Serial No. 175423 Ex'r Book No. 12 / 169

1885.

Patent No. 345,331

Freelan O. Stanley and
Frank E. Stanley

of Lewiston Auburn
County of Androscoggin
State of Maine
Invention Machine for the Manufacturing of Photographic Dry Plates & called a Coating Machine

Parts of application filed.

Petition Aug 27 1885
Affidavit " " "
Specification " " "
Drawing 3 Sheets " " "
Model not required
Specimen
First fee Cash $15 Aug 27 '85
" " Cert.

App. filed complete Aug 27, 85

Examined Mear 1/86 Wm Burke
Countersigned: J. M. Mabery
Mar 2-86 For Commissioner.
Notice of allowance March 3 1886
Final fee Cash $20 June 21 1886
" " Cert. 188
Patented July 13 1886

Att'y, or P. O. address C. A. Emerson
Lewiston
Maine

PHOTOGRAPHY
Processes. 1885.

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Application ..... papers.

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TITLE:

Improvement in Machines for Manufacturing Photographic Dry Plates.

(3768—14 M.)

PETITION.

To the Commissioner of Patents:

Your petitioners, residing in Lewiston and Auburn respectively
County of Androscoggin, State of Maine
pray that Letters-Patent may be granted to themselves

for the invention set forth in the annexed specification, vesting in themselves and their legal representatives, the exclusive right of the same upon the terms and conditions expressed in the act of Congress in that case made and provided.

And further pray that you will recognize Clarence V. Emerson of Lewiston Maine, as their Attorney with full power of substitution and revocation, to prosecute this application, to make alterations and amendments therein, to receive the patent, and transact all business in the Patent Office connected therewith.

Freelan O. Stanley
Frank E. Stanley
[Inventor's signature.]

SPECIFICATION.

To all whom it may Concern:

Be it known, That Freelan O. Stanley and Frank E. Stanley citizens of the United States of Lewiston and Auburn respectively in the County of Androscoggin and State of Maine, have invented a certain new and useful ~~improvements in~~ machine for the manufacturing of photographic dry plates and called a "coating machine" and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings and to letters of reference marked thereon, which form a part of this Specification:

Figure 1 represents a side view of part of the coating machine — a section being taken out at a. A section is cut off at the right of the view in fig 1. The continuation of fig 1 may bee seen in fig 2. Figs. 3 + 4 are top plans of figs. 1 and 2 respectively. Fig. 5 is a perspective view of the device for the coating of the plate and fig. 6 is a sectional view of fig 5

Same letters show like parts.

Our invention relates to the manufacturing of photographic dry plates.

Our improvements consist in the method of coating the glass plate — the "setting process" or hardening of the coating after it is applied to the plate — and the method of securing uniformity of flow of the photographic emulsion upon the plate

Power is communicated to the machine by belt to pulley at end of roll b

Rolls b c d and e are connected by belt ~~of cloth~~ f- passing around them in direction indicated by arrow.

Power is communicated from pulley at end of roll e- to pulley g- at end of drum pulley h-

i i i i are cord or rope belts passing around grooved rolls k. k.

These rope belts may be placed nearer together or farther apart as is necessary to support the glass plate which they carry along and which is

Erase as per B
Feby 25/86

placed upon them one after another and in immediate contact at the point .j. These cord or rope belts take the direction indicated by arrow.

The glass plate .k. to be coated is placed by the operator on the cord belts at the point .j. and by these cords carried along under the coater at the point .m. The process of coating will be described hereafter.

Immediately after receiving the coating the plate passes from the rope belts to the ~~cloth~~ belt .f. This latter being distant from the rope belts about 1/2 inch. The plate is now carried along by the ~~cloth~~ belt to the point .h. where a second operator removes the plate and sets it away to dry.

Erase as per B Febry 25/86

Erase as per B Febry 25/86

The rope belts pass through a tank .n. of tepid water and any emulsion upon the belts is thus washed off.

Fig. 5 is the coater

o.o. are the parallel sides of a frame and are held in place by the connecting rods .p. and .q. The rod .q. extends through the sides .o.o. and its ends serve as a shaft resting in the bearings .r. These bearings being elevated above the rope belts.

Through the sides .o.o. run a tube .s. and a glass rod .t. the tube placed directly above the rod and each

in contact with the other their entire length as seen in fig. 5

The tube s, on its under side, along its entire length, on a line immediately at the left of its point of contact with the glass rod t, as seen in fig. 5, is punctured with a series of small holes u one of which is plainly seen in fig. 6. This tube s is also punctured on its upper side with a small hole at v. To this latter puncture is fitted a peg w removable at pleasure.

The glass rod t rests on the rope belts r or on the glass plates when the plate is being coated and carried along by the rope belts.

The photographic emulsion is introduced into the tubes at the joint x by means of additional flexible tubing y connected with a jar z located near by.

To secure uniform flow of emulsion through flexible tube y connected with the coater, this flexible tube y is connected with a jar z in which the height of the emulsion is regulated by an ordinary trap valve as it (the emulsion) comes from a tank containing the stock solution.

As the emulsion is introduced into the tube s the peg w is removed

that all air may escape. The air having been driven out the peg w. is returned to its place. The emulsion thus introduced escapes through the punctures before described and overflows the glass rod t. on the sides upon to the ~~cloth~~ belt f. The emulsion then flows downward over the glass rod t until it reaches the glass plate b which is being carried along by the rope belts, and by capillary attraction the emulsion is then uniformly spread over the glass plate.

Erase as per B Feby 25/86

The ~~cloth~~ belt f passes over tin rests or supports a which extend across the part uppermost of the machine from side to side as seen in figs 3 and 4. Their purpose is to keep level the belt f and the coated plate passing along, while the friction of the belt is less than if passed over a plane surface

Erase as per B Feby 25/86

b' represents a tank filled with ice water through which the ~~cloth~~ belt f passes as seen at the point d in figs. 1 and 2. As the belt comes from the tank b' and reaches the roll e. where it receives the first coated plate c. its (the ~~cloth~~ belt) temperature is low. It then receives the plate and the temperature of the

Erase as per B Feby 25/86

latter is thus lowerd and the coating begins to harden or set immediately, being fully set when it reaches the point b. where is is removed by the second operator.

What we claim as our invention and desire to secure by letters patent of the United States is —

Erase insert A Feby 17/86.

1. Imformity of pressure of the emulsion as it flows or is introduced into the pneumatised tube and for the purposes set forth.

2. The combination of the tube s (pneumatised) and glass rod t for the purposes herein set forth and described

3. The use of a felt saturated with ice water or other cold liquid and for the purposes herein set forth and described

Witnesses.
John E. Moore
Henry Sabnic

Freelan O. Stanley
Frank S. Stanley

In Testimony, That we claim the foregoing as our own
we affix our signatures, in presence of two witnesses.

Two Witnesses { John E. Moore / Henry Sabin }

Inventors { Freelan O. Stanley / Frank E. Stanley }

OATH.

State of Maine
County of Androscoggin } ss.

Freelan O. Stanley and Frank E. Stanley

the above-named petitioners, citizen of the United States
and resident of Lewiston and Auburn, respectively, in the County of Androscoggin
and State of Maine being duly sworn, (affirmed) depose, and say
that they verily believe themselves to be the original, first and joint
inventors of the ~~Improvements in~~ new and useful "Coating
machine"

described in the foregoing specification, that they do not know and do
not believe that the same was ever known or used prior to their
invention thereof and that the same has not to their knowledge
been in public use or on sale in the United States for more than two years prior to
this application; that the same has not been patented to themselves nor to others
with their knowledge or consent, in any country.

Freelan O. Stanley
Frank E. Stanley

Sworn to and subscribed before me ~~the date above named.~~
This twenty fifth day of August Fred R. Watson
A.D. 1885.

Notary Public
[Official Signature]

NOTES AND DIRECTIONS.

The Application for Letters Patent is by way of Petition, addressed to the Commissioner of Patents, accompanied by specification and oath.

The Petition and Specification must be separately signed by the Inventor upon the lines intended for that purpose, and the Specification must be attested by two witnesses. Full name must be given, and all dates, &c., be legibly written.

The Oath or affirmation may be made within the United States by any person authorized by law to administer oaths, or when the applicant resides abroad, by any United States Consul or foreign Notary Public.

If the application is made by joint inventors, insert after the words "granted to," in the Petition, the words "them as joint inventors," and if by the inventor for himself and an Assignee insert "himself and———of———as his Assignee."

The title of the invention is written after the word "describing" in the caption of the specification. For instance, if the invention is a machine insert "certain improvements in Planing Machines." If a process. "an improved Process of Separating Smut and other Impurities from Wheat." If a compound, "a certain Compound called Wool Oil." If a design, "a Design for Carpets."

If the applicants claim to be *joint inventors*, the oath will read "that they verily believe themselves to be the original, joint, and first inventors, &c.

If the inventor be dead, the oath will be taken by the administrator or executor who will declare his belief that the party named as inventor was the original and first inventor.

Acknowledgment should be made before a Notary Public who must attach his seal. If, however, the oath is taken before a Justice of the Peace, a certificate of the nearest Judge or clerk of the court, showing that such justice is qualified, must be attached.

Serial No. 173428 Paper No. 1/2

Application

Filed August 24 1885.

In the U. S. Patent Office.

IN THE MATTER OF THE APPLICATION OF

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.....

.....

FOR

LETTERS-PATENT

FOR

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.....

Petition, Oath, Specification and Power of Attorney.

FILED BY

JOHN L. GINCK, Printer, 631 F Street, near 7th, Washington, D. C.

OFFICE OF

EMERSON & BRIGGS,

Attorneys and Counsellors at Law,

College Block, Room 3, Lisbon Street,

C. V. EMERSON.
E. M. BRIGGS.

Lewiston, Me., Aug 25 1885

To the Commissioner of Patents.
Washington, D.C.

Enclosed find application of Freelan O. Stanley and Frank E. Stanley to secure letters patent upon a "coating machine" by them invented also Issue Fee of Fifteen Dollars in P.O. order.

I send by this mail drawings - three plates - each marked - "coating machine" - to illustrate the features of their machine

Most Respy
C. V. Emerson Atty
for Applicants

Serial No. 175423 Docket No. 1/2

Filed August 27 1885

All communications should be addressed to
"The Commissioner of Patents,
Washington, D. C."

DEPARTMENT OF THE INTERIOR,

United States Patent Office,

Washington, D. C., Jan 27th, 1886.

F. O. Stanley
and F. E. Stanley
care C. V. Emerson.
Lewiston Me.

Your application No. 173,423. — "Machine for the Manufacturing of Photographic Dry Plates." — Filed Aug. 27th. 1885. has been examined and no objection at present made to the subject-matter of the alleged invention, set forth in the specification; the claim however is objectionable in form. Besides being of a functional character, that is, for the "doing of something" it is not considered suf-

ficiently specific to meet the requirements of Rule 34 Rules of Practice, a copy of which is mailed herewith to the above address.

Wm Burke Exr

A.M.B.C.

Serial No. 175423 Paper No. 1
Rejection
Jany 27 86
Dated

OFFICE OF
EMERSON & BRIGGS,
Attorneys and Counsellors at Law,
Room 3, College Block, Lisbon Street,

C. V. EMERSON.
E. M. BRIGGS.

A one

Lewiston, Me., Jany 30th 1886

To The Commissioner of Patents,

Dear Sir:-

August 27th 1885 F. O. Stanley & H. E. Stanley filed application for patent upon a Machine for Manufacturing Photographic Dry Plates. Serial No. 175,423.

I this day recd a communication that objection is made — not to the subject matter — but to some part of the specification I suppose — The statement of the objection is to me ambiguous and so much so that I am positively in doubt to what it refers.

Does the objection refer to clause 4 or 5 of Rule 39 or is the entire specification defective.

Respy Yours
C. V. Emerson
Atty for Applicants

A
7,836
J.

U.S. PATENT OFFICE RECD FEB 2 1886

√

T. C. Ev. Burke for applt
of F. C. & H. E. Stanley, filed
Aug. 27/85 —

Serial No. 173423 Paper No. 2
Letter to Office
Filed Feby 2 1886

30

UNITED STATES * FEB 2 1886 * PATENT OFFICE.

217

DEPARTMENT OF THE INTERIOR,

United States Patent Office,

Washington, D. C., Feb. 10", 1886

F. O. Stanley
and F. E. Stanley.
care C. V. Emerson.
Lewiston Me.

In the matter of your application No. 175,423. — "Machine for the Manufacturing of Photographic Dry Plates" — Filed Aug. 27". 1885. and in answer to your communication of the 2" inst. the office would state that no objection is made to the specification but to the several clauses of the claim; the same not being considered sufficiently specific to meet the requirements of Rule 37. (originally 34) Rules

of Practice. See also Forms of claim, on pages 58. 60. of the above Rules as illustrations of specific claims, in applications for a Process, a Machine and an Article of Manufacture. Attention is also called to the decision in the cases of Mayall, 4. O. G. 210. - Merrill vs Yeoman. 11. O. G. 970. and The Keystone Bridge Co. vs The Phoenix Iron Co. 12. O. G. 980. further illustrating the nature and scope of the specification and claim, in an application for a patent, and the great desirability of specificness in the same.

W. W. B.

Wm. Burke Ex.

173423
Forms
Feb 10

OFFICE OF
EMERSON & BRIGGS,
Attorneys and Counsellors at Law,
Room 3, College Block, Lisbon Street,
Lewiston, Me., Feb 15th 1886

C. V. EMERSON.
E. M. BRIGGS.

To Commissioner of Patents
Washington D.C.

Dr. Sir:—

Yours of the 10th inst offering objections to claims made for letters patent for improvement in Machine for Manufacturing Photographic Dry Plates, filed Aug. 27th 1885 (Srie number 175423) at hand.

Enclosed find an amendment which is hoped to be sufficiently specific to meet the requirements of the Rules.

When please give the amendment probable be examined

Most Respy
C. V. Emerson


UNITED STATES
PATENT OFFICE.
FEB
17
1886

To the Commissioner of Patents:

In the matter of our application for letters patent for an improvement in Machine for manufacturing Photographic Dry Plates filed August 27 1885 (Serial Number 175423) we hereby amend our specification as follows:

By striking out the 1st claim and substituting therefor the following:-

Erase per C Feby 25/86

"1st A device consisting of a jar containing a trap valve regulating the inflowing of the emulsion thus securing a uniform height of emulsion in jars and hence a uniform pressure of emulsion in tubes substantially as shown, for the purpose specified."

A

By striking out the 2nd claim and substituting Therefor the following

Erase & insert per C. Feb. 25/86

"2nd A coater consisting of a perforated tubes and glass rod t as herein described and for the purpose specified."

By striking out the 3rd claim and substituting Therefor the following

Erase & insert Feby 25/86. C'

"3rd A belt saturated with ice water or other cold liquid for the purpose of chilling or setting the emulsion as herein substantially set forth and described."

Signed at Lewiston County of Androscoggin & State of Maine.

F.O. Stanley
F.E. Stanley } By
C.V. Emerson
Their Attorney in fact.

All communications should be addressed to
"The Commissioner of Patents,
Washington, D. C."

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Enclosure

DEPARTMENT OF THE INTERIOR,

United States Patent Office,

Washington, D. C., Feb 19", 1886.

F. O. Stanley
and F. E. Stanley.
care C. V. Emerson.
Lawrence Mass.

Your application No. 176,423.- "Machine for the Manufacture of Photo. Dry Plates &c",- filed Aug. 27th 1885; has been examined in connection with amendment of the 17th inst: and the 1st clause of claim now presented found objectionable, inasmuch as the "lap valk", constituting one of the elements of the claim, is not shown in the drawings as required by Rule 49. Rules of

Practice. It would be considered merely "doubtful". However, to regulate the flow of an "emulsion" into a jar, by means of a "tap valve", when they are commonly used for the purpose of regulating the flow of malt into malt-tanks; and thereon involving no invention.

The enclosed pencilled claims are suggested in lieu of the 2nd and 3rd, now filed.

(Per) Wm. Burke & Co.

2/11/76.

OFFICE OF
EMERSON & BRIGGS,
Attorneys and Counsellors at Law,
Room 3, College Block, Lisbon Street,
Lewiston, Me., Feb 23rd 1886

(Room 217)

C. V. EMERSON.
E. M. BRIGGS.

To The Commissioner of Patents
Dr. Sir :—

Enclosed find amendment to specification in application for letters patent for machine for manufacturing photographic dry plate filed Aug. 27, 1885 serial number 175423.

We have claimed a "belt saturated" &c instead of a "belt of cloth saturated" &c and it is hoped our claim may be allowed.

We do not want to be confined to a "cloth belt" for we are aware that a belt of other material may be used. In our machine as described we have used a "cloth belt" but do not think our specification would confine us to the use of such material.

If however our claim is too broad may ask at this

OFFICE OF
EMERSON & BRIGGS,
Attorneys and Counsellors at Law,
Room 3, College Block, Lisbon Street,

Lewiston, Me., ... 188

C. V. EMERSON.
E. M. BRIGGS.

time to avoid delay if such amendment as the following need be received in our application so that we may not be confined to "cloth belt"

B
1st By striking out ditto ditto wherever the expression "cloth belt" occurs the word "cloth"

2nd By striking out ditto ditto wherever the expression "Belt cloth" occurs the words "2 cloth"

Hoping I have not asked too much I remain

Very Respectfully
C. V. Emerson
Atty for P. O. & H. E. Stanley.

Serial No. 175423 Paper No. 6

Amendment B

Filed Feby 25- 1886

To the Commissioner of Patents:

In the matter of our application for letters patent for an improvement in a machine for manufacturing Photographic Dry Plates filed August 27th 1885 (serial number 175423) we hereby amend our specification as follows:-

By striking out the first claim entirely

By striking out the second claim and substituting therefor the following:

C "1st In a machine for coating Photographic Plates the combination of the perforated tubes and the glass rod t placed in contact therewith substantially as described".

By striking out the third claim and substituting therefor the following:

C' "2nd In a machine for coating Photographic Plates a belt saturated with ice water or other cold liquid for the purpose of chilling or setting the emulsion substantially as herein before set forth."

Signed at Lewiston in the County of Androscoggin and State of Maine

F. O. Stanley
F. E. Stanley
By C. V. Emerson
Their attorney in Fact

Serial No. 179,423 Paper No. 1

Amendment C

Filed Feby 25 1886

Claim

Issue Division.
communications should be addressed to
"The Commissioner of Patents,
Washington, D. C."

(2–024.)

Serial No. 175,423

DEPARTMENT OF THE INTERIOR,

U. S. Patent Office,

Washington, D. C., March 3, 1886.

Freelan O. Stanley
and Frank E. Stanley
c/o C. V. Emerson
Lewiston Maine

SIR:—Your APPLICATION for a patent for an **IMPROVEMENT IN** Machines for Manufacturing Photographic Dry Plates

Filed Aug 27, 1885, has been examined and ALLOWED.

The final fee, **Twenty Dollars,** *must be paid, and the Letters Patent bear date as of a day not later than SIX MONTHS from the time of this present notice of allowance.*

If the final fee is not paid within that period the patent will be withheld, and your only relief will be by a renewal of the application, with additional fees, under the provisions of Section 4897, Revised Statutes. The Office aims to deliver patents upon the day of their date, and on which their term begins to run; but to do this properly applicants will be expected to pay their final fees at least TWENTY DAYS prior to the conclusion of the six months allowed them by law. The printing, photolithographing, and engrossing of the several patent parts, preparatory to final signing and sealing, will consume the intervening time, and such work will not be done until after payment of the necessary fees.

When you send the final fee you will also send, DISTINCTLY AND PLAINLY WRITTEN, the name of the INVENTOR and TITLE OF INVENTION AS ABOVE GIVEN, DATE OF ALLOWANCE, (which is the date of this circular,) DATE OF FILING, and, if assigned, the NAMES OF THE ASSIGNEES.

If you desire to have the patent issue to ASSIGNEES, an assignment containing a REQUEST to that effect, together with the FEE for recording the same, must be filed in this Office on or before the date of payment of final fee.

Additional copies of Specifications and Drawings will be charged for at the following rates: Single Copies, uncertified, **25 cents**; *twenty copies or more,* **10 cents each.** *The money should accompany the order.*

Very respectfully,

M. V. Montgomery

Commissioner of Patents.

(4225—20,000.)

IN REMITTING FEE CITE THE SERIAL NUMBER AT THE HEAD OF THIS NOTICE.

The within title is that given by the Examiner in charge, as most appropriate to your invention. Should you desire a change in the same, satisfactory reasons MUST be given therefor on or before the payment of the final fee.

(No Model.) 3 Sheets—Sheet 1.

F. O. & F. E. STANLEY.

MACHINE FOR MANUFACTURING PHOTOGRAPHIC DRY PLATES.

No. 345,331. Patented July 13, 1886.

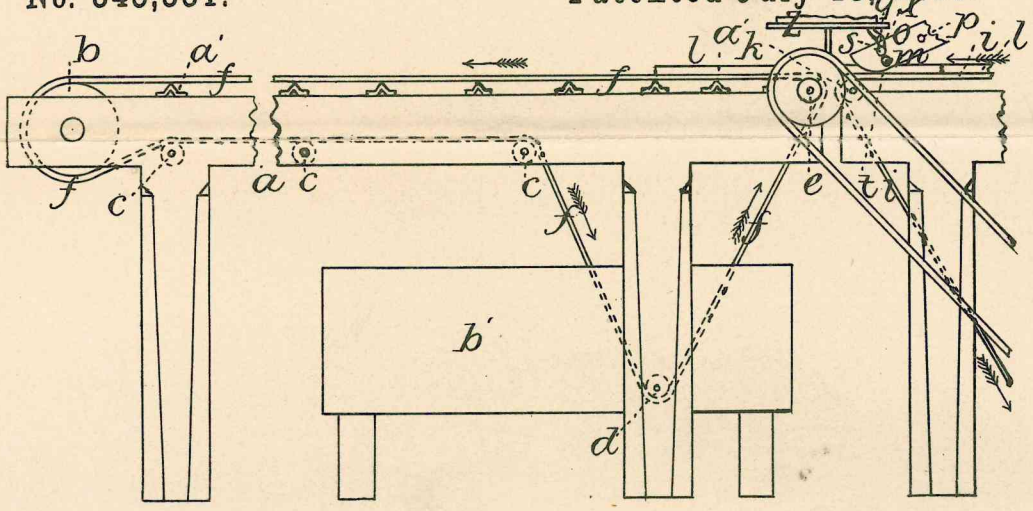

FIG. 1.

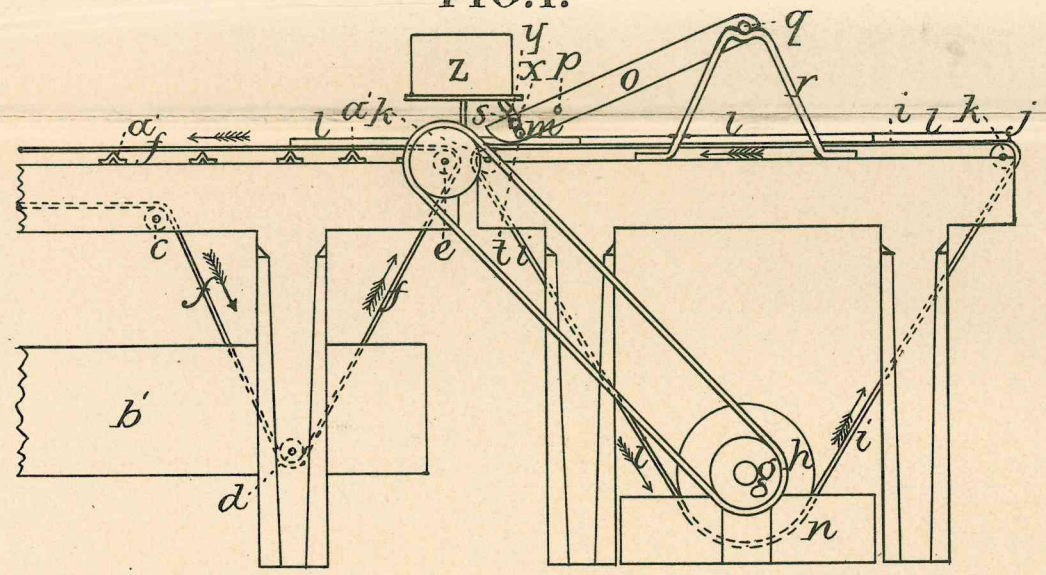

FIG. 2.

WITNESSES:

John E. Moore

Henry Sabin

INVENTORS:

Freelan O. Stanley

Frank E. Stanley

(No Model.) 3 Sheets—Sheet 2.

F. O. & F. E. STANLEY.

MACHINE FOR MANUFACTURING PHOTOGRAPHIC DRY PLATES.

No. 345,331. Patented July 13, 1886.

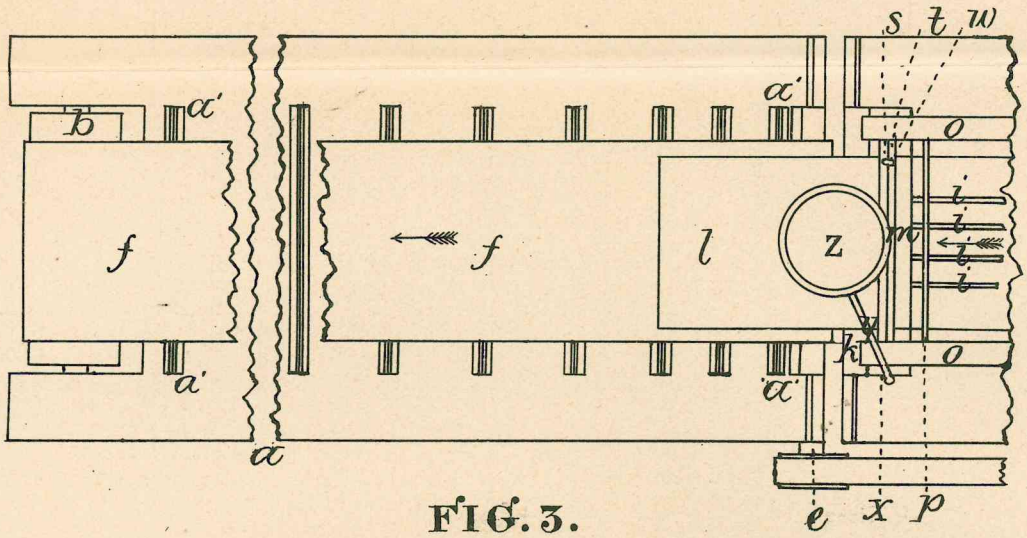

FIG. 3.

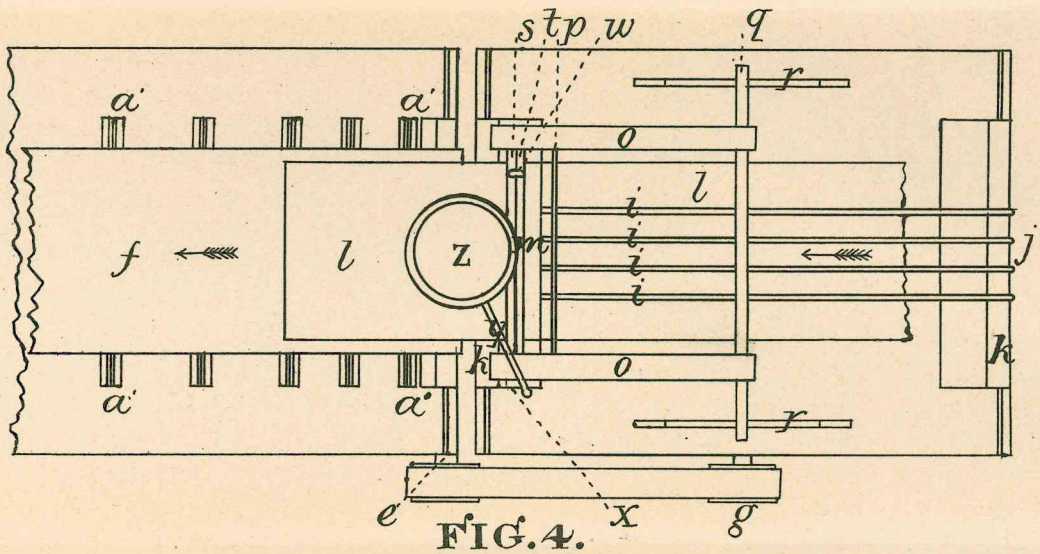

FIG. 4.

WITNESSES:

John E. Moore

Henry Sabrie

INVENTORS:

Freelan O. Stanley

Frank E. Stanley

(No Model.) 3 Sheets—Sheet 3.

F. O. & F. E. STANLEY.

MACHINE FOR MANUFACTURING PHOTOGRAPHIC DRY PLATES.

No. 345,331. Patented July 13, 1886.

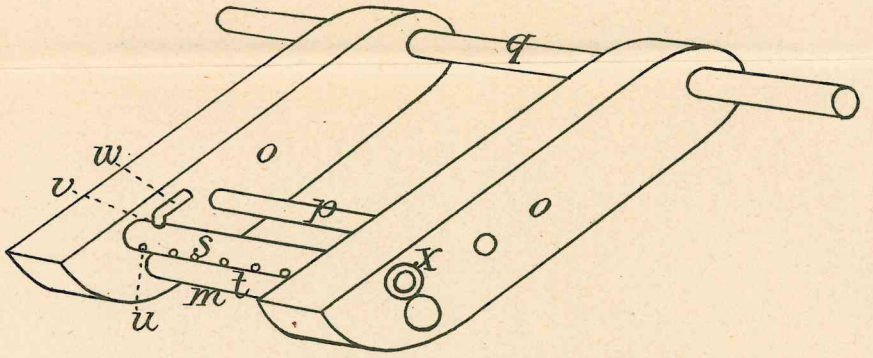

FIG. 5.

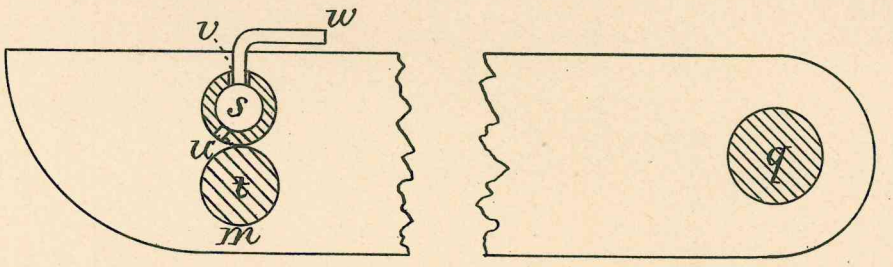

FIG. 6.

WITNESSES:

John E. Moore

Henry Sabin

INVENTORS:

Fullam O. Stanley

Frank E. Stanley

UNITED STATES PATENT OFFICE.

FREELAN O. STANLEY, OF LEWISTON, AND FRANK E. STANLEY, OF AUBURN, MAINE.

MACHINE FOR MANUFACTURING PHOTOGRAPHIC DRY-PLATES.

SPECIFICATION forming part of Letters Patent No. 345,331, dated July 13, 1886.

Application filed August 27, 1885. Serial No. 175,423. (No model.)

To all whom it may concern:

Be it known that we, FREELAN O. STANLEY and FRANK E. STANLEY, citizens of the United States, of Lewiston and Auburn, respectively, in the county of Androscoggin and State of Maine, have invented a certain new and useful Machine for the Manufacturing of Photographic Dry-Plates, and called a "Coating-Machine;" and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 represents a side view of part of the coating-machine, a section being taken out at *a*. A section is cut off at the right of the view in Fig. 1. The continuation of Fig. 1 may be seen in Fig. 2. Figs. 3 and 4 are top plans of Figs. 1 and 2, respectively. Fig. 5 is a perspective view of the device for the coating of the plate, and Fig. 6 is a sectional view of Fig. 5.

Same letters show like parts.

Our invention relates to the manufacturing of photographic dry-plates.

Our improvements consist in the method of coating the glass plate, the "setting process" or hardening of the coating after it is applied to the plate, and the method of securing uniformity of flow of the photographic emulsion upon the plate.

Power is communicated to the machine by belt to pulley at end of roll *b*.

Rolls *b*, *c*, *d*, and *e* are connected by belt *f*, passing round them in direction indicated by arrow.

Power is communicated from pulley at end of roll *e* to pulley *g* at end of drum-pulley *h*.

i i i i are cord or rope belts passing round grooved rolls *k k*. These rope belts may be placed nearer together or farther apart, as is necessary to support the glass plate, which they carry along, and which is placed upon them one after another and in immediate contact at the point *j*. These cord or rope belts take the direction indicated by arrow.

The glass plate *l*, to be coated, is placed by the operator on the cord belts at the point *j*, and by these cords carried along under the coater at the point *m*. The process of coating will be described hereinafter. Immediately after receiving the coating the plate passes from the rope belts to the belt *f*, this latter being distant from the rope belts about one-half inch. The plate is now carried along by the belt to the point *b*, where a second operator removes the plate and sets it away to dry. The rope belts pass through a tank, *n*, of tepid water, and any emulsion upon the belts is thus washed off.

Fig. 5 is the coater.

o o are the parallel sides of a frame, and are held in place by the connecting-rods *p* and *q*. The rod *q* extends through the sides *o o*, and its ends serve as a shaft, resting in the bearings *r*, these bearings being elevated above the rope belts. Through the sides *o o* run a tube, *s*, and a glass rod, *t*, the tube placed directly above the rod and each in contact with the other their entire length, as seen in Fig. 5. The tube *s*, on its under side along its entire length, on a line immediately at the left of its point of contact with the glass rod *t*, as seen in Fig. 5, is punctured with a series of small holes, *u*, one of which is plainly seen in Fig. 6. This tube *s* is also punctured on its upper side with a small hole at *v*. To this latter puncture is fitted a peg, *w*, removable at pleasure. The glass rod *t* rests on the rope belts or on the glass plates when the plate is being coated and carried along by the rope belts. The photographic emulsion is introduced into the tube *s* at the point *x* by means of additional flexible tubing, *y*, connected with a jar, *z*, located near by.

To secure uniform flow of emulsion through flexible tube *y*, connected with the coater, this flexible tube *y* is connected with a jar, *z*, in which the height of the emulsion is regulated by an ordinary trap-valve as it (the emulsion) comes from a tank containing the stock solution. As the emulsion is introduced into the tube *s*, the peg *w* is removed, that all air may escape. The air having been driven out, the peg *w* is returned to its place. The emulsion thus introduced escapes through the punctures before described, and overflows the glass rod *t* on the side next to the belt *f*. The emulsion then flows downward over the glass rod *t* until

it reaches the glass plate *l*, which is being carried along by the rope belts, and by capillary attraction the emulsion is then uniformly spread over the glass plate. The belt *f* passes over tin rests or supports *a'*, which extend across the part uppermost of the machine from side to side, as seen in Figs. 3 and 4. Their purpose is to keep level the belt *f* and the coated plate passing along, while the friction of the belt is less than if passed over a plane surface.

b' represents a tank filled with ice-water, through which the belt *f* passes, as seen at the point *d* in Figs. 1 and 2. As the belt comes from the tank *b'* and reaches the roll *e*, where it receives the just-coated plate *l*, its (the belt's) temperature is low. It then receives the plate, and the temperature of the latter is thus lowered, and the coating begins to harden or set immediately, being fully set when it reaches the point *b*, where it is removed by the second operator.

What we claim as our invention, and desire to secure by Letters Patent of the United States, is—

1. In a machine for coating photographic plates, the combination of the perforated tube *s* and the glass rod *t*, placed in contact therewith, substantially as described.

2. In a machine for coating photographic plates, a belt saturated with ice-water or other cold liquid for the purpose of chilling or setting the emulsion, substantially as hereinbefore set forth.

In testimony that we claim the foregoing as our own we affix our signatures in presence of two witnesses.

FREELAN O. STANLEY.
FRANK E. STANLEY.

Witnesses:
JOHN E. MOORE,
HENRY SALNIC.