

No. 832,114.

PATENTED OCT. 2, 1906.

O. C. WYSONG.
 ABRASIVE APPARATUS.
 APPLICATION FILED DEC. 6, 1905.

2 SHEETS—SHEET 1.

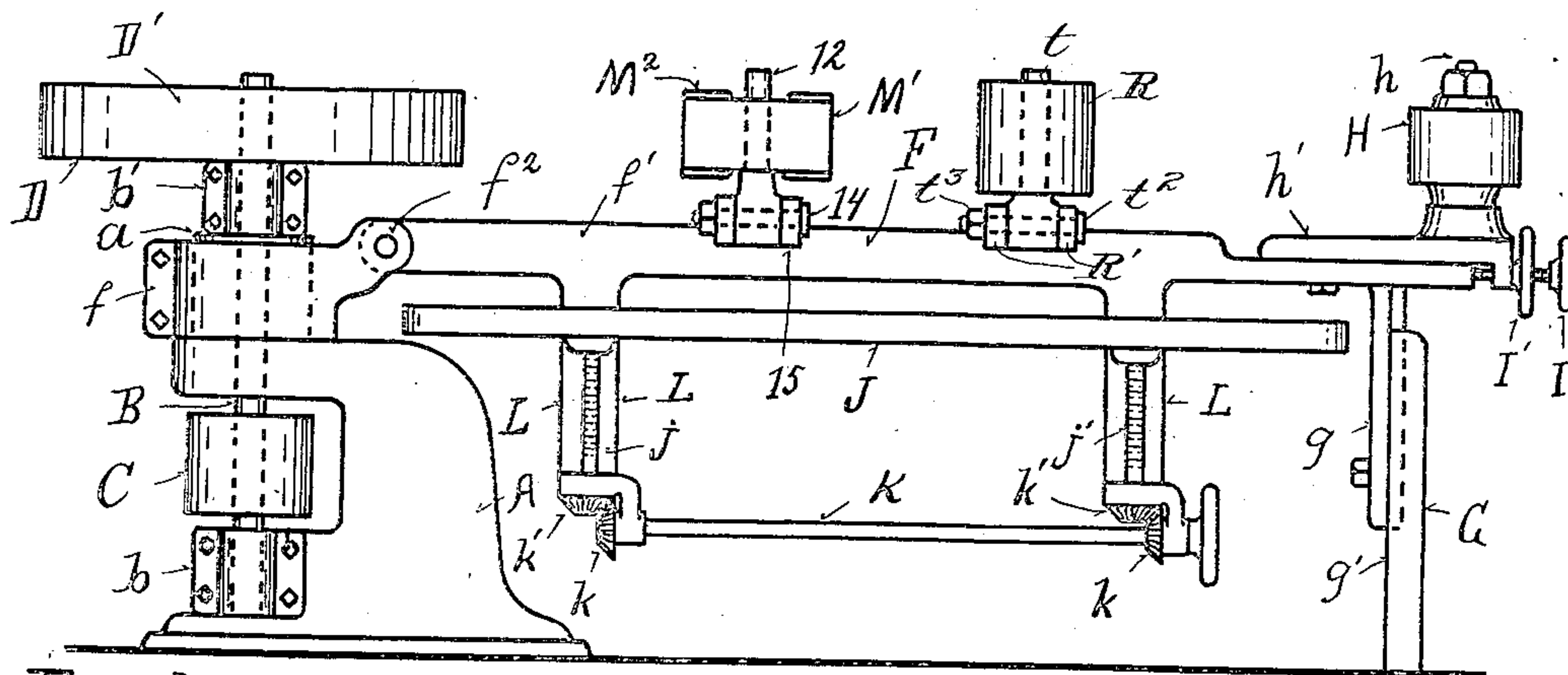


Fig. 1.

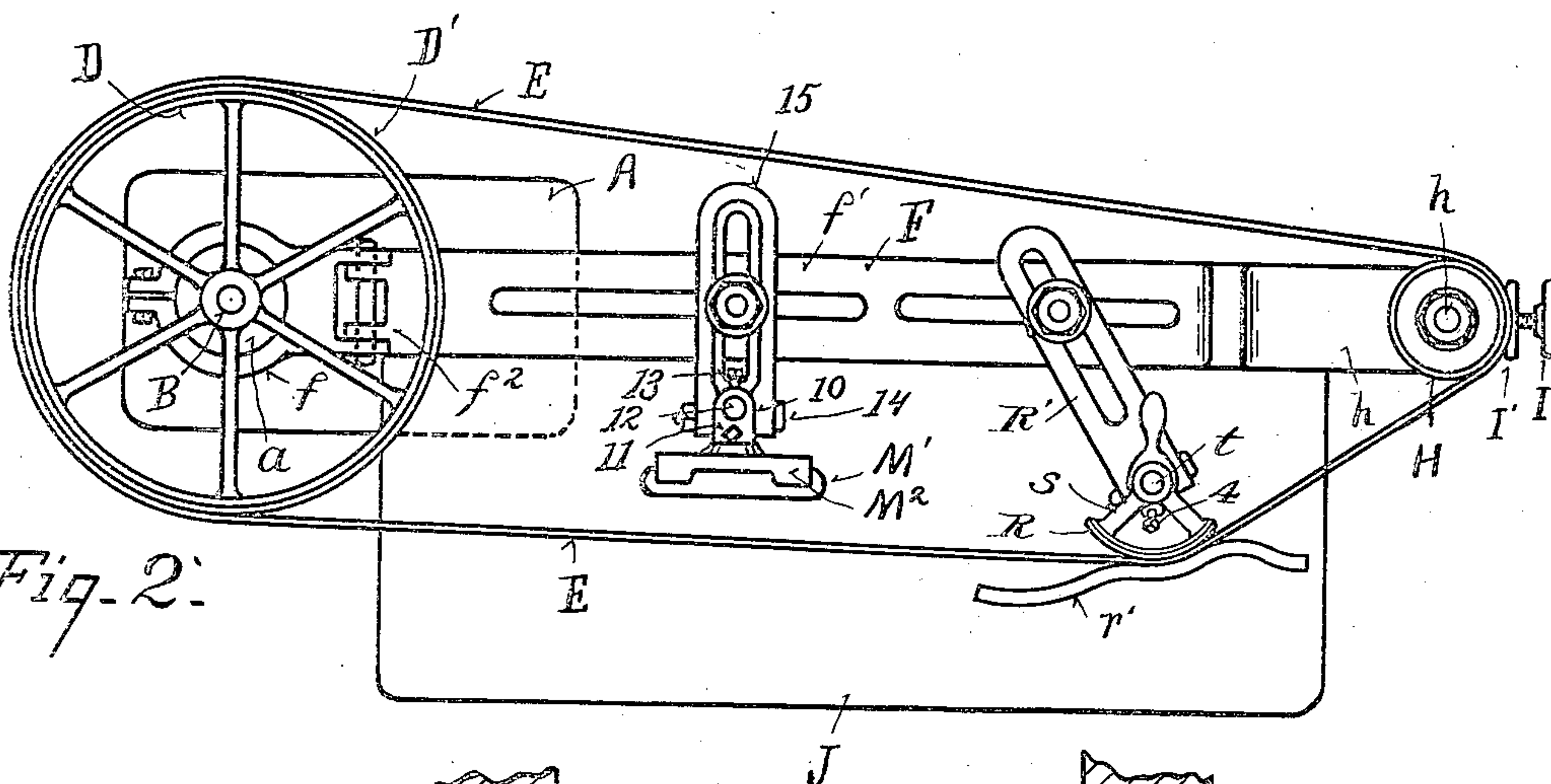


Fig. 2.

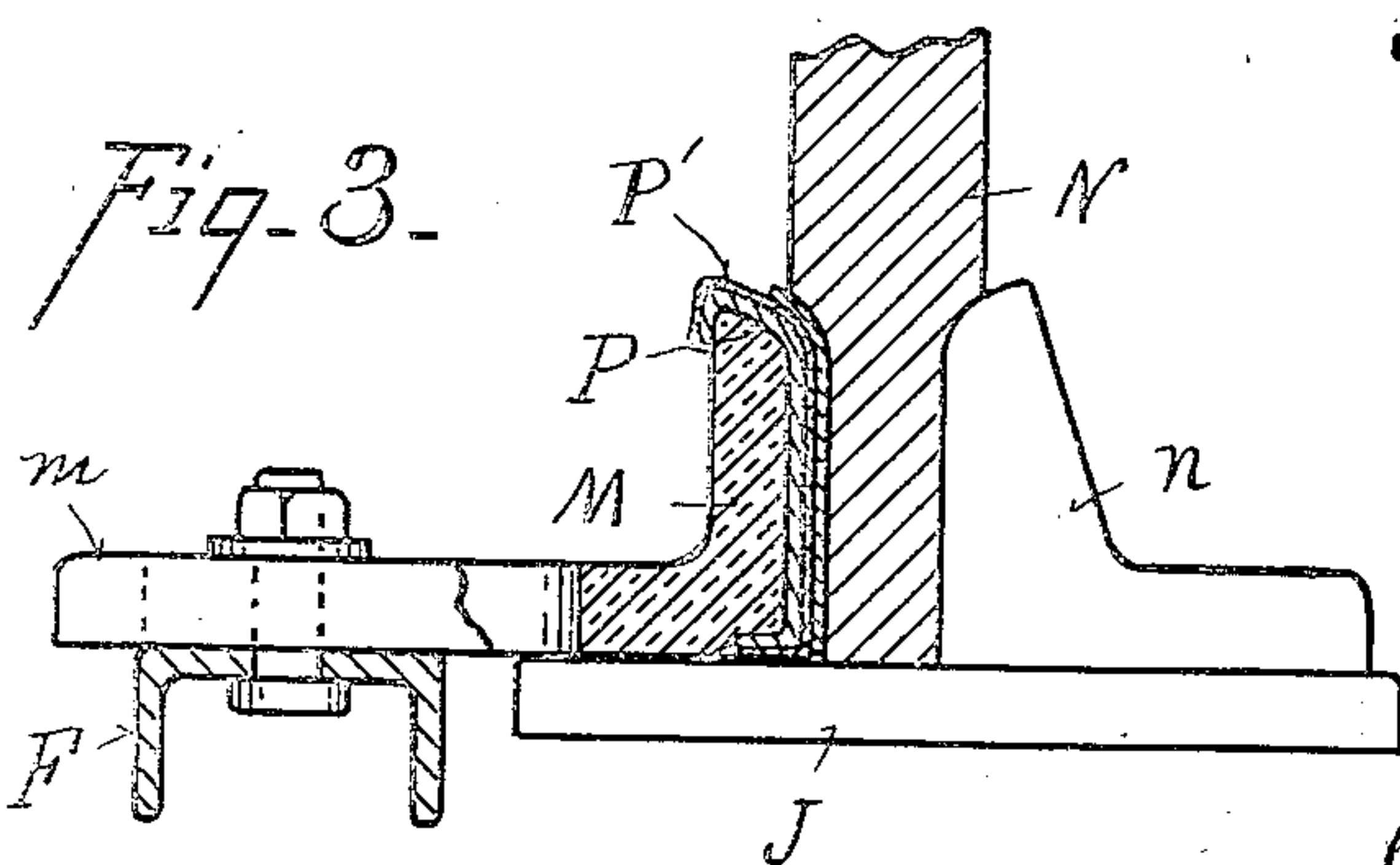


Fig. 3.

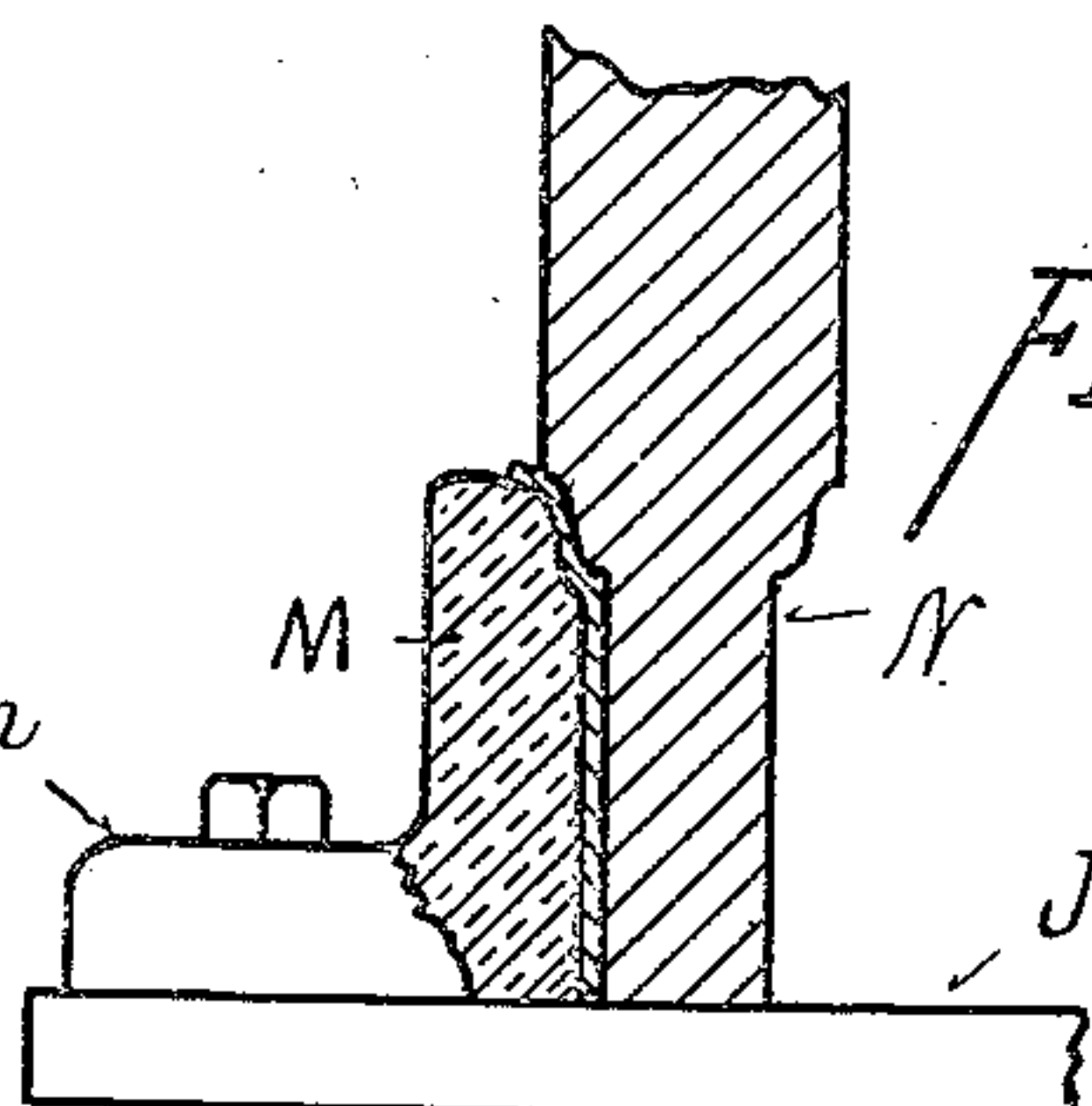


Fig. 4.

Witnesses
A. McCormack
Charles B. Hay

Inventor
Olmedo Cortez Wysong
C. W. Miles

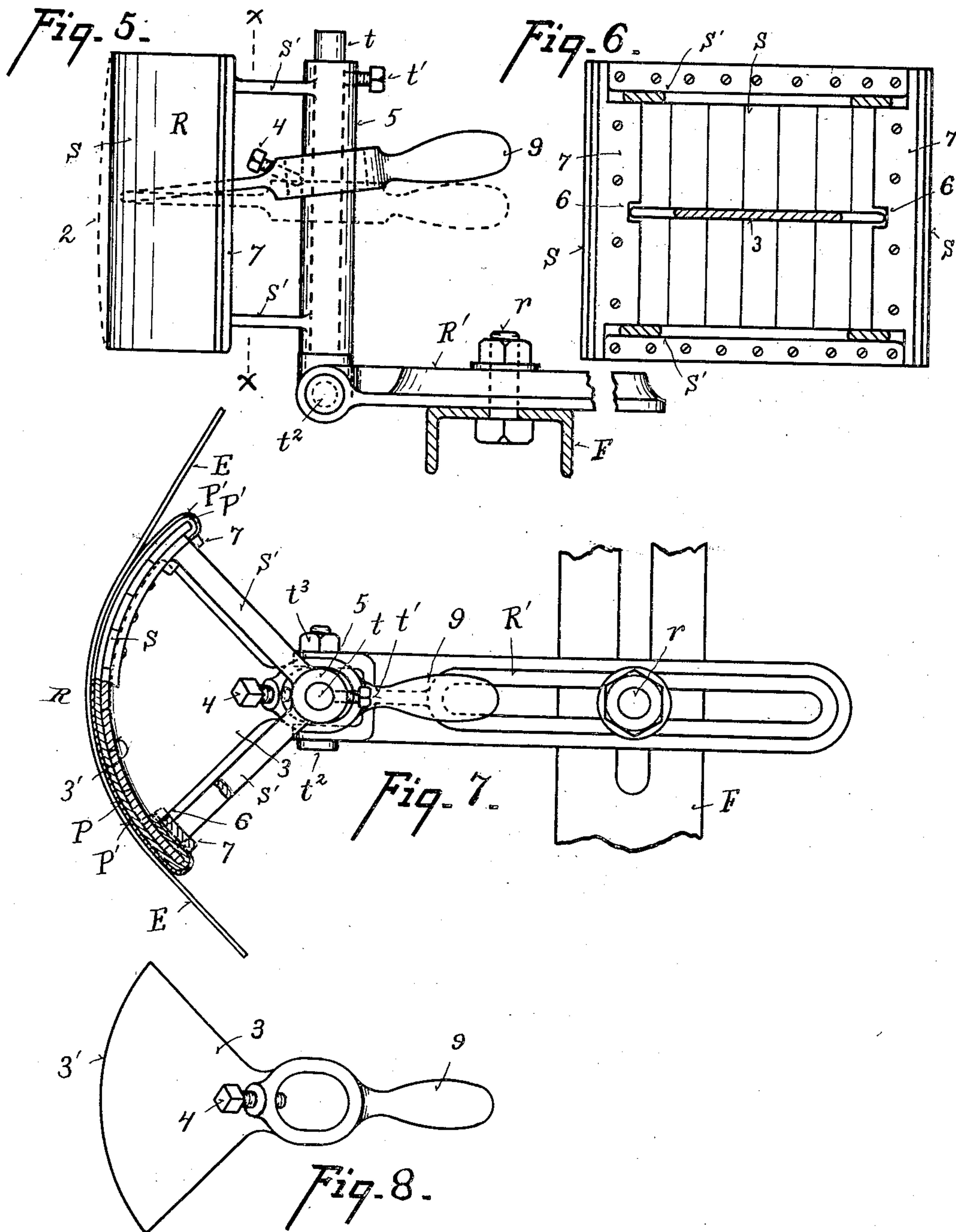
Attorney

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2 SHEETS—SHEET 2.



Witnesses

N. M. Gormack.
Charles B. Hoop

Inventor

Olmedo Cortez Wysonog

By

C. W. Miles

Attorney

UNITED STATES PATENT OFFICE.

OLMEDO CORTEZ WYSONG, OF GREENSBORO, NORTH CAROLINA.

ABRASIVE APPARATUS.

No. 832,114.

Specification of Letters Patent.

Patented Oct. 2, 1906.

Application filed December 6, 1905. Serial No. 290,527.

To all whom it may concern:

Be it known that I, OLMEDO CORTEZ WYSONG, a citizen of the United States, residing at Greensboro, in the county of Guilford and State of North Carolina, have invented certain new and useful Improvements in Abrasive Apparatus, of which the following is a specification.

My invention relates to improvements in abrasive apparatus, and is particularly adapted to finishing woodwork.

One of its objects is to provide improved abrasive belt-carrying mechanism and means for adjusting the same.

Another object is to provide improved means to retain the abrasive belt in place on its pulleys.

Another object is to provide improved means for applying the belt to the work, particularly irregular forms of work.

Another object is to provide improved forms for applying the abrasive belt to the work and means for adjusting such forms.

It further consists in certain details of form, combination, and arrangement, all of which will be more fully set forth in the description of the accompanying drawings, in which—

Figure 1 is a side elevation of my improved mechanism. Fig. 2 is a top plan view of the same. Figs. 3 and 4 are detail views, partly in section, showing the forms and method of applying the belt to the work. Fig. 5 is a side elevation of one of the adjustable forms. Fig. 6 is a section on line $x x$ of Fig. 5 looking to the left. Fig. 7 is a top plan view of Fig. 5, partly in section. Fig. 8 is a top plan view of the form-shaping lever detached.

A represents the base of the machine, in which is journaled, by means of boxes $b b'$, a vertical shaft B, which is provided with a driving-pulley C and a pulley D, which serves to carry and drive the abrasive belt E.

F represents a frame which may be formed in a single piece, but is preferably formed of two pieces $f f'$, hinged together at f^2 . The part f of the frame F is journaled upon a vertical stud a , forming part of frame A and through the center of which the shaft B passes. The extended end of frame F is provided with a leg or support G, preferably formed of two sections $g g'$, adjustable relative to each other to increase or decrease the length of the support. The outer end of frame F may thus be lifted and the frame swung to any desired po-

sition, turning on the center a , which is of great practical importance and convenience.

H represents a pulley mounted upon a stud h , carried by a plate h' , which is adjustable relative to frame F to change the distance between pulleys D and H to properly tighten the abrasive belt.

I represents a screw carrying a hand-wheel for adjusting plate h' , and I' a hand-wheel or lock-nut to lock the parts to the adjusted position.

J represents a work-table which is adjustable vertically by means of screws $j j'$, operated through shaft K by means of miter-gears $k k'$. As shown in Fig. 1, table J is carried by and adjustable relative to brackets L, carried by frame F.

In order to provide sufficient adhesion between the abrasive belt and the face of its driving-pulley to draw the belt over the form or between the form and work and to avoid throwing the belt from the pulley, I provide a tire D' of adhesive nature, preferably of rubber or rubber-faced material, over the face of the metal rim to form a contact-surface with the rear face of the abrasive belt. This is especially desirable when the belt is used in connection with one of the forms, as it is not desirable to strain the belt tightly over the form, and at the same time the belt must not slip on its driving-pulley or be thrown therefrom. The frame F is designed and adapted to carry one or more forms, which may be selectively or jointly employed, the rear face of the abrasive belt being drawn across the face of the form and the work pressed against the abrasive face of the belt opposite the form, as shown in Figs. 2, 3, and 4. A great variety of these forms of different design or outline may be interchangeably used. The form M is particularly adapted for such work as sanding raised panels and similar work, as shown in Figs. 3 and 4. The shank m of the form being clamped to the frame F, the face of the form is shaped to a counterpart of the work to be treated and the abrasive belt pressed between the work and form with the abrasive face of the belt toward the work. As shown in Fig. 4, the table forms a guide for the edge of the panel N, which is pressed by the operator against the face of the belt, the form M having a smooth face and being clamped to the table. As shown in Fig. 3, which is the preferred form, the face of the form is cov-

ered with an elastic material P, adapted to serve as a cushion, and a flexible material P' over the face of the cushion having a surface adapted to reduce to a minimum the friction between the belt and form. In practice the material P may be a felt pad or piece of carpet and the material P' a piece of strong smooth-surfaced paper. In Fig. 3 I have shown a block n, which may be attached to the table and serves to hold the panel against the face of the belt, the operation being required only to feed and guide the panel forward. As shown in Figs. 1 and 2, form M' is detachably mounted in a holder M², which is journaled to block 10 and locked to its adjusted position by set-screw 11. The block 10 is journaled on a stud 12 and locked in position by screw 13, while the stud 12 is pivoted by a bolt 14 to the shank 15, so as to be adjusted to different angles relative thereto. The face of form M' may be plain or of irregular outline, and different forms M' may be readily substituted one for another in holder M². Form R consists of a curved face or front S, preferably composed of thin strips of wood or other flexible material, secured to a metal frame S', which is mounted and journaled on a stud t and adapted to be locked to any adjusted position by set-screw t'. The stud t is also journaled, by means of a bolt t², to a shank R', so that the form may be adjusted to varying angles and locked to the adjusted position by nut t³. Due to the warping or other irregularities of veneer-covered work, it is frequently desired to curve the face of the form, as indicated by dotted line 2 of Fig. 5, so as not to cut through parts of the veneer before the face of other parts is polished. This is effected by means of a lever 3, the curved nose 3' of which bears against the rear of the front S, and its ends enter and are retained in place by notches 6 of the strip 7, while the end of set-screw 4 bears against the sleeve 5 of the frame S'. Thus by adjusting set-screw 4 and moving the handle 9 the desired curvature of the face S of the form may be secured. The strips 7 serve to lock the ends of the cushion and surface strips P P' in place, as well as to lock the nose of lever 3 in place.

The forms necessary to treat various classes of work will of necessity vary considerably with the character of work to be treated. I have shown different classes of work and forms adapted to their treatment, and the modifications to adapt these forms to the treatment of other work will be obvious to the skilled mechanic. I do not, therefore, desire to limit myself to the specific style or character of forms herein shown.

The mechanism herein shown is capable of considerable modification without departing from the spirit or principle of my invention.

Having described my invention, what I claim is—

1. In a mechanism of the character indicated, a frame, an abrasive belt, belt supporting and propelling pulleys, and a stationary form carried by the frame and advanced beyond the face of the belt-carrying pulleys to form a projecting support for the rear face of the belt opposite the point where the work is applied.

2. In a mechanism of the character indicated, a frame, an abrasive belt, means for propelling said belt, and a stationary form having a cushioned face and forming a support for the rear face of the belt opposite the point where the work is applied.

3. In a mechanism of the character indicated, a frame, an abrasive belt, means for propelling said belt, and a form having a smooth-faced cushion forming a support for the rear face of the belt at the point where the work is applied.

4. In a mechanism of the character indicated, a frame, an abrasive belt, means for propelling said belt, and a form having a universal adjustment relative to the frame and forming a stationary support for the rear face of the belt at the point where the work is applied.

5. In a mechanism of the character indicated, a frame, an abrasive belt, means for propelling said belt, a form carried by the frame and adapted to support the rear face of the belt, and means for varying the facial outline of the form to adapt it to the work.

6. In a mechanism of the character indicated, a frame, an abrasive belt, means for propelling said belt, a form carried by a shank adjustable relative to the frame, and means for adjusting said form to varying horizontal and vertical angles relative to said shank.

7. In a mechanism of the character indicated, a frame, an abrasive belt, means for propelling said belt, a form carried by the frame, and mechanism for varying the curvature of the form to adapt it to the work.

8. In a mechanism of the character indicated, a frame, an abrasive belt, means for propelling said belt, and a form carried by the frame having a face the counterpart of the work to be treated, forming a support for the rear face of the belt opposite the work to cause the belt to conform to the outline of the work.

9. In a mechanism of the character indicated, a base, a shaft journaled therein and carrying a belt-driving pulley, an abrasive belt, a frame journaled to the base at one end and adapted to be adjusted to varying positions relative to the base, a pulley located at the free end of said frame, and a stationary form across which the belt is drawn, adapted to support the rear face of the belt at the point where the work is applied, carried by said frame.

10. In a mechanism of the character indicated, a base, a vertical shaft journaled

therein and carrying a belt-driving pulley, an abrasive belt, a frame journaled to the base at one end and adapted to be adjusted to varying positions relative to the base, a pulley located near the free end of said frame, and a form adapted to support the rear face of the belt opposite the point where the work is applied.

11. In a mechanism of the character indicated, an abrasive belt, a base, a vertical shaft carrying a pulley to drive said belt, a frame journaled to said base, and adapted to be adjusted in a horizontal plane relative to said base, and a pulley carried by the free end of said frame.

12. In a mechanism of the character indicated, an abrasive belt, a base, a vertical shaft carrying a pulley to drive said belt, a horizontal frame journaled to said base, and adapted to be adjusted in a horizontal plane relative to said base, a support for the free end of said frame, and a pulley carried by the free end of said frame.

13. In a mechanism of the character indicated, an abrasive belt, a base, a vertical shaft carrying a pulley to drive said belt, a frame journaled to said base concentrically with said shaft and adapted to be adjusted in

a horizontal plane relative to said base, and a pulley carried by the free end of said frame. 30

14. In a mechanism of the character indicated, a base, a vertical shaft journaled therein and carrying a belt-driving pulley, an abrasive belt, a frame journaled to the base at one end and adapted to be adjusted to varying positions relative to the base, a pulley located near the free end of said frame, and a work-table adjustable relative to the belt. 35

15. In a mechanism of the character indicated, an abrasive belt, a base, a vertical shaft carrying a pulley to drive said belt, a frame journaled to said base and adapted to be adjusted in a horizontal plane relative to said base, a pulley located near the free end of said frame, a form adapted to support the rear face of the belt between said pulleys, carried by said frame, and a table adjustable relative to the belt. 40 45

In testimony whereof I have affixed my signature in presence of two witnesses. 50

OLMEDO CORTEZ WYSONG.

Witnesses:

DAVID ELMER GRAY,
EDWARD C. BEAMAN.