No. 729,382. PATENTED MAY 26, 1903.

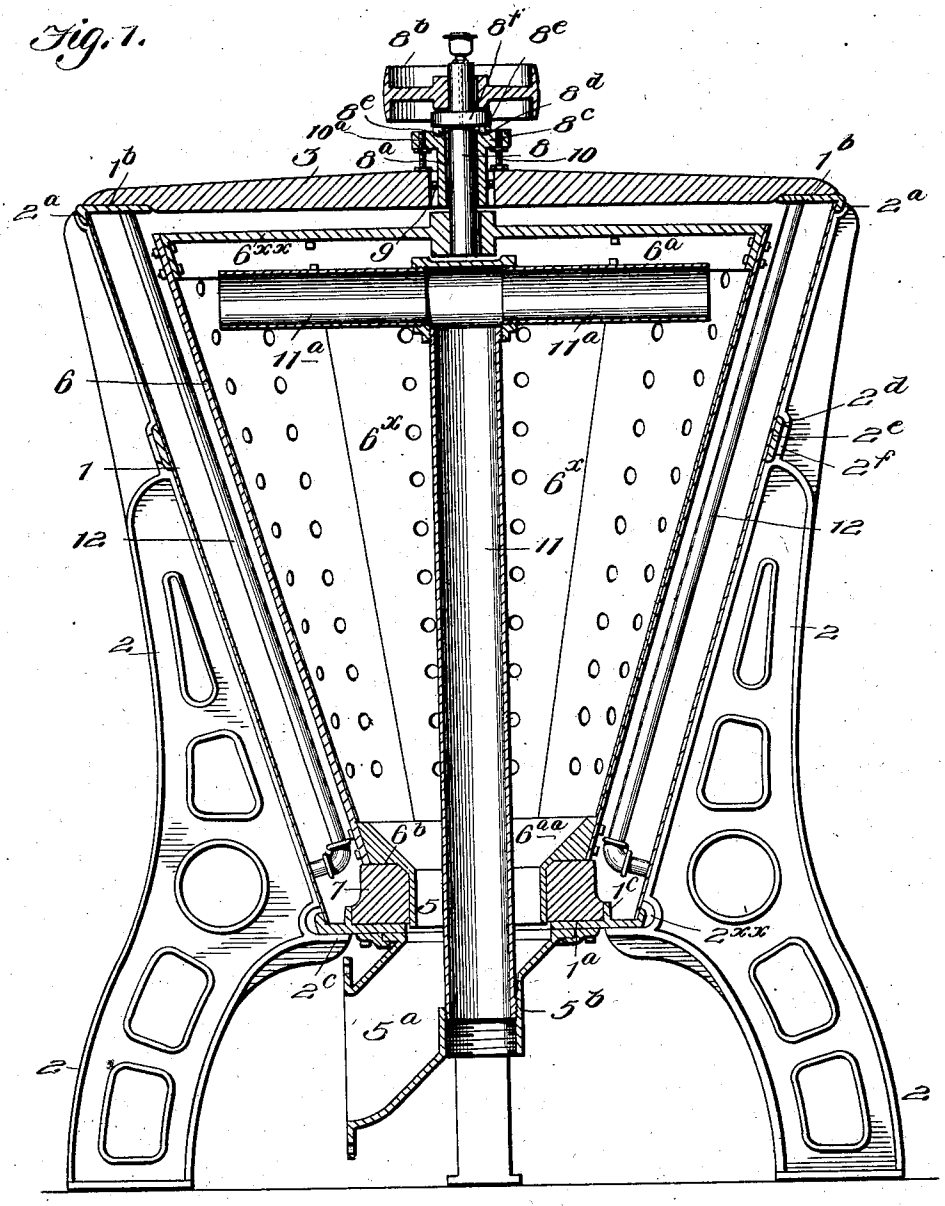
O. H. MOORE.

PULP OR PAPER STOCK SCREEN.

APPLICATION FILED JULY 12, 1902.

NO MODEL. 4 SHEETS—SHEET 1.

Fig. 1.



Witnesses

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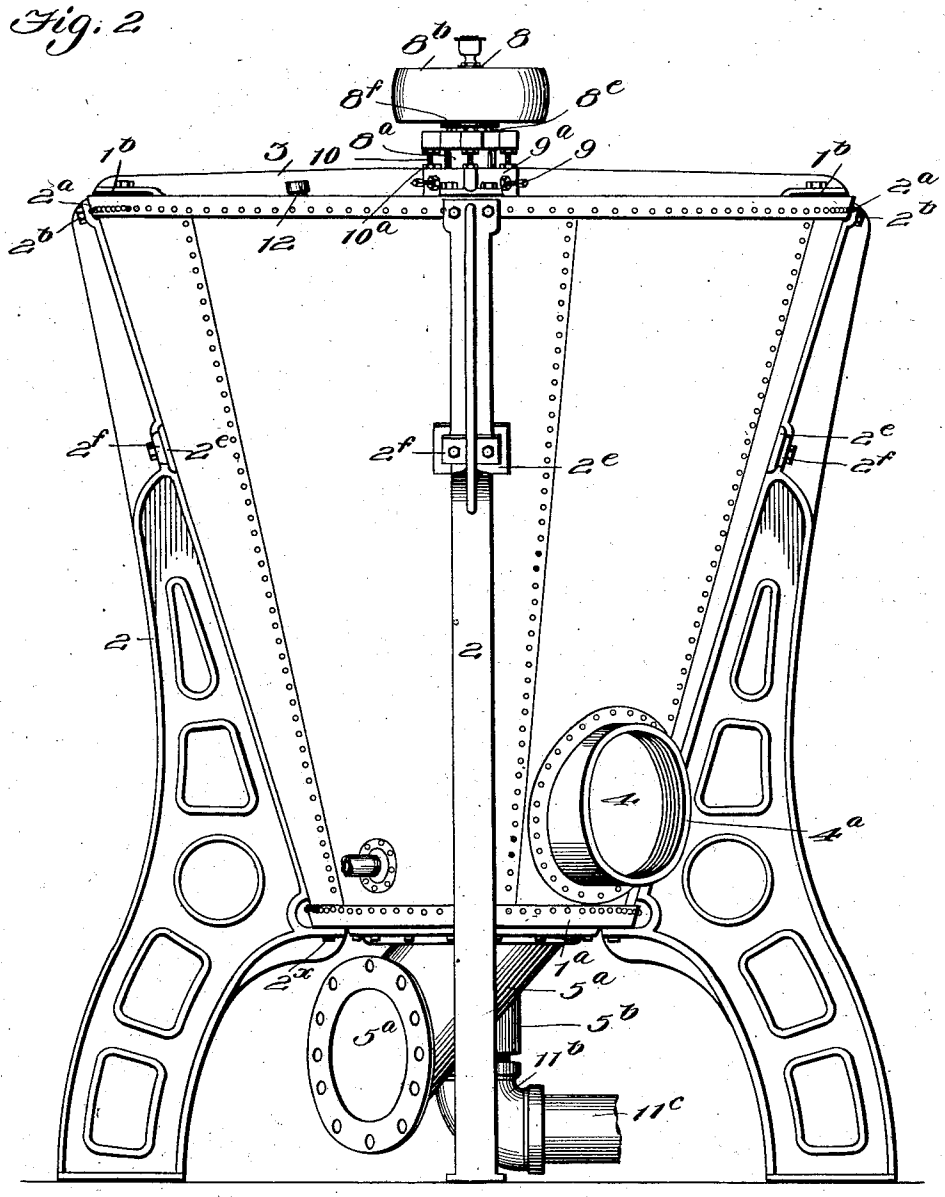
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NO MODEL. 4 SHEETS—SHEET 2.

Fig. 2



Witnesses

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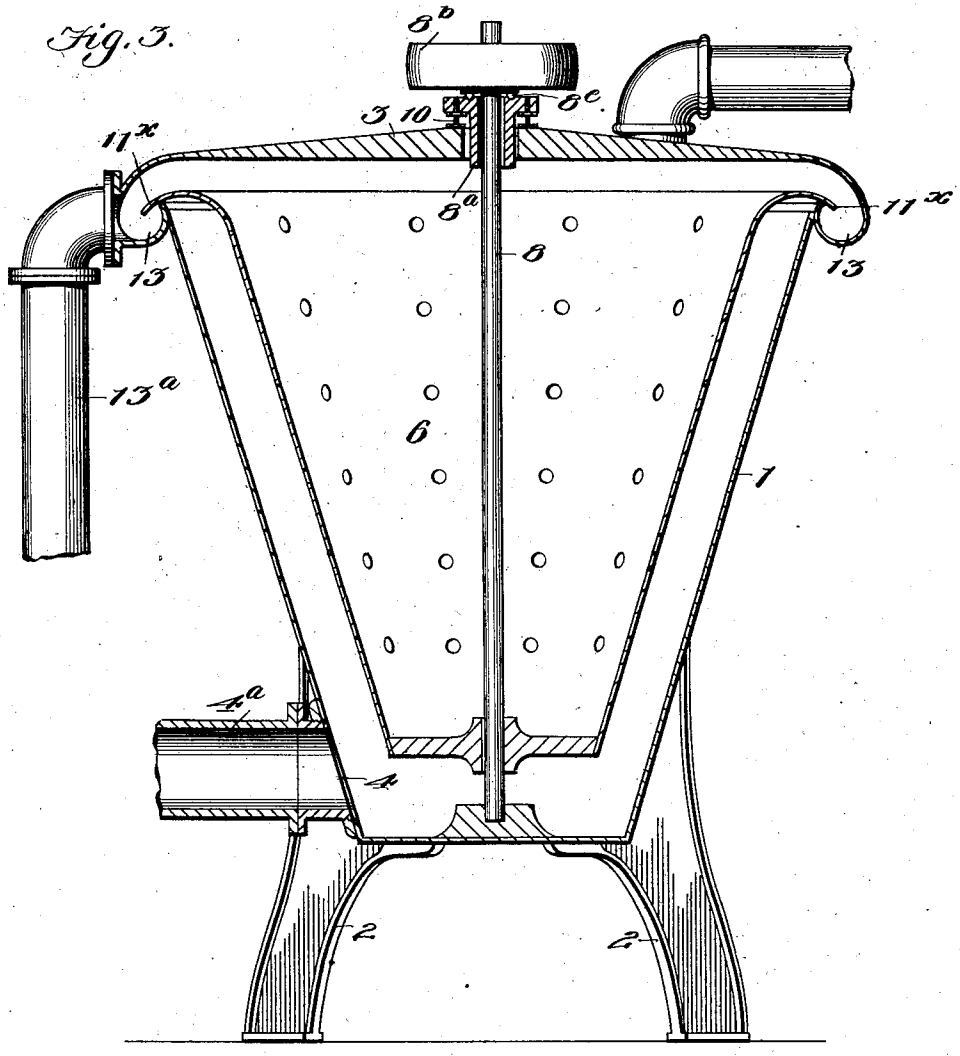
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NO MODEL. 4 SHEETS—SHEET 3.

Fig. 3.



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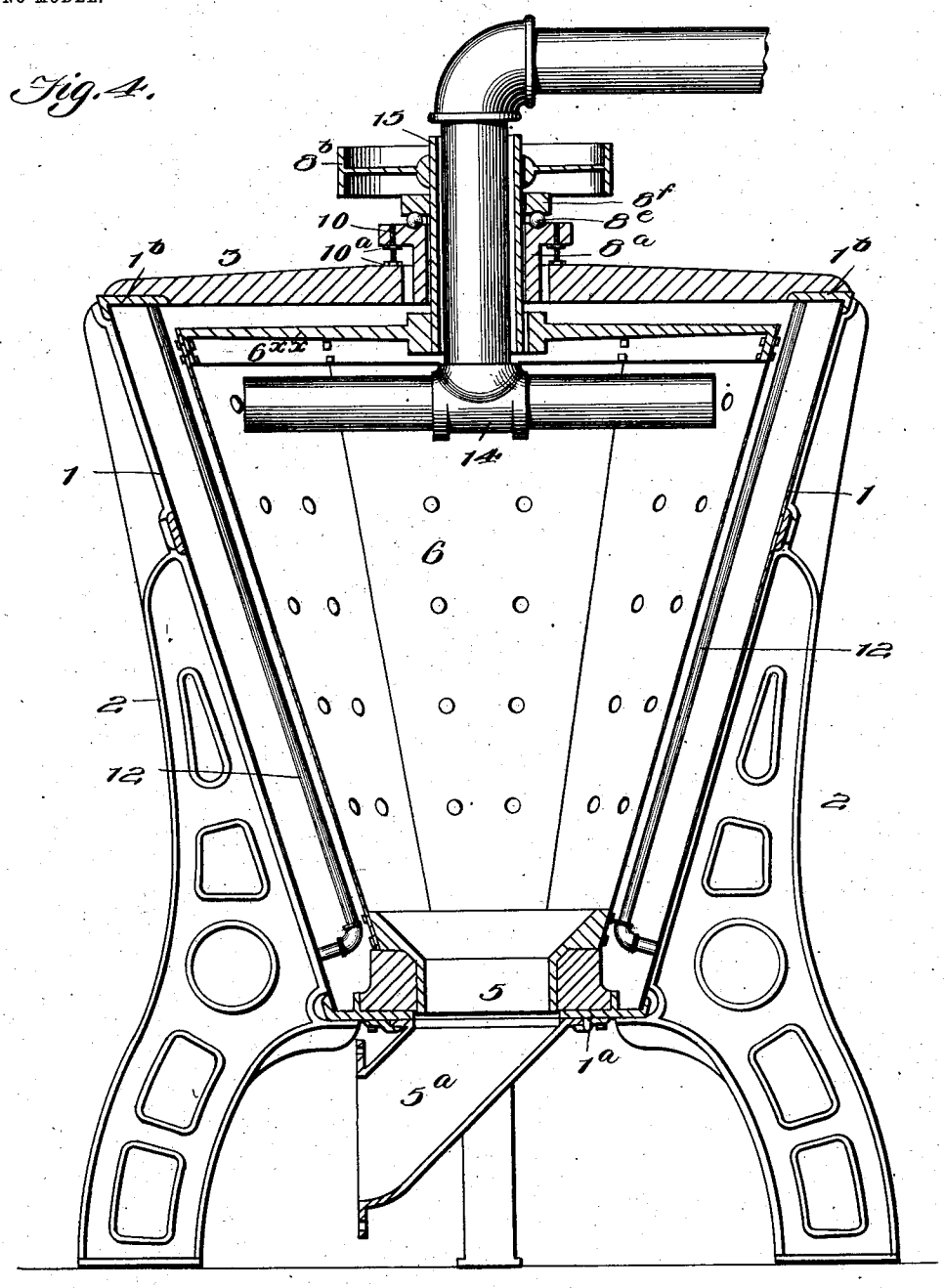
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APPLICATION FILED JULY 12, 1902.

NO MODEL. 4 SHEETS—SHEET 4.

Fig. 4.



Witnesses
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No. 729,382. Patented May 26, 1903.

UNITED STATES PATENT OFFICE.

ORVILLE H. MOORE, OF SANDYHILL, NEW YORK.

PULP OR PAPER-STOCK SCREEN.

SPECIFICATION forming part of Letters Patent No. 729,382, dated May 26, 1903.

Application filed July 12, 1902. Serial No. 115,326. (No model.)

To all whom it may concern:

Be it known that I, ORVILLE H. MOORE, a citizen of the United States, residing at Sandyhill, in the county of Washington and State of New York, have invented certain new and useful Improvements in Pulp and Paper-Stock Screens; 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 improvements in pulp and paper-stock screens.

The invention has for its object to effectively and quickly screen the pulp or paper-stock and to improve the machine generally, as well as to simplify the construction and arrangement of parts.

It consists of the combination, construction, and arrangement of parts substantially as hereinafter more fully disclosed, and specifically pointed out by the claims.

In the accompanying drawings, illustrating the preferred embodiment of my invention, Figure 1 is a sectional elevation. Fig. 2 is a side elevation; and Fig. 3 is a sectional elevation of the same, showing or disclosing the refuse or sliver-delivery means at the top edge. Fig. 4 is a sectional elevation showing the pulp-inlet or feeding means at the top.

Latitude is allowed herein as to details, as they may be changed at pleasure without departing from the spirit of my invention and the same remain intact and be protected.

In carrying out my invention I provide a preferably downwardly tapered outer closure or casing 1, with the lower edge of its body or lateral portion let into a bottom casting 1^a, turned up at its outer edge around said lateral portion, said lateral portion having its upper edge let into an encircling top casting 1^b, both of said castings 1^a 1^b being preferably riveted to said lateral portion. Leg-castings 2, preferably T-shaped in cross-section, are suitably applied to said outer closure or casing, with their outwardly-inclined or arched portions adapted to rest upon the surface and their remaining or upper portions preferably extending the entire depth or length of the lateral portion of said casing. Said leg-castings have their upper ends recessed or offset, as at 2^a, to receive the upper edge casting or ring 1^b, to which they are bolted, as at 2^b. Also, each leg-casting has at the lower end of the inner edge of the body or lateral attaching portion an inwardly-extending flange 2^c, taking under and bolted to the bottom casting 1^a, as at $2^\times$, said leg-castings also being recessed or curved outwardly, as at $2^{\times\times}$, to receive and conform in outline to the contour of the upturned portion or flange of the bottom casting 1^a. Intermediately of these points of attachment between said leg-castings and the lateral portion of the outer casing or closure each leg-casting is recessed upon its inner edge, as at 2^d, to receive a thickened or reinforced offset or shoulder 2^e of said lateral portion of said closure. Laterally projecting from opposite points of the rib portion of said leg-casting are plates or flanges 2^f, suitably bolted to said offset or shoulder, thus providing for additionally fastening said leg-castings to said closure or casing. To the casting or ring 1^b are bolted the outer ends of the radial arms of a spider 3, having a central opening therethrough for the passage of the shaft actuating the inner receptacle or screen, hereinafter more particularly described. Said outer casing or closure has a pulp-outlet opening 4 through its lateral portion near the bottom, and through the bottom casting 1^a is a sliver or refuse outlet opening 5, each of said openings having applied around it a nozzle 4^a and 5^a, respectively, suitably secured in place.

Arranged centrally within the outing casing or closure 1 is a conical or downwardly and inwardly tapering inner closure or screen 6, preferably comprising numerous foraminous or perforated plates $6^\times$, said screen being suitably spaced off from said outer casing. Said plates have their upper ends bolted or secured to the annular flange or rim 6^a of a top plate or cover $6^{\times\times}$ and their lower ends likewise secured to the outer surface of the upper conical portion of a tubular or cylindric casting 6^{aa}, with its cylindric portion registering or coinciding with the sliver-outlet opening 5. Said casting 6^{aa} has a lower annular surface facing downward, as at 6^b, resting upon the corresponding upper surface of an annular bearing or support 7, preferably confined between an integral upstanding ring or flange 1^c of the bot-

tom casting 1^a and the cylindric portion of said bottom casting or nozzle. Said screen, thus having its lower end stepped or journaled in position, has splined or otherwise suitably fixed in its cover or top plate 6^{xx} a shaft 8, passed up through a boxing or sleeve 8^a, arranged in the central opening in the spider 3 of the outer closure or casing 1. Said shaft has suitably fixed to it at its upper end a pulley 8^b for driving said shaft through belting connected up with a suitable motor, in turn rotating said screen to impart to its contained pulp or contents centrifugal action in effecting the screening thereof. Said sleeve or boxing 8^a is suitably supported within the opening of the spider 3, preferably by means of laterally-engaging screw-bolts 9, bearing or working in an upstanding collar 9^a, cast around the upper edge of said opening. Said sleeve or bearing has at its upper end a lateral extension or flange 8^c, preferably provided in its upper surface near the inner edge with an annular depression or groove 8^d, containing ball-bearings 8^e, upon which rests a collar 8^f, fixed to the shaft 8, carrying the pulley 8^b. This arrangement provides for retaining the screen centrally and reducing friction in actuating the same. Screws 10, bearing upon the upper edge of the collar 9^a at their lower ends or heads and engaging the flange 8^c and equipped with nuts 10^a, are employed for compensating wear at the points of bearing by suitably manipulating said nuts.

Centrally arranged within the screen 6 is a pulp or stock supply or feed-pipe 11, having its upper end provided with opposite or alining arms or pipe-sections 11^a, with their free or delivery ends arranged close to the inner side of said screen near its upper end to provide for readily throwing the pulp upon said screen, as will be appreciated. Said pulp-supply or feed-pipe 11^a has its lower end preferably screwed into a branch or arm 5^b of the sliver-outlet nozzle 5^a, said branch or arm having also screwed therein a nozzle 11^b, to which is connected a pipe 11^c, leading to the pulp or stock supply.

Shower or spray pipes 12 are arranged within the outer casing or closure 1 parallel with the inclined portion of the screen 6 and close thereto, said pipes each having numerous closely-arranged perforations or openings throughout their length facing toward said screen to effectively throw the water-spray upon the last named for keeping the screen openings or perforations in operative or effective condition and to wash down the pulp or stock for delivery out through the outlet or opening 4, above described. Said spray or "shower pipes" are suitably connected up with a water-supply and held in any known way in the outer casing or closure 1, preferably as shown.

In Fig. 3 I have shown the machine as adapted for delivering the refuse or sliver by centrifugal action at the top, the screen having an upwardly or outwardly flared flange or lip 11^x at its upper edge, so as to overlie the free inner edge of a circular trough 13, fixed to the upper edge of the outer casing or closure 1 and adapted to deliver into a discharge-pipe or outlet 13^a, connecting therewith.

In Fig. 4 the machine is shown as capable of feeding or supplying the pulp or stock at the top, a pulp-pipe 14 being arranged to deliver into a hollow shaft 15 for driving the screen.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of a rotary screen and a fixed pulp feeder or distributer having a uniform cross-sectional area throughout and corresponding lateral arms or end portions delivering upon the inner lateral surface of said screen, near or at its upper end.

2. The combination of a rotary screen, a fixed pulp or stock feeder or distributer, having a uniform cross-sectional area throughout and corresponding lateral arms or end portions delivering upon the inner surface of said screen, near or at its upper end, and spray or shower pipes adapted to deliver upon the outer lateral surface of said screen.

3. The combination of a centrifugal screen, an outer casing or closure therefor, an annular bearing secured within the bottom of said casing, and a tubular outlet for said screen, said outer-casing bottom having an annular upstanding flange or ring between which and said outlet is arranged or held said bearing, substantially as set forth.

4. The combination of a centrifugal conical screen, a conical outer closure or casing for said screen, a central pulp or stock feed or inlet pipe adapted to laterally deliver into said screen, and an inclined spray or shower pipe arranged parallel with, and close to, the inclined lateral portion of said screen, and adapted to spray or shower the water upon said screen, substantially as set forth.

5. The combination of a screen, an outer closure or casing therefor, having a bottom provided around its opening with an outlet-nozzle having a branch nozzle, and a pulp-inlet pipe adapted to deliver upon the inner surface of said screen, and secured to said branch nozzle, substantially as set forth.

6. The combination of a screen, an outer closure or casing therefor having a bottom provided around its opening with an outlet-nozzle having a branch nozzle, a pulp-inlet pipe arranged to deliver centrally within said screen, and adapted to be connected to said branch nozzle, spray or shower pipes arranged parallel with the lateral portion of said screen and adapted to deliver thereon, said bottom for the outer closure or casing having an upstanding flange or ring, and an annular bearing for the lower tubular end portion of said screen, confined between said upstanding flange or ring and said tubular end portion, substantially as set forth.

7. The combination of a rotary screen, an outer closure or casing having a trough at its upper edge provided with a discharge-pipe, said screen having an upper edge lip or flange overlying the free lower edge of said trough, and means for the inlet of pulp or stock to said screen, substantially as set forth.

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

ORVILLE H. MOORE.

Witnesses:
WILLIAM W. WELLS,
MARY E. LAWLER.