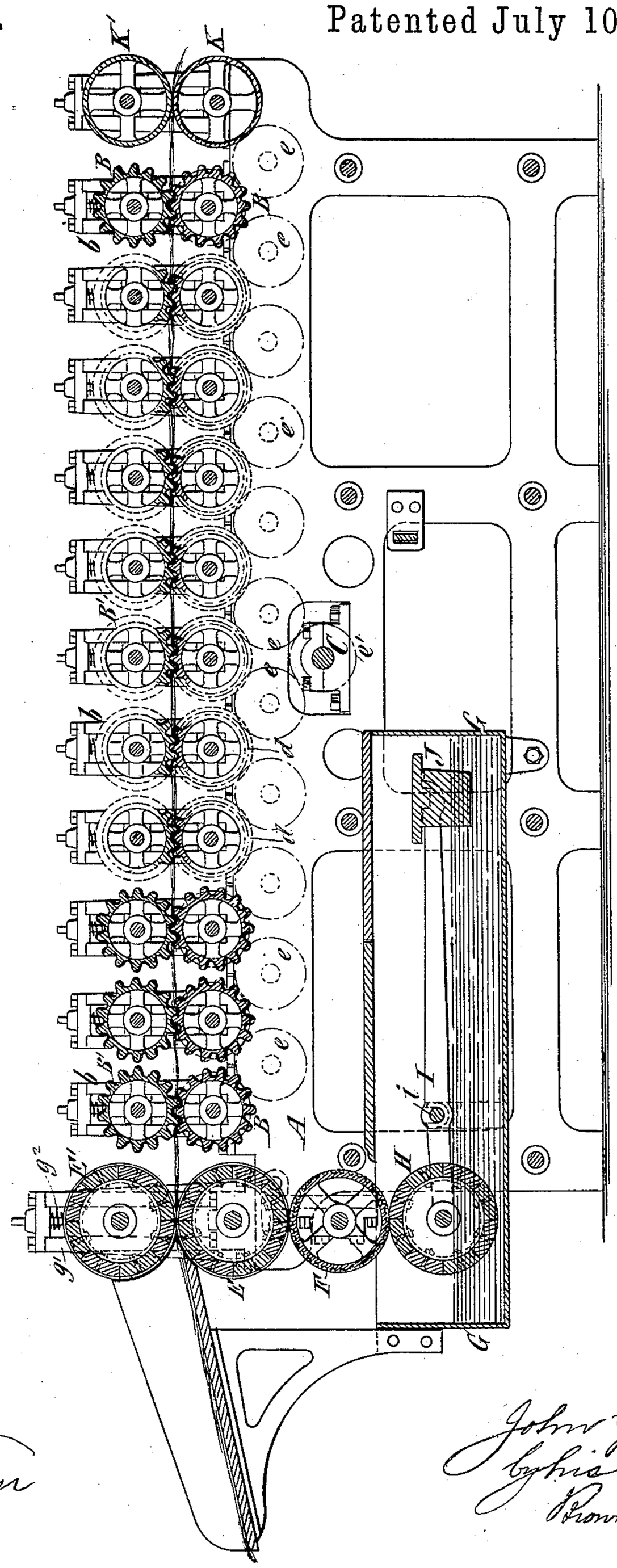
(No Model.) 2 Sheets—Sheet 1.

J. GOOD.

MACHINE FOR OILING AND SOFTENING HEMP AND OTHER VEGETABLE FIBERS.

No. 280,814. Patented July 10, 1883.

Fig 1.



Witnesses
Fred'k Haynes
Ed. L. Moran

Inventor
John Good
by his Attorneys
Brown & Brown

(No Model.) 2 Sheets—Sheet 2.

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Fig 2.

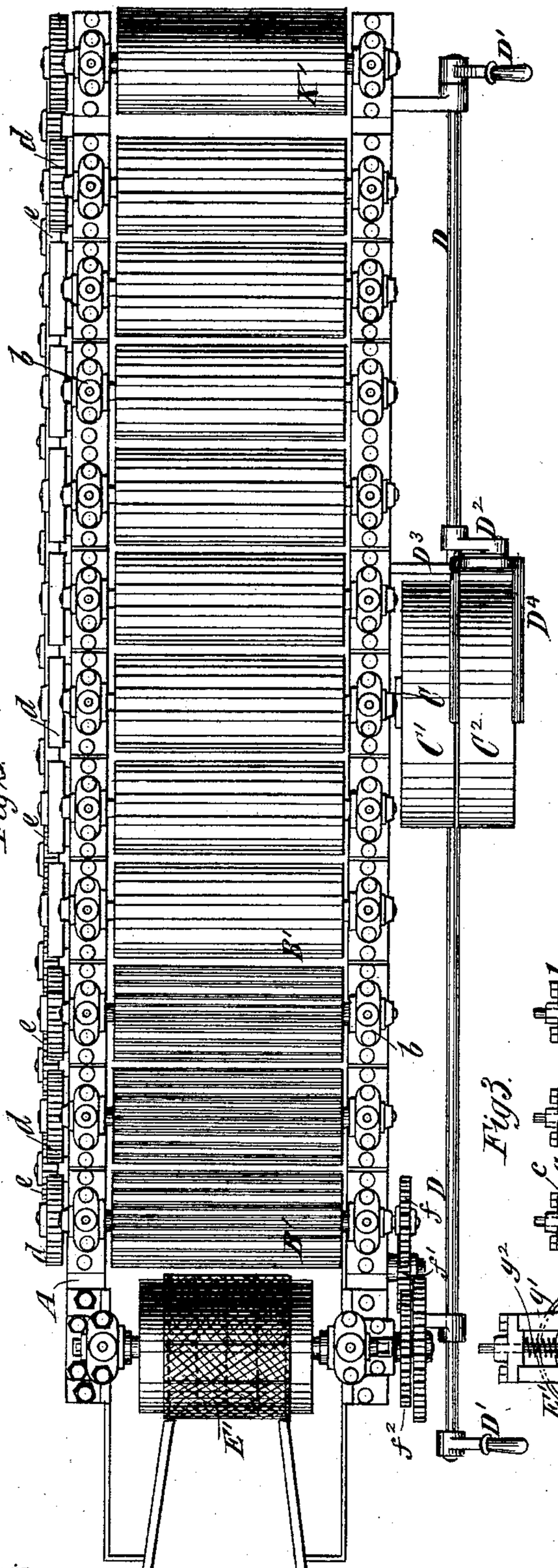
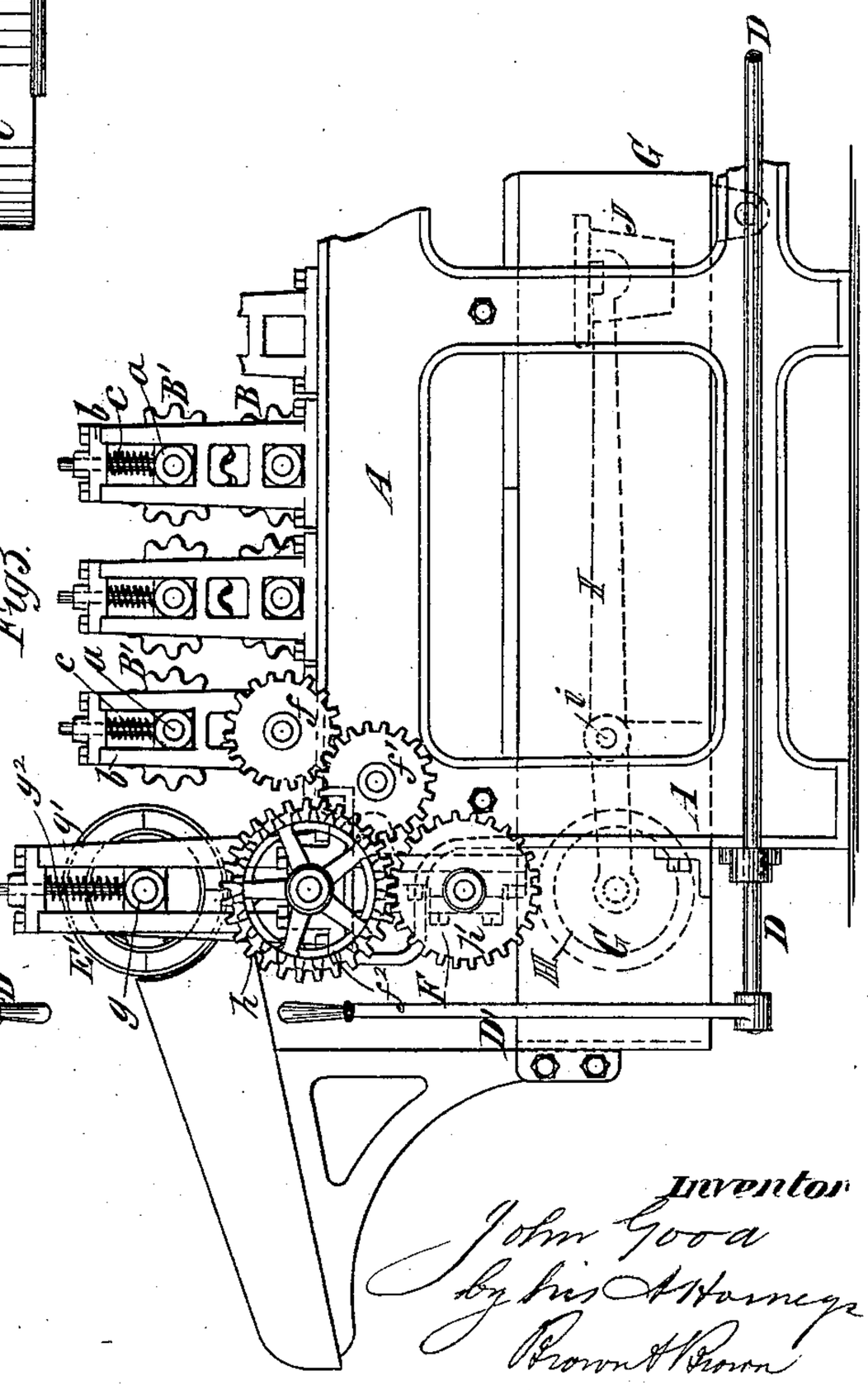


Fig 3.



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UNITED STATES PATENT OFFICE.

JOHN GOOD, OF BROOKLYN, NEW YORK.

MACHINE FOR OILING AND SOFTENING HEMP AND OTHER VEGETABLE FIBERS.

SPECIFICATION forming part of Letters Patent No. 280,814, dated July 10, 1883.

Application filed September 29, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN GOOD, of the city of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Machine for Oiling and Softening Hemp and other Vegetable Fibers, of which the following is a specification.

The object of my invention is to provide an effective machine for thoroughly and uniformly oiling and softening fibrous materials of various kinds—such, for example, as jute, sisal, manila, and the various kinds of hemp—preparatory to hackling, spreading, drawing, or any of the operations to which such fibrous materials are subjected before spinning.

My invention consists in novel combinations of parts, including a pair of feeding-rolls located at one end of the machine, an oil-tank, and a supply-roll or supply and distributing rolls for delivering oil upon said feeding-rolls, so that they will oil the fibrous materials as they draw or move them forward, and a number of pairs or a train of fluted softening-rolls, between which the fibers pass from the feeding-rolls, and by which they are carried forward and have the oil worked into them. I also combine with the aforesaid features a pair of smooth delivery-rolls, between which the fibrous materials pass after leaving the softening-rolls, and by which the fibers are straightened and delivered smoothly and evenly.

In the accompanying drawings, Figure 1 represents a longitudinal vertical section of a machine embodying my invention. Fig. 2 represents a plan thereof, and Fig. 3 represents a side elevation of a portion of the machine.

Similar letters of reference designate corresponding parts in all the figures.

A designates the frame of the machine, and B B′ designate pairs of softening-rolls, of which any number of pairs may be employed. The rolls B B′ are fluted, as best shown in Fig. 1, and the rolls of each pair intermesh. The lower rolls, B, are mounted in fixed bearings; but the bearings *a* of the upper rolls, B′, are capable of moving upward and downward in housings *b*, and are pressed down by means of springs *c*, so as to cause the rolls of each pair to grasp the fibrous materials firmly and draw them forward.

Upon the shaft of each of the lower rolls, B, is fixed a gear-wheel, *d*, and the several wheels *d* are connected by intermediate gear-wheels, *e*, so that all are caused to rotate synchronously.

C designates a driving-shaft, which is operated by a belt working on fast and loose pulleys C′ C², and upon this shaft is a gear-wheel, *e′*, which gears with one of the wheels, *e*; as shown dotted in Fig. 1, and so imparts motion to all the lower rolls, B.

D designates a rock-shaft extending lengthwise of the machine, and provided at each end with an arm or lever, D′, whereby it may be turned. Upon the shaft D is an arm or lever, D², which is connected with a shipper-bar, D³, provided with a shipper-fork, D⁴, and by turning the said shaft in one direction or the other the machine may be started or stopped.

At one end of the train of softening-rolls is a pair of feeding-rolls, E E′. The lower roll, E, is mounted in fixed bearings, and is rotated positively by means of a gear-wheel, *f*, on the adjacent softening-roll B, which engages with an idler or transmitting wheel, *f′*, and through it drives a wheel, *f*², on the shaft of said lower feeding-roll. The upper feeding-roll, E′, is mounted in bearings *g*, which are adapted to move vertically in housings *g′*, and are pressed down by springs *g*² to hold the said roll against the lower roll, E.

The feeding-rolls E E′ may have their peripheries composed of wood covered with duck, cloth, canvas, or other suitable material.

F designates a distributing-roll mounted below the lower feeding-roll, E, and bearing against the same. The roll F is of metal, and, as here represented, has its surface fluted or grooved, so that it will carry oil to the surface of the lower feeding-roll; and it is positively rotated by means of a gear-wheel, *h*, on the shaft of the lower feeding-roll, engaging with a wheel, *h′*, on the shaft of the roll F.

G designates an oil tank or box below the feeding-rolls, and H designates a supply-roll, which may be of wood, and is adapted to dip into the oil in the tank. The roll G has its bearings in the ends of levers I, which are fulcrumed at *i*, and have a weight, J, applied to their opposite ends, which hold the roll H always in contact with the distributing-roll F.

In front of the feeding-rolls E E′ is arranged a feed-table on which the fibrous materials are placed, and from which they are fed between the feeding-rolls.

Instead of employing the distributing-roll F, I may arrange the supply-roll H so that it will bear against and be rotated by the lower feeding-roll, E.

The fibrous materials are carried forward by the feeding-rolls and have oil supplied to them at the same time, and by the action of the train of softening-rolls the oil is thoroughly worked into them and they are softened.

At the end of the train of softening-rolls I may employ a pair of delivery-rolls, K K′, of metal, having smooth surfaces. The lower delivery-roll, K, has upon its shaft a wheel, *d*, similar to those on the lower softening-rolls, E, and said wheel is connected with the train of softening-rolls by an intermediate wheel, *e*, and is thereby rotated positively. The upper delivery-roll, K′, rotates by contact with the materials passing between it and its companion roll, and its bearings are pressed down by springs like those applied to the upper softening-rolls, B′. The delivery-rolls smooth and straighten the fibers and deliver them evenly from the machine.

I do not claim, broadly, the use of rollers, either plain or fluted, supplied with oil from a tank for the purpose of oiling fibrous materials, as many machines varying somewhat in detail but containing such devices have been used for oiling wool.

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

1. In a machine for oiling and softening vegetable fiber, the combination, with a train of fluted softening-rolls, of a pair of feeding-rolls, an oil-tank, a supply-roll adapted to dip in the oil in the tank and to maintain a supply of oil on said feeding-rolls, and mechanism for rotating said rolls, all arranged and adapted to operate substantially as herein described.

2. In a machine for oiling and softening vegetable fiber, the combination, with a train of fluted softening-rolls, of a pair of feeding-rolls, an oil-tank, an oil-distributing roll in contact with the lower feeding-roll, or supply-roll adapted to dip in the oil in the tank and bearing against said distributing-roll, and mechanism for rotating said rolls, all arranged and adapted to operate substantially as herein described.

3. In a machine for oiling and softening vegtable fiber, the combination, with a train of fluted softening-rolls, of a pair of feeding-rolls at one end of said train, a pair of delivery-rolls at the opposite end of said train, means for supplying oil to said feeding-rolls, and mechanism for rotating said rolls, all arranged and adapted to operate substantially as herein described.

JOHN GOOD.

Witnesses:
FREDK. HAYNES,
C. E. SUNDGREN.