

(No Model.)

J. BEGTRUP.
SAFETY STOP FOR GOVERNORS.

No. 510,316.

Patented Dec. 5, 1893.

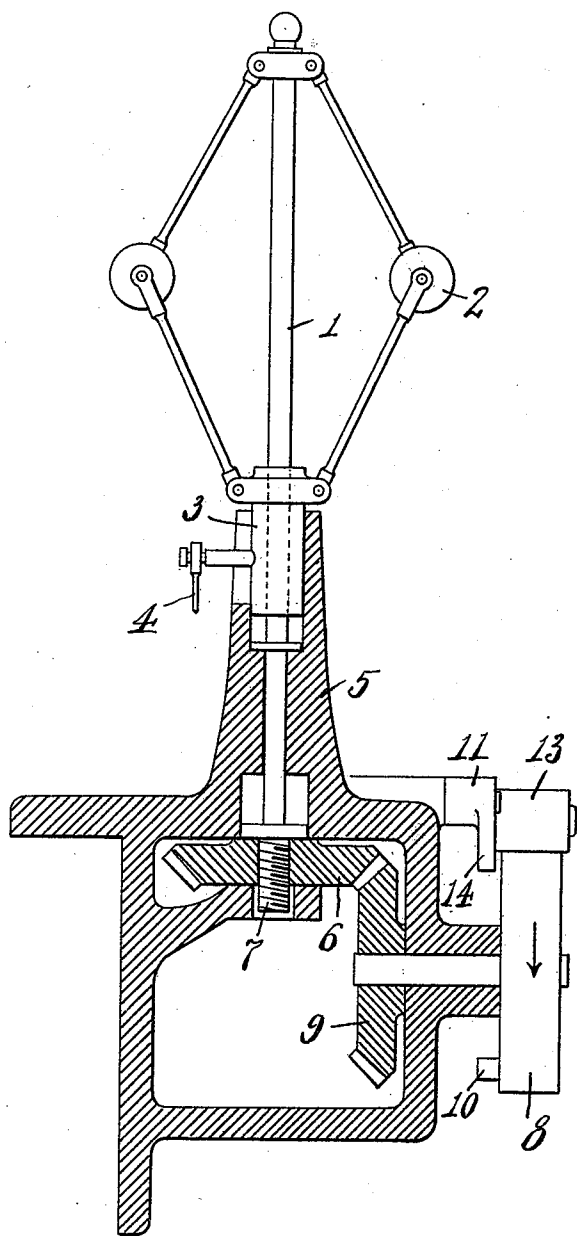


Fig. 1.

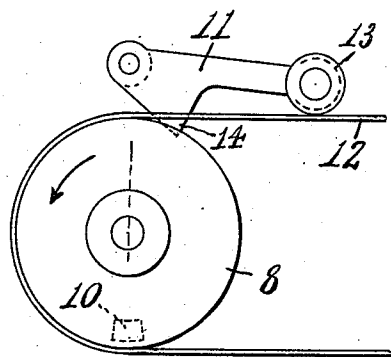


Fig. 2.

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JULIUS BEGTRUP, OF RIDGWAY, PENNSYLVANIA, ASSIGNOR OF ONE-HALF
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SAFETY-STOP FOR GOVERNORS.

SPECIFICATION forming part of Letters Patent No. 510,316, dated December 5, 1893.

Application filed February 25, 1893. Renewed November 1, 1893. Serial No. 489,763. (No model.)

To all whom it may concern:

Be it known that I, JULIUS BEGTRUP, of Ridgway, Elk county, Pennsylvania, have invented certain new and useful Improvements in Safety-Stops for Governors, of which the following is a specification.

This invention pertains to improvements in devices designed to effect the stopping or satisfactory slowing of an engine when the governor belt breaks or slips off.

My improvements will be readily understood from the following description taken in connection with the accompanying drawings, in which—

Figure 1, is an elevation of a governor fitted with a safety-stop device exemplifying my invention, the governor-housing and the bevel-gearing appearing in vertical section, and Fig. 2, a face view of the governor pulley and the trip-lever.

In the drawings:—1, indicates a governor spindle; 2, the governor weights; 3, a sleeve on the governor spindle rising and falling under the influence of the governor-weights of different speeds; 4, a valve-adjusting part moved from the sleeve 3 and designed for connection to the valve or valve gear of the engine so that the engine is under the control of the governor, as usual, increased speed of governor effecting a lessening of engine speed, and decreased speed of governor effecting an increased speed of engine, the engine having permission for full speed when the governor is standing still; 5, the housing of the governor; 6, a bevel gear on the governor spindle; 7, a threaded portion on the base of the governor spindle screwed into the gear 6 and serving as a means for uniting the gear to the spindle, the direction of spirality of the thread being such that in the driving of the governor in normal direction of motion the gear will tend to screw on to the spindle instead of screwing off; 8, a governor pulley; 9, bevel gear on the shaft of the governor pulley, gearing into gear 6; 10, a stop-piece projecting from the governor pulley and consequently moving with gear 9; 11, an arm pivoted near the governor pulley; 12, the governor belt; 13, a roller on arm 11, resting on and supported by belt 12, whereby the belt, when in normal position, supports arm 11; and 14, a projection from arm 11

adapted, if the belt ceases to support the arm, to come into intercepting position in the path of stop-piece 10.

It will be obvious that under ordinary conditions the governor will be driven and perform as usual, arm 11 being supported by the governor belt in a non-interfering position; but if, while the governor is running, the belt breaks or slips off, the arm will no longer have support, and projection 14 will fall into the path of stop-piece 10. The effect of this will be to immediately arrest the turning of the driving gearing of the governor and also to tend to stop the rotation of the governor itself; but the governor, by its inertia, seeks to continue to rotate in spite of the arresting of its driving gearing. The consequence will be that the governor will for a time continue to turn while gear 6 is held from turning, and the result is that the governor spindle unscrews at 7 out of gear 6, thus effecting the elevation of the governor and the lifting of valve controlling part 4 whereby the valve or valve gear becomes properly adjusted to stop or properly slow down the engine. When the governor belt is replaced and the engine started, gear 6 will again screw the stem down into itself and the parts will be in normal working condition. If the valve arrangement is such that steam has been completely shut off by the raising of the spindle, it will be necessary to give the governor a few turns by hand. It is to be understood of course that the particular devices shown are merely exemplifying in character.

I claim as my invention—

1. In a safety device for steam engines, the combination, substantially as set forth, of a spindle mounted for rotation and for longitudinal movement, a valve-controlling part connected with said spindle to be moved by the longitudinal motion of the spindle, an inertia weight rotating with said spindle, a rotary driving piece driving said spindle by screw engagement and arranged to be rotated by the belt that drives the engine governor, a stop-piece moving coincidently with said rotary driving-piece, and an arm having a projection adapted to move into the path of and arrest the advance of said stop-piece and supported in non-arresting position by the

governor belt, whereby when said arm ceases to be supported by the governor belt said rotary driving part is arrested and said spindle turns onward by its inertia and moves longitudinally by unscrewing from said driving part. 5

2. The combination, substantially as set forth, of a governor spindle, a driving gear united thereto by screw engagement, a stop-
10 piece moving in unison with said gear, an arm

having a projection adapted to engage with and arrest the forward motion of said stop-piece, and a part connected with said arm and adapted to rest upon the belt that drives the governor in such manner as to support said projection in non-arresting position. 15

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