

No. 818,144.

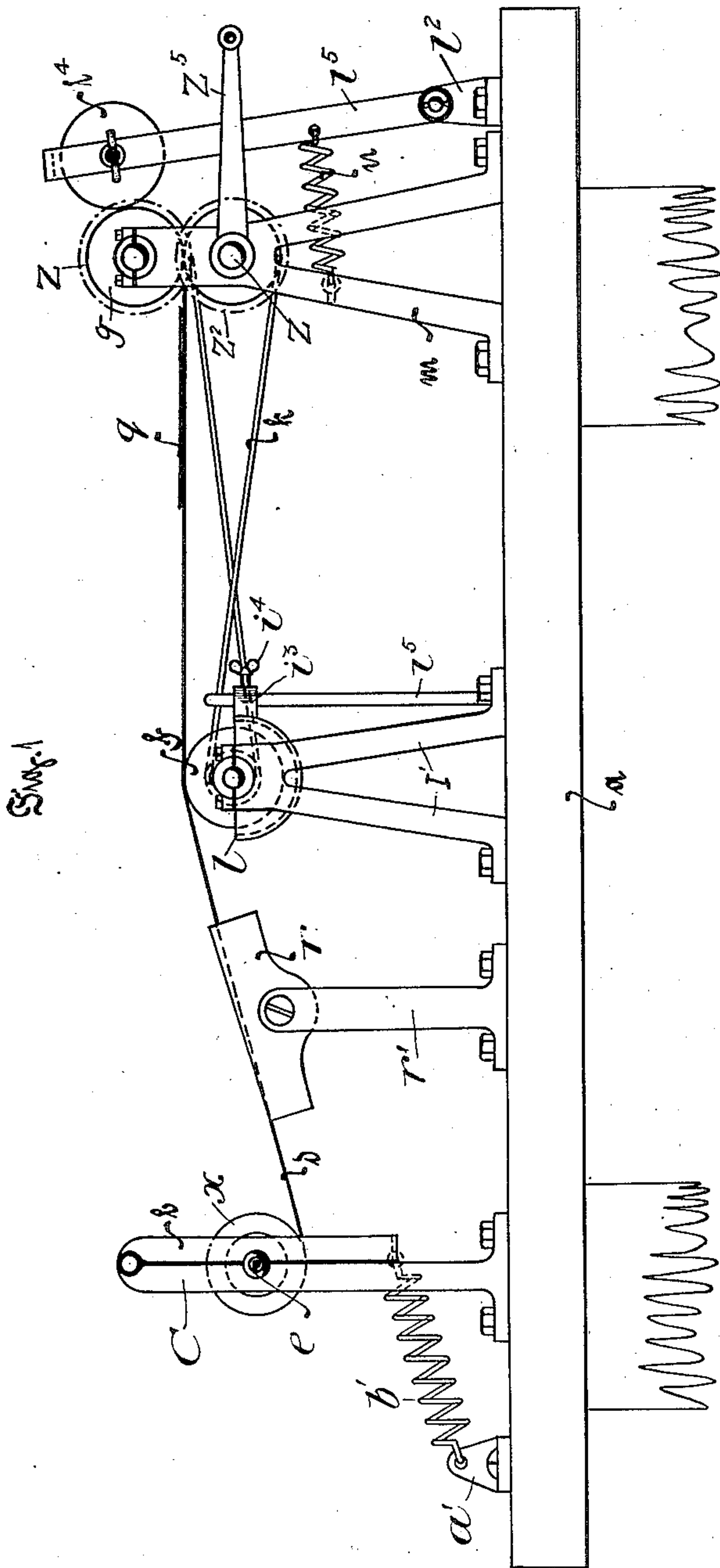
PATENTED APR. 17, 1906.

G. BRÄUNLEIN.

PROCESS AND APPARATUS FOR MAKING METAL COATED PAPER STRIPS.

APPLICATION FILED SEPT. 3, 1904.

2 SHEETS—SHEET 1.



Witness:
A. Honke.

A. Honke.

C. H. Crawford

Summary:

Georg Bräunlein
by B. Singer

by B. Singer

This Attorney

No. 818,144.

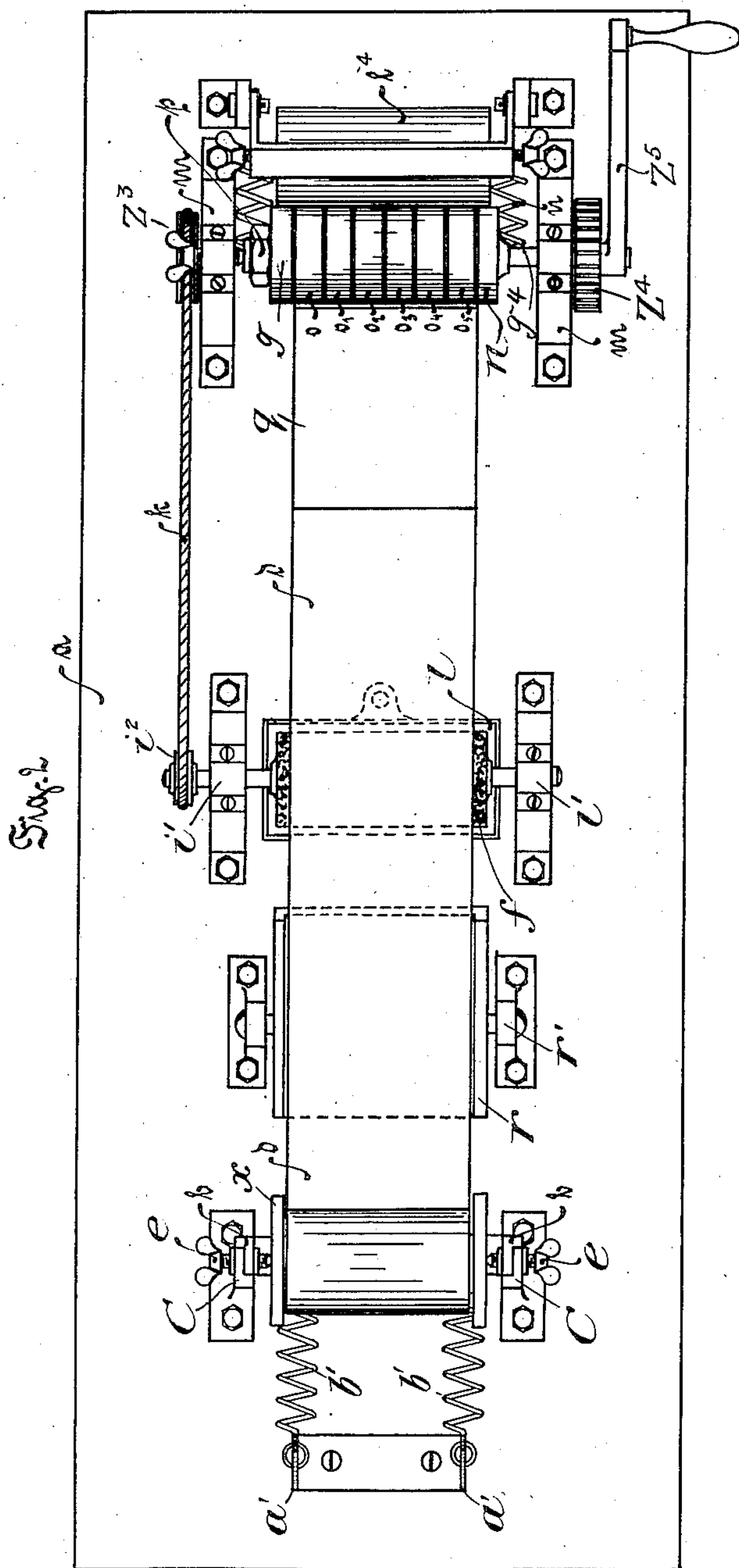
PATENTED APR. 17, 1906.

G. BRÄUNLEIN.

PROCESS AND APPARATUS FOR MAKING METAL COATED PAPER STRIPS.

APPLICATION FILED SEPT. 3, 1904.

2 SHEETS—SHEET 2.



Witnesses:
A. Honke.

C. H. Crawford

Swanton:

Georg Bräunlein
by B. Singer

This Attorney

UNITED STATES PATENT OFFICE.

GEORG BRÄUNLEIN, OF NUREMBERG, GERMANY.

PROCESS AND APPARATUS FOR MAKING METAL-COATED PAPER STRIPS.

No. 818,144.

Specification of Letters Patent.

Patented April 17, 1906.

Application filed September 3, 1904. Serial No. 223,299.

To all whom it may concern:

Be it known that I, GEORG BRÄUNLEIN, a subject of the King of Bavaria, and a resident of No. 35 Wirthstrasse, Nuremberg, Bavaria, Germany, have invented certain new and useful Improvements in Processes and Apparatus for Making Metal-Coated Paper Strips; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to apparatus for preparing metal-coated paper.

One utility to which my device is very generally applied is preparing gold or silver coated paper, the gold or silver being used for signs and gilding or like ornamental purposes. It is well known that in sign-writing it is customary to pick up the gold leaves, which are packed between sheets of paper, with a hair-brush and apply the sheets to a prepared surface, constituting the sign-body or part to be decorated. A great waste of gold-leaf results from this process for the reason that it is impossible to pick up the exact width of leaf corresponding to the area of surface to which it is to be applied. In sign-painting the letters are blocked out upon the glass or other surface, to which is previously and subsequently applied a suitable adhesive solution, such as varnish. In applying the gold-leaf to the blocked surface, the sign-writer completely covers the letters with gold or the like and then shapes the letters in accordance with the original blocking. Informing the letter "A," for instance, the gold covering the central or open space of the letter would have to be cut away entirely, and this material is thrown aside as waste. It has been proposed, therefore, to mount the gold-leaf upon strips of paper wound upon small disks and to apply the gold or the like from a disk of a width corresponding closely to the blocked area upon which the gold is to be applied. Strips of this nature have heretofore been prepared by coating a given width or strip of paper with gold-leaf or like metal and winding the same upon a solid roller and subsequently subdividing the roller and the coated paper thereon into disks of various widths, the subdivision being effected by mounting the roller in a sawing or cutting machine having knives or saws. This method

of preparing metal-coated paper has obvious disadvantages, inasmuch as a cutting-tool adapted to operate upon paper is not at all adapted to operate upon wood, and as the saws operating upon wood are necessarily relatively thick a great waste of material is sustained in subdividing the roller. Further, it is quite impossible in applying the known processes to successfully turn out disks or strips of paper of narrow width, since the knives in subdividing the roller carry off portions of the gold, as the latter cannot be pressed so tightly upon the paper as to withstand the severe frictional contact to which it is subjected by the saws or knives. To this end I propose to wind the metal-coated paper upon a receiving-roller made up of a plurality of separate disks of equal or varying widths and subsequently cutting the wound paper by any suitable means, the distinct disks being thereafter easily separated. By means of my improved device relatively thin knives or saws may be used, since the latter are not employed for cutting the material of which the roller is composed, but are used merely to cut the paper. By this improved means I am enabled to manufacture disks of metal-coated paper of any desired width in a rapid and inexpensive manner.

My invention will be more fully described in connection with the accompanying drawings and will be more particularly pointed out in the appended claims.

In the drawings, Figure 1 represents in side elevation a machine embodying the main features of my invention. Fig. 2 represents a plan view of the device shown in Fig. 1.

Like characters of reference designate similar parts throughout the different figures of the drawings.

My invention, as shown, consists generally of a base *a*, on which is mounted mechanism carrying a paper-feeding roller, a receiving-roller, and means for applying to one side of the paper as it passes from the feeding to the receiving roller a suitable non-adhesive material. The feed-roller *x*, as shown, is mounted in collapsible bearing-standards comprising stationary uprights *C*, having hinged extensions *b*, connected at their free ends to a fixed standard *a'* by contractile springs *b'*. Means are provided whereby the supply-roller *x* is removably mounted in the extension *b*

and in a manner to permit lateral adjustment and direct the paper toward the receiving-roller in alinement therewith. Said means desirably consists of threaded thumb-screws *e*, having threaded bearings in the arms *b* and impinging with their inner ends on the supply-roller at the axis thereof. The inner ends of said screws are conical in form and fit in complementary recesses in the roller. By reference to Fig 2 it will be obvious that the thumb-screws may be turned to adjust the roller axially in any desired horizontal position. When it is desired to insert a new supply of paper, the arms *b* are swung outwardly from the standard *C* against the action of the springs *b'*.

As the paper travels from the supply-roller to the receiving-roller it is guided by a table *r*, pivotally mounted on standard *r'*. Beyond said table it is engaged on its lower side by a roller *f*, sunk in a trough *I*. Said roller is journaled in standards *I'* and is provided with a wheel or sheave *i*² at its outer end. Said trough *I* is adjustably mounted on a standard *i*⁵ and is secured thereto by means of a collar *I*³ and a thumb-nut *I*⁴. The trough *I* desirably contains non-adhesive material, with which one side of the paper strip is dusted or coated. Powdered bolus has been found to perform the function desired and permits the paper to be tightly wound without collecting the gold-leaf.

The paper passing from the roller *f* to the receiving-roller *g* is provided with strips of metal *q*, which are desirably laid thereon by hand or automatically fed, said strips being desirably overlapped in order to coat the strip of paper with a continuous strip of metal. The receiving-roller, as herein shown, consists of a plurality of separate disks *o* *o'* *o*² *o*³ *o*⁴ *o*⁵, threaded upon a spindle *g*⁴ and which are clamped in tight contact thereon against a shoulder *n* by a nut *p*. Said spindle is removably secured in cone-bearings which permit of lateral adjustment of the receiving-roller. Below the disk roller is mounted a shaft *z*, carrying on one end an operating-crank *z*⁵ and a gear-wheel *z*², adapted to mesh with a gear *z*⁴. Said operating-shaft is provided on its opposite end with a wheel or sheave *z*³ in alinement with the wheel *i*². A rope *k* or other suitable power-transmitting belt is trained about said wheels, and as the crank *z*⁵ is turned the roller *f* is rotated in a direction opposite to the direction of travel of the paper. Said roller *f* is preferably covered with felt or similar material in order that the non-adhesive material or bolus may easily adhere and may be carried round by the roller and dusted or coated upon the under side of the strip *d*. In order that the paper and metal wound upon the disk roller may not be wrinkled at any point, a spring-actuated presser-roller *l*⁴ is provided, which is rotatively

mounted in a frame *l*⁵, secured to fixed standards *l*². Said frame is connected by a contractile spring *u* to the frame *m*, which serves to hold the presser-roll *l*⁴ tightly engaged with the receiving-roller. When the disk or receiving roller is being wound with paper and metal, it will be obvious that the metal *q*, which, as shown, rests on the top surface of the strip, will, while being wound upon the roller engage the paper; but inasmuch as the lower side of the paper is thoroughly coated with the powdered bolus it will not adhere to the metal.

When the disk or receiving roller is full, it is removed from the apparatus herein shown and is mounted in a cutting-machine, the knives of which are adjusted or spaced apart a distance equal to the width of the disks *o* to *o*⁵. It will readily be seen that when the knives have passed through the paper they will, if slightly further advanced, serve to separate the disks, whereupon the latter may be slid off from the spindle and packed for shipment. It will be obvious that the disks *o* to *o*⁵ may be of different widths, so that the gold-leaf may be applied economically to any prepared surface with the least possible waste, the width of the surface and disk selected being practically the same.

While I have herein shown and described a specific embodiment of my invention, it will be obvious that the same may be materially altered without departing from the spirit of the invention, and I therefore do not wish to be limited to the precise construction shown; but

What I claim, and desire to secure by Letters Patent, is—

1. The process of preparing metal-coated fabric for gilders' use which consists in applying a plurality of strips of metal foil of varying widths, to one side of a plurality of strips of fabric, then applying material capable of preventing the adhesion of said foil to said strips of fabric, then subjecting the fabric to pressure and simultaneously winding said strips of fabric and foil upon cores corresponding in width to the fabric wound thereon.

2. An apparatus of the class described comprising a roller rotatively supported and composed of a plurality of separate disks, means for rotating said roller, means for feeding to said roller a strip of paper provided on one side with a thin layer of metal and coated on the opposite side with powdered bolus or the like, and a tightening-roller yieldingly held in engagement with the paper wound upon said disk roller.

3. An apparatus of the class described comprising a roller rotatively supported and composed of a plurality of separate disks, a spindle on which said disks are threaded, clamping-nuts for securing said disks in posi-

tion upon the spindle, a spring-actuated pressure-roll for said disk roller, a collapsible standard carrying a supply or roll of paper carried on said standard, a coating-roller rotatably mounted and located between said disk roll and supply-roller, a trough for said coating-roll and in which the latter is sunk, said coating-roller engaging the lower face of the paper as the same is fed to the disk roller,

and a pivotally-mounted table guiding said paper on its passage from the supply-roll to the coating-roll.

In testimony whereof I affix my signature in presence of two witnesses.

GEORG BRÄUNLEIN.

Witnesses:

ALEX WIELE,
MAX SCHNEIDER.