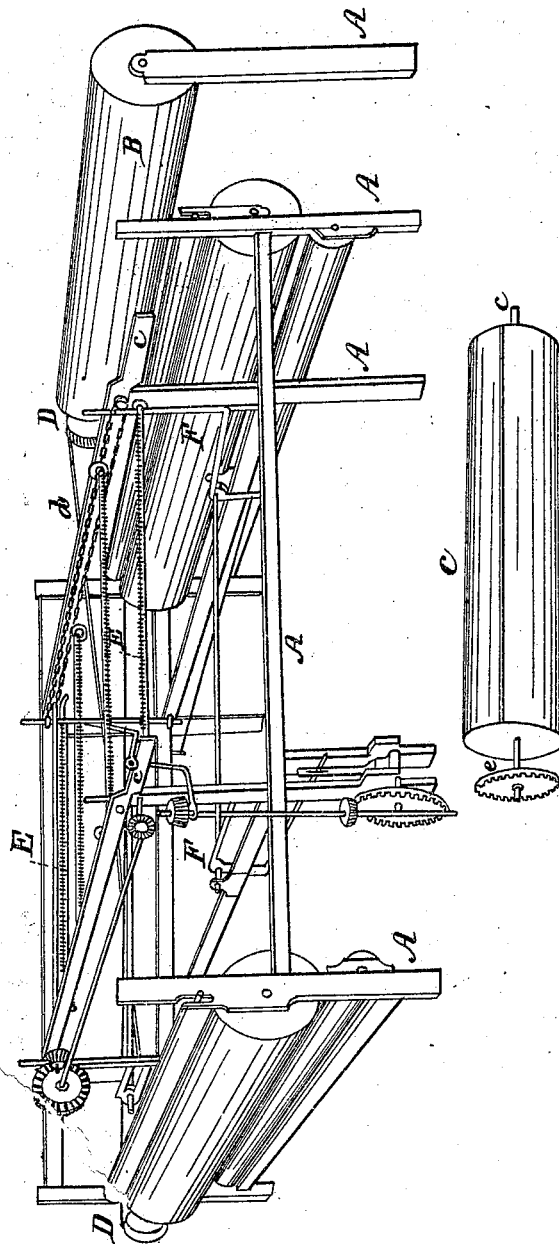


*Arnold & Bishop.*

### Forming Baits.

N<sup>o</sup> 66

Patented Oct. 20, 1836.



# UNITED STATES PATENT OFFICE.

JOHN ARNOLD AND GEO. G. BISHOP, OF NORWALK, CONNECTICUT.

## MACHINERY FOR FORMING WEBS OF CLOTH OF WOOL, HAIR, &c., WITHOUT SPINNING OR WEAVING.

Specification of Letters Patent No. 66, dated October 20, 1836.

*To all whom it may concern:*

Be it known that we, JOHN ARNOLD and GEORGE G. BISHOP, both of Norwalk, in the county of Fairfield and State of Connecticut, both native citizens of the United States, have invented a new and useful improvement on the machine heretofore invented and patented by the said JOHN ARNOLD, for forming the web for cloth of wool, hair, or other suitable substance without spinning or weaving, patented July 15, 1829.

The imperfections in the machine patented as aforesaid, and which it is the object of our improvement to remedy are 1st the doffer, and apron cylinders of the patented machine having equal motion as warp, and weft accumulate upon the apron, and around the cylinders until a sufficient thickness is obtained the surface of each succeeding layer, is more, and more extended, and its motion proportionally increased so that the crossing weft will no longer cover the whole, and the work becomes uneven, to remedy this defect, and as an improvement on said machine we place upon the shafts of the doffer, and apron cylinder, matched cones governed by a movable belt in the same manner, and producing the same well known effect as matched cones in common use to regulate the varying, and relative motions of the cotton speeder by means of which the relative motions of the doffer and apron cylinders will vary according to the varying extent of surface around the carrier, and thus make even, and perfect work; 2d, wool, and hair being elastic and the different kinds of different elasticity it had been found very difficult if not impossible to work wool or other material possessing much elasticity on the patented machine on account of its springing under the fullers, in consequence of which the sheets of weft become folded, or contracted and will not retain an even width. To remedy this defect, and as an improvement on said machine we substitute combs in place of the fullers described in said machine, which we call faller combs. These combs are of the same form as the chain combs, described in said patent, and are connected with the same levers which support the faller rods by arms attached to each. The movement

of the faller combs adopted in this improvement is also different from the movement of the faller rods in the patented machine in this. The rods rose gradually, and fell suddenly upon the weft. The faller combs are at rest until the moment in which the chain comb, and doffer are ready to deliver the weft when they rise by force of a cam or pin upon the same levers, and receiving the weft from the chain comb and doffer and carry it down by an easy motion and deliver it on the warp, clearing themselves by a pin and spring in the same manner as the chain combs clear themselves as described in the said patented machine, being retarded in their downward movement by a spring or suspended weight to prevent their sudden descent. This spring may be a spiral spring hung from above or a cord from a spring pole governing the descent more or less gently as different materials may require.

That these improvements may be more clearly understood, we refer to the drawings with references to these improvements accompanying this specification as part thereof.

What we claim as our invention and improvement and desire to secure by Letters Patent is—

1. The application of matched cones governed by a movable belt to vary the relative motions or speed of the doffer, and apron cylinders as the varying extent of surface around the carrier is extended by the increasing thickness of the web, as specified above.

2. The substitution of the faller combs with the machinery to regulate their movement as above described, instead of the fallers or faller rods described as part of said patented machine, and these improvements we claim in joint and several combination with the other parts of said patented machine, and therefore we solicit Letters Patent.

Norwalk Aug. 17th 1836.

JOHN ARNOLD.  
GEORGE G. BISHOP.

Witnesses:

JOHN A. WEED,  
SAMUEL G. BLACKMAN.