

H. HIGH.
REELING MACHINE.
APPLICATION FILED OCT. 31, 1907.

907,801.

Patented Dec. 29, 1908.

2 SHEETS—SHEET 1.

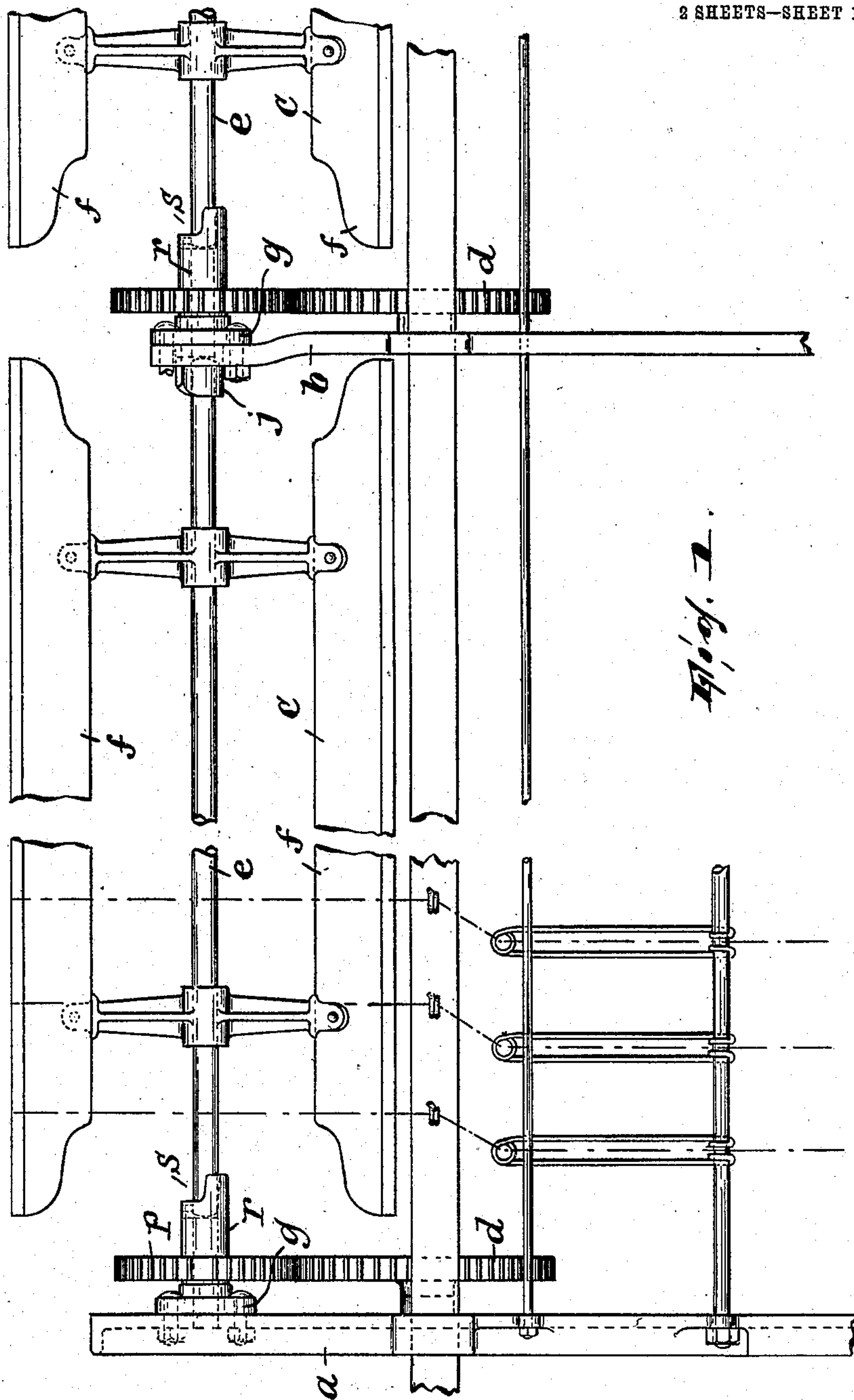


Fig. 1.

WITNESSES

Wm. D. Bell.
Chas. Kaufmann.

INVENTOR,

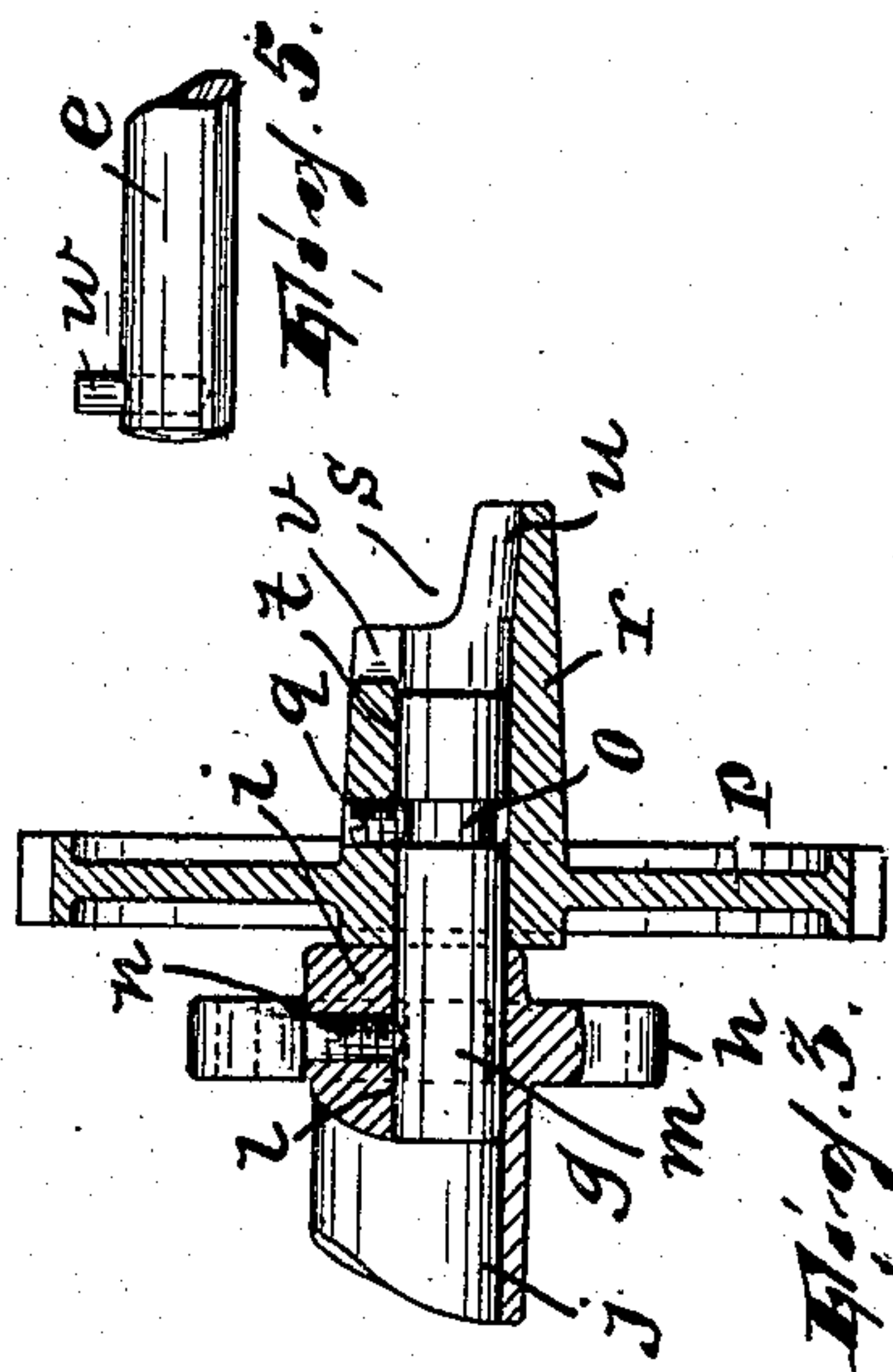
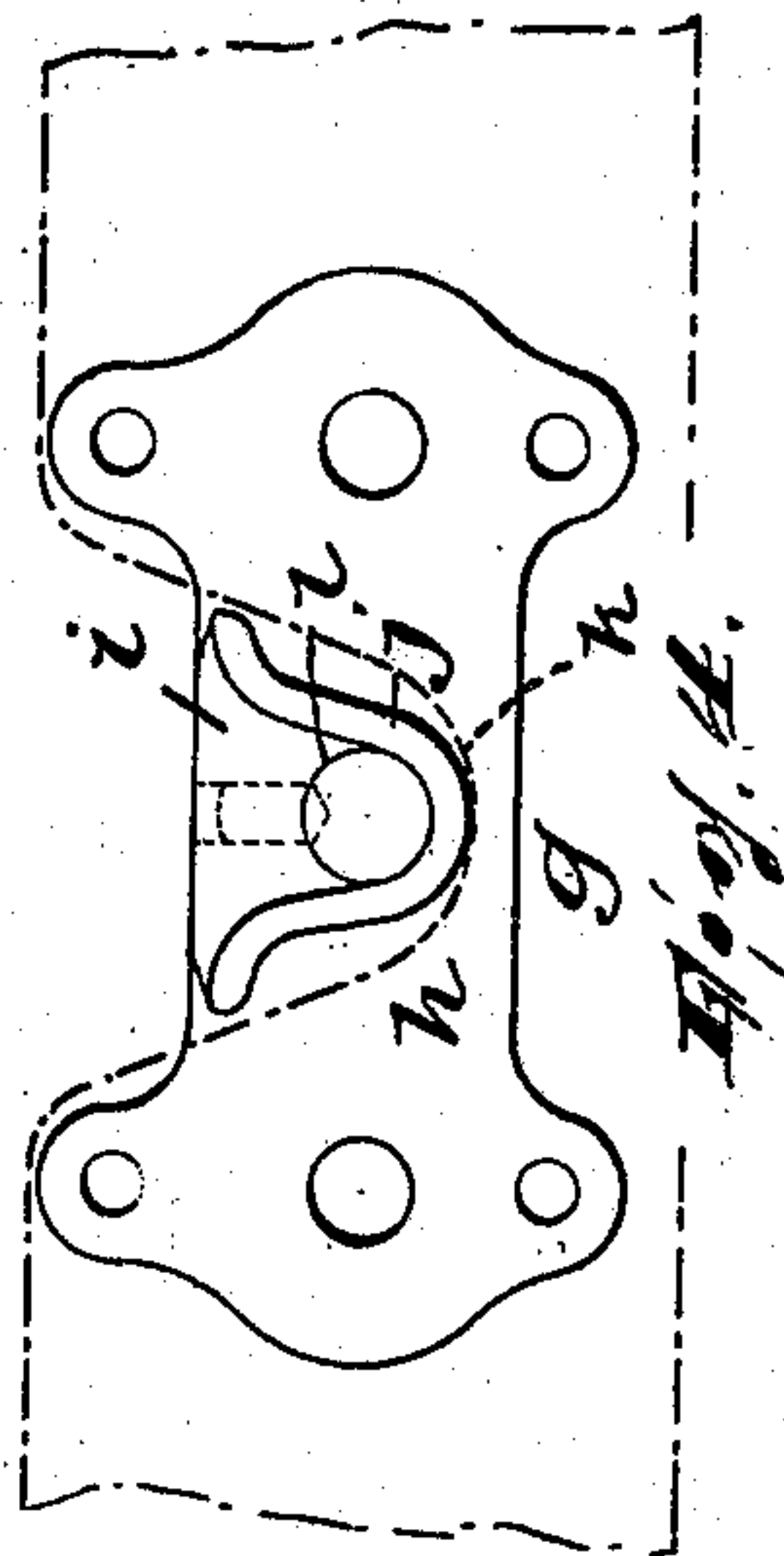
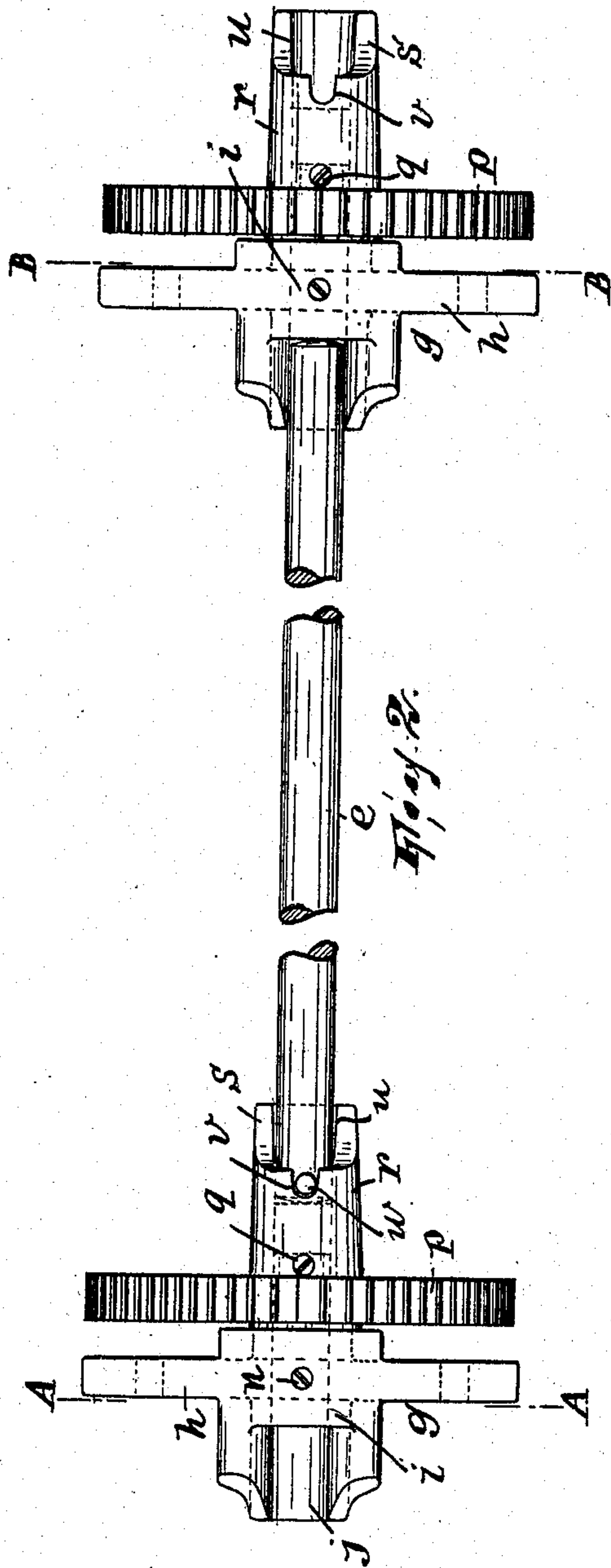
Henry High,
BY
Garthner & Howard
ATTORNEYS.

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2 SHEETS—SHEET 2.



WITNESSES,

Wm. D. Bell.
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UNITED STATES PATENT OFFICE.

HENRY HIGH, OF BOONTON, NEW JERSEY.

REELING-MACHINE.

No. 907,801.

Specification of Letters Patent.

Patented Dec. 29, 1908.

Application filed October 31, 1907. Serial No. 400,087.

To all whom it may concern:

Be it known that I, HENRY HIGH, a citizen of the United States, residing in Boonton, Morris county, New Jersey, have invented a certain new and useful Improvement in Reeling-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.

This invention relates to machines for reeling silk and the like and it has reference particularly to the mounting of the reels in such machines and the mechanism for transmitting the power to the reels whereby to rotate the same. The reels of such machines are arranged at present with their shafts resting in open bearings so that they may be easily removed from the machine to be conveyed to the steaming room and to allow taking off the reeled skeins. The shaft of the reel carries a part of its driving-train, usually a gear, and in consequence the shaft has such length that the reel cannot be made to stand endwise on the floor with stability, because the shaft projects materially beyond the end of the reel-bars which directly support the skeins; the reel, when removed from the machine, is therefore usually made to rest against some such convenient support as a nearby machine, with the result that the silk is often soiled or abraded thereby. In addition, more or less difficulty, loss of time and inconvenience are regularly met with by the attendant in removing the reel from and replacing it in the machine, owing to the fact that one member of the driving-train is carried by the reel-shaft and has to be considered in order to secure its proper engagement with its mating member and its clearing other parts of the machine during these operations and in order to prevent oil and grease thereof from dropping onto the silk.

My present invention, which has for its object to avoid these several difficulties, may be best understood on reference to the accompanying drawing, wherein,

Figure 1 is a view in front elevation of a reeling machine constructed in accordance with my invention; Fig. 2 is a plan view of the essential parts of the invention; and, Figs. 3, 4 and 5 are detail views, Fig. 3 being a vertical sectional view of parts shown in

Fig. 2 in a plane coincident with the axis of the reel shaft, Fig. 4 being a left-hand face view of the bracket, and Fig. 5 being a side view of the left end of said shaft.

In said drawings, *a* and *b* respectively designate one end and one intermediate standard of a reeling machine; *c* indicates the reels and *d* the corresponding parts of the driving-trains for said reels journaled each in one of the standards aforesaid. As usually constructed, the shaft *e* of the reel is made longer than its skein-supporting bars *f* because its end-portion carries one of the parts of the driving-train and in order to bring said part into meshing alinement with the part *d* of the driving-train it must stand in a plane clear of the ends of said bars. In the present case, the shaft *e* is short enough so that at each end it is in substantially the same plane as the ends of the bars *f* and it is supported and adapted to be driven in the following manner: Each of the intermediate standards has bolted to it a bracket *g* comprising a plate *h* thickened-up at *i* and an upwardly open bearing *j* projecting from its thickened-up portion; when bolted in position the plate lies squarely against one face of the standard and said bearing projects through a recess formed in the top of the standard as shown at *k* in the dotted outline of the standard in Fig. 4. A hole or bore *l* is formed in the thickened-up portion *i*, the same being preferably flush at the bottom thereof with the bottom of the bearing *j*. In the bore is arranged a stub-shaft *m* which is secured therein by the set-screw *n* with the end thereof preferably flush with the face of the thickened-up portion which adjoins the bearing. Said stub-shaft has an annular groove *o* cut in its projecting portion. On the projecting portion of the stub-shaft, in mesh with gear *d*, is journaled a gear *p* having a screw *q* tapped into its hub *r* in such manner as to enter the groove in the stub-shaft and thus keep the gear on the shaft while allowing its free rotation. The hub *r* of the gear *p* has approximately one-half of its end portion removed, as at *s*, so that the socket *t* formed by said bore is open on one side back to a point slightly short of the end of the shaft; in order to facilitate the end of the shaft *e* being introduced into said bore-shaped socket *t* in the manner to be described, the socket has its mouth portion *u* slightly conical or flaring. The hub of the gear *p* is further provided with a recess *v*

with which a radial pin *w* on shaft *e* is adapted to engage when the shaft is introduced into said socket *t* to interlock the shaft and gear for rotation together.

5 It will be understood that brackets for supporting the shafts in the end-standards will be substantially like that above described in detail except that that for the left-hand end standard will be cast without
10 the portion to the left of the line A—A, and that for the right-hand end standard cast without the portion to the right of the line B—B, in Fig. 2.

In the operation of a machine like that to
15 which my invention applies the reels always stop for the purpose of their removal with the same "side" up; thus in the present case, the gear *p* is so arranged with reference to the gear *d* that in its position of rest the open
20 side of its socket *t* will be up. In order to place the reel in its bearings, the end of the shaft *e* having the pin *w* is introduced into the socket *t* with the pin projecting up until its end abuts against the end of the stub-
25 shaft, its pin being caused to enter the recess *v*; the reel being at this time slightly tilted, its other end is now lowered until it rests in the bearing *j* of the bracket on the adjoining standard. This will bring both ends of the
30 shaft *e* substantially in contact with the ends of the two stub-shafts *m* so that it will be held against end-wise movement. In order to remove the reel these steps are simply reversed. The reel being in position, upon
35 gear *p* being caused to rotate the reel rotates with it because of the interlocking engagement between them afforded by their recess-and-pin connection; and since one end of the reel shaft is extended into the socket beyond
40 its open portion *s* and is held there by abutting at the other end against the stub-shaft *m*, the reel shaft is prevented from falling from socket *t*.

In view of the foregoing, it will be appar-
45 ent that I provide, in a simple manner, for supporting and effecting the driving of the reel shaft without mounting any part of the driving train on said shaft, involving as that arrangement does all the various disadvan-

tages above alluded to. The reel is capable 50 of being set in and removed from its supporting means without difficulty and without interfering with other parts of the machine, and is furthermore capable of standing end-wise unsupported. 55

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent is:

1. The combination of a rotatable driving part, a shaft to be driven thereby, one of said 60 parts having an axial socket receiving the other and open for a part of its depth on one side only, means for interlocking said parts for rotation together when the one is received by the other, and an open bearing for the free 65 end of the shaft, substantially as described.

2. The combination of a rotatable driving part, a shaft to be driven thereby, one of said parts having an axial socket receiving the other and open for a part of its depth on one 70 side only, a recess-and-pin connection for interlocking said parts for rotation together when the one is received by the other, and an open bearing for the free end of the shaft, substantially as described. 75

3. The combination, with two standards, of a bracket carried by each standard, a shaft, one of said brackets comprising an open bearing for one end of the shaft, a stub-shaft arranged in the other bracket and fixed 80 therein against endwise movement, a gear journaled on the stub-shaft and having its hub projecting beyond the end of the stub-shaft, the one side of said hub being open at one side only back toward but not to the 85 end of the stub-shaft, said first-named shaft being arranged with one end in said bearing and with its other end in said hub, and means for interlocking the gear and said first-named shaft for rotation together, substantially as 90 described.

In testimony, that I claim the foregoing, I have hereunto set my hand this 29th day of October 1907.

HENRY HIGH.

Witnesses:

WM. D. BELL,
JOHN W. STEWARD.