March 15, 1927. 1,620,844

M. WALKER

SPINDLE CARRIAGE AND CLUTCH

Filed March 27, 1924

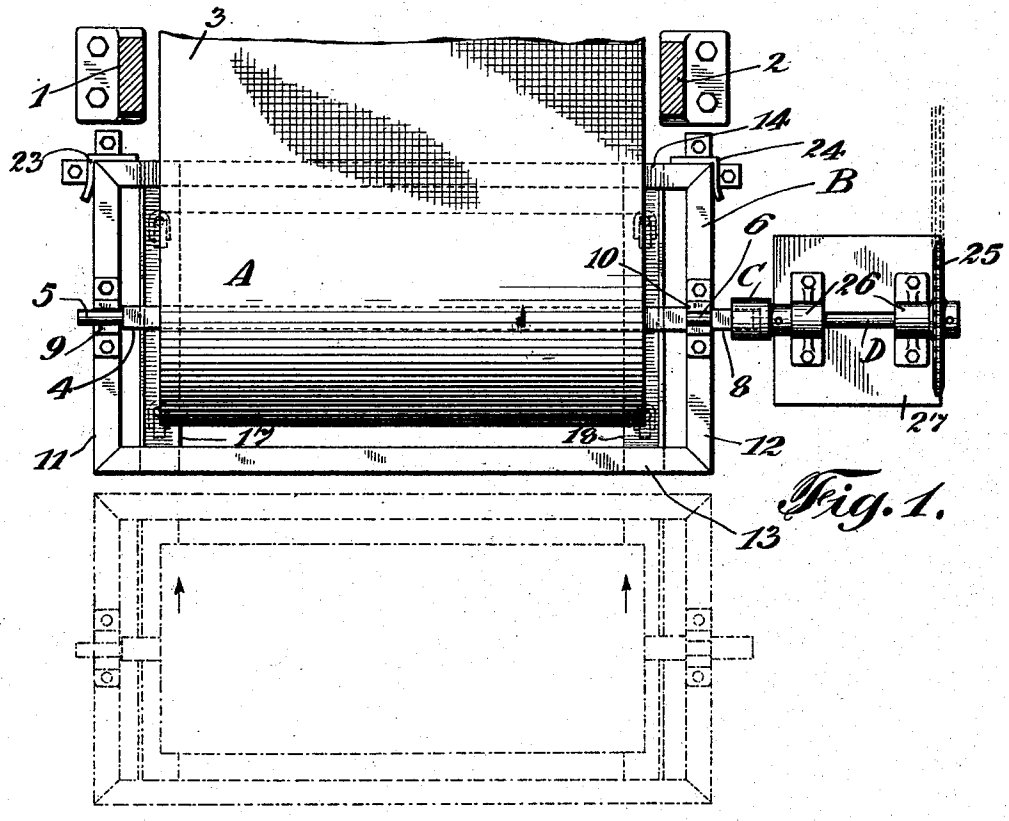


Fig. 1.

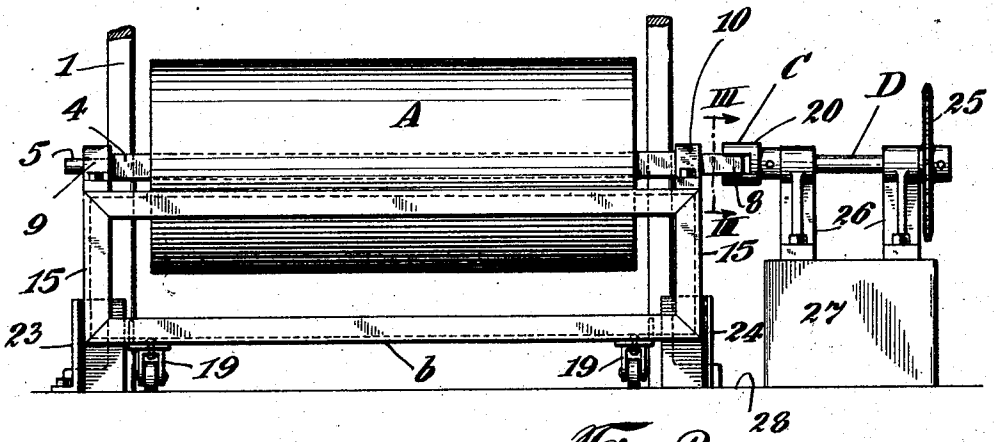


Fig. 2.

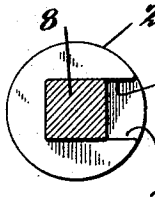


Fig. 3.

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Patented Mar. 15, 1927. 1,620,844

UNITED STATES PATENT OFFICE.

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SPINDLE CARRIAGE AND CLUTCH.

Application filed March 27, 1924. Serial No. 702,369.

This invention relates to the art of manufacturing artificial fabric of the kind that is made in long strips. In the manufacture of such fabric after and before various manipulation steps, the fabric is customarily wound up in a large roll on a steel spindle. Heretofore, it has been customary to have clips formed on the frames of the treating machines to hold these spindles during the winding and unwinding. This practice has necessitated lifting the heavy rolls up on the clips and up out of the clips to transport the roll to another machine.

The object of the present invention is to do away with the lifting of such rolls entirely and facilitate their transportation from one machine to the other.

In carrying out the object of this invention, the provision of a roll-holding carriage or frame capable of transportation as an entirety from one part of the factory to the other and also capable of combining with the various machines manipulating the fabric is contemplated.

The above will better be understood by reference to the illustrative embodiment of this invention described in the following specification in connection with the accompanying drawings which form a part hereof. To this illustrative embodiment the claims are directed solely for the purpose of illustration and not limitation.

In the drawings, Fig. 1 is a plan view of the apparatus in association with the manipulating machine, also showing, by dot-and-dash lines, the method of transporting and associating the apparatus;

Fig. 2 is a front elevation of the parts shown in Fig. 1, and

Fig. 3 is a detail cross-section partly in elevation taken through the plane of line III—III of Fig. 2.

1 and 2 indicate the uprights of a machine for manipulating fabric such as the fabric 3 shown wound up into a roll A upon a steel spindle 4. In the embodiment illustrated, the spindle 4 is provided with axially spaced bearing portions 5 and 6 and an outward extension 8 having suitable configuration to form part of a clutch. In the present instance the square cross-section is employed.

The spindle 4 with its roll A is normally supported upon crotch-shaped bearing cleats 9 and 10, mounted upon the top and mid-positioned upon the end spring pieces 11 and 12 of a portable carriage B. A preferred construction for this carriage is that as indicated; a rectangular box-like frame of angle iron comprising the top end spring pieces 11 and 12 aforementioned framing lengthwise spring pieces 13 and 14 at the top, four corner uprights 15, extending upwardly from a lower frame *b* preferably symmetrically identical with the top construction, but provided with crosswise positioned foot channels 17 and 18, to which four casters 19 are secured. This frame work *b* partially houses the roll A besides mounting it and protects it against accidental injury when it is rolled from one part of the factory to the other on the casters 19. The vertical mounting of the bearings 9 and 10 should be such to effect the ready engagement and dis-engagement of the clutch C, which comprises, as shown, the female part 20 providing a socket 21 with a lateral opening 22 and the aforementioned male part 8. Nevertheless, it is to be understood that the construction does not require, of necessity, the relative positioning of the male and female parts, as shown in the drawings. A part of the clutch C is formed on the end of a stub shaft D serving and being a suitably controlled power driven element for winding the strip 3 into the roll A. Positioning means for the carriage B preferably in the form of corner clips 23 and 24 are secured preferably to the floor as by bolts as indicated. These serve as guides for the carriage B which, when forced home, into these clips, automatically causes the proper positioning of the dis-engageable clutch part C.

The stub shaft D is driven in any suitable manner with any suitable control mechanism. In the drawings, the sprocket 25 is shown likewise in suitable mounting for the shaft D. Bearing brackets 26 mounted upon a pedestal 27 extending upwardly from the floor 28 are the means shown.

The inventive thought may have a variety of expressions as is contemplated in what I claim and desire to secure by United States Letters Patent as follows:

Apparatus for handling long strips of fabric, a winding spindle having longitudinally spaced bearing-portions; an intermediate fabric winding portion and a free end portion shaped as a detachable clutch-part; a wheeled carriage-frame having bearings for mounting said bearing-portions of said spindle, said frame with its wheels maintaining

said bearings at an unvarying elevation above the floor upon which said frame is adapted to run; a drive shaft on a level with and having a horizontally disengageable mating clutch part cooperably with said free end portion of said spindle; and positioning means for said carriage-frame fixed relatively to the position of said drive shaft, all whereby a heavy roll of fabric may be rolled easily into and out of a winding functional relation with a machine without being lifted or lowered.

In witness whereof, I have signed my name to this specification this 10th day of November, 1923.

MAURICE WALKER.