

J. A. DOUGLASS & J. WAGNER.
Machines for Shaving Hoops.

No. 135,637.

Patented Feb. 11, 1873.

Fig. 1.

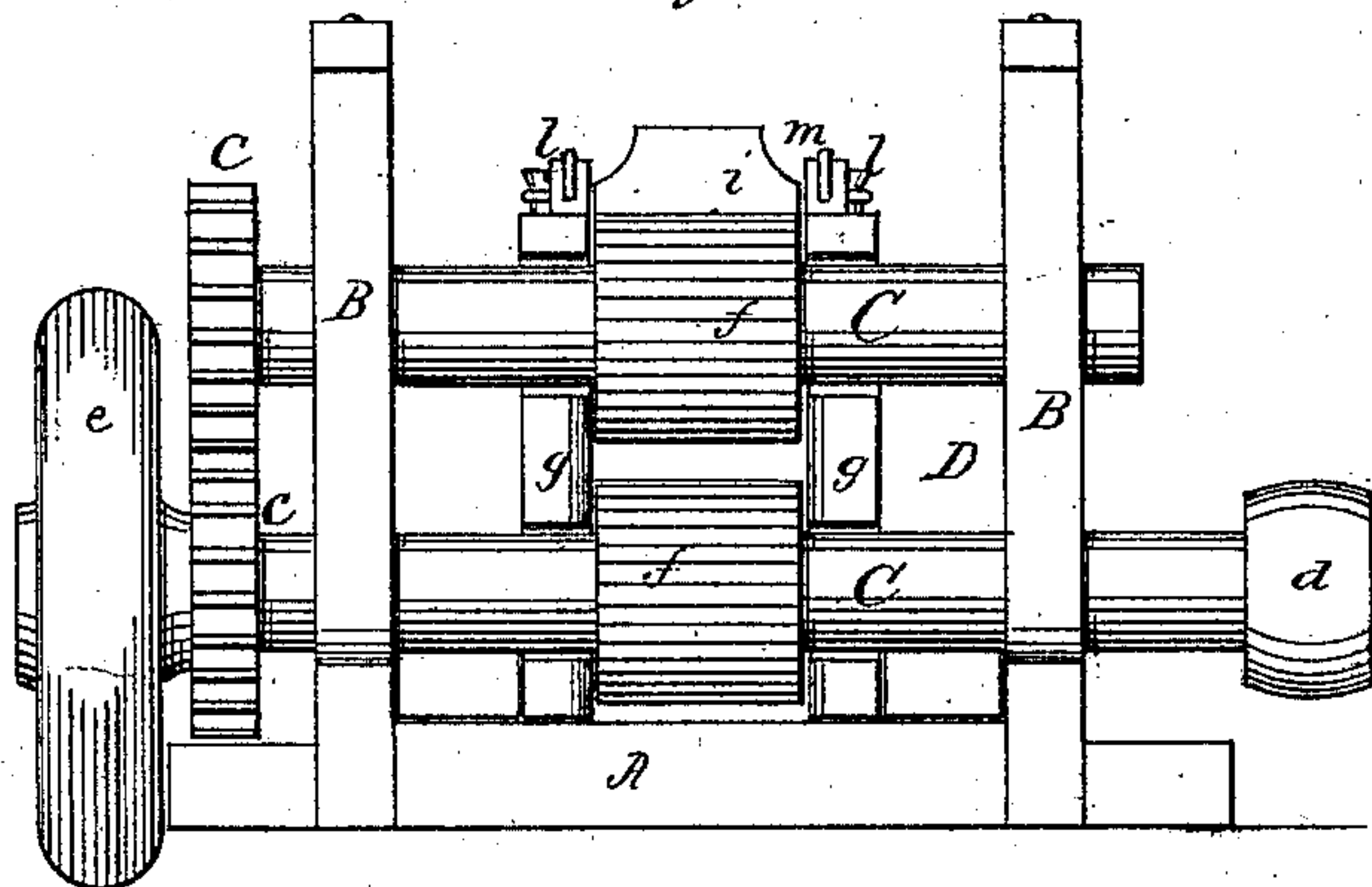
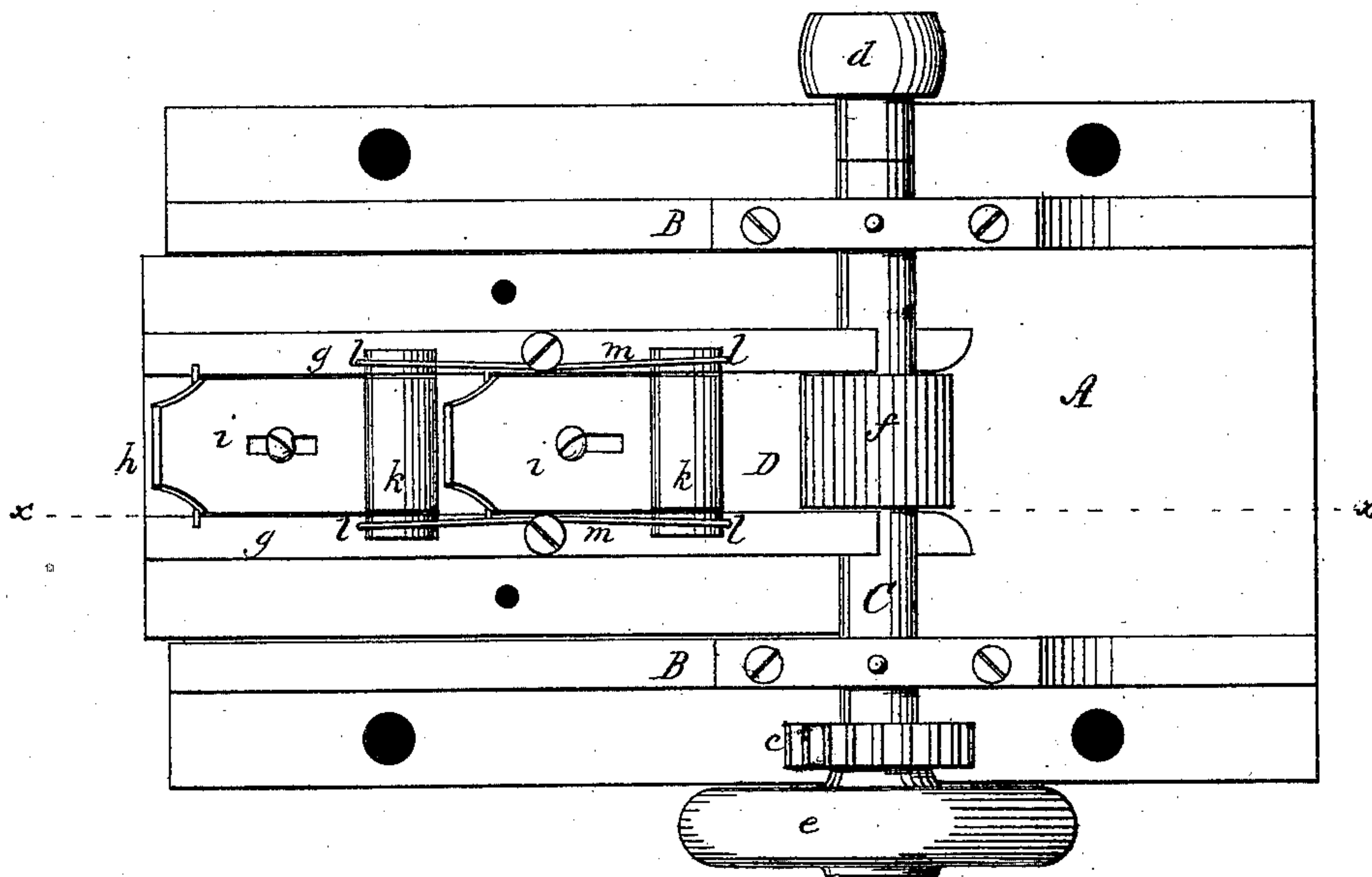


Fig. 2.



Witnesses.
H. H. Finckel.
A. Bradley

Inventors:
Douglass and Wagner,
By Geo. W. Rothwell,
Att'y.
Wash. D.C.

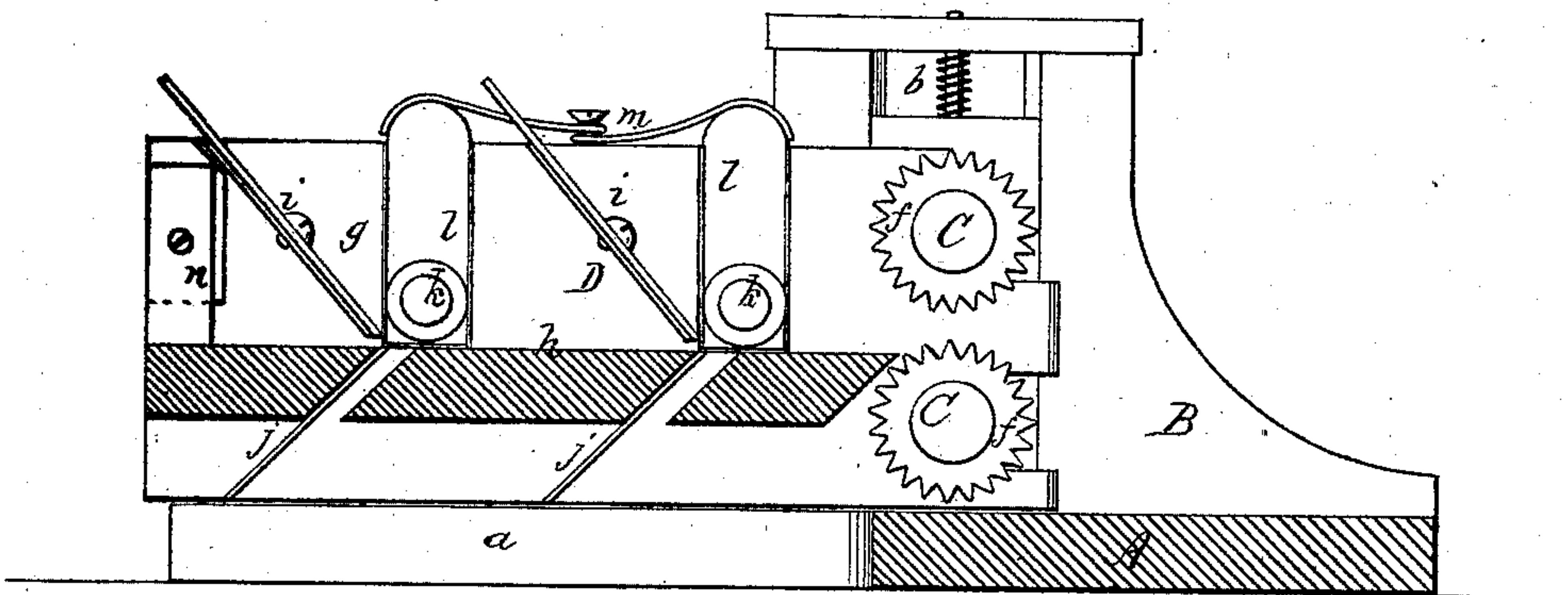
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Fig. 3.



Witnesses.

M. H. Linckeb.
as Bradley

Inventors:

Douglass and Wagner,
By Geo. Rothwell,
Att'y Washn. D.C.

UNITED STATES PATENT OFFICE.

JAMES A. DOUGLASS AND JOHN WAGNER, OF CHEST SPRINGS, PENNSYLVANIA; SAID DOUGLASS ASSIGNOR TO SAID WAGNER.

IMPROVEMENT IN MACHINES FOR SHAVING HOOPS.

Specification forming part of Letters Patent No. 135,637, dated February 11, 1873.

To all whom it may concern:

Be it known that we, JAMES A. DOUGLASS and JOHN WAGNER, both of Chest Springs, in the county of Cambria and State of Pennsylvania, have invented an Improved Machine for Shaving Hoops, &c., of which the following is a specification:

The subject of this invention is an improved wood-working machine, designed to shave straps and flat and round hoops, to shave and cut chair-splints, and to split willow for baskets.

The machine consists of a pair of rolls having cutting-edges, and a set or sets of plane-bits of peculiar arrangement, all mounted in suitable frame-work. The hoop first passes between the rolls, which cut into the wood at short intervals, leaving intervening chips or uncut portions, which are afterward removed and the surface smoothed by the plane-bits, arranged immediately in the rear of the rolls.

The invention consists in the construction of the rolls with annular series of parallel knives or cutters, and in the combination of the cutting-rolls and smoothing-planes, as hereinafter described.

In the drawing, Figure 1, Sheet 1, is a front elevation of a machine embodying our invention. Fig. 2 is a plan of the same; and Fig. 3, Sheet 2, is a longitudinal vertical section of the machine on the line *x x*, Fig. 2.

Similar letters of reference indicate like parts in the several figures.

A represents the bed-plate of the machine, made of wood or iron, and having an open space, *a*, for the escape of shavings falling from the plane-bits. B B are the sides of the frame-work, which support the bearings of the cutting-rolls and serve as guides for the removable plane-frame. The rolls C C are mounted in bearings in the sides B B, the bearings of the upper roll being provided with a spring, *b*, or its equivalent, to exert the necessary pressure. The rolls are geared together by means of cog-wheels *c c*, and the lower roll carries a belt-pulley, *d*, and a balance-wheel, *e*, at opposite sides of the machine. The rolls are made of steel, and at the center of each an enlargement or collar, *f*, is formed, which has its surface cut out to constitute a series of

parallel cutting-edges, extending around the periphery of the collar, as shown in the drawing, and particularly in Fig. 3. If desired, the body of the roll may be of iron, with a steel collar secured thereon in any suitable manner. Between the sides B B of the main frame-work is fitted a removable frame, D, which consists of side pieces *g g*, made L-shaped in cross-section, united to a horizontal portion, *h*, extending from side to side and from end to end of the frame D. The sides of this frame are cut out at the front to embrace the rolls C C. The frame is provided with two sets or pairs of plane-bits, the upper and lower bits *i j* of each pair being inclined toward each other, as shown in Fig. 3. In front of each pair of bits is placed a pressure-roller, *k*, which is journaled in slides *l*, fitted in vertical grooves in the inner faces of the sides *g g*. A spring, *m*, secured centrally on each side piece *g*, bears on the upper ends of the slides *l*. At the rear end of the frame D are secured two vertical bits, *n n*, one on each side, and affixed to the inner faces of the sides *g g*. These cutters serve as edgers for the hoops and straps which are passed through the machine.

The operation is as follows: The machine having been set in motion, the hoop or hoop-pole is inserted at the front of the machine between the rolls, which serve to feed it forward, and at the same time the knife-edges on the rolls cut into the wood to the depth of about one-sixteenth of an inch, and at points about one-eighth of an inch apart; and as the hoop is fed along it passes under the pressure-rolls and between the upper and lower sets of plane-bits, which remove the intervening portions or chips between the cuts made by the cutting-rolls, and leave the upper and lower surfaces of the hoop smooth, while the edges are trimmed by the vertical knives at the rear end of the frame.

By the employment of the cutting-rolls the hoop, as it is fed through, is prepared for the planes, the knives cutting into it to within a short distance of the regular thickness of the hoop, and thus facilitating the subsequent work of the planes. The first pair of bits removes the chippings made by the rolls, and the second finishes the surfaces.

The machine is so constructed that, by substituting a guttered roll for the top cutting-roll, and pressure-rolls of the same form for those shown in the drawing, and removing the upper bits, half-round hoops can be shaved with ease and rapidity.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination of a pair of cutting and feed rolls with planes for shaving the flat surfaces of the hoop, and pressure-rolls used in

connection with said planes, all arranged and operating substantially as herein described.

2. The combination of the cutting-rolls, upper and lower sets of plane-bits, pressure-rolls, and edgers, all arranged in a suitable framework, and operating substantially as herein described.

JAMES A. DOUGLASS.
JOHN WAGNER.

Witnesses:

S. M. DOUGLASS,
THOMAS W. ADAMS.