(No Model.) 2 Sheets—Sheet 1.

L. E. BARBEAU.

DEVICE FOR TURNING BAGS.

No. 503,692. Patented Aug. 22, 1893.

Fig. 1.

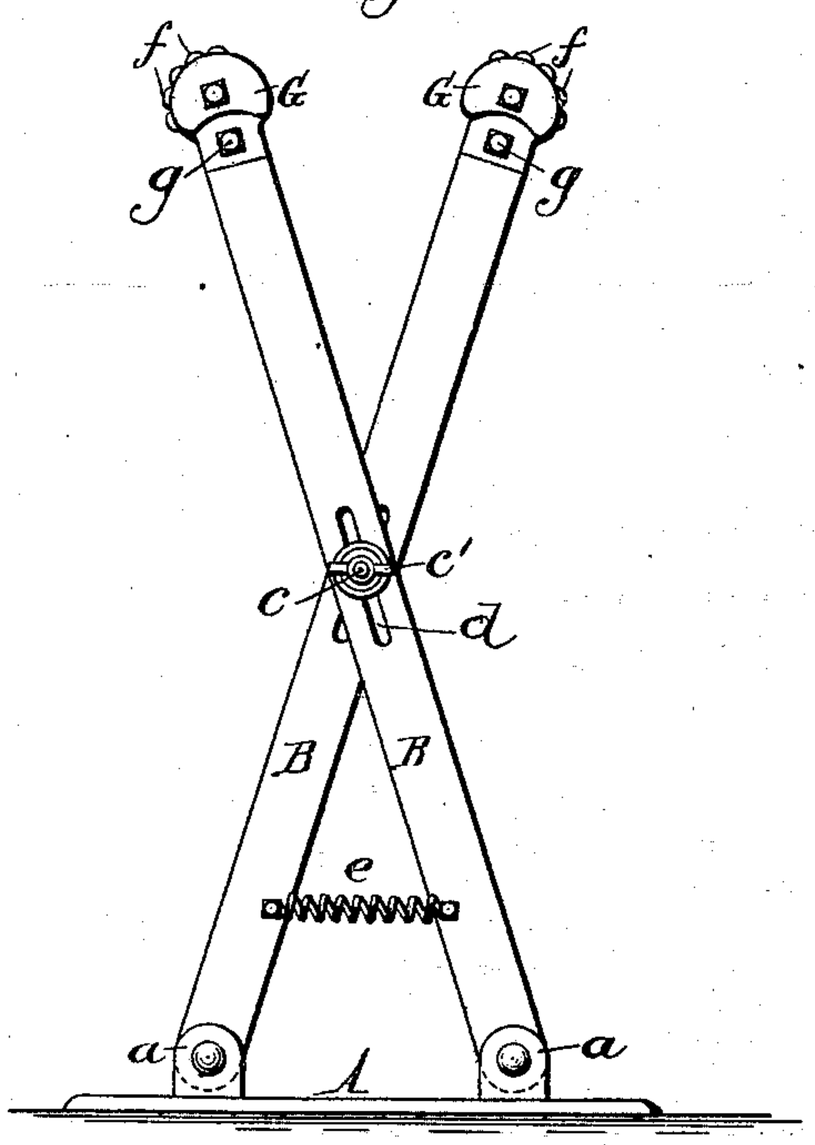


Fig. 2.

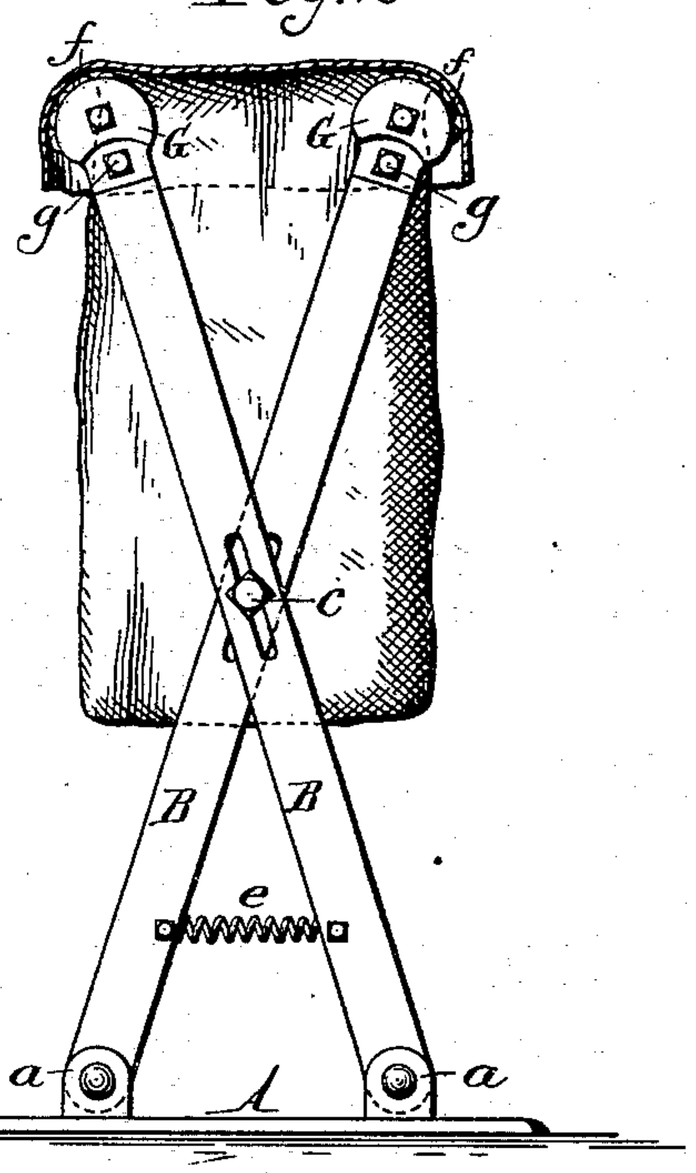


Fig. 3.

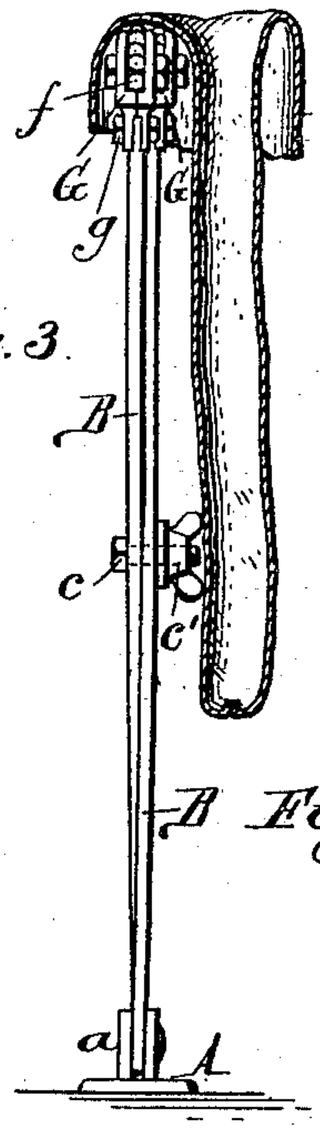


Fig. 4.

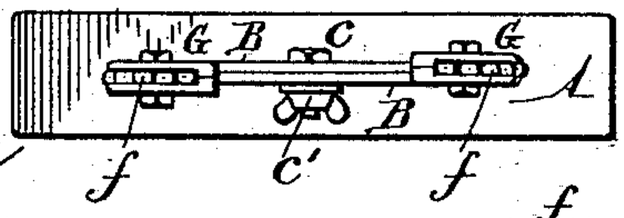


Fig. 5.

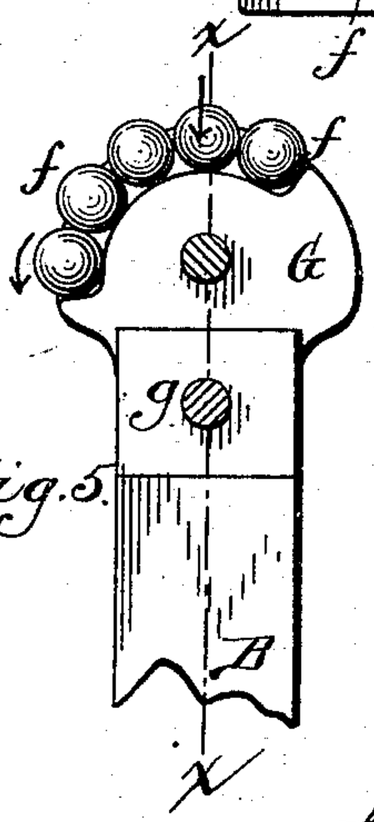
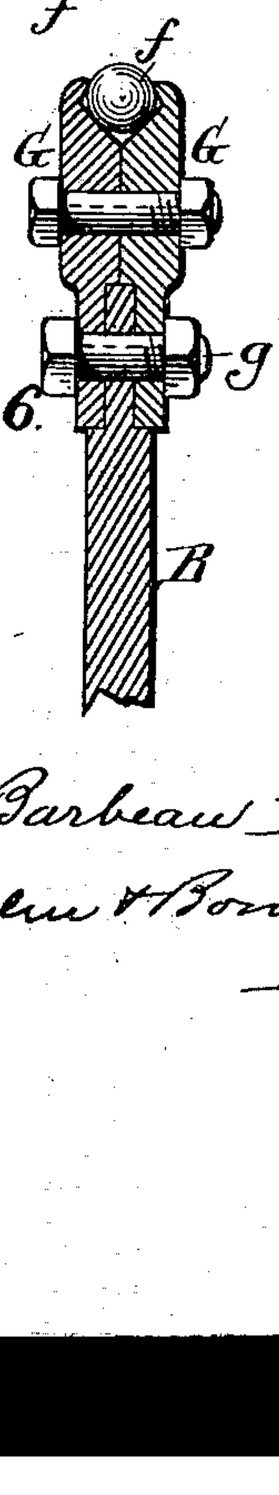


Fig. 6.



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Attorneys.

(No Model.) 2 Sheets—Sheet 2.

L. E. BARBEAU.

DEVICE FOR TURNING BAGS.

No. 503,692. Patented Aug. 22, 1893.

Fig. 7.

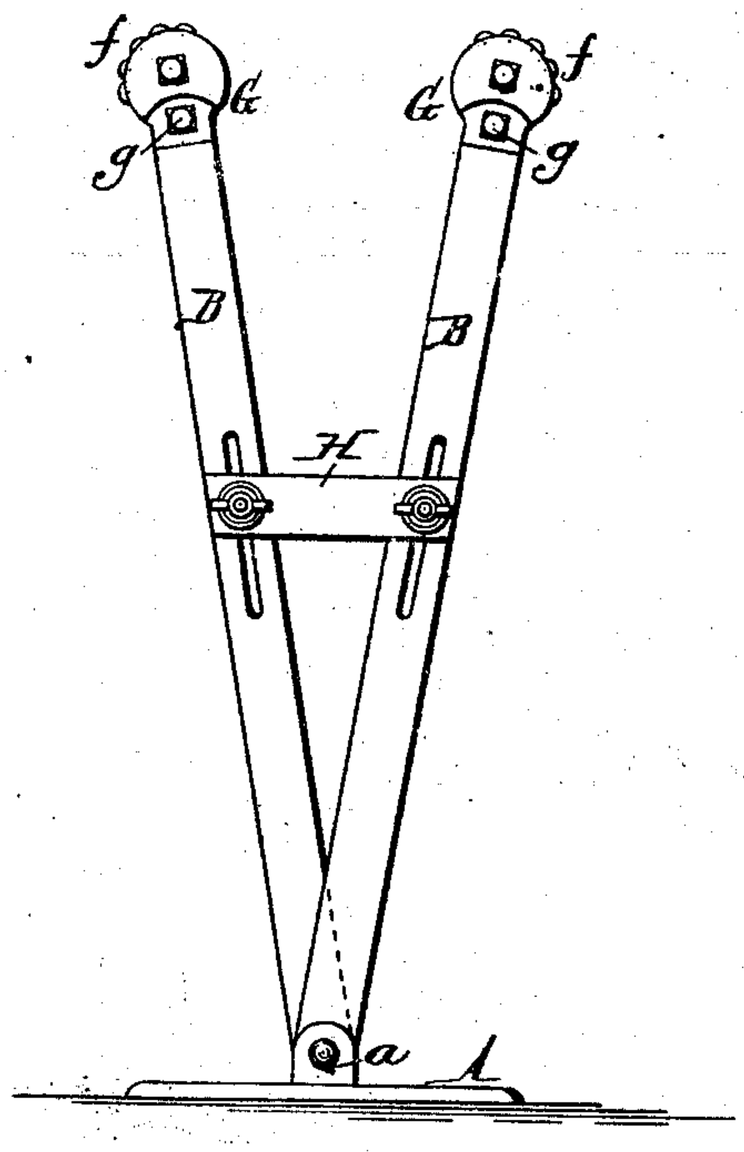


Fig. 8.

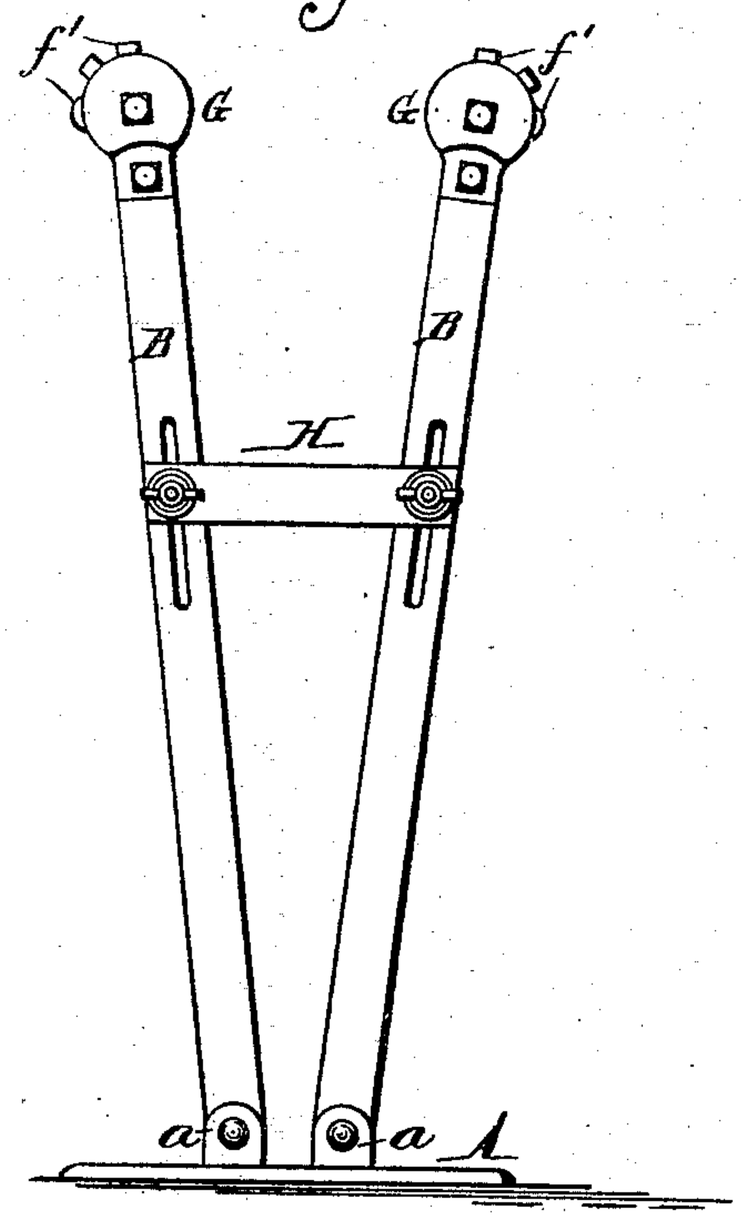


Fig. 9.

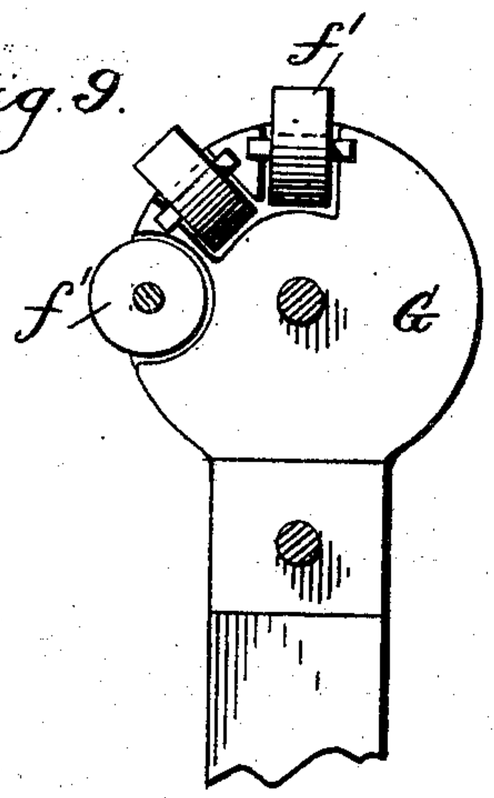
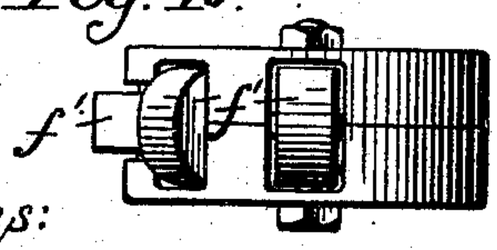


Fig. 10.



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UNITED STATES PATENT OFFICE.

LOUIS EVAREST BARBEAU, OF LONDON, ENGLAND.

DEVICE FOR TURNING BAGS.

SPECIFICATION forming part of Letters Patent No. 503,692, dated August 22, 1893.

Application filed October 19, 1892. Serial No. 449,321. (No model.)

To all whom it may concern:

Be it known that I, LOUIS EVAREST BARBEAU, a subject of the Queen of Great Britain, residing at London, England, have invented new and useful Improvements in Devices for Turning Bags, of which the following is a specification.

This invention relates to a device which is designed for use in bag factories for turning bags in the course of manufacture and also in flour mills, malt houses and other establishments where bags are required to be turned for cleaning them.

My invention has for its object to provide a simple and inexpensive contrivance whereby the bags or sacks can be turned more rapidly than by the use of the hands alone.

In the accompanying drawings consisting of two sheets:—Figure 1 is a front elevation of my improved bag turning device. Fig. 2 is a rear view thereof, showing a sack in position thereon preparatory to being turned the sack being shown in section. Fig. 3 is a side elevation of the device with the bag shown in section. Fig. 4 is a top plan view thereof. Fig. 5 is an enlarged sectional elevation of the upper part of one of the standards, showing the anti-friction balls applied thereto and one of the caps which confine the balls removed. Fig. 6 is a longitudinal section in line *x*—*x*, Fig. 5, with both caps in place. Fig. 7 is a side elevation of a modified form of the device. Fig. 8 is a similar view of another modification. Fig. 9 is a sectional elevation of the upper part of one of the standards, Fig. 8, showing anti-friction rollers applied to the same and one of the caps which confine the rollers removed. Fig. 10 is a top plan view thereof with both caps in place.

Like letters of reference refer to like parts in the several views.

In Figs. 1 to 6, inclusive, A represents a base plate secured to the floor or other support, or made sufficiently heavy to support the device without fastenings, and B B are upright bars or standards pivoted at their lower ends to upwardly projecting lugs or ears *a* formed on the base plate. These standards cross each other, and are adjustably connected together, where they intersect, by a transverse clamping bolt *c* passing through slots *d* formed lengthwise in the standards and having a thumb nut *c'*. Upon loosening the thumb nut, the clamping bolt may be raised or lowered in the slots of the standards so as to separate their upper ends to a greater or less extent.

e is a spiral spring connecting the standards between their lower ends and the clamping bolt *c* and tending to spread the upper ends of the standards apart upon loosening the clamping bolt. The upper end of each standard is preferably provided with anti-friction balls or rollers. In the construction represented in Figs. 1 to 6, each standard is provided with a row of anti-friction balls *f* which extend from the top of the standard to the outer side thereof. These balls are arranged in grooves formed in the adjacent sides of two cap pieces G secured to the upper end of the standard by a transverse bolt *g*, as shown in Figs. 5 and 6. The ball grooves are so formed as to confine the balls therein and at the same time allow them to revolve freely.

In the use of my improved device, the upper edge of the sack is first turned outwardly around the entire mouth of the sack to the depth of about two inches. This turned-over portion is then seized on opposite sides of the sack, placed upon the upper ends of the standards and then drawn downward over the same until the bottom of the sack rests upon the upper ends of the standards, whereby the sack is reversed or turned inside out. The balls *f* reduce the friction of the sack against the standards and facilitate the operation of turning. As the bag is drawn over these balls, those nearest the outer side of each standard will turn about a horizontal axis, substantially at right angles to the plane of the two standards, while those nearest the crown of each standard will turn about a horizontal axis substantially in the plane of both standards, as represented by the arrows in Fig. 5, which directions of rotation correspond with and are produced by the different directions in which the bag moves over each standard at different portions of its top.

By making the standards adjustable upon each other, as before described, they can be set at different distances apart to suit sacks of various sizes.

Instead of crossing the two standards of the sack-turner, they may be separated and con-

nected by an adjustable brace H which is secured to these standards by transverse clamping bolts passing through longitudinal slots in the standards, as shown in Fig. 7. In this modification the standards are inclined or made to diverge upwardly, so that upon adjusting the brace H up or down, the standards are contracted or spread apart.

In the modification shown in Fig. 8, the standards are connected by an adjustable brace, as in the construction shown in Fig. 7, but their lower ends are pivoted to independent lugs instead of to a single lug, as in Fig. 7.

In lieu of the balls *f*, anti-friction rollers *f'* may be employed, as shown in Figs. 8 and 9. In this case the axis of the outer roller of each standard is arranged at right angles to the plane of the standards and the axes of the inner rollers in a parallel plane therewith, as shown, whereby substantially the same movement is produced in these rollers which takes place in the anti-friction balls, when the bag is drawn over them. These balls or rollers are, however, not indispensable and may be omitted, if desired, and the upper ends or heads of the standards may be rounded, so as to present a smooth bearing surface to the sack.

My improved sack turner forms a very useful accessory to bag factories, flour mills and other establishments in which a large number of bags have to be turned, as it enables a much greater number to be turned in a given time than by the old method of using only the hands.

I claim as my invention—

1. In a device for turning bags, the combination with a base adapted to rest upon the floor, of a pair of standards or uprights pivoted at their lower ends to the base so as to be capable of movement toward and from each other, and having unobstructed upper ends which permit a bag to be turned over the same, and a vertically adjustable clamping device connecting said standards, whereby the latter may be laterally adjusted to accommodate the size of the bag, substantially as set forth.

2. In a device for turning bags, the combination with a base adapted to rest upon the floor, of a pair of crossed standards or uprights pivoted at their lower ends to the base, having unobstructed upper ends and provided in their intersecting portions with longitudinal slots, and a clamping bolt passing through said slots, substantially as set forth.

3. In a device for turning bags, the combination with a base adapted to rest upon the floor, of a pair of crossed, adjustable standards pivoted at their lower ends to the base and having free upper ends, a clamping device whereby the standards are adjustably secured together, and a spring connecting the standards on one side of said clamping device, substantially as set forth.

4. A device for turning bags, consisting of a base, a pair of standards rising therefrom, and antifriction bodies attached to the upper end of each standard, the said bodies at the outer side of each standard turning about a horizontal axis at right angles to the plane of the standards, and the said bodies at the crown of each standard turning about a horizontal axis in the plane of the standards, substantially as set forth.

5. A device for turning bags consisting of a base, a pair of standards rising therefrom, caps secured to the upper ends of the standards said caps being provided with grooves at their upper and outer portions, and antifriction balls arranged in said groove, substantially as set forth.

Witness my hand this 7th day of October, 1892.

LOUIS EVAREST BARBEAU.

Witnesses:

HOWARD YOUNG,

A Solicitor of the Supreme Court of Judicature in England, 29 Mark Lane, London.

WALTER BROCK,

Clerk to Howard Young, of the same place.