

No. 686,438.

Patented Nov. 12, 1901.

C. C. BOWEN, M. J. BARNETT & F. NEWNHAM.
AIR COMPRESSOR FOR AUTOMOBILE ALARM WHISTLES.

(Application filed Aug. 24, 1900.)

(No Model.)

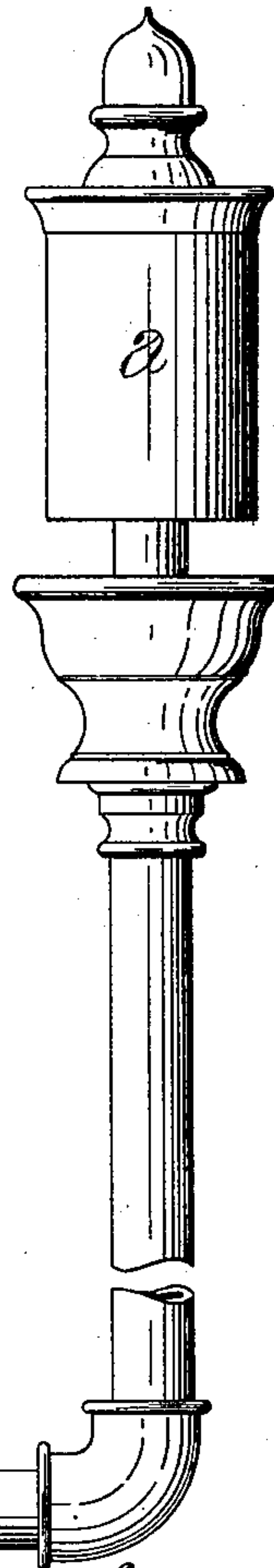
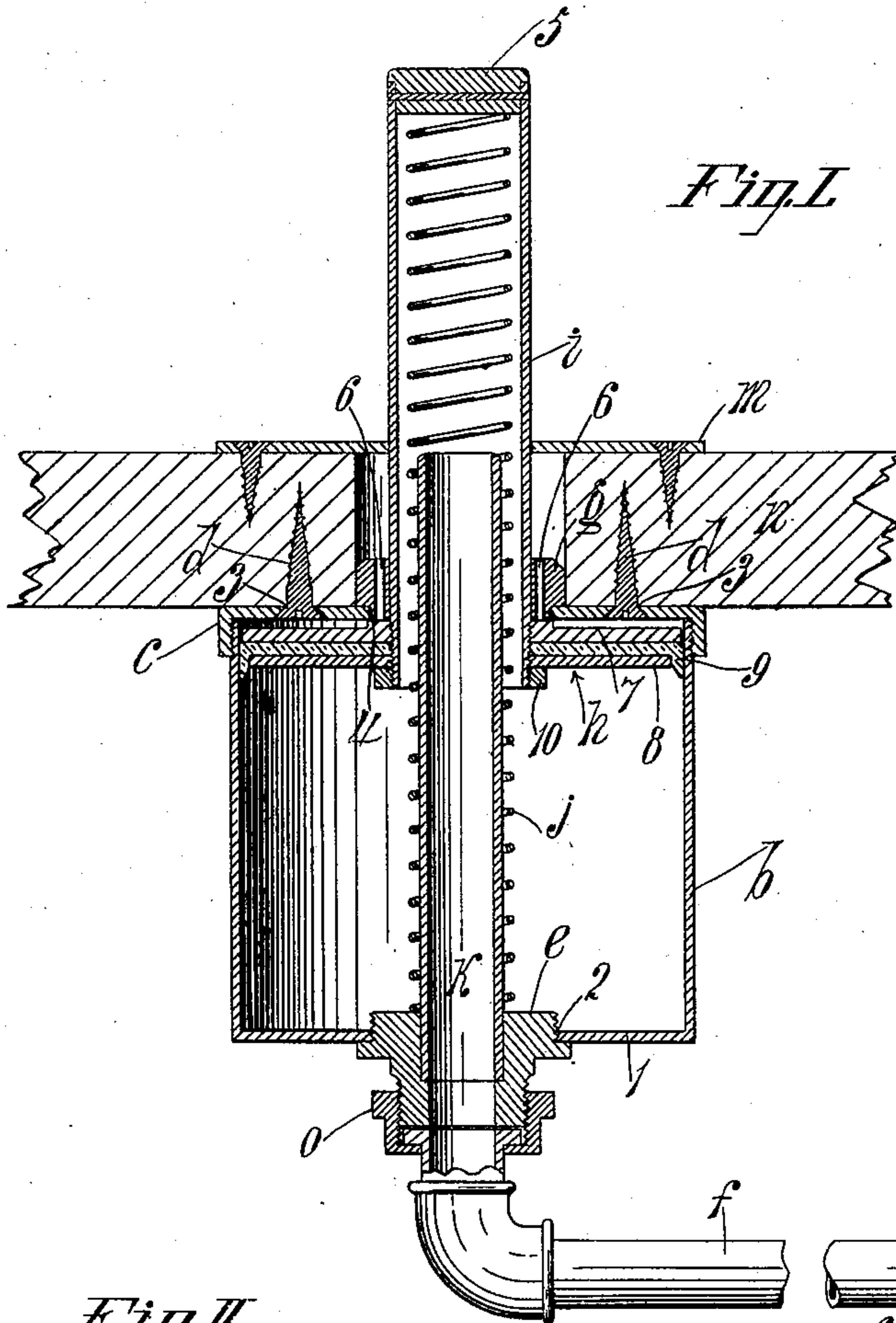


Fig. II

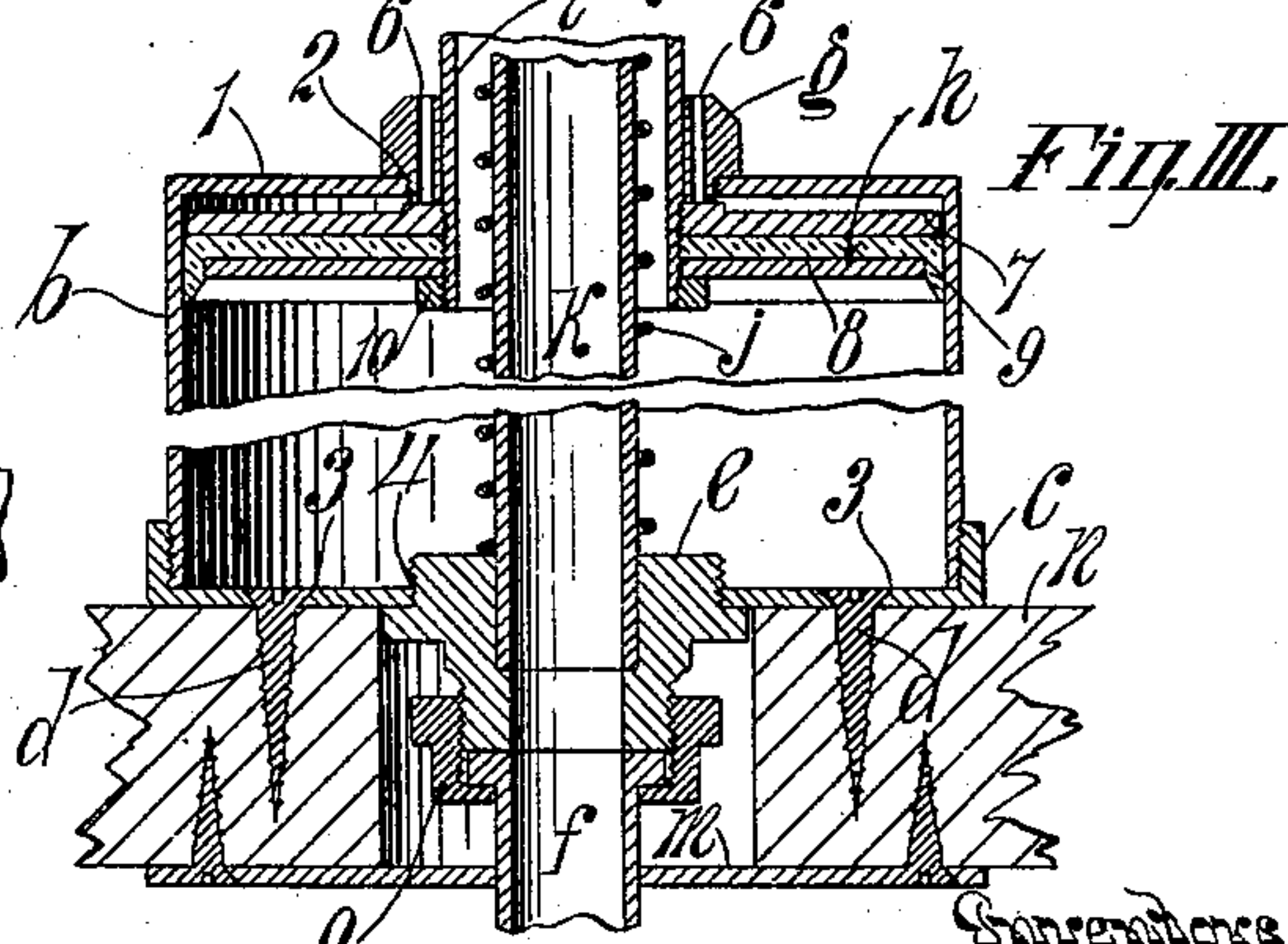
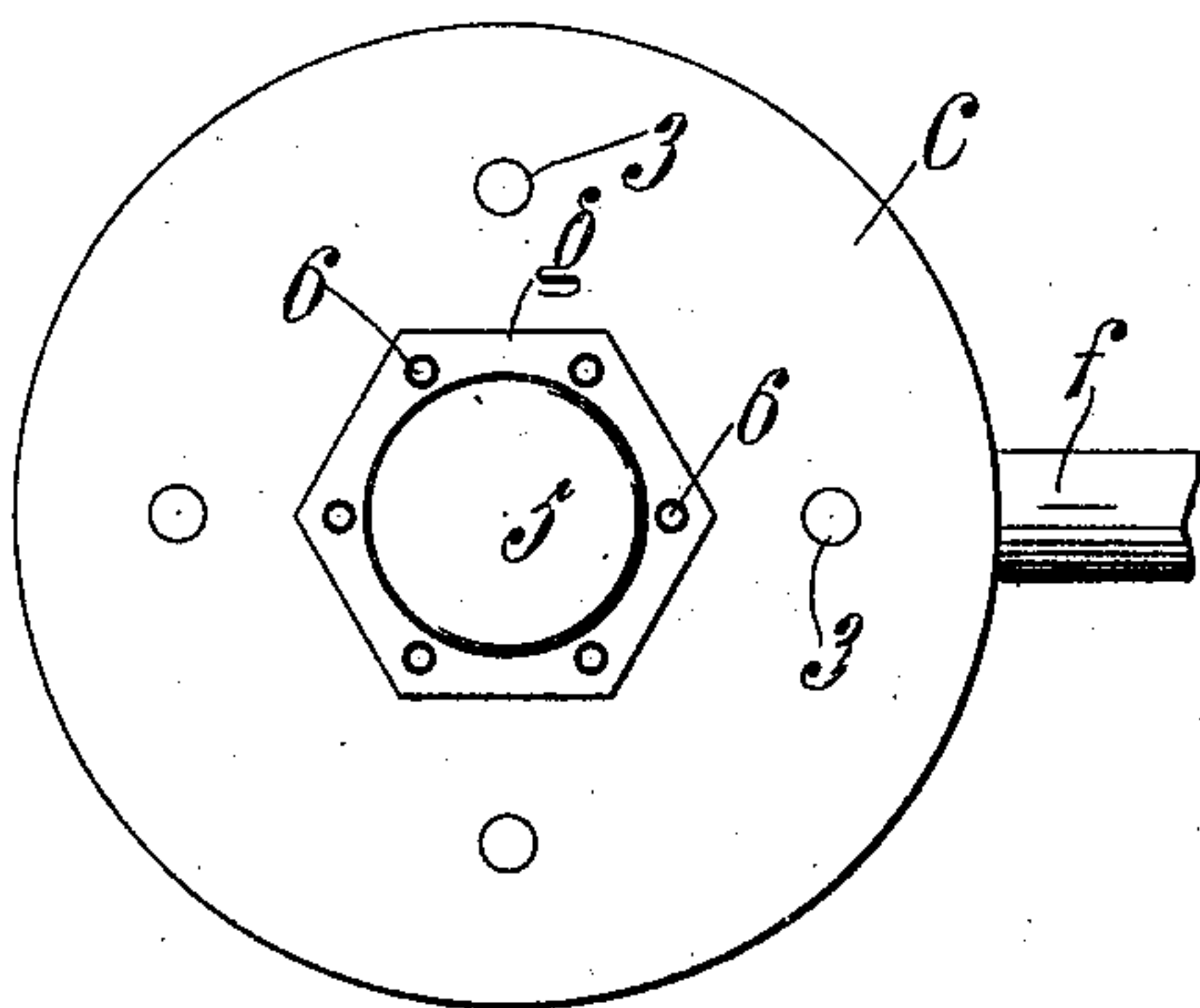


Fig. III

Witnesses
Seymour Ingman.
H. Townsend.

Calvin C. Bowen
Morrison Jesse Barnett
Frank Newnham
TOWNSEND BROS.
Attorneys

UNITED STATES PATENT OFFICE.

CALVIN C. BOWEN, MORRISSON JESSE BARNETT, AND FRANK NEWNHAM,
OF LOS ANGELES, CALIFORNIA, ASSIGNORS TO THE RINDGE MANUFACTURING COMPANY, OF LOS ANGELES, CALIFORNIA, A CORPORATION OF CALIFORNIA.

AIR-COMPRESSOR FOR AUTOMOBILE ALARM-WHISTLES.

SPECIFICATION forming part of Letters Patent No. 686,438, dated November 12, 1901.

Application filed August 24, 1900. Serial No. 27,906. (No model.)

To all whom it may concern:

Be it known that we, CALVIN C. BOWEN and MORRISSON JESSE BARNETT, citizens of the United States, and FRANK NEWNHAM, a citizen of Great Britain, all residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Air-Compressors for Automobile Alarm-Whistles and for other Uses, of which the following is a specification.

Our invention relates to improvements in devices for operating whistles by power of hand or foot motion.

An object of our invention is to provide a valveless air-compressor which is simple and especially adjustable to interchangeable attachment to one and the other side of a support, such as a carriage-floor.

Our invention is specially adapted for producing short rapid impulses of air to operate the whistle or other signals and makes provision for the use of a long spiral spring without any danger of said spring buckling to interfere with the operation of the piston, which the spring retracts. For this purpose we provide a hollow pipe in the form of a post, which extends up into the tubular stem which operates the piston.

The accompanying drawings illustrate our invention.

Figure I is a fragmental view of our invention applied in an alarm-whistle for a vehicle. A fragment of the floor of the vehicle is shown. Fig. II is a plan of the appliance detached, omitting the sounder of the whistle. The parts are arranged as shown in Fig. I. Fig. III is a fragmental view of the appliance fixed to the top side instead of the under side of the support. The appliance to be operated by the air-blast is omitted from this view.

a indicates the sounder of a whistle.

b indicates a cylinder open at one end and furnished at the other end with a head 1, having a screw-threaded perforation 2 therein.

c indicates a screw-cap adapted for attachment to a support by means of the screws *d*, passed through perforations 3 in said cap.

Said cap is provided with a screw-threaded perforation 4 like the screw-threaded perforation 2 in the head of the cylinder—that is to say, the perforations 2 and 4 are preferably of the same diameter and screw-threaded in like manner. *e* indicates a bushing screwed into one of said perforations. *f* indicates a pipe fastened to said bushing and communicating between the cylinder *b* and the sounder *a* of the whistle or the appliance to be operated by the air blasts or impulses. *g* indicates a bushing screwed into the other of said perforations.

h indicates a piston in the cylinder *b*.

i indicates a stem fastened to the piston and projecting through the last-named bushing *g*. Suitable means are provided for retracting the piston. *j* indicates a spring for this purpose extending up into the tubular stem *i* and engaging the head 5 of said stem.

k indicates a tube fastened in the bushing *e* and projecting up into the cylinder *b* and into the tubular stem *i* to hold the spiral spring *j* in place.

The bushing *g* is provided with perforations 6 to afford communication with the external air from the rear of the piston *h*, thus to relieve any resistance of the air and allow the spring *j* to quickly retract the piston after it has been forced down by pressure on the stem *i*.

In practical use for an alarm-whistle the driver will operate the whistle by suddenly actuating the stem *i* to force the piston *h* inward, thereby to force air through the pipe *f* to the sounder *a*. When the pressure on the stem is released, the spring throws the piston back, and the air flows through the pipe *f* to fill the cylinder, ready for another blast.

m indicates a finishing-plate on the top of the floor *n* of the vehicle to be used when the cylinder is set beneath the vehicle-floor, as indicated in Fig. I.

In case it is desired to mount the cylinder above the floor this is readily done by applying the bushing *e* to the cap *c* and the bushing *g* to the perforation 2 of the cylinder *b*

and also reversing the piston to bring the stem *i* out through the head 1 of the cylinder, as shown in Fig. III.

In applying the device to either the upper 5 or lower side of the floor or support *n* the cap *c*, furnished with the perforated bushing *g* or its equivalent, will be screwed either to the top or bottom of the floor *n* by means of the screws *d*. Then the cylinder, with the piston 10 appropriately arranged, will be screwed into the cap and the pipe *f* will be applied to its appropriate bushing.

o indicates a coupling for coupling the pipe *f* to the bushing *e*.

15 The piston is preferably formed of two clamp-plates 7 and 8, screwed on the inner end of the tubular stem *i*, with a leather disk 9 clamped between them. 10 indicates a set-nut on the end of the stem to hold the piston-plates from unscrewing and to prevent the 20 end of the stem from being battered by the bushing *e*. Said bushing and set-nut are of sufficient extent to prevent the piston from coming into contact with the end of the cylinder. This protects the downturned rim of 25 the leather from injury.

What we claim, and desire to secure by Letters Patent of the United States, is—

1. The combination of a cylinder; a pipe 30 leading from the cylinder; a piston in the cylinder; a tubular stem fastened to the piston and projecting from the cylinder and closed at its outer end; a spiral spring extending in-

side the tubular stem to retract the piston; an open-end tube communicating with the 35 pipe and fastened to the head of the cylinder and extending inward therefrom inside the spiral spring and into the tubular stem to form a guide for the spring to prevent it from buckling. 40

2. The combination of a cylinder open at one end and furnished at the other end with a head having a screw-threaded perforation; a screw-cap adapted for attachment to a support and screwed to the open end of the cylinder and having a like screw-threaded perforation; a bushing to fit the perforations interchangeably screwed into one of the said perforations; a pipe fastened to said bushing and communicating therethrough with the 50 cylinder; a bushing to fit the perforations interchangeably screwed into the other of said perforations; a piston in the cylinder; a stem fastened to the piston and projecting through the second bushing; and means for retracting the piston. 55

In testimony whereof we have signed our names to this specification, in the presence of two subscribing witnesses, at Los Angeles, California, this 17th day of August, 1900.

CALVIN C. BOWEN.

MORRISSON JESSE BARNETT.

FRANK NEWNHAM.

Witnesses:

JAMES R. TOWNSEND,

JULIA TOWNSEND.