

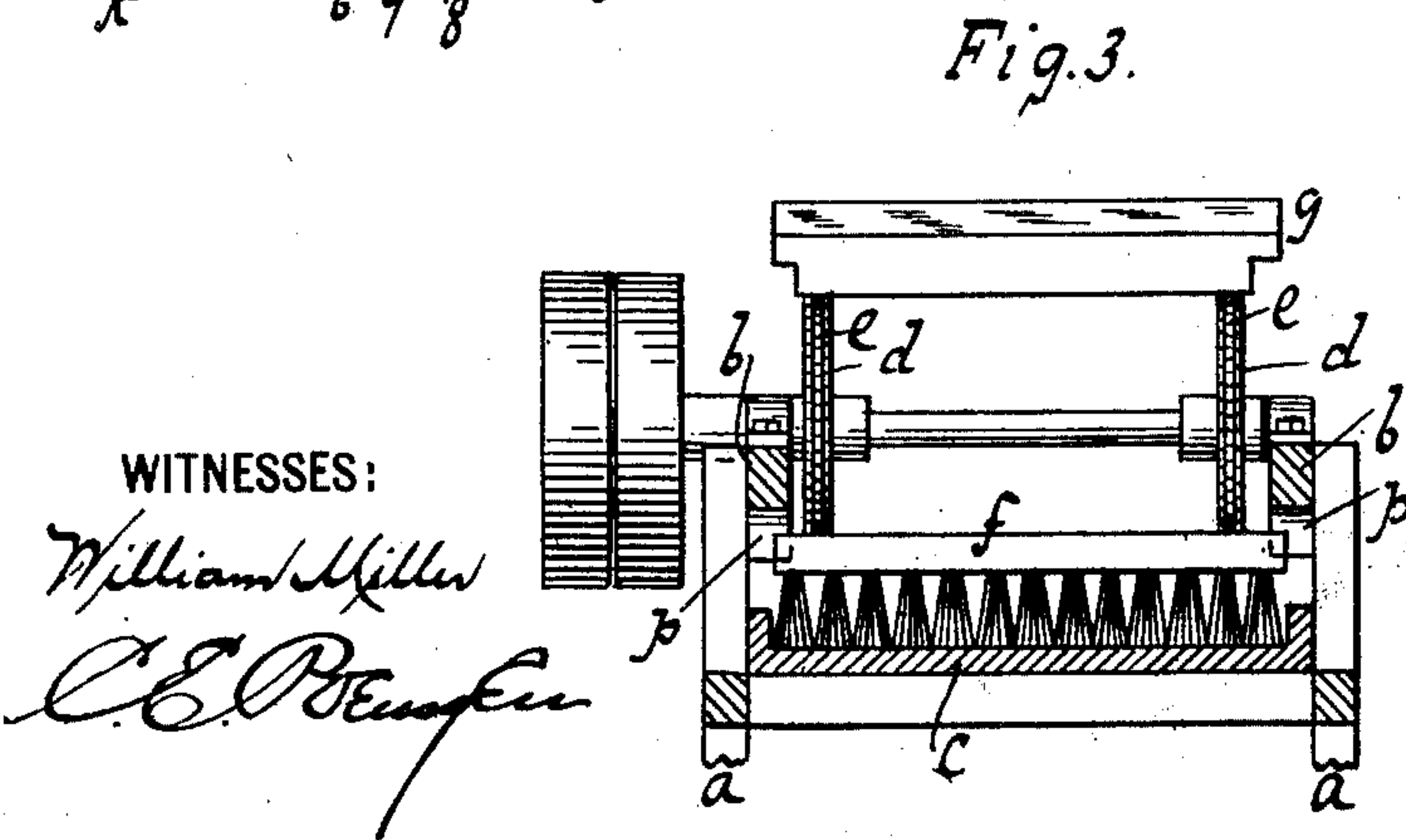
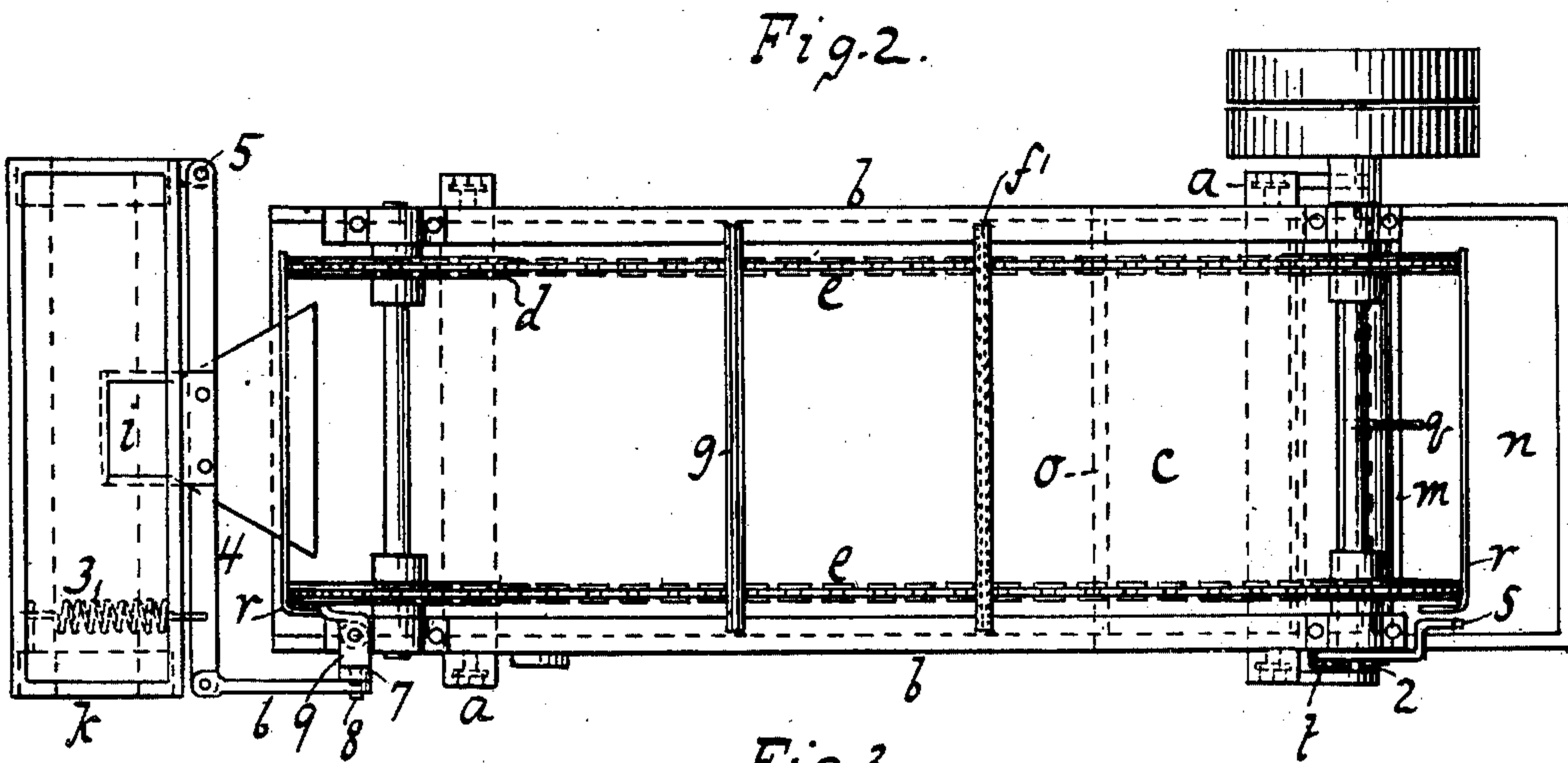
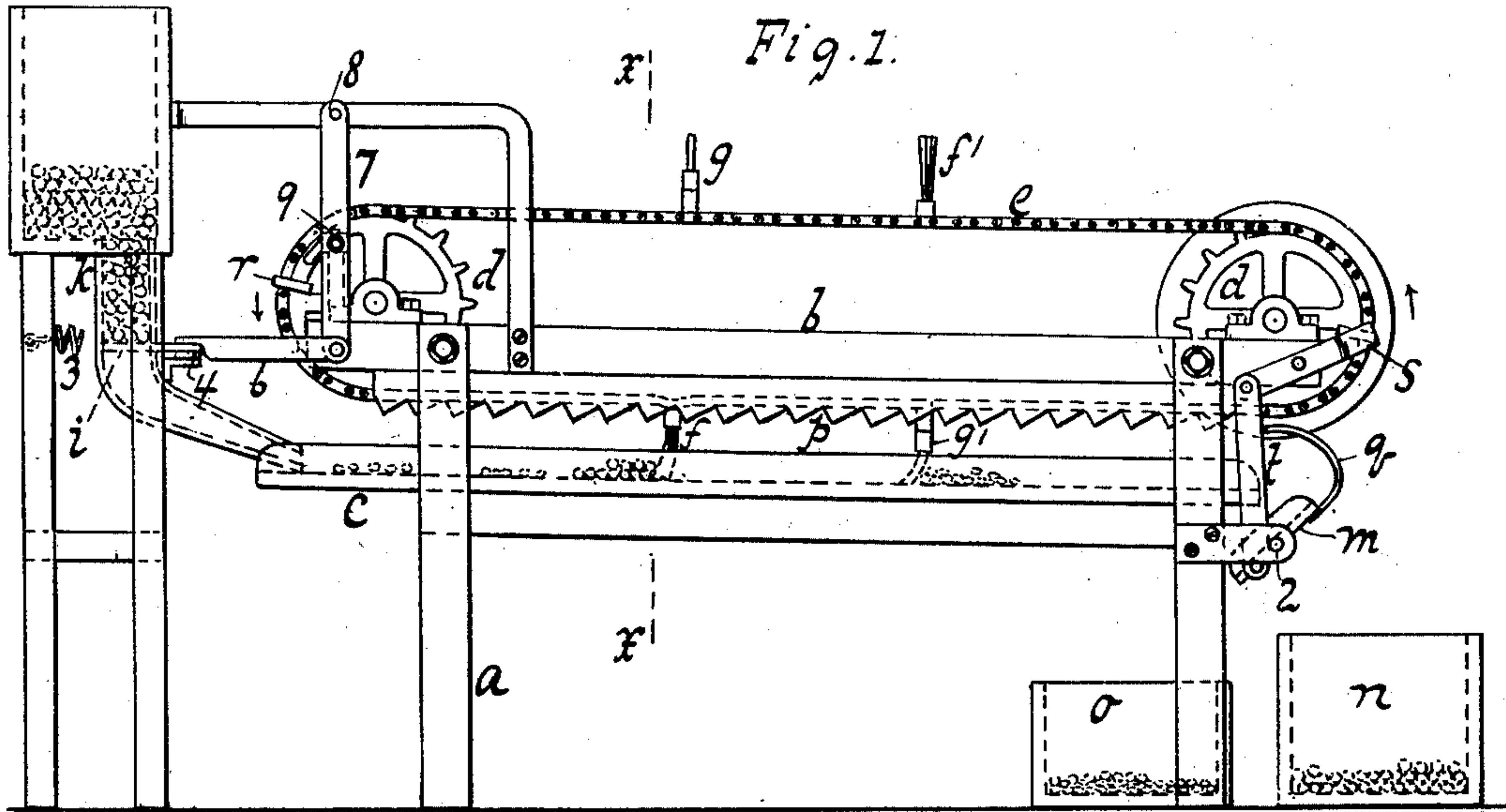
No. 703,320.

Patented June 24, 1902.

C. TATHAM.
BOARDING SHOT.

(Application filed Jan. 30, 1902.)

(No Model.)



WITNESSES:

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BOARDING SHOT.

SPECIFICATION forming part of Letters Patent No. 703,320, dated June 24, 1902.

Application filed January 30, 1902. Serial No. 91,931. (No model.)

To all whom it may concern:

Be it known that I, CHARLES TATHAM, a citizen of the United States, residing at Manhattan borough, New York city, in the county

5 and State of New York, have invented new and useful Improvements in Boarding Shot, of which the following is a specification.

By means of this invention good or marketable shot can be rapidly or satisfactorily separated from the shot which is defective or flattened or considered unsatisfactory.

The invention resides in certain novel features of construction set forth in the following specification and claims and illustrated in

15 the annexed drawings, in which—
Figure 1 is a side elevation of a boarding device embodying the invention. Fig. 2 is a plan view of Fig. 1. Fig. 3 is a section along *x x*, Fig. 1.

20 In the drawings is shown a support comprising legs *a* and a top or frame *b*. A board is shown at *c* of suitable smooth material. Marble or polished steel plate or like material can be used. This table is suitably inclined so that a spherical body—say a perfect

25 shot or globule of lead—placed on the table will start or roll itself off or to the lower end or edge of the table. An imperfect shot coming to rest with a flat or defective portion

30 thereof on the table will remain stationary thereon—that is, such imperfect shot will not start of its accord to run or roll down or along the table, but has to be scraped or moved off or given a push or impetus before

35 it will start rolling down. As presently explained, this table is combined with what may be called a “stop” for temporarily arresting shot passing over the table and a scraper for clearing the table. The stop is formed of

40 any suitable arrangement, a brush or long-bristled broom or broom-head *f* having been found satisfactory. Say a charge of good and bad shot mixed which has come from the high part of the table rests against the stop

45 and the latter makes a step forward or toward the lower end of the table. The good shot will roll or follow this stop until it comes to a temporary rest and then again follow the stop as the latter moves a step forward, to

50 again temporarily rest and again move forward. The good shot thus keeps up to the

stop as the latter passes step by step along the table until the stop clears the lower edge of the table, when the good shot rolls off the table.

55 The intermittent stoppages of the bunch of shot cause the bad or defective shot to be arrested or remain stationary on or along the table, while the good shot, as stated, separates itself out or rolls off such table. After 60 the good shot has rolled or passed off the defective shot is removed by what may conveniently be called a “scraper,” (shown at *g*.) The scraper may also be a brush or broom or any suitable sweeping or brushing device. 65 A board with a flexible rubber strip at the lower edge has been found practical for scraping the defective shot down and off the table.

The good shot rolling off the table is directed by a flap *m* into a box or receptacle *n*. 70 Suitably turning or shifting the flap after the good shot has been cleared off the table and before the bad shot is started will cause the latter when being swept or cleared off the table to strike the flap to be guided or directed into receiver *o*. The flap being then 75 shifted back will direct the next charge of good shot to be again directed into box *n*, and so on.

The actuation of the stop and scraper and 80 of the flap is mechanical.

In the drawings is shown a suitable carrier for the stop and scraper comprising chains *e*, carried about by sprocket-wheels *d*, driven by any suitable appliance. The stop-brush *f* in 85 passing over the table comes into contact with the racks or serrations *p* at the sides of frame *b* and is thereby given a wavy or up-and-down motion, or rather the intermittent or step-by-step motion along the table, which causes the 90 defective shot to stop traveling or be left behind the good shot. While the stop *f* contacts with or is arrested intermittently or at the shoulders *p*, the scraper *g* travels continuously or is so narrow or cut away as to clear 95 or pass freely between the serrations *p* without touching the latter. A second stop and scraper are shown at *f' g'*; but they are not necessary for explaining the invention; but of course the capacity of the machine can be 100 increased by a greater number of such parts.

The device operates as follows: Say the

valve *i* of the shot chute or reservoir *k* has been momentarily opened for a certain quantity of shot to roll and be momentarily arrested against stop *f*, Fig. 1. Then the good shot 5 will follow the gradually-advancing stop and the defective shot will remain on the board. After the good shot has rolled off the board the scraper *g* follows along to clear off the poor shot. The flap *m* has an arm *q*, and after 10 a scraper—say *g'*—has cleared off the defective shot in front of it and swings up or about front sprocket-wheel *d* such scraper strikes arm *q* and tilts the flap about its pivot 2 to incline to or into receptacle *n*. As the oncoming stop-brush *f* clears the end of the board 15 or swings up about front wheel *d* an end or part of this stop *f* strikes the free end of lever *s*, having at its other end link *t*, connected to the flap *m*, so as to swing the lever 20 and return the flap to the position inclining to the receptacle *o*. The valve *i* is normally held closed by spring 3. This valve connects with or is secured to a lever 4, having fixed pivot at 5 and linked at 6 to lever 7, having 25 pivot fixed at 8. To this lever 8 connects lever 9, the inner end of which is in the path of lugs *r*. As these lugs move about with one of the chains *e* the levers 9 and 7, with parts 6 and 4, are moved or oscillated to momentarily open valve *i*; but as a stop clears lever 9 the valve *i* again closes, so that a limited amount of shot at a time is discharged onto board *c*.

While the scraper *g* in this case is shown 35 moving continuously, still it might be made to move step by step, the same as the stop, if desired.

What I claim as new, and desire to secure by Letters Patent, is—

40 1. In a machine for boarding shot, the combination with a table for the passage of the shot, of a movable stop for arresting the passage of the shot upon the table, and a scraper traveling in the path of the stop for removing the shot from the table. 45

2. In a machine for boarding shot, the combination with a table for the passage of the shot, of an intermittently-traveling stop moving over the table and adapted to suitably 50 arrest the passage of the shot, and a continuously-moving scraper traveling in the path of the stop for removing the shot from the table.

3. A table and a rack or shoulders combined with a stop made to contact with the 55 shoulders, and a scraper made to move continuously clear of the shoulders.

4. A device for boarding shot comprising a table, a continuously-moving carrier or chains, a stop and a scraper actuated by the

carrier and shoulders for imparting to the 60 stop a step-by-step motion.

5. A machine for boarding shot comprising a table, a stop and a scraper made to pass over the table, and a flap alternately operated by said stop and scraper for discharging 65 the shot from the table in opposite directions.

6. In a machine for boarding shot, a table for the passage of the shot, a carrier, a stop and scraper carried thereby, a valve for feeding the shot to the table, an actuating-lever 70 for the valve, and lugs actuated by the carrier and engaging the valve-actuated lever for suitably operating it.

7. In a device for boarding shot, a table for the passage of the shot, a carrier, a stop secured to the carrier and traveling in a step-by-step manner, a scraper connected to the carrier and operating in the passage of the stop in a continuous manner, and an intermittently-actuated shot-feeding valve for 80 suitably supplying the shot to the table.

8. In a machine for boarding shot, a table for the passage of the material, an intermittently-traveling stop operating upon the table, a continuously-moving scraper operating 85 upon the table, and a shot-directing flap shifted by the stop and the scraper for suitably directing the discharge of the shot as it passes from the table.

9. In a machine for boarding shot, a table 90 for the passage of the shot, a traveling stop moving over the table, a traveling scraper moving in the path of the stop, a shot-directing flap arranged in suitable relation to said table, and an arm and shifting-lever 95 connected with the flap and engaged and operated by the stop and scraper for suitably shifting the flap for directing the passage of the shot when discharged from the table.

10. In a machine for boarding shot, the 100 combination with a table for the passage of the shot, of an intermittently-operating means for feeding the shot to the table, an intermittently-operating stop traveling over the table for interrupting the passage of the 105 shot, a continuously-moving scraper operating over the table for removing the shot therefrom, and means operated by said shot and flap for directing the discharge of the shot 110 from the table.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

CHARLES TATHAM.

Witnesses:

CHAS. E. POENSGEN,
E. F. KASTENHUBER.