

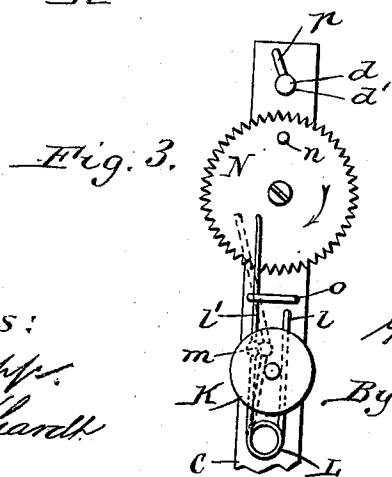
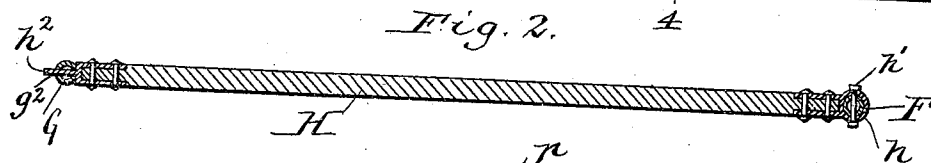
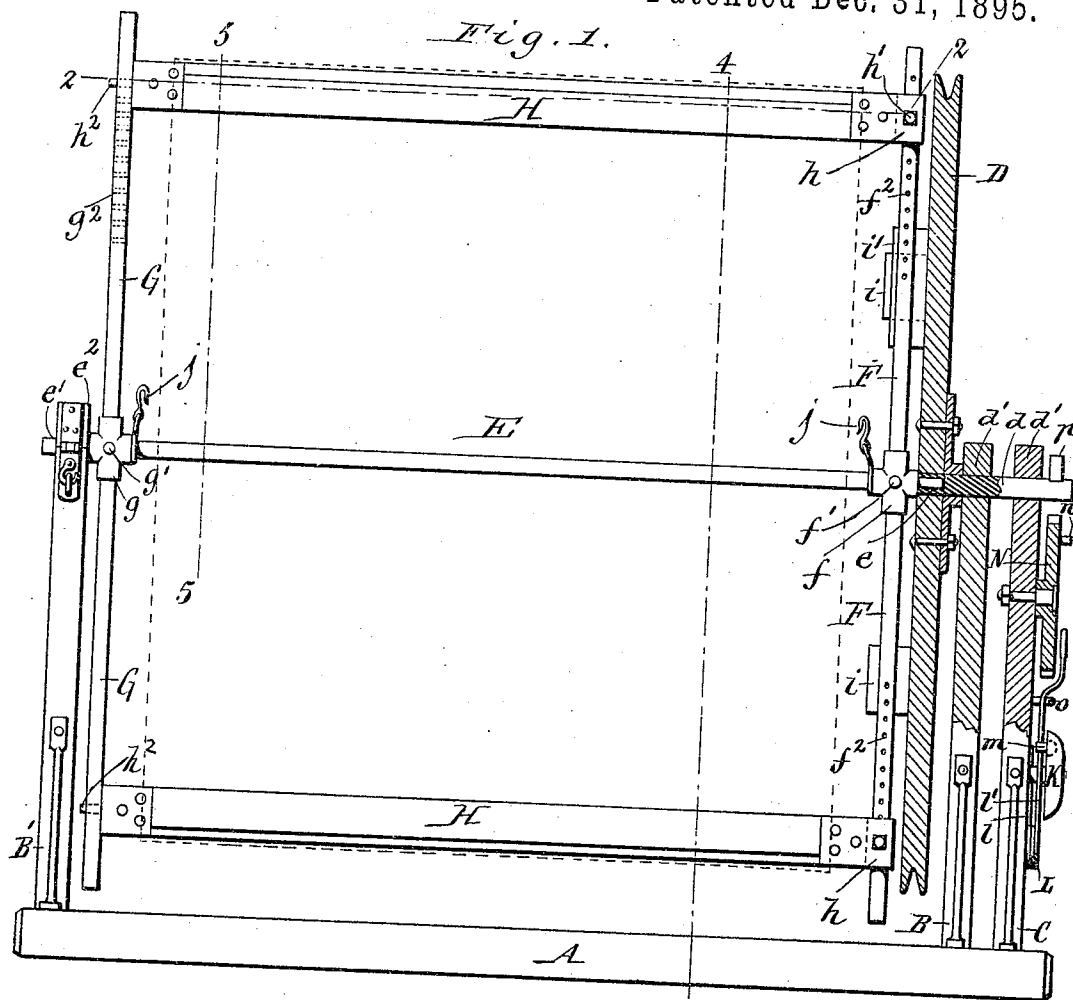
(No Model.)

2 Sheets—Sheet 1.

G. CASTLE.
MACHINE FOR WINDING CLOTH.

No. 552,416.

Patented Dec. 31, 1895.



Witnesses:
Theo. L. Popp.
Chas. F. Burkhardt

Yoswin Castle Inventor.
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Attorneys.

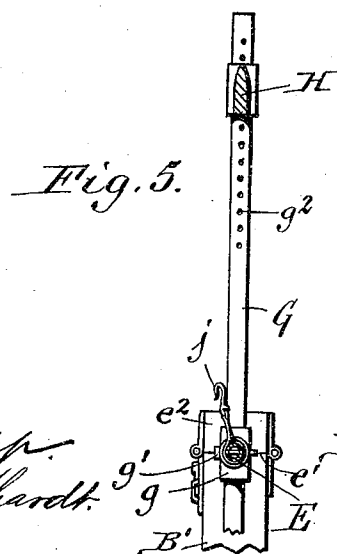
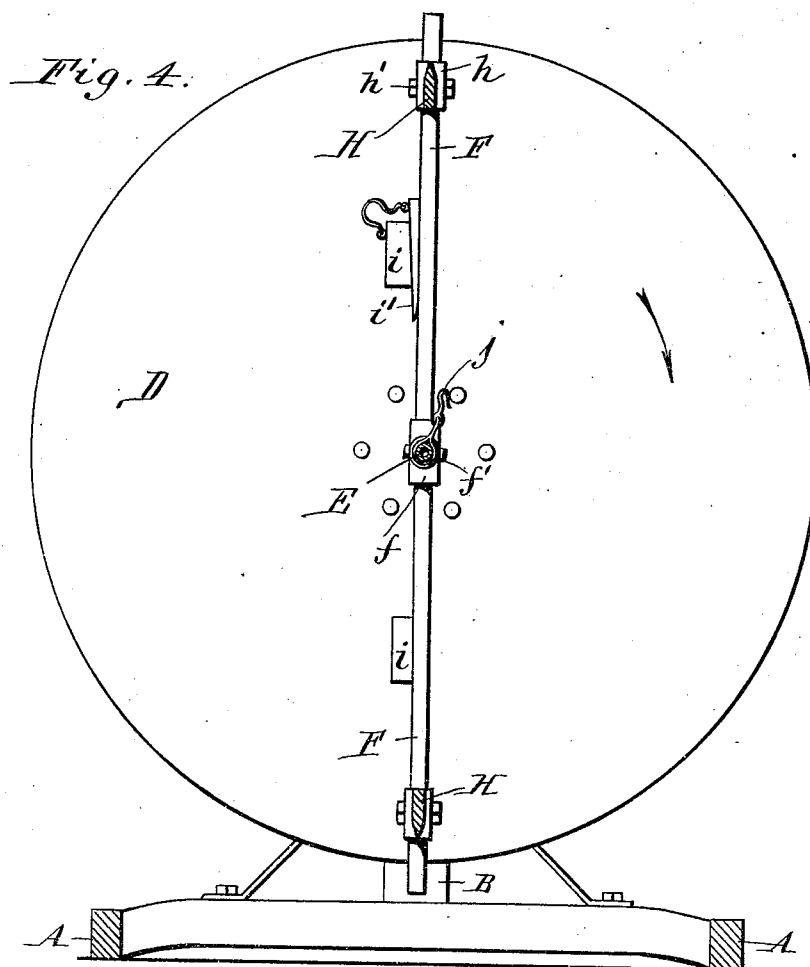
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Goswin Castle, Inventor.

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UNITED STATES PATENT OFFICE.

GOSWIN CASTLE, OF ROME, NEW YORK.

MACHINE FOR WINDING CLOTH.

SPECIFICATION forming part of Letters Patent No. 552,416, dated December 31, 1895.

Application filed May 2, 1893. Serial No. 472,703. (No model.)

To all whom it may concern:

Be it known that I, GOSWIN CASTLE, a citizen of the United States, residing at Rome, in the county of Oneida and State of New York, have invented new and useful Improvements in Machines for Winding Cloth, of which the following is a specification.

This invention relates to a machine for winding cloth, and has for its objects to provide a machine which will permit of winding bolts of cloth of different sizes, and from which the bolt can be easily removed with the reel-frame upon which it is wound preparatory to removing the bolt from the reel-frame.

In the accompanying drawings, consisting of two sheets, Figure 1 is a sectional front elevation of my improved cloth-winding machine. Fig. 2 is a horizontal section of the reel or winding frame in line 2 2, Fig. 1. Fig. 3 is a fragmentary end elevation of the signaling device at right angles to Fig. 1. Figs. 4 and 5 are vertical sections in lines 4 4 and 5 5, Fig. 1.

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

A represents the bed-plate of the stationary or main frame, B B' the reel-standards secured respectively at the front and rear of the bed-plate, and C an auxiliary standard secured to the bed-plate in front of the standard B.

D represents a driving-wheel arranged adjacent to the inner side of the standard B and secured to the inner end of a shaft *d*, which is journaled in bearings *d'* on the upper ends of the standards B C. This driving-wheel is rotated in the direction of the arrow, Fig. 4, either by hand or power.

E represents the horizontal shaft of the reel-frame which is removably arranged with its front end in a socket *e*, formed in the inner or rear end of the driving-shaft *d* and journaled with its other end in a bearing *e'*, formed at the upper end of the standard B'. The cap *e²* of the bearing *e'* is hinged or otherwise releasably connected with said standard to permit the ready removal and insertion of the reel-shaft.

F represents two reel-arms arranged radially on diametrically-opposite sides of the reel-shaft and secured with their inner ends to a hub or cross coupling *f*, which latter is se-

cured upon the reel-shaft adjacent to the inner end of the driving-shaft by a bolt *f'*. Each of these arms F is provided with a row of openings *f²* arranged transversely with reference to the reel-shaft.

G represents two similar arms arranged at the rear end of the reel-shaft and secured to a hub or cross coupling *g*, which is detachably secured to the reel-shaft adjacent to the standard B' by a pin or bolt *g'*. Each of these reel-arms G is provided with a row of openings *g²* arranged parallel with the reel-shaft.

H represents folding-bars arranged parallel with the reel-shaft and connecting the outer portions of the reel-arms F G. These folding-bars are provided at their front ends with eyes *h*, which are adjustably secured upon the front reel-arms F by bolts *h'* passing transversely through the eyes and the openings *f²* in the arms F. The longitudinal folding-bars are provided at their rear ends with longitudinal pins *h²*, which engage in the openings in the reel-arms G.

The reel-frame is compelled to turn with the driving-wheel by blocks *i*, secured to the rear side of the driving-wheel and bearing against the sides of the reel-arms F. *i'* represents a wedge interposed between one of the blocks *i* and one of the reel-arms F, whereby the opposite arm is pressed against the other block and the reel-frame is rigidly held on the driving-wheel.

The cloth is preferably supplied from a roll mounted in suitable supports and from which the cloth is unwound. The end of the cloth is passed over one of the folding-bars and attached to hooks *j* arranged on the reel-shaft. Upon rotating the reel-frame in the direction of the arrow, Fig. 4, the cloth is wound around both folding-bars and formed into a flat bolt.

In order to announce when the proper quantity of cloth has been wound upon the reel-frame, an automatic signaling device is provided which is constructed as follows:

K represents a bell mounted on the outer side of the standard C, and L a spring having one of its arms *l* secured to the standard C and its other arm *l'* provided with a hammer *m*, which is adapted to strike the rear side of the bell.

N represents a spur-wheel pivoted on the standard C between the bell and driving-

shaft and provided with a pin *n*, adapted to strike against the free arm of the spring.

O represents a loop arranged on the standard C and embracing the free arm *l'* of the hammer-spring. Upon rotating the spur-wheel in the direction of the arrow its pin strikes the upper portion of the arm *l'* and tilts the latter on the loop *o* as a fulcrum which causes the lower portion of said arm carrying the hammer to be moved away from the bell. The instant the pin *n* clears the spring-arm *l'* the latter springs back to its normal position and the hammer strikes the bell. The spur-wheel is rotated intermittently by a radial finger *p* secured to the driving-shaft.

The outer longitudinal edges of the folding-bars are preferably tapered to produce a comparatively-short turn in the cloth as it passes around the bars.

When the desired number of layers of cloth have been wound upon the reel-frame, the bearing at the rear end of the main frame is released and the shaft removed therefrom and from the socket in the driving-shaft. When it is desired to secure the layers of cloth together—as is done, for instance, in the method of making cheese-caps and similar articles described and claimed in my application for Letters Patent, filed May 2, 1893, Serial No. 472,702—the layers are secured together while the bolt remains upon this reel-frame. When the bolt is to be removed therefrom the end arms G are detached from the shaft and from

the ends of the longitudinal bars II, when the bolt can be slipped off from these bars.

I claim as my invention—

1. In a cloth winding machine the combination with the main frame, and the driving shaft supported at the front end thereof, of a driving wheel secured to the inner end of the driving shaft, a removable reel frame having a shaft which engages at its front end with the driving shaft, radial arms attached to said shaft, longitudinal bars attached to said arms, and fastenings arranged on the rear side of said driving wheel and engaging with the front arms of the reel frame, substantially as set forth.

2. In a cloth winding machine, the combination with the shaft of the reel frame, of front arms secured to said shaft, longitudinal bars provided at their front ends with eyes through which the front arms pass and at their rear ends with longitudinal pins, and rear arms removably mounted on said shaft and provided with openings through which said pins pass, said arms being engaged with or disengaged from said pins by a lengthwise movement of the arms on said shaft, substantially as set forth.

Witness my hand this 28th day of April, 1893.

GOSWIN CASTLE.

Witnesses:

R. W. JACOBS,
K. S. PUTNAM.