

(No Model.)

2 Sheets—Sheet 1.

F. GLANKLER & W. W. SIMMONS.
BARREL HOOPING MACHINE.

No. 411,219.

Patented Sept. 17, 1889.

Fig. 1.

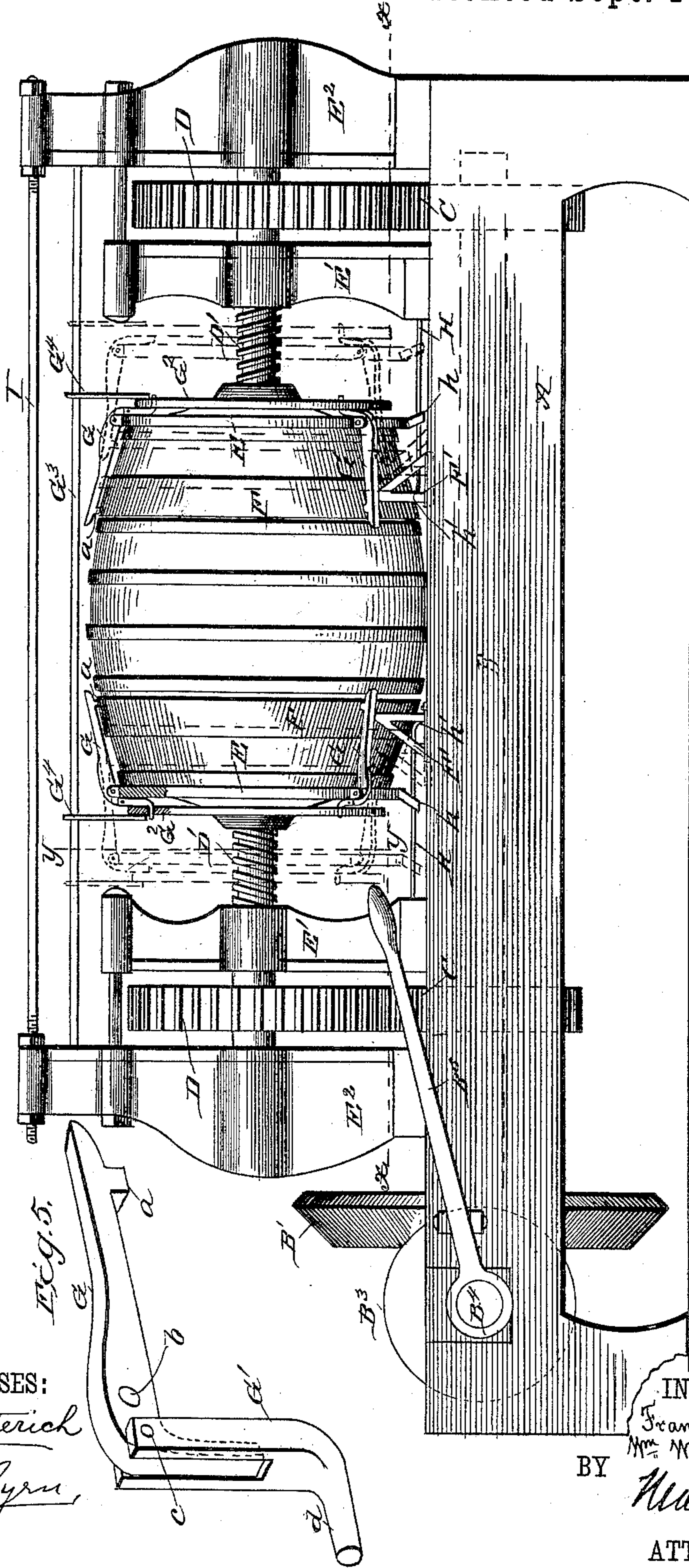


Fig. 5.

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Fig. 2.

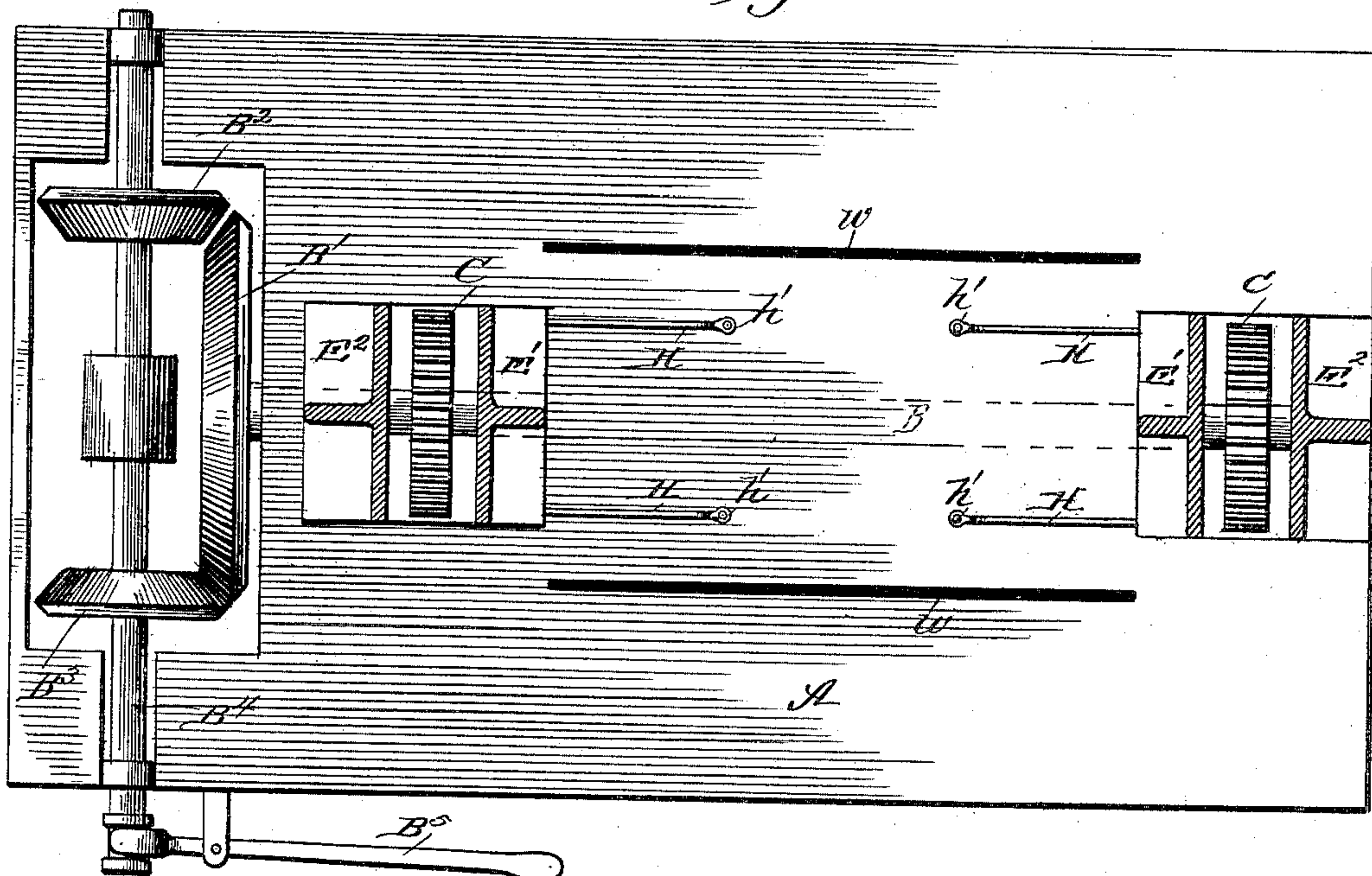


Fig. 3.

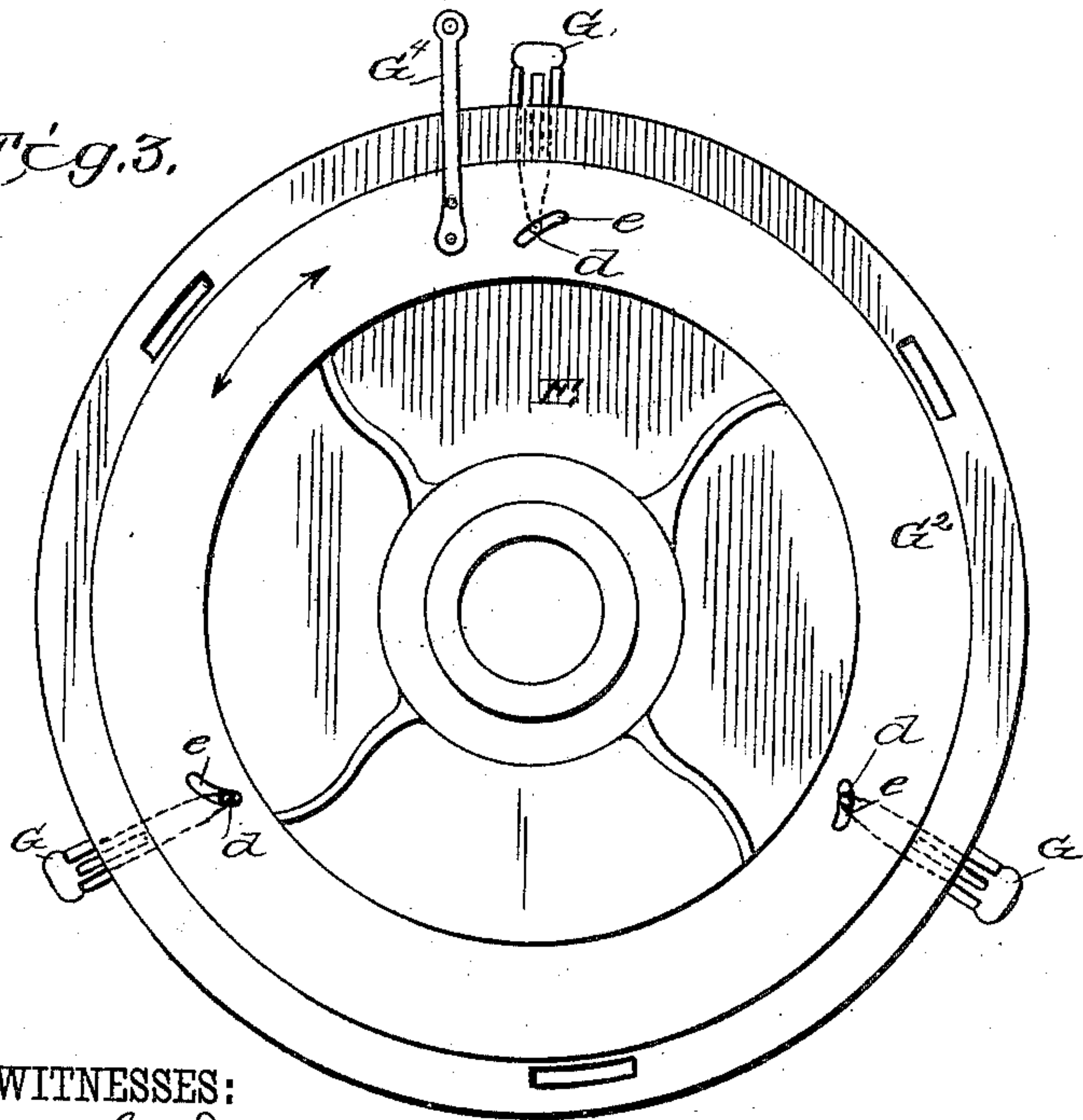
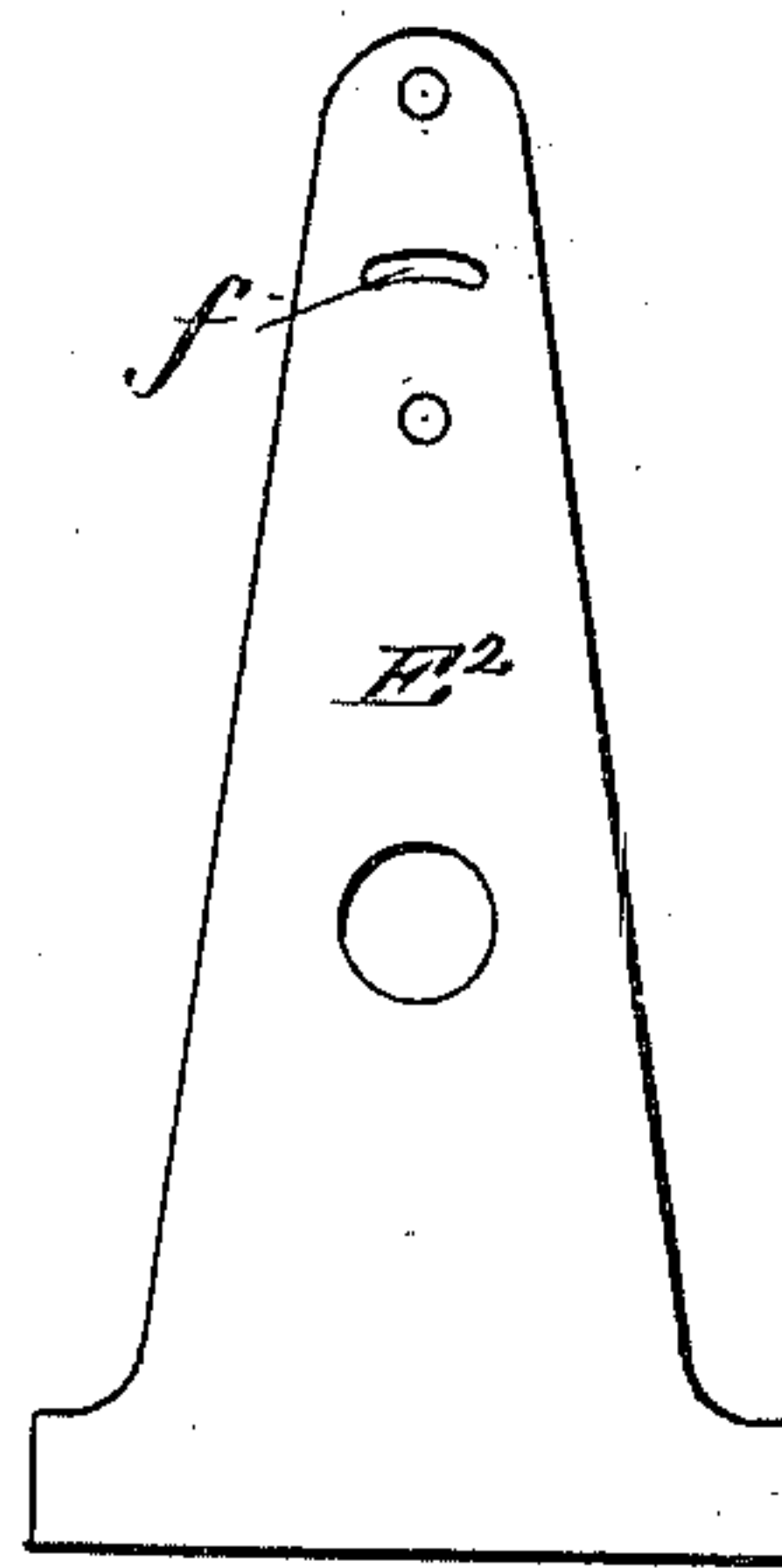


Fig. 4.



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UNITED STATES PATENT OFFICE.

FRANK GLANKLER AND WILLIAM W. SIMMONS, OF MEMPHIS, TENNESSEE.

BARREL-HOOPING MACHINE.

SPECIFICATION forming part of Letters Patent No. 411,219, dated September 17, 1889.

Application filed October 12, 1888. Serial No. 287,958. (No model.)

To all whom it may concern:

Be it known that we, FRANK GLANKLER and WILLIAM W. SIMMONS, of Memphis, in the county of Shelby and State of Tennessee, have
5 invented a new and useful Improvement in Barrel-Hooping Machines, of which the following is a specification.

The object of our invention is to provide a machine for trussing or squeezing together
10 the ends of a barrel, and in the same operation forcing upon the barrel the end hoop, which latter operation is usually performed by hand.

It consists in the peculiar construction and
15 arrangement of parts, which we will now proceed to fully describe with reference to the drawings, in which—

Figure 1 is a side elevation; Fig. 2, a horizontal section through line xx ; Fig. 3, a vertical section through line yy ; Fig. 4, an inside view of the standard E^2 . Fig. 5 is a detail perspective view of one of the driving-arms G .

A is the base-frame of the machine, at each
25 end of which is firmly erected a tall standard E^2 and a shorter standard E' , the latter being connected to the former by a brace-rod at the top. In these standards are formed boxes, in which at each end revolves a shaft D' , having a screw-threaded end. Rigidly fixed upon
30 this shaft and located between the standards E^2 and E' at each end of the machine is a large gear-wheel D . These gear-wheels D mesh with smaller gear-wheels C , which are
35 fixed upon a longitudinal shaft B , running the full length of the machine in the bed A . (See Fig. 2.) This shaft B has at one end a bevel friction-wheel B' , adapted to be engaged and rotated alternately by bevel friction-
40 wheels B^2 and B^3 , rigidly fixed to a transverse shaft B^4 . This shaft is arranged to slide longitudinally in its bearings and to be shifted by lever B^5 so as to bring the bevel-wheels B^2 and B^3 alternately into engagement with
45 B' , according as it is desired to run the machine forward or backward.

The screw-shafts D' have reversed threads, and each passes through an interiorly-threaded hub of a head E , whose simultaneous advance upon the barrel placed between serves
50 to press the catch-hoops onto the barrel and

subsequently to apply the end hoops on the barrels.

F are the catch-hoops, which constitute a part of the machine, and are mounted upon
55 brackets F' , sliding in ways w , Fig. 2, in the base A .

H are rods arranged upon each side of the base A for the purpose of forming guides to prevent the rotation of the heads E as they
60 advance, for which purpose the said heads have slides h , that move on said rods as upon guides. These rods H are sharply bent down at h' on each side of the middle of the barrel, so as to form seats for centering the barrel. I is a tie-rod with adjusting screw-nuts
65 for connecting the tops of the standards E^2 E^2 .

We will now describe the means for applying the permanent end hoop to the barrel. To the heads E are jointed three arms G .
70 These arms have lugs a , Fig. 5, near their outer ends, and their inner ends are fulcrumed at b to the heads. Said inner ends are also bent at right angles, and are jointed at c to link-sections G' , which at their free
75 ends have each a stem or pin d , which enters a cam-slot e (see Fig. 3) in a rotary adjustable ring G^2 , which swivels on the head, and by arms G^4 are connected to a bar G^3 , which extends from one standard E^2 to the other and
80 plays at each end in a curved slot f , Fig. 4, in the inner face thereof. This bar G^3 constitutes a handle, by pulling which laterally the swiveling ring G^2 is turned, and its slots e made to pull the stems d toward the center,
85 which throws the arms G outwardly about their fulcrums b . The object of this adjustment is to throw the lugs a of arms G over the catch-hoops F after they have been driven
90 far enough on to compress the ends of the barrel, so as to permit the further advance of the heads E in the same movement to force the two end hoops onto the edges of the barrel. The arms G are three in number, so as to fairly distribute the strain on the catch-
95 hoops and yet leave space enough between two of the three arms to insert one of the permanent end hoops between the head of the barrel and the head E of the machine, the natural elasticity of the hoop permitting it to
100 be compressed or flattened sufficiently to pass between the arms G .

The operation of the machine is as follows: The heads E and catch-hoops F being drawn back, as shown in dotted lines, Fig. 1, the partly-hooped barrel is placed between the rods H and seated between the bends h' . The catch-hoops are then advanced until they embrace the ends of the barrel, and the heads E are adjusted so that the lugs a of the arms G bear against the catch-hoop. Power being now imparted to the driving-shaft, the right and left screw-shafts advance the heads E toward the center of the barrel, compressing its ends around the heads to a diameter small enough to allow the end hoops to be entered thereupon. The rod G^3 is then pulled toward the operator, which, through the mechanism before described, throws the arms G outward and allows the lugs a to pass beyond the catch-hoops, as shown in full lines in Fig. 1, while the continued advance of the heads E strikes against the end hoops around their entire peripheries, and without bending or crimping the same forces it firmly on the barrel to its destination. The machinery now being reversed, the lugs a of arms G catch behind the catch-hoops F and pull them off the barrel, which latter is then removed and a new barrel is put in its place for a repetition of the operation.

The special merits of this machine are that the barrel is trussed and the last hoop forced to place in the same operation, and, furthermore, the circular head E bears equally all around the circumference of the hoop in forcing it on, and does not scar, bend, or crimp its edges.

We are aware that it is not new in barrel machinery to truss a barrel and force hoops on the ends of the same by heads and pusher-arms that advance toward the center of the barrel in opposite directions by right-and-left screw-shafts, and we do not claim this, broadly.

Our machine is intended merely for forcing the last hoop on the barrel, and to do this with the same advance motion which trusses the barrel.

Having thus described our invention, what we claim as new is—

1. The combination of the two forcing-heads E E, adapted to bear against the end hoops, and the right-and-left screw-shafts for advancing these heads upon the barrel, the base-frame A, having longitudinal guideways w in the same, brackets F' , sliding in said guides and carrying catch-hoop F, for contracting the ends of the barrel, the arms G, for forcing the catch-hoops to place, and tripping devices, substantially as described, for throwing the arms over the catch-hoops and allowing the heads to continue to advance and to strike and force on the end hoops, as described.

2. The combination of main frame A with guide-grooves w , brackets F' , sliding therein and carrying the catch-hoops F, the forcing-heads E E, the arms G, jointed to the heads and provided with lugs a , the arm-section G' , jointed to arm G and provided with stud d , swiveling rings G^2 , arranged upon the heads and provided with cam-slots e , receiving studs d , and the bar G^3 , connected to the swiveling ring for operating the same, substantially as shown and described.

3. The combination of the bed-frame A, having shaft B, with gear-wheels C C, the large standards E^2 , connected by rod I, small standards E' , connected to the large standards at the top, the screw-shafts D' , having right-and-left threads, and gear-wheels D, arranged between the large and small standards, and the heads E, having interiorly-screw-threaded hub, substantially as and for the purpose described.

4. The combination, in a barrel-machine, with the base-frame A and the oppositely-advancing heads E E, of the rods H, connected with the heads by slides to form guides, and having seats h' formed in the same to receive the barrel, substantially as described.

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Witnesses:

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