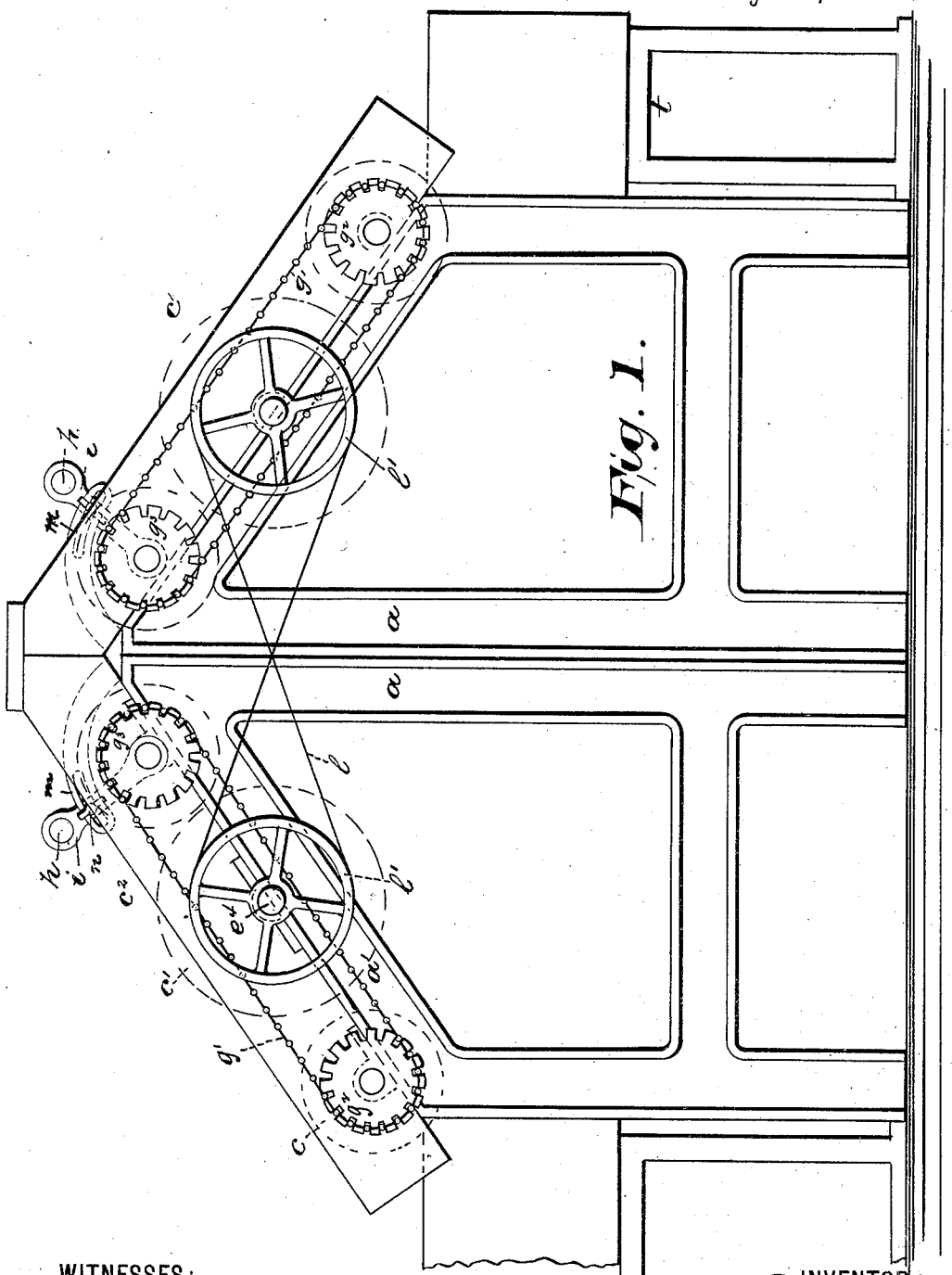
(No Model.) 2 Sheets—Sheet 1.

R. BARRETT.

HAT STARTING MACHINE.

No. 383,270. Patented May 22, 1888.



WITNESSES:

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INVENTOR:

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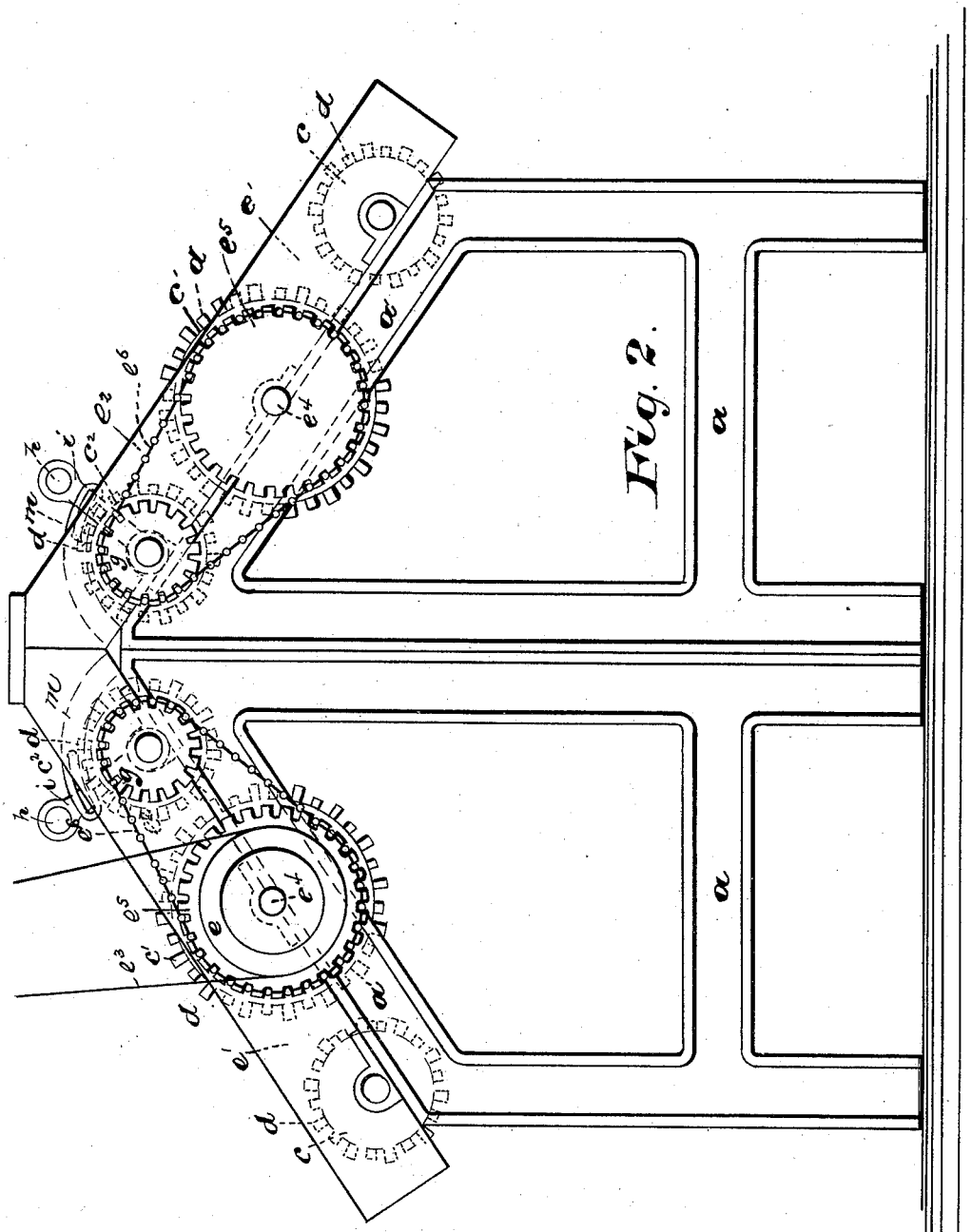

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UNITED STATES PATENT OFFICE.

RICHARD BARRETT, OF HARRISON, NEW JERSEY.

HAT-STARTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 383,270, dated May 22, 1888.

Application filed January 9, 1888. Serial No. 260,218. (No model.)

To all whom it may concern:

Be it known that I, RICHARD BARRETT, a citizen of the United States, residing at Harrison, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Hat-Starting Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of this invention is to reduce the cost of constructing hat-starting machines and to secure a more convenient device and one that will be more effective in securing the desired results without producing in the hat the effects known as "sticking" and "stopping off."

A further object is to reduce the amount of gearing for operating the several rolls and to secure an increased durability.

The invention consists in the improved hat-starting machine having the arrangements and combinations of parts substantially as will be hereinafter set forth, and finally embodied in the clauses of the claim.

Referring to the accompanying drawings, in which like letters of reference indicate corresponding parts in each of the several figures, Figure 1 is a side elevation of the improved device, and Fig. 2 is another elevation showing the opposite side of the machine.

In said drawings, *a* indicates a suitable standard or frame-work, of which *a'* are inclined pieces or parts adapted to receive an inclined series of rollers. Upon said inclined bearing parts are arranged suitable boxes or journal-bearings for said rollers or cylinders *c*, *c'*, and c^2, which are preferably arranged in oppositely-inclined series. The center roller or cylinder, *c'*, is made larger than those next adjacent, and all of them are provided with lags *d*, which extend longitudinally along the periphery of said rollers.

Between the smaller rollers, *c* c^2, and the larger rollers, *c'*, in each series are pockets or receptacles for the hat-rolls, as indicated at *e'* e^2. The said rollers in each series revolve in one direction, preferably toward the higher part of the machine, and are actuated by suitable gearings, the construction shown being preferred because of its simplicity and durability. Upon the said shaft e^4, upon which the larger cylinder revolves, is secured at one end of said cylinder a driving-pulley, *e*, which is connected by means of the belt e^3 with any suitable pulley on the ceiling of the room in which the machine is arranged, or in any other suitable position. At the same or opposite end of the larger cylinder is arranged a sprocket-wheel, e^5, which connects, by means of a chain, e^6, with another cog-wheel, *g*, on the shaft with one of the smaller cylinders, the chain being formed to engage with the cogs, so that the motion will be transmitted from one cylinder to the other. The two small cylinders are connected in a similar manner on the opposite side of the machine by a chain, *g'*, the said smaller cylinder being provided with smaller sprocket-wheels, g^2 g^3, similar to the one marked e^5, so that the speed of the two cylinders will be about the same. I may provide the upper of the small cylinders with a small guard cylinder or roller, *h*, which works between arms *i*, pivoted in any suitable position in the frame.

The roller or cylinder *h* may be held in suitable relation to the larger cylinder, *c'*, and the upper end of the smaller cylinders, c^2, by means of suitable guides or springs.

If guides *m* are used the roller *h* may be held in a fixed relation to the same by set-screws *n*. Said roller *h* not only serves as a guard to prevent the hat-bodies from being thrown over the roller c^2, but also serves to bring more pressure upon the hat-bodies when in the upper receptacle, e^2, should such pressure be desired.

In operating the device the hat-rolls are suitably manipulated at the tank *t* in the ordinary manner. The hats being rolled up into the starting-cloth, the rolls are placed in the said pockets (marked e^2) between the rolls *c'* and c^2.

It will be observed that at this pocket the smaller of the cylinders is raised above the center of the larger cylinder at the points where they engage the hat, and that the surface of the smaller cylinder moves away at the pocket from the co-operating surface of the said larger

cylinder. By this construction and operation it is found by practice that the hat-bodies are started, after having been taken from the mill and hardened, with the best results. After having been started in the pocket c^2 the hat-roll is taken out and crozed, and then inserted in the lower pocket, c'. At this pocket it will be observed that the larger cylinder and the lower of the smaller cylinders have a somewhat different arrangement. The starting-surface of the cylinder c is more nearly on a line with the center of the large wheel, and as a result the effects of the rolls or cylinders are more severe and capable of continuing the starting process and bringing the hats into a condition to be operated upon by the hat-sizing machine.

While I show in the drawings what I term a "duplex" machine, or a machine having opposite series, whereby four men can be employed, I can use effectively a single series for the employment of two men only on each side of the machine.

When two inclined series of rolls are employed, as shown, the rolls of one series may transmit power to the rolls of the opposite series by means of a belt, l, and pulleys l' l', as in Fig. 1.

Having thus described the invention, what I claim as new is—

1. The combination, in a hat-starting machine, with a large central roller or starting-cylinder, c', of smaller cylinders or rollers, c c^2, the said rollers being arranged to form pockets c' c^2 for the hat-bodies and being geared to operate simultaneously in one direction, substantially as and for the purposes set forth.

2. The combination, in a hat-starting machine, with a large roller, c', of smaller rollers arranged in inclined series with the said larger roll, substantially as and for the purposes set forth.

3. The combination, in a hat-starting machine, of the larger cylinder, c', a lower cylinder, c, and a higher cylinder, c^2, and a guard-cylinder, h, adapted to prevent the hat from being thrown from off the cylinder c^2, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 18th day of October, 1887.

RICHARD BARRETT.

Witnesses:
OLIVER DRAKE,
OSCAR A. MICHEL.