

J. M. COOK.

Signal Mechanism for Locomotive Engines.

No. 35,082.

Patented April 29, 1862.

Fig. 1

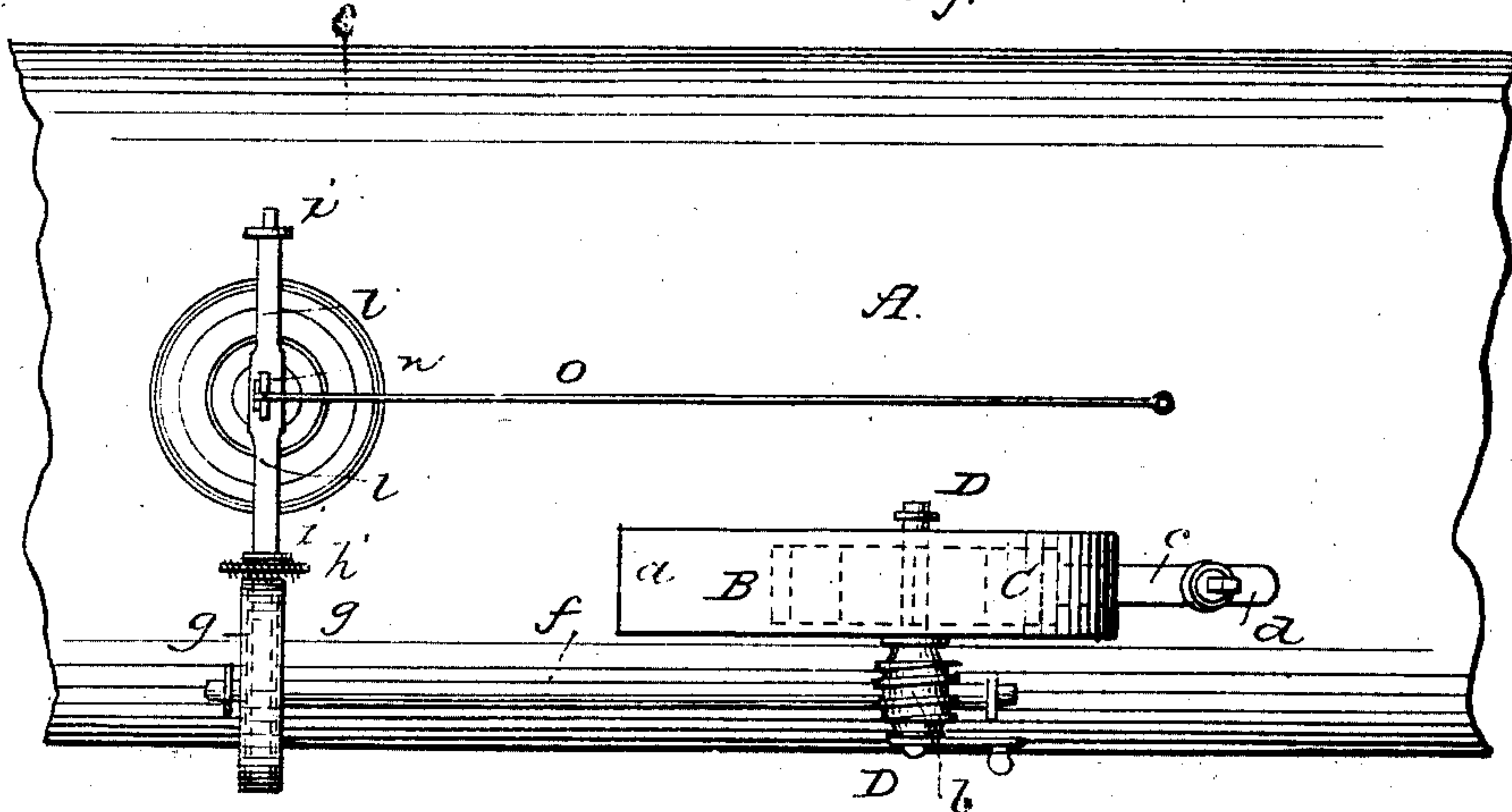


Fig. 2

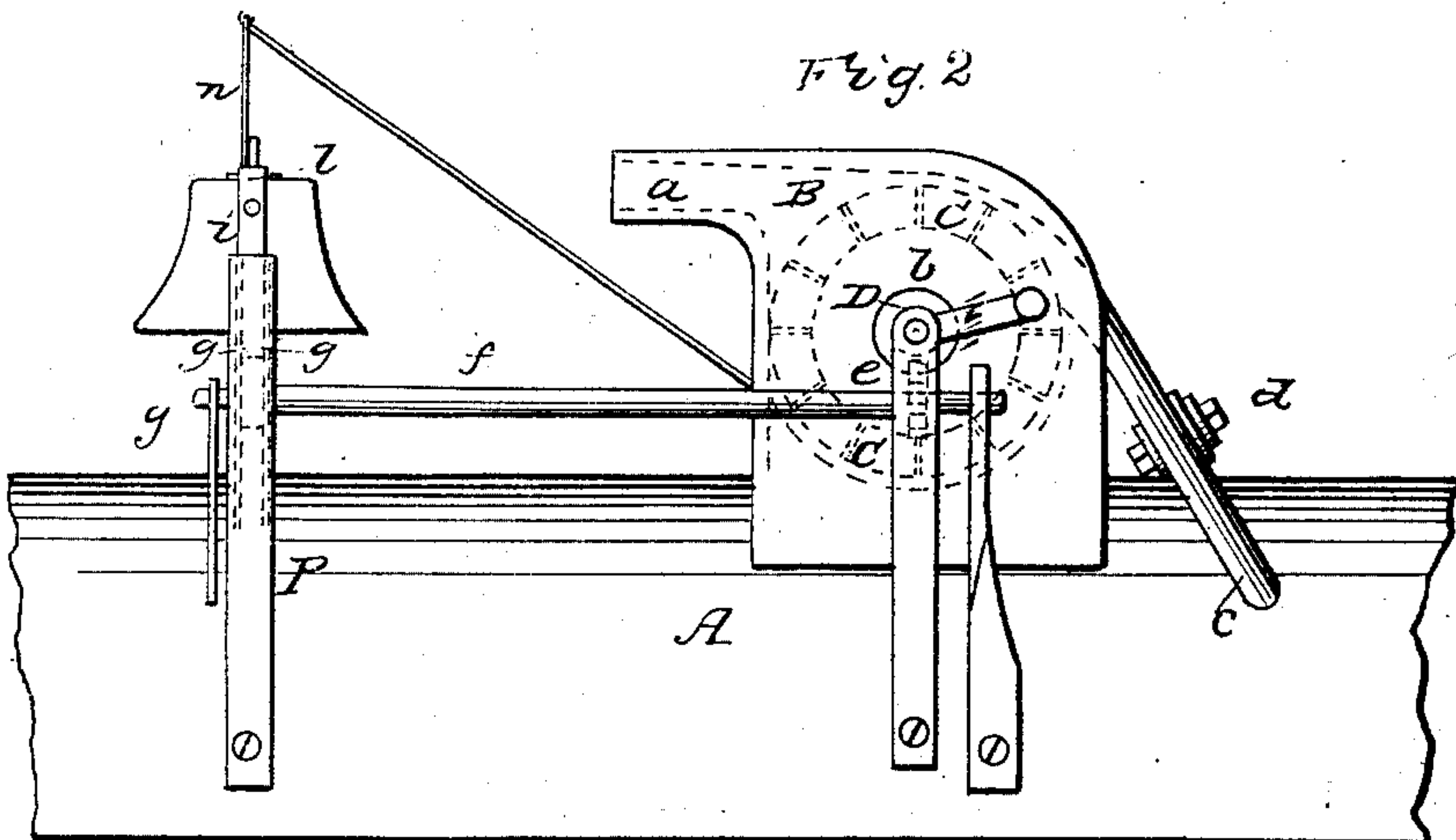
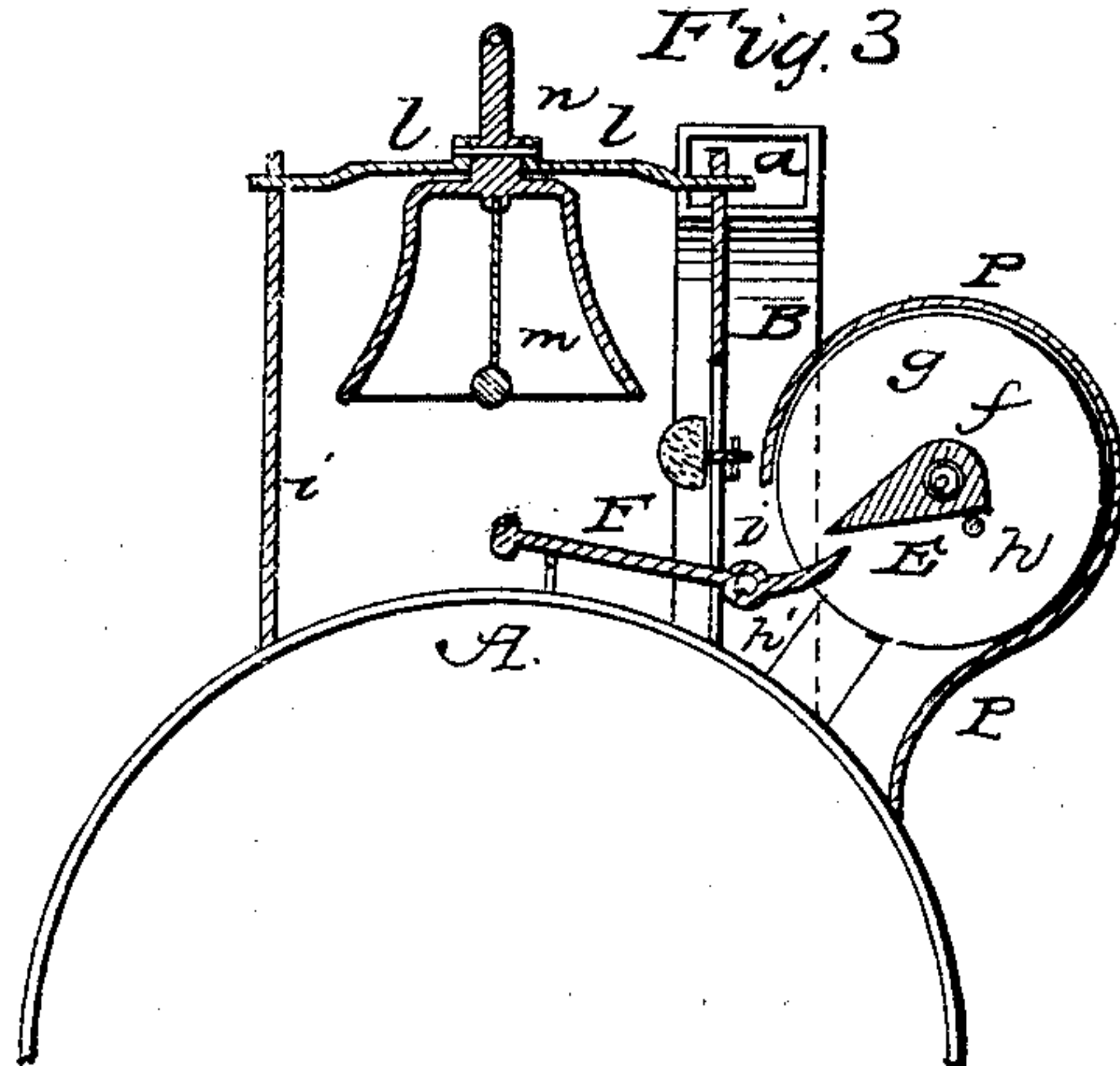


Fig. 3



Witnesses
H. E. Swamy
W. B. Frost

Inventor
Jas. M. Cook

UNITED STATES PATENT OFFICE.

JAMES M. COOK, OF TAUNTON, MASSACHUSETTS.

IMPROVED SIGNAL MECHANISM FOR LOCOMOTIVE-ENGINES.

Specification forming part of Letters Patent No. 35,082, dated April 29, 1862.

To all whom it may concern:

Be it known that I, JAMES M. COOK, a citizen of the United States of America, and a resident of Taunton, in the county of Bristol and State of Massachusetts, have invented an Improvement in Signal Mechanism for Railway-Locomotive Steam-Engines; and I do hereby declare the same to be fully described in the following specification, and represented in the accompanying drawings, of which—

Figure 1 is a top view of my invention as applied to the boiler of a locomotive steam-engine; Fig. 2, a side elevation of the same. Fig. 3 is a transverse section taken through the bell and the gravitating tripper, to be hereinafter described.

The alarm-bells of most, if not all, railway-locomotive engines have heretofore and are now mostly put in action or rung by the hand of the engineer or a person on the engine. The bell has often to be sounded at a period when the engine-man, who may be ringing it, ought to have his attention directed exclusively or more particularly to the care of the engine. In order that the bell may be put in operation and the engineer be free in the meanwhile to attend to his engine or any other duty I have devised a mechanism which may be described as follows:

In the drawings, A denotes the boiler or the upper portion thereof of a railway-locomotive steam-engine. On this boiler there is a hollow box or case, B, provided with a discharging spout or opening, *a*, and a wheel, C, made like an overshot water-wheel. The said wheel is fixed on a shaft, D, which passes laterally through the case B, and is provided with an endless screw or worm, *b*. A pipe, *c*, extends from the case B to the boiler, opening into both, and is furnished with a stop-cock, *d*, the pipe being so arranged as to enable steam to be discharged through it and against the floats of the wheel in such manner as to set the wheel and its shaft D in rapid revolution. The worm *b* engages with a worm-gear, *e*, fixed on one end of another shaft, *f*, upon which and near to its opposite end are two disks or circular plates, *g g*, that, fixed firmly to the shaft, are placed at a short distance apart and are connected by a pin, *h*, arranged as shown in Fig. 3. On that part of the shaft which is between the two disks *g g* there is a revolving tripper or cam, E, it be-

ing shaped as shown in side view in Fig. 3. This cam turns freely and loosely on the shaft, except when the pin *h* is borne against the cam, in which case the cam or tripper will be caused to revolve with the shaft. The rear arm of a lever hammer or striker, F, is extended between the disks and into the path of the tripper. The fulcrum *h'* of the striker is in one of the bell-posts *i i*, which projects upward from the boiler and supports a swinging bell affixed to a shaft, *l*, the said bell being furnished with a pendulous tongue, *m*, and an arm, *n*, both of which are arranged as shown in the drawings. From the upper part of the arm *n* a rod, *o*, extends toward the rear part of the boiler and so as to be within reach of the engine-man.

In order to protect the tripper from dust or cinders its doors may be partially covered by a cap, *p*, affixed to the boiler.

Whenever the engineer may be desirous of sounding the bell, he has only to open the cock *d*, in which case steam will rush from the boiler and impinge against the wheel C and put it in revolution. In this way rotary motion will be imparted to the shaft *f*, its disks *g g*, and rotary tripper. The latter will be carried upward and around the shaft and will finally fall or be caused by gravity to drop downward with force upon the outer arm of the striker F, and so as to depress and pass by the arm, the other arm of the striker in the meantime being thrown up against the inner surface of the bell. This operation will be quickly repeated so long as the stop-cock may remain open, and thus all the engineer has to do is to open and close the stop-cock, leaving it open long enough to produce the required amount of bell-ringing. In case of accident to the apparatus, or from any other reason, the bell may be sounded by the hand of the engineer applied to the rod *o*.

I claim—

The above-described combination for ringing the bell by steam from the boiler, the same consisting in the steam-wheel, the lever hammer or striker, and the gravitating tripper applied by means and so as to operate together, substantially as above specified.

JAS. M. COOK.

Witnesses:

BENJ. R. DEAN,
JAMES P. ELLIS.