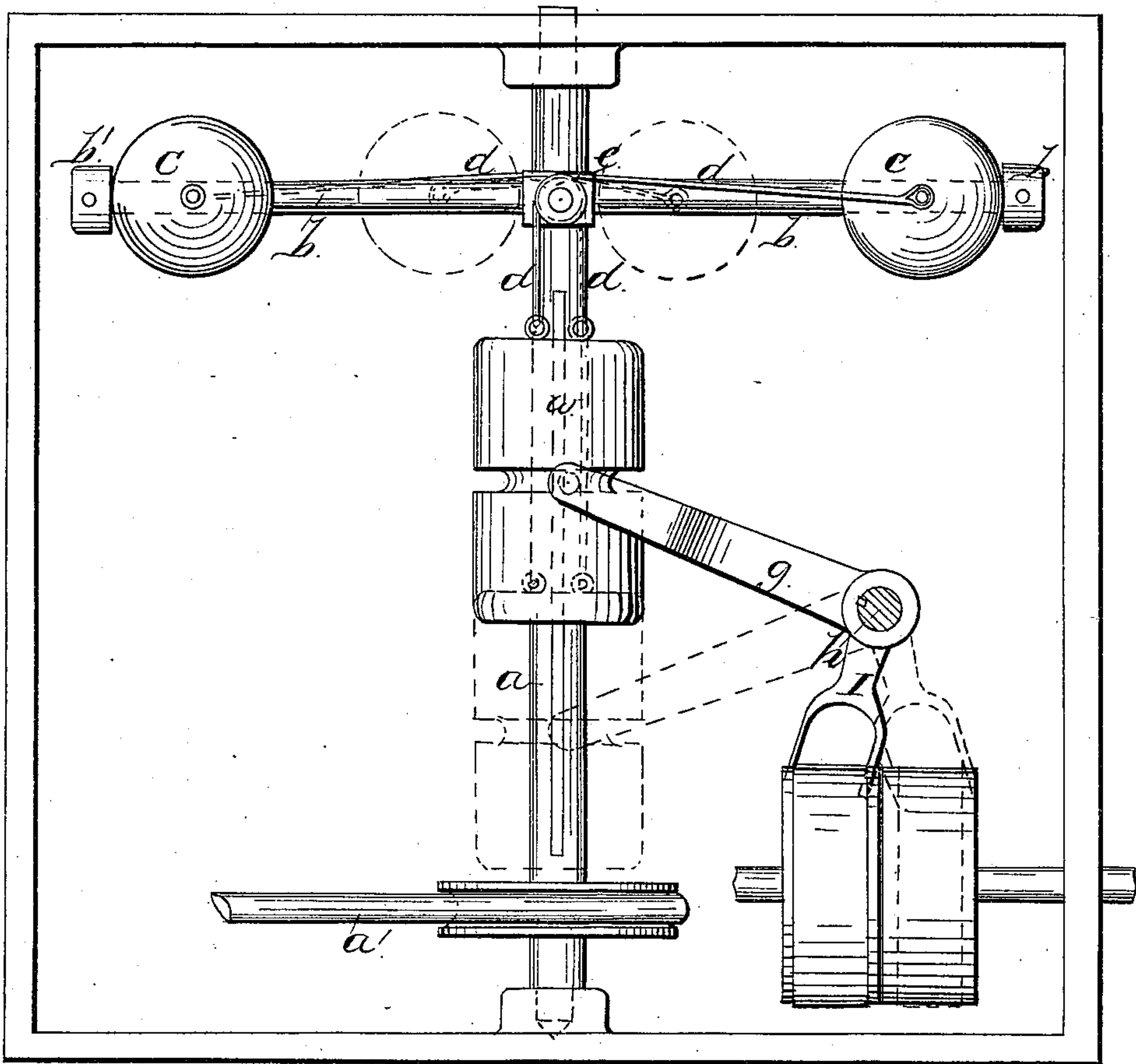


*B. Stott,*

*Belt Shifter.*

*N<sup>o</sup> 44,024.*

*Patented Aug. 30, 1864.*



*Witnesses:*  
*Robert L. Williams*  
*Charles Sabin*

*Inventor*  
*Benjamin Stott*



# UNITED STATES PATENT OFFICE.

BENJAMIN STOTT, OF WESTERLY, RHODE ISLAND.

## IMPROVED STOP MOTION.

Specification forming part of Letters Patent No. 44,024, dated August 30, 1864.

*To all whom it may concern:*

Be it known that I, BENJAMIN STOTT, of Westerly, in the county of Washington and State of Rhode Island, have invented a certain new and Useful Stop-Motion, adapted to use on rotary fulling-mills and other machinery; and I do hereby declare that the following is a full and exact description thereof, reference being had to the annexed drawing, which is an elevation of my said improvement.

In rotary fulling-mills, in which the cloth is passed in an endless belt alternately through suds and between pressure rollers, much difficulty has been experienced because of the tangling of the cloth and its tendency to be presented in knots and bunches to the rollers so as to clog them, causing the upper or pressure roll to stop, and a consequent abrasion of the cloth. A device has been made for stopping the machine, when such a difficulty is presented, by means of two fingers, between which the cloth passes on its way to the rolls, and which, being acted upon by the knots, throw off the belt and stop the machine; but this has not been found to remedy the evil entirely, as sometimes bunches which pass the fingers will be presented in a manner as to clog the rolls, while others, which would cause no inconvenience in themselves, act upon the fingers and stop the machine, thus producing unnecessary delays.

In my improved stop-motion the stoppage of the upper roller will cause the belt to be instantly thrown off, while any bunch or knot which does not produce this effect passes through without stopping the machine.

The nature of my invention consists in causing the belt "shipper" or guide to be held in position by centrifugal force in such a manner that when the said centrifugal force is lessened beyond a certain fixed amount a weight, spring, or other automatic force is permitted to shift the belt upon the loose pulley, and thus stop the machine.

To enable others skilled in the art to make and use my invention, I will proceed to describe the construction and operation of the same, reference being had to the drawing and the letters of reference marked thereon.

*a* is an upright spindle, deriving its rotary motion through a belt, *a'*, from the upper roller of a fulling-mill, or from a suitable portion of any other machine to which my invention may be applied. Near the upper end of this spindle are two radial arms, *b b*, which carry each a weight, *c*, capable of sliding thereon,

but prevented by collars *b' b'* from sliding off the ends thereof.

*w* is a weight, capable of sliding vertically on the spindle *a*, and connected to the weights *c c* by cords or chains *d d*, passing over pulleys *e*, one on each side of the spindle *a*, at the junction of the arms *b*. A forked arm, *g*, on the shaft *h* takes into a groove in the weight *w* in such a manner that as the weight *w* slides upon the spindle *a*, the shaft *h* is rotated, and the belt-shipper *i*, attached thereto, is operated so as to shift or "ship" the belt from the tight to the loose pulley, and vice versa. A rapid rotary motion being imparted to the spindle *a*, the weights *c*, by virtue of their centrifugal force, hold the weight *w* suspended, as shown in strong black lines, and the belt is kept upon the tight pulley; but when from any cause the speed is so far slackened that the centrifugal force is not sufficient to support the weight *w*, it falls, as shown in red outline, and thus throws off the belt and causes the machine to stop.

When the belt shipper is operated by hand to start the machine, the weight *w* is lifted, and immediately the machine is in motion, the weights *c c* assume their positions for holding it suspended and the shipper in place. If it be desired to stop the machine at any time, by exerting sufficient power to overcome the centrifugal force of the weights *c c* the belt may be thrown off in the usual manner.

When attached to a fulling-mill, as described, the spindle *a* derives its motion from the upper roller, and when this roller is stopped by a bunch in the cloth or other cause the whole machine is caused to stop also, and no damage can therefore be done to the cloth.

It is evident that a spring or other equivalent means may be made to take the place of the weight *w* and produce the same effect.

What I claim as new, and desire to secure by Letters Patent, in my said invention, is—

Holding a belt-shipper in position by means of centrifugal force, so arranged that when the said force is diminished beyond a given amount a weight or other automatic force shall shift the belt, substantially as and for the purpose herein set forth.

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

BENJAMIN STOTT.

Witnesses:

ROBERT L. WILLIAMS,  
CHARLES SABIN.