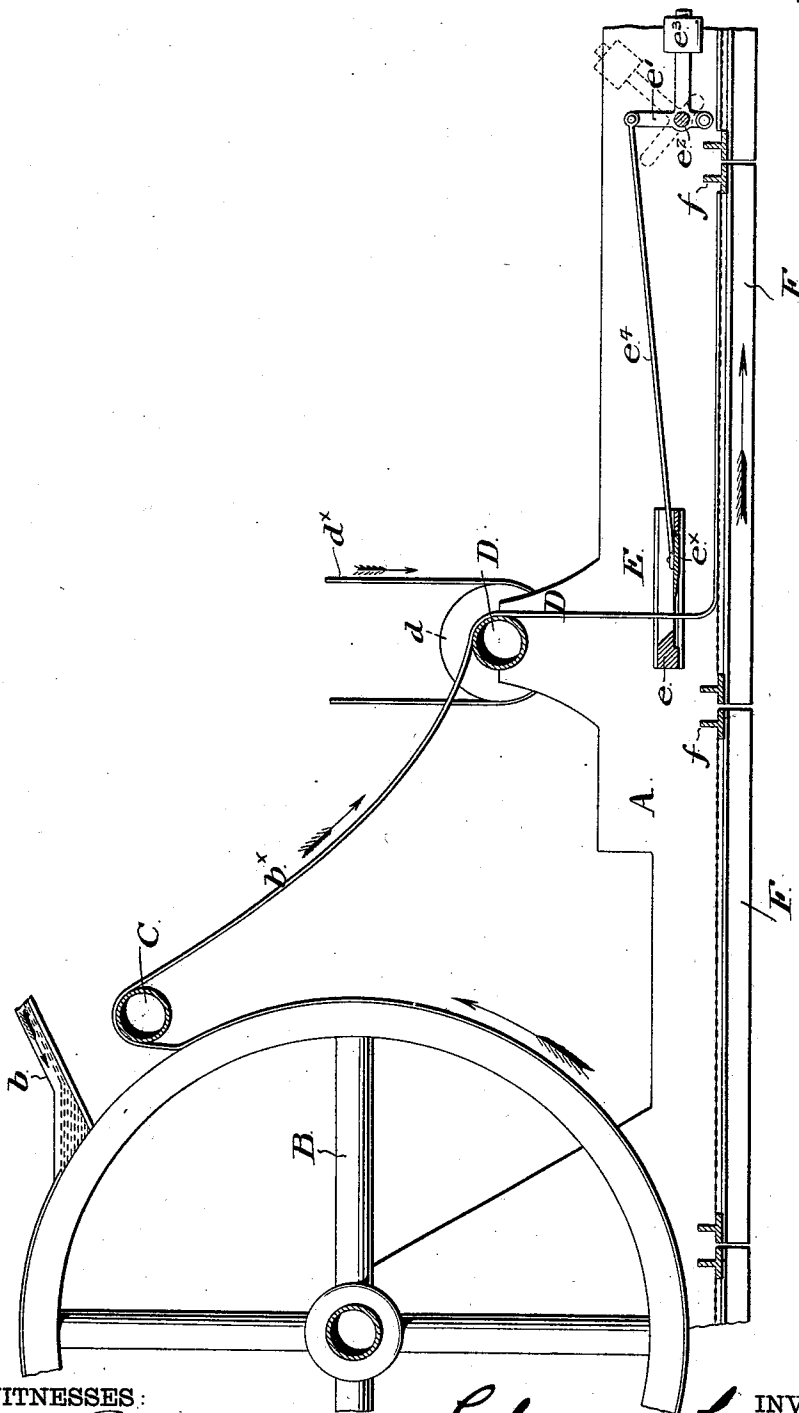


(No Model.)

C. W. COOPER.
APPARATUS FOR MAKING GLUE.

No. 521,948.

Patented June 26, 1894.



WITNESSES:

A. E. Paige
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UNITED STATES PATENT OFFICE.

CHARLES W. COOPER, OF NEW YORK, N. Y.

APPARATUS FOR MAKING GLUE.

SPECIFICATION forming part of Letters Patent No. 521,948, dated June 26, 1894.

Application filed April 19, 1894. Serial No. 508,084. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. COOPER, a citizen of the United States, residing in the city, county, and State of New York, have invented certain new and useful Improvements in the Manufacture of Glue, of which the following is a specification.

My invention relates in general to operations connected with the formation of glue into sheets of jelly, in which liquid glue fed upon the surface of a cooling cylinder is congealed thereupon into a sheet which is then stripped from the cylinder, and then, usually, cut or divided into sections which are successively deposited upon carrying nets caused to travel beneath the cooling cylinder off to a drying room wherein the glue is dried upon the nets.

My invention relates particularly to means for stripping the sheet of congealed glue from the surface of the cooling cylinder.

In a pending application for patent filed by me June 15, 1891, as Serial No. 396,291, there is described and claimed a sheet-stripping and delivering device in which a cylindric surface axially parallel with the cooling cylinder,—and conveniently constituted by the upper roller of a sheet-delivering apron operative in conjunction with the cylinder,—is caused to travel at a peripheral speed superior to that of the carrying surface of the cylinder and by its positive rotation to strip the sheet from the cylinder.

My present improvement contemplates the stripping of the sheet from the cooling cylinder by passing it over an idly-running roller axially parallel with the cylinder, and utilizing the weight of the advance end portion of the sheet pendent from the roller to occasion the rotation of the roller and the stripping of the sheet from the surface of the cylinder.

Apparatus conveniently embodying my improvements is represented in the accompanying drawing in side elevation, partly sectional,—the particular subject-matter claimed as novel being definitely specified in the claims.

In the drawing, A represents a portion of a frame-work, of any preferred character, for the apparatus as an entirety.

B is a cooling cylinder revoluble with ref-

erence to the frame-work by any preferred means.

b is a feeding chute for supplying liquid glue to the surface of the cylinder.

b^x is a sheet of jellied glue.

C is an idler roller, axially parallel with the cooling cylinder, and preferably located relatively to the peripheral surface of the cylinder above its axis and quite near the feeding chute.

The sheet of glue, as will be apparent from an inspection of the drawings, is conducted from the cooling cylinder over and in bite around the surface of the idler roller C, and is thence carried to and over the surface of a roller, which I term a directing roller D, and which is but a type of a sheet-directing device,—located preferably upon a lower level and at such distance from the idler roller as to permit of the sag of the sheet between said rollers,—from which, when the apparatus is organized to be operative in conjunction with cutting mechanism and traveling nets, the sheet is conducted to the cutting mechanism which operates to divide it transversely into sections adapted to be successively deposited upon successive nets caused to travel beneath the cutting mechanism. The relative disposition of the parts is such that the weight of that length of sheet which is extended and pendent between the idler roller and the directing roller, or its equivalent directing device, is sufficient not only to occasion the revolution of the idler roller but to occasion also such sufficient tension in the portion of the sheet existing between the cooling cylinder and the idler roller as to strip the sheet from the cylinder. In fact, the upper part of the sheet including that length which is bent about the idler roller will be stretched by the weight of the pendent length beyond it, and will cause the idler roller to take on a peripheral speed corresponding with the stretch, and therefore a speed superior to that of the surface of the cylinder. The directing roller D may be an idle or a driven roller, or, if desired, the particular take-up roller described and claimed in a pending application filed by me the 16th day of April, 1894, as Serial No. 507,695. When the apparatus is so organized that the sheet depends almost perpendicu-

larly from the idler roller, the lower or directing roller may be an idler. When, however, the apparatus is arranged, as is preferable, in substantially the manner shown in the drawing, and in such manner that the sheet depends obliquely and naturally exerts considerable backward pull upon and over the directing roller, that roller should be positively driven, as, for instance, by the belt pulley d , and belt d^x , and its elevation above the cutting mechanism should be such that the length of sheet depending from it will possess sufficient weight to overcome the tendency of the advance end of the sheet, when cut, to slip backward over said directing roller.

In the frame E are contained a fixed cutting blade e and a movable cutting blade e^x ,—which latter is conveniently intermittently operated by cranks e' , pivoted at e^2 in the frame work, provided with counterweighted arms e^3 , to return them after deflection to their normal position, and connected by links e^4 to said movable blade. These cranks are adapted to be encountered and deflected by the end bars f of glue-carrying nets F , which are caused by any preferred means to travel along suitable conveyer-ways.

I have not deemed it necessary to illustrate in the drawing conveyer-ways, or means for occasioning the travel of the nets or the rotation of the cooling cylinder, as these means may be such as the convenience of the constructor may dictate. In fact, my invention deals particularly with the stripping of the sheet from the cooling cylinder by the utilization of the weight of the advance end of the sheet depending from an idler roller located in proximity to the cylinder over which said sheet is led.

Having thus described my invention, I claim—

1. In an apparatus for the manufacture of glue the following elements in combination:—a feed for liquid glue,—a revoluble cooling cylinder upon the surface of which liquid

glue is delivered and congealed into a sheet of jelly,—and an idler roller over which the sheet is led from the cylinder and which is revolved to occasion the stripping of the sheet from the cylinder by the weight of the advance end of the sheet depending from it,—substantially as and for the purposes set forth.

2. In an apparatus for the manufacture of glue, the following elements in combination,—a feed for liquid glue,—a revoluble cooling cylinder upon the surface of which liquid glue is delivered and congealed into a sheet of jelly,—an idler roller over which the sheet is led from the cylinder and which is revolved to occasion the stripping of the sheet from the cylinder by the weight of the advance end of the sheet depending from it,—and a directing roller located at such distance from the idler roller as to permit of the sag of the sheet between said rollers,—substantially as and for the purposes set forth.

3. In an apparatus for the manufacture of glue, the following elements in combination,—a feed for liquid glue,—a revoluble cooling cylinder upon the surface of which liquid glue is delivered and congealed into a sheet of jelly,—an idler roller over which the sheet is led from the cylinder and which is revolved to occasion the stripping of the sheet from the cylinder by the weight of the advance end of the sheet depending from it,—a directing roller located at such distance from the idler roller as to permit of the sag of the sheet between said rollers,—cutting mechanism for dividing the sheet transversely into sections,—and traveling nets for carrying off said sections,—substantially as and for the purposes set forth.

In testimony that I claim the foregoing as my invention I have hereunto signed my name this 17th day of April, A. D. 1894.

CHARLES W. COOPER.

In presence of—

WM. H. WOODHULL,
ANTHONY GUSHURST.