

No. 613,221.

Patented Oct. 25, 1898.

A. S. ALLEN.

MAKE-READY DEVICE FOR PRINTING PRESSES, &c.

(Application filed Sept. 23, 1898.)

(No Model.)

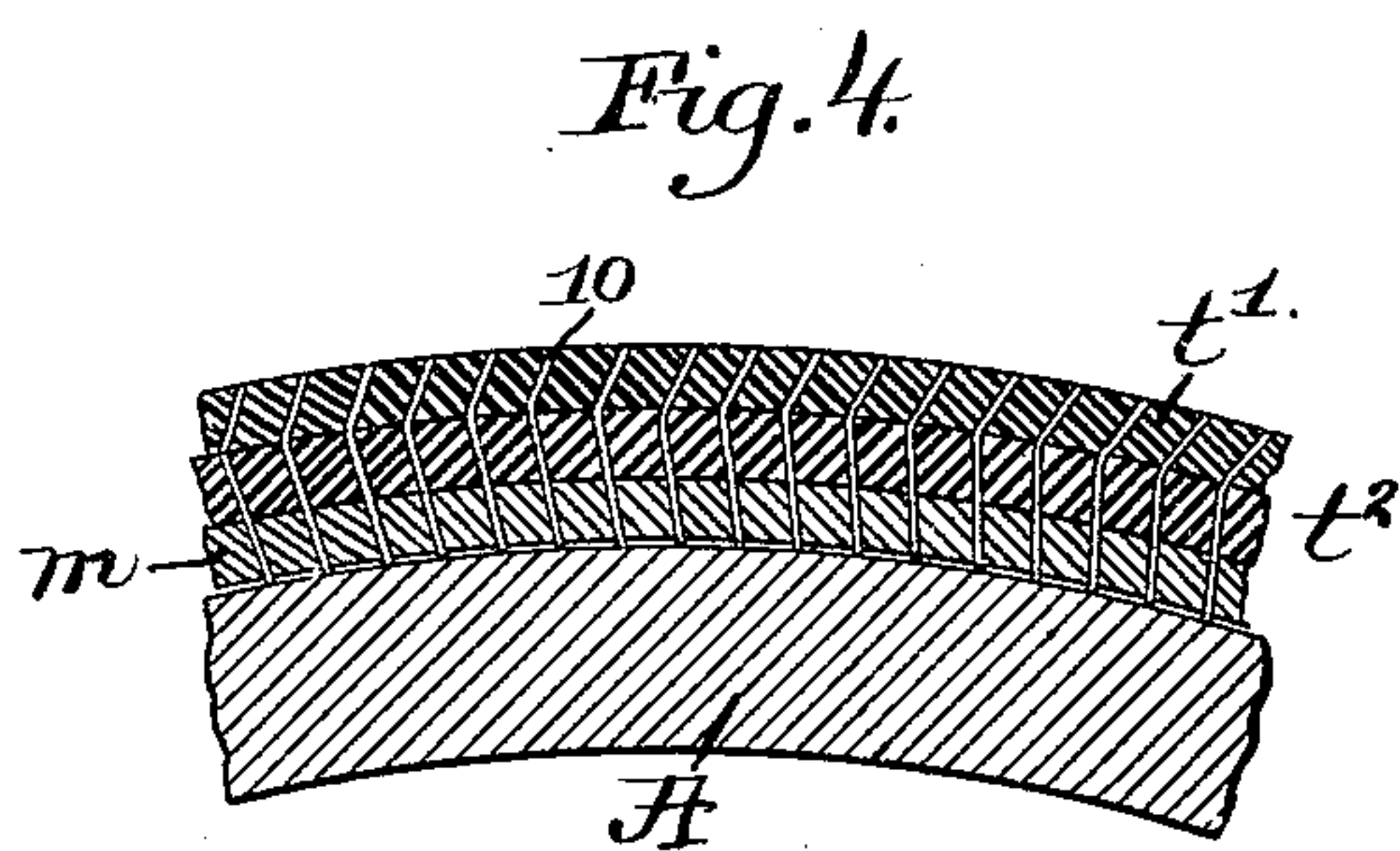
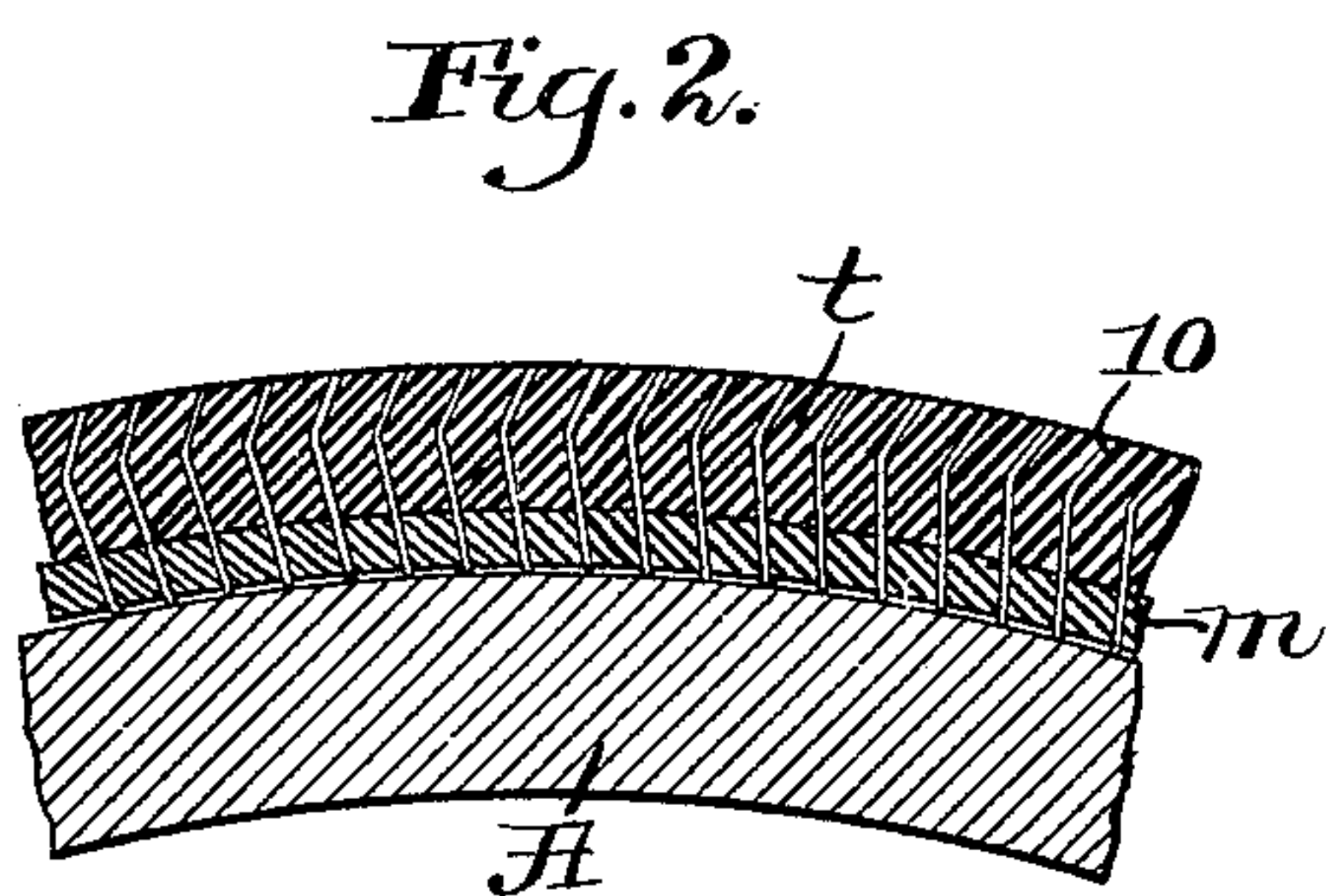
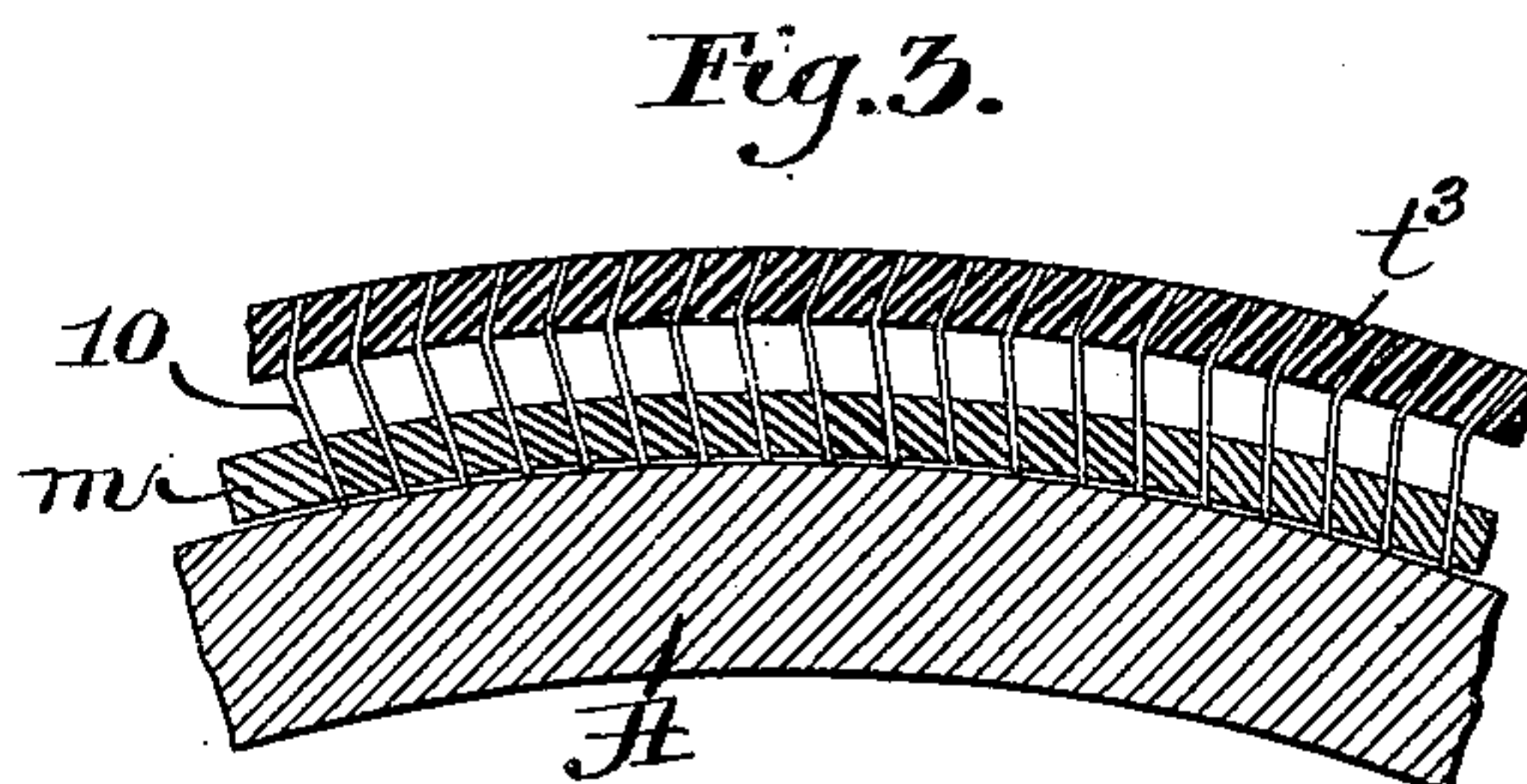
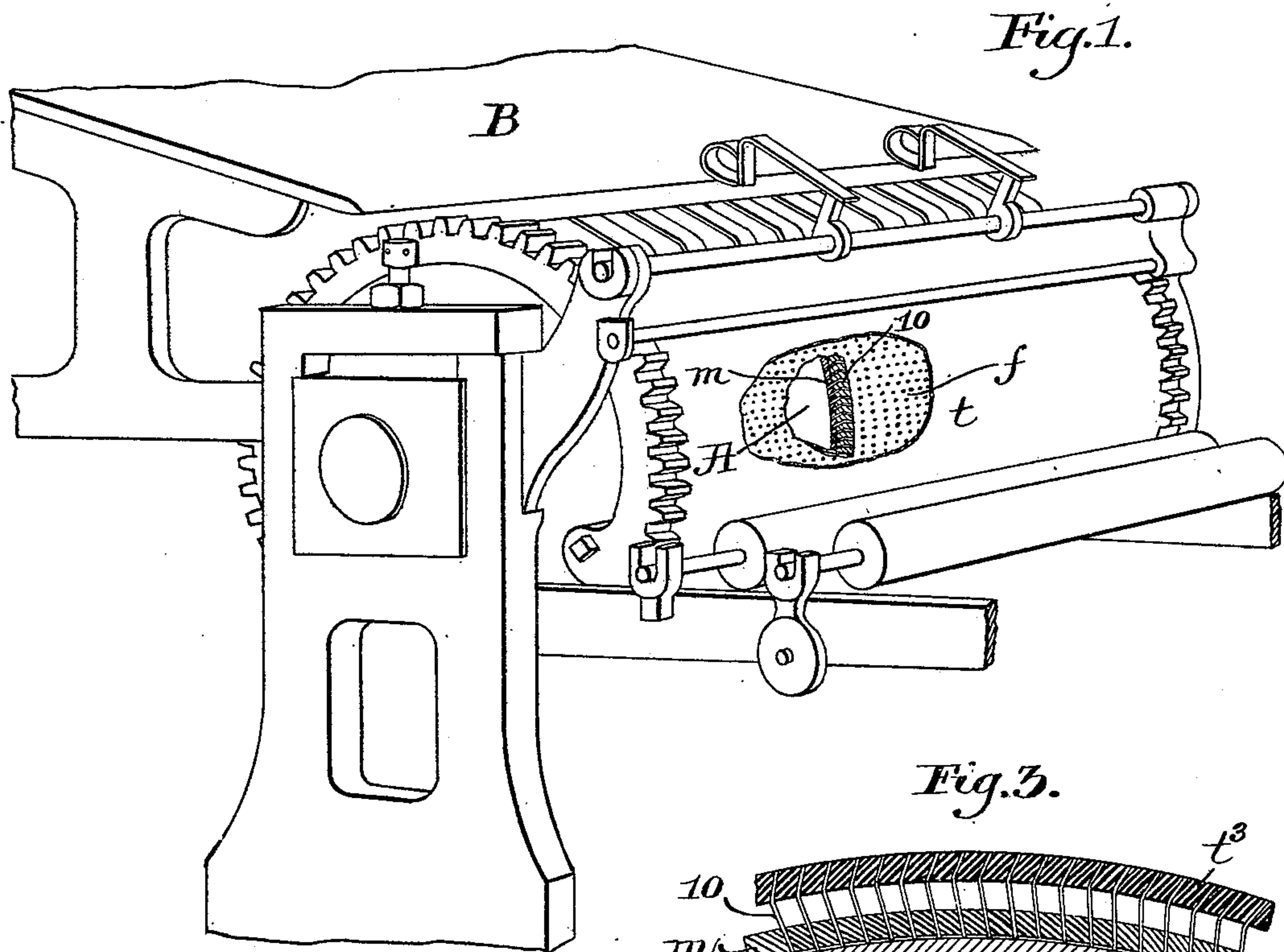
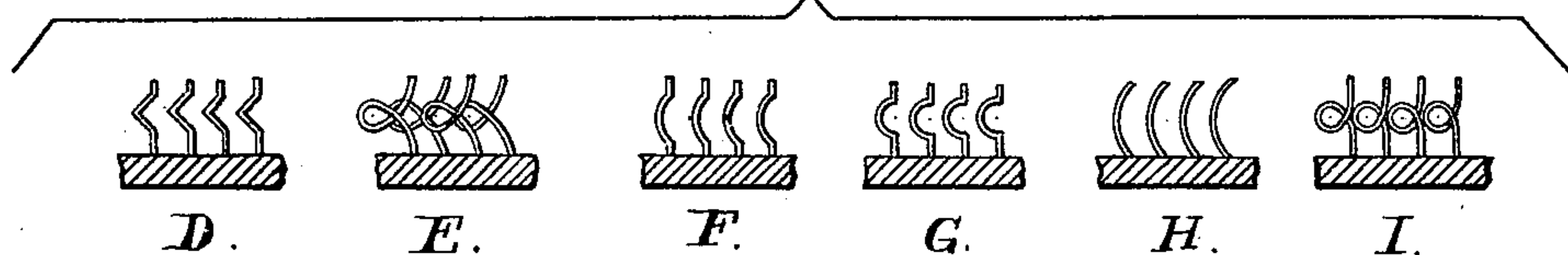


Fig. 5.



Witnesses
Louis N. Lowell,
James M. McQuhatt.

Inventor
Arthur S. Allen
by Wesley Gregory, Atty.

UNITED STATES PATENT OFFICE.

ARTHUR S. ALLEN, OF BOSTON, MASSACHUSETTS.

MAKE-READY DEVICE FOR PRINTING-PRESSES, &c.

SPECIFICATION forming part of Letters Patent No. 613,221, dated October 25, 1898.

Application filed September 23, 1898. Serial No. 691,741. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR S. ALLEN, of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Make-Ready Devices for Printing-Presses and the Like, of which the following description, in connection with the accompanying drawings, is a specification, like letters and figures on the drawings representing like parts.

In the process of printing it is necessary that the printing-surface and its opposed tympan or impression-surface shall be substantially parallel from edge to edge when the impression is made in order to insure equal and uniform use of the type or other printing-surface.

In another application, Serial No. 675,258, filed by me March 26, 1898, I have shown an impression-surface by means of which the desired uniformity and equality of usage of the printing-surface or "form" is attained at once without the tedious and expensive process of "making ready" well known to those skilled in the art of printing. The impression-surface forming the subject-matter of the application referred to consisted of yielding wires internally braced by a yielding substance, the wire being therein shown as arranged in the form of spring-coils.

My present invention has for its object the production of another species of such impression-surface or make-ready device.

While my present invention is equally applicable to various forms of presses—such as bed and platen presses, cylinder-presses, &c.—I have chosen to illustrate it herein as applied to a cylinder-press; but it is to be understood that the use of my invention is in no wise restricted or confined to such type of press.

Figure 1 is a perspective view of a sufficient portion of one well-known form of printing-press to be understood with my invention applied thereto, the face of the impression-surface being partially broken out to show the internal construction thereof, a covering for the impression-surface being also shown and broken out. Fig. 2 is a somewhat enlarged sectional view of the impression-surface or make-ready device shown in Fig. 1. Figs. 3 and 4 are similar views of modified forms thereof, and Fig. 5 shows different forms

of yielding wires which may be used in the practical embodiment of my invention.

In Fig. 1 the impression-cylinder A, driven in usual manner, the bed (not shown) carrying the printing members, and the feed-table B may be of well-known construction, my make-ready device or impression-surface being carried by the cylinder A and secured thereto in any suitable manner.

The impression-surface, to be described, forms of itself a practical face to be opposed to the type or other printing-surface; but, if desired, it may be covered by a sheet or sheets of india-rubber or strong paper.

The impression-surface or make-ready device forming the subject of this invention is made by the free ends of a multiplicity of elastic independently-yielding fixed wires or bristles or their equivalents arranged in close proximity to each other and braced by a yielding substance extended inward from their outer ends. The wires are securely fixed in a backing *m*, Figs. 2, 3, and 4, of leather or other suitable material, the form of the wires being varied according to circumstances, a number of different forms being shown at D to I, inclusive, Fig. 5, the free ends of the wires being ground off to form an even uniform surface. A bracing composed of a yielding substance is interposed between the wires, such as india-rubber or any other suitable yielding substance which will brace and maintain in normal position the wires at their outer ends. The bracing may be applied in various ways—as, for instance, in Fig. 2 the wires 10 may be embedded from the backing to their tips by a layer *t* of rubber or equivalent material, and if rubber, whether substantially pure or mixed with cork or other matter, the bracing *t* is cured by vulcanization. I may also take thinner sheets of rubber and by pressure incorporate them with the individual wires, as in Fig. 4, superposing one sheet *t'* upon another, as *t''*, or I may by pressure force the free ends of the wires into a sheet *t³* of yielding material to a greater or less distance, as in Fig. 3, leaving an unfilled space between the bracing and the backing *m*. Whatever the form in which the bracing is applied, however, the extremities of the wires lie substantially flush with the outer surface of the bracing mate-

rial, so that the impression-surface presents a multiplicity of proximate yielding elastic points braced and maintained in normal position by a continuous yielding substance.

5 When an impression is made on such an impression-surface as herein described, having a multiplicity of independently-yielding and properly-braced impression-points, the latter will accommodate themselves to the irregularities of the form or to the variations
10 in the thickness of the material to be printed and an impression of uniform character will be at once obtained.

The yielding bracing not only serves to
15 strengthen or support the separate wires, thereby greatly increasing the life of the device, but it tends to soften or tone down any harshness due to the separated impression-points and blends them in their action upon
20 the material to receive the impression.

I have found that the best results, so far as the useful life and continued elasticity of the impression members is concerned, are obtained when the form of the latter is such
25 that the tip and the point of attachment of the member to the backing will fall substantially in a plane normal to the backing, it being understood that I refer to impression members having one or more bends, as herein shown.

30 In this application the invention is limited to the feature that the independent elastic and yielding members are united at one end to a backing, the broad feature of a tympan-bed presenting areas of independent supports
35 and a yielding or elastic bracing being covered in my application, Serial No. 675,258, filed March 26, 1898.

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

1. An impression-surface or make-ready device for printing-presses and the like, composed of a backing and a multiplicity of independent, elastic and yielding impression

members, and a yielding bracing in which the outer ends of said members are embedded. 45

2. An impression-surface or make-ready device for printing-presses and the like, composed of a multiplicity of independent, elastic and yielding metallic members fixedly supported at their inner ends, and a yielding
50 bracing in which the outer ends of said members are embedded, their extremities being substantially flush with the outer surface of the bracing. 55

3. An impression-surface or make-ready device for printing-presses and the like, composed of a multiplicity of independent, elastic and yielding impression members, a backing in which said members are fixed, and
60 a yielding bracing in which the impression members are embedded from the backing to their outer ends.

4. An impression surface or bed for printing-presses and the like, composed of a number of independently-yielding, elastic bent
65 wires, a backing in which they are fixed, and a yielding bracing for said wires and in which the outer ends thereof are embedded, the tips and points of attachment of the said wires
70 within the backing being substantially located in planes normal to the backing.

5. An impression-surface or make-ready device for printing-presses and the like, composed of a multiplicity of independent elastic
75 and yielding wires fixedly supported at their inner ends and forming impression members, and a homogeneous, yielding bracing and lateral support for the tips of said members and in which they are embedded. 80

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ARTHUR S. ALLEN.

Witnesses:

GEO. W. GREGORY,
JOHN C. EDWARDS.