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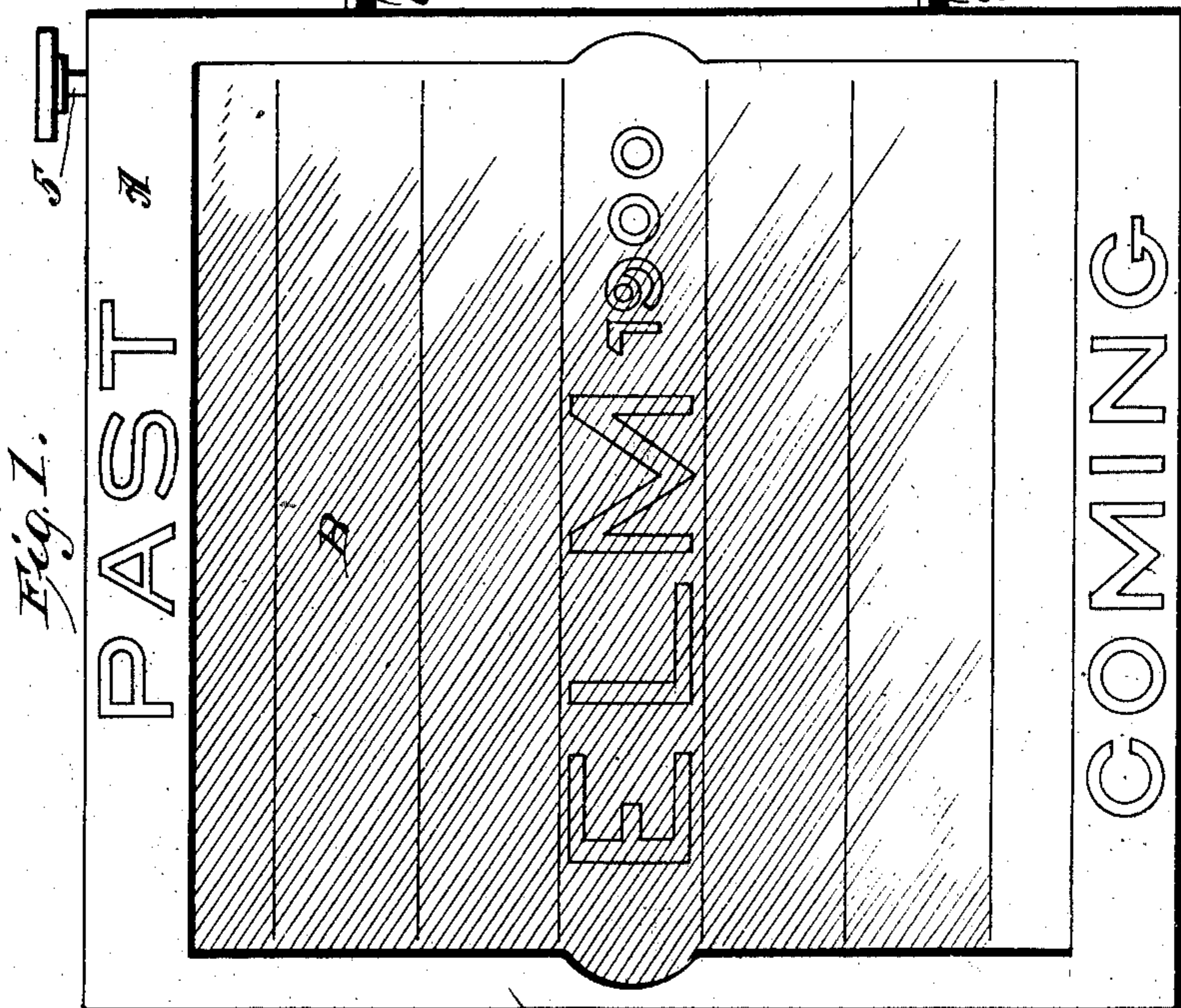
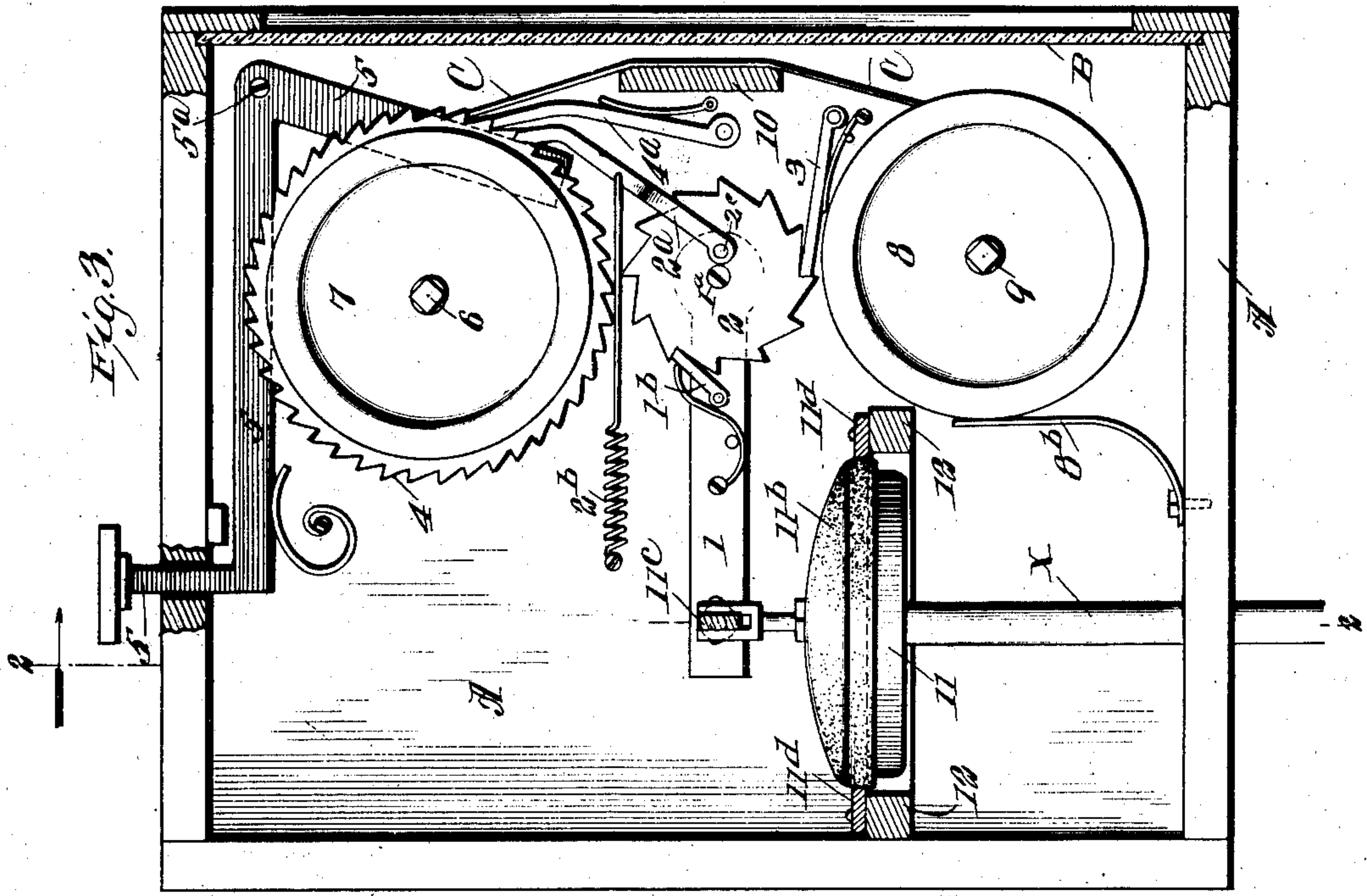
PATENTED MAR. 31, 1908.

R. TOENNES.

STATION INDICATOR.

APPLICATION FILED APR. 1, 1907.

3 SHEETS—SHEET 1.



WITNESSES
E. M. Callaghan
Amos W. Hark

INVENTOR
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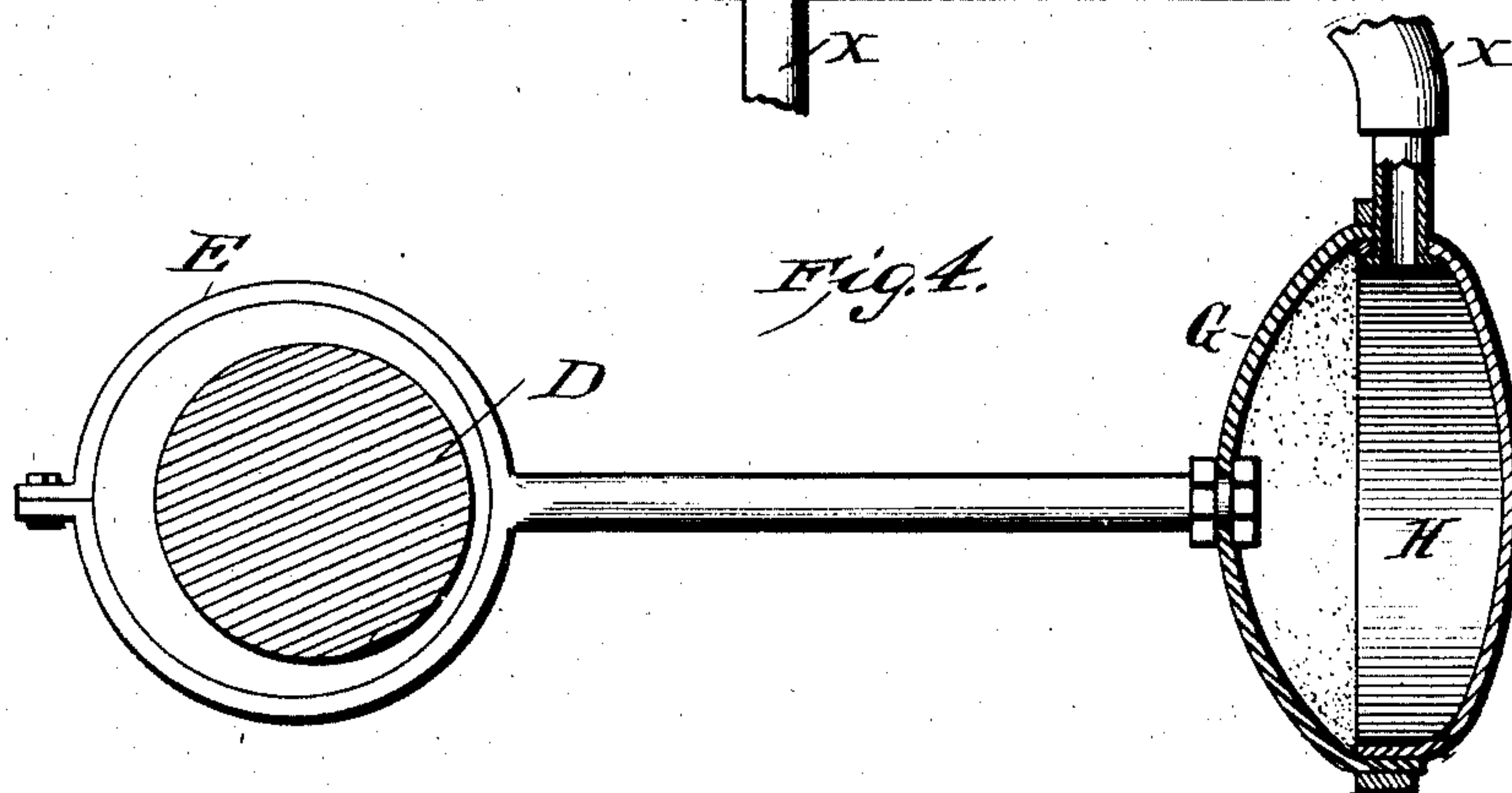
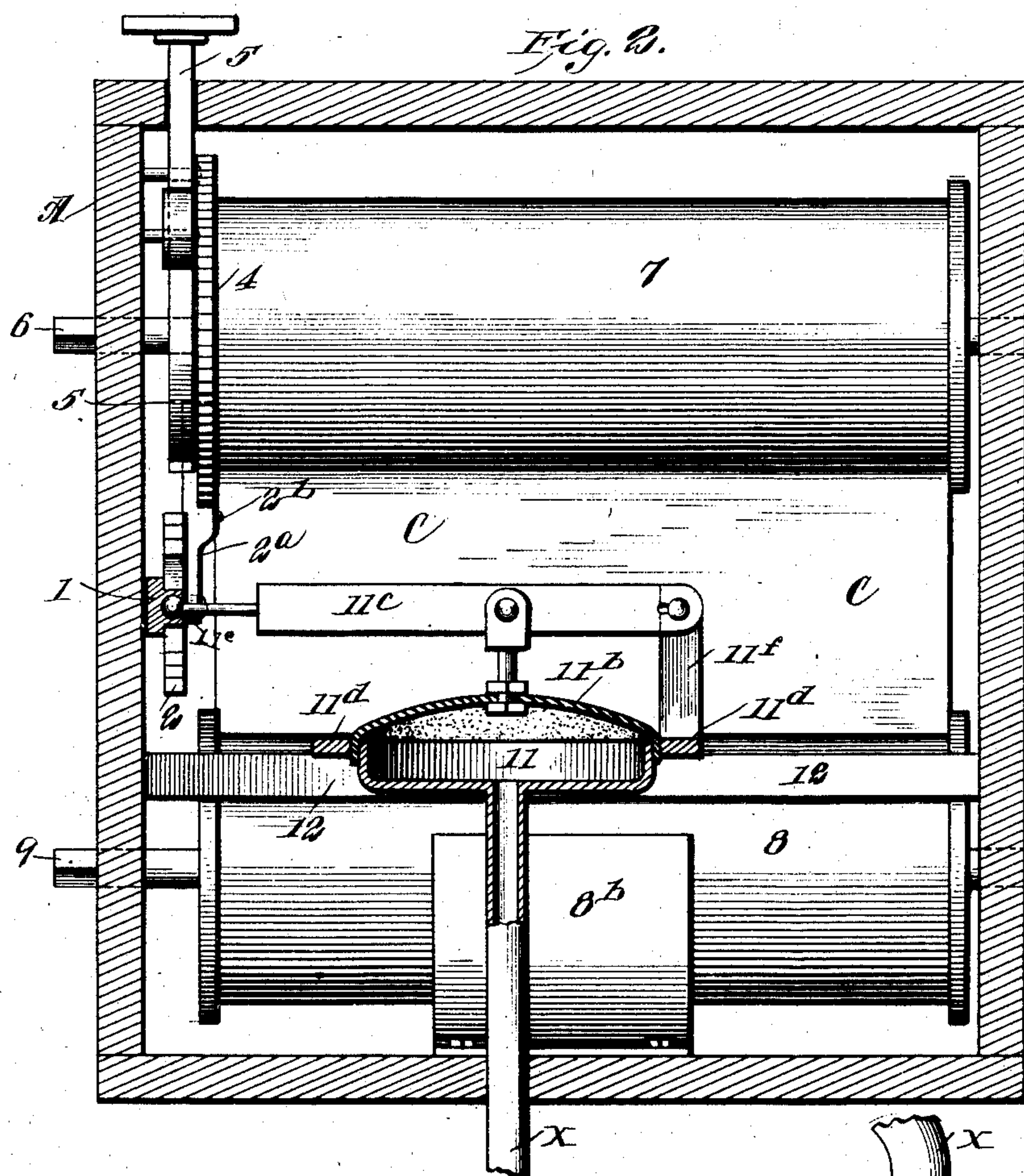
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3 SHEETS—SHEET 2.



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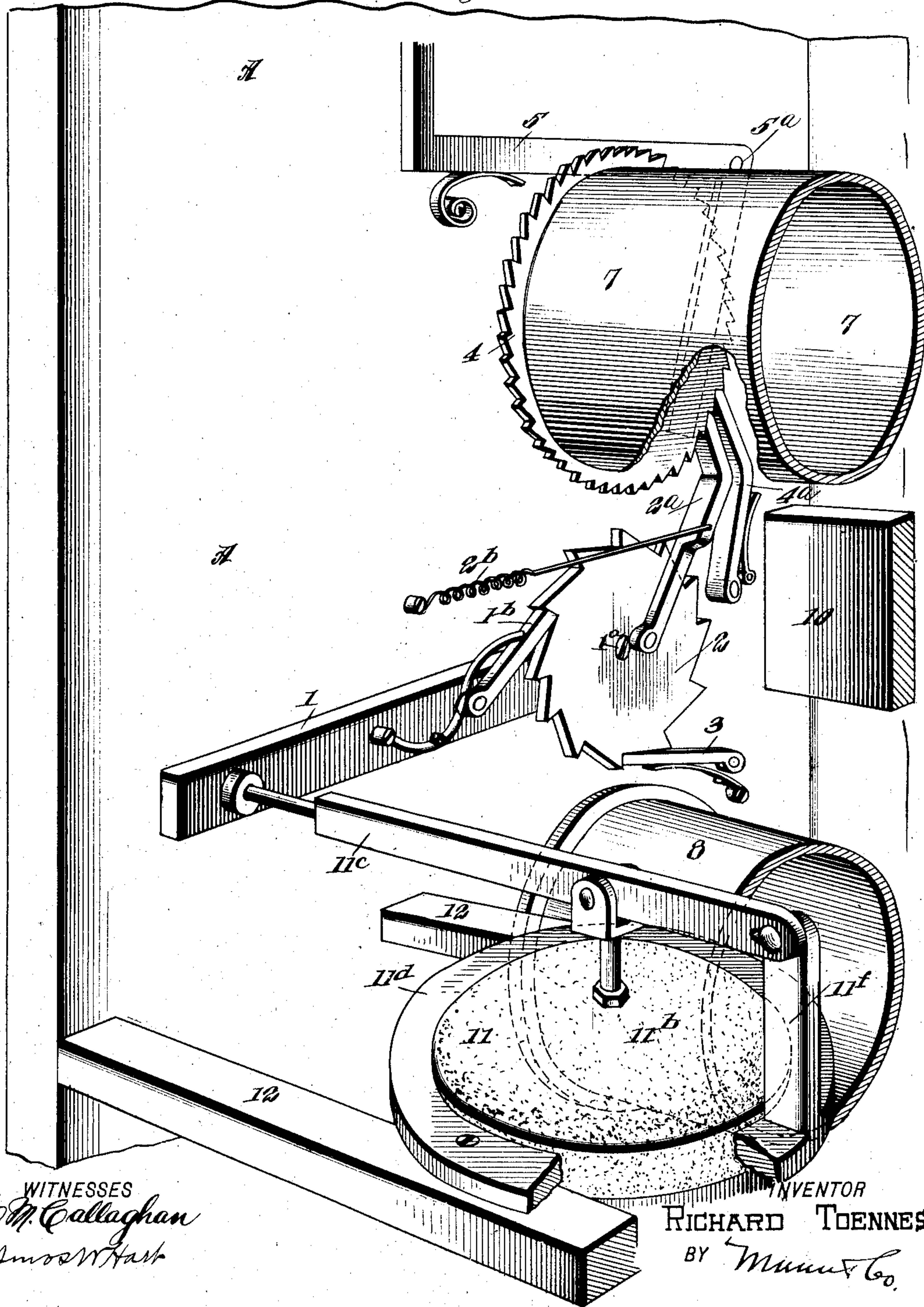
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3 SHEETS—SHEET 3.

Fig. 5.



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UNITED STATES PATENT OFFICE.

RICHARD TOENNES, OF BOONVILLE, MISSOURI.

STATION-INDICATOR.

No. 883,591.

Specification of Letters Patent.

Patented March 31, 1908.

Application filed April 1, 1907. Serial No. 365,713.

To all whom it may concern:

Be it known that I, RICHARD TOENNES, a citizen of the United States, residing at Boonville, in the county of Cooper and State of Missouri, have invented a new and useful Improvement in Station-Indicators, of which the following is a specification.

This invention is a station indicator of the double reel and web type and having for its object to provide improved means for actuating the reels to take up the web as the car progresses, said means comprising primarily pneumatic devices operated by the turn of the car axle. The device includes a let off or unwinding reel, and a take up or winding reel; and when the end of the trip is reached the web may be rewound on the former reel, for the next trip.

The invention is illustrated in the accompanying drawings, in which.

Figure 1 is a front elevation of the indicator. Fig. 2 is a rear elevation, partly in section, with the back of the casing removed. Fig. 3 is a sectional end elevation showing the operating mechanism. Fig. 4 is a sectional view of the operating connection to the car axle. Fig. 5 is a perspective view of a portion of the operative mechanism, shown in Fig. 3.

Referring specifically to the drawings, A indicates a casing having a glass front B through which the names of the streets or stations on the paper or other web C are exposed. This web is originally wound on a lower or let off reel 8 having a squared shaft 9 to receive a key or crank whereby the web may be rewound. From the reel 8 the web runs over a bar 10, to exhibit the same plainly, and is taken up on the upper or take up reel 7 which also has a squared shaft 6 to receive a key for winding when desired.

The car axle D has an eccentric E thereon, with a strap and connecting rod joined to a flexible top or cover G on a cup shaped casing H, forming a pump or bellows in which the air is alternately compressed and expanded by the reciprocation of the eccentric rod. A pipe X extends from said bellows to a similar bellows or pneumatic 11 which has a flexible cover 11^b connected to a lever 11^c which is pivoted to a standard 11^f; projecting from a ring 11^d which serves to hold the cover 11^b on the pneumatic and also to support the parts on the cross-pieces 12 which are fixed to the casing.

The lever 11^c articulates by a ball and socket joint at 11^e with a lever 1 which is pivoted at 1^a to the side of the casing, and this lever carries a spring pawl 1^b which engages a ratchet 2 rotatable on the pivot 1^a. The ratchet 2 is connected by a wrist pin 2^c with a pallet 2^a held by a spring 2^b in contact with a large ratchet 4 on the shaft of the reel 7. A spring pawl 3 prevents back slip of the ratchet 2 and a similar pawl 4^a performs a like service for the ratchet 4.

To disengage the pallet 2^a and pawl 4^a from the ratchet 4 a bent lever 5 is pivoted at 5^a, with one arm behind said pallet and pawl and the other projecting through the top of the casing. By pressing the lever down, the pallet and pawl are sprung out of engagement with the ratchet, and the reel 7 is then free to turn back and allow the web to be rewound on the reel 8.

In operation, rotation of the car axle alternately expands and contracts the pneumatics in consequence of the movement of air from one to the other, and the motion is communicated by the lever, pallets and ratchets to the take up reel, winding the web thereon. A spring 8^b bears against the reel 8 and prevents loose running or slip thereof.

Primarily, a blank web is placed on the reels and the car is run one trip, and at every street crossing or station a mark is made and afterwards the name of the street or station is placed on the web, and will thereafter be exposed when such streets are reached. The intermediate ratchet 2 is used to decrease the motion, and on railroad trains or otherwise where there are long distances between stations the number of teeth may be increased.

I claim

1. The combination with the web and parallel reels 7 and 8 whereon the web is wound, one of said reels having a ratchet 4, of the rotatable ratchet 2 arranged intermediate of said reels, the pallet 2^a pivoted eccentrically on said ratchet, a spring holding the pallet engaged with the ratchet, the lever 1 pivoted adjacent to the ratchet 2 and having a spring-pressed pawl engaging the latter, a horizontal lever 11^c pivoted on a fixed support and its free end connected by a loose joint with the lever 1, the bellows arranged below the lever 11^c and its flexible cover connected therewith, and an air tube connected with the bellows as shown and described.

2. The combination with the casing, of a

take-up reel having a ratchet and pawl 4^a engaging the same, a let-out reel and a web wound on the reels, a ratchet 2, a pallet 2^a pivoted thereon and engaging the reel ratchet 5 and the pivoted elbow lever 5 projecting through the casing, and its lower end arranged for engaging the pawl for holding it

out of engagement with the reel ratchet substantially as described.

RICHARD TOENNES.

Witnesses:

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HERMAN ZUZAK.