



US00D718355S

(12) **United States Design Patent**
Muramatsu

(10) **Patent No.:** **US D718,355 S**

(45) **Date of Patent:** **** Nov. 25, 2014**

(54) **SLIDE OPERATION TYPE DOVETAIL
GROOVE SLIDING STAGE FOR PRECISION
EQUIPMENT**

6,932,074 B2 * 8/2005 Cheng et al. 125/13.01
D554,163 S * 10/2007 Krohmer et al. D15/140
7,931,059 B1 * 4/2011 Douglas 144/354
7,997,312 B2 * 8/2011 Van Valkenburg 144/253.1
8,555,762 B1 * 10/2013 Jones 83/522.16
8,621,969 B2 * 1/2014 Dawley, III 83/462

(75) Inventor: **Hiroaki Muramatsu**, Hachioji (JP)

(73) Assignee: **Miruc Optical Co., Ltd.** (JP)

(**) Term: **14 Years**

(21) Appl. No.: **29/432,284**

(22) Filed: **Sep. 14, 2012**

(51) **LOC (10) Cl.** **15-09**

(52) **U.S. Cl.**
USPC **D15/138**; D15/140

(58) **Field of Classification Search**
USPC D8/70, 71; D15/140, 141; 33/197, 430,
33/561, 832; 83/467.1, 471.3, 477.2, 468,
83/468.7, 522.16, 522.25, 762, 765, 767;
144/41, 85-89, 144.5, 221, 253.2,
144/253.5; 269/41, 60, 81, 87.2, 221, 303
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

2,607,124 A * 8/1952 Dery 33/567.1
4,197,776 A * 4/1980 Wynn 83/765
4,793,604 A * 12/1988 Taylor 269/303
5,038,486 A * 8/1991 Ducate, Sr. 33/430
5,140,778 A * 8/1992 Carruth 451/344
5,215,296 A * 6/1993 Adams et al. 269/60
5,239,763 A * 8/1993 Kulp 33/832
5,337,641 A * 8/1994 Duginske 83/468
5,443,554 A * 8/1995 Robert 83/468.7
5,617,909 A * 4/1997 Duginske 144/253.1
5,716,045 A * 2/1998 Taylor 269/303
5,845,555 A * 12/1998 Dawley 83/467.1
6,076,575 A * 6/2000 Harkness 144/144.1
6,206,060 B1 * 3/2001 Blake 144/87
6,293,177 B1 * 9/2001 MacKenzie 83/467.1
6,557,601 B1 * 5/2003 Taylor 144/253.1
D482,051 S * 11/2003 Hanne et al. D15/140
6,688,197 B1 * 2/2004 Niemela 83/39

FOREIGN PATENT DOCUMENTS

JP 2010-217121 A 9/2010
JP 4606501 B2 10/2010
JP 4830053 B1 9/2011
JP 4830053 B1 12/2011
WO 2012/150723 A1 11/2012

OTHER PUBLICATIONS

Notification of Reason for Refusal for Japanese Design Application
No. 2012-010042, dispatched Nov. 6, 2012, with English translation.

* cited by examiner

Primary Examiner — Patricia Palasik
(74) *Attorney, Agent, or Firm* — Cantor Colburn LLP

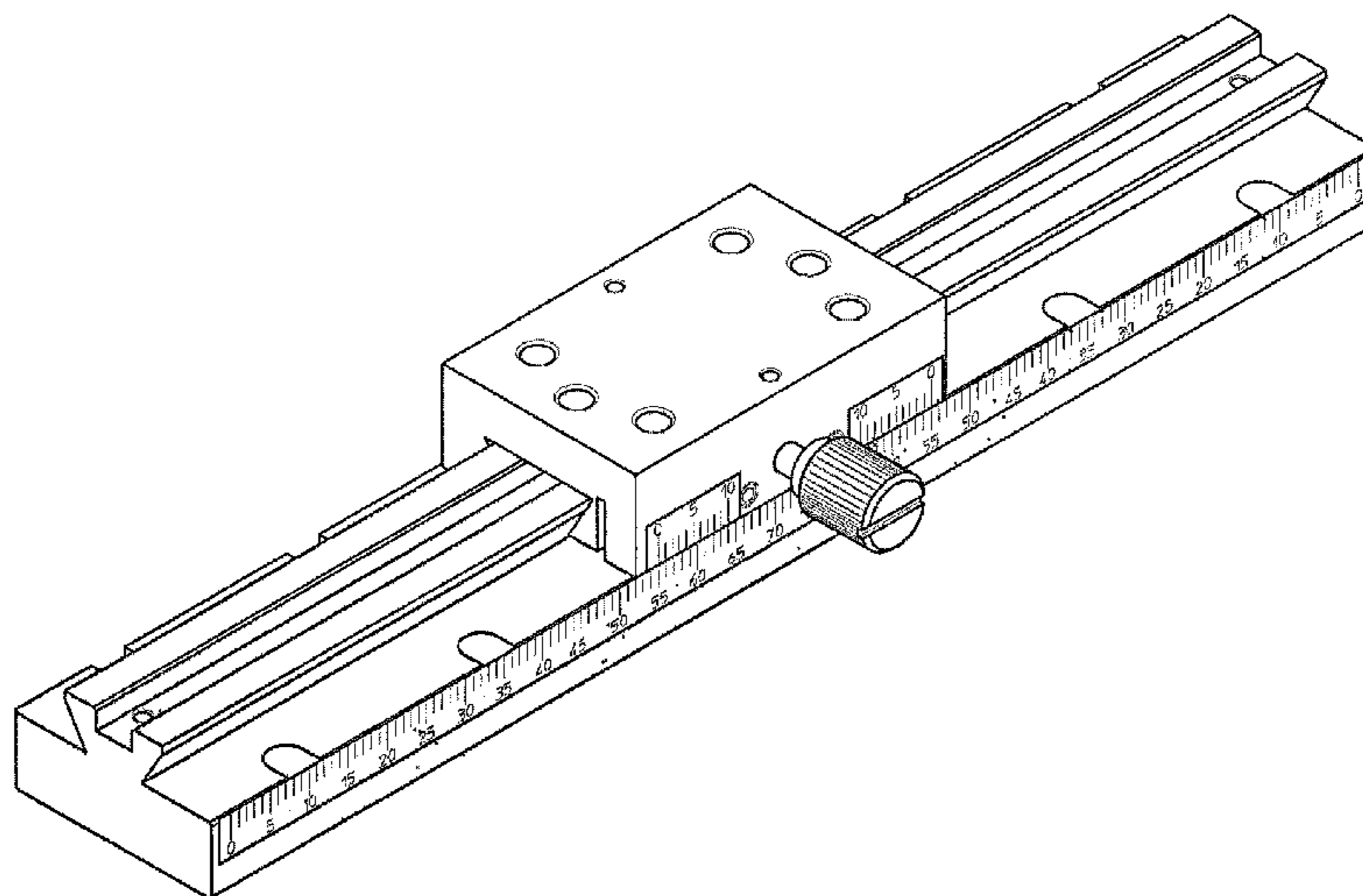
(57) **CLAIM**

The ornamental design for a slide operation type dovetail groove sliding stage for precision equipment, as shown and described.

DESCRIPTION

FIG. 1 is a plan view of a slide operation type dovetail groove sliding stage for precision equipment showing my new design;
FIG. 2 is a bottom view thereof;
FIG. 3 is a front view thereof;
FIG. 4 is a rear view thereof;
FIG. 5 is a left side view thereof;
FIG. 6 is a right side view thereof; and,
FIG. 7 is a reference perspective view thereof.
The broken lines in the drawings depict unclaimed environmental subject matter.

1 Claim, 3 Drawing Sheets



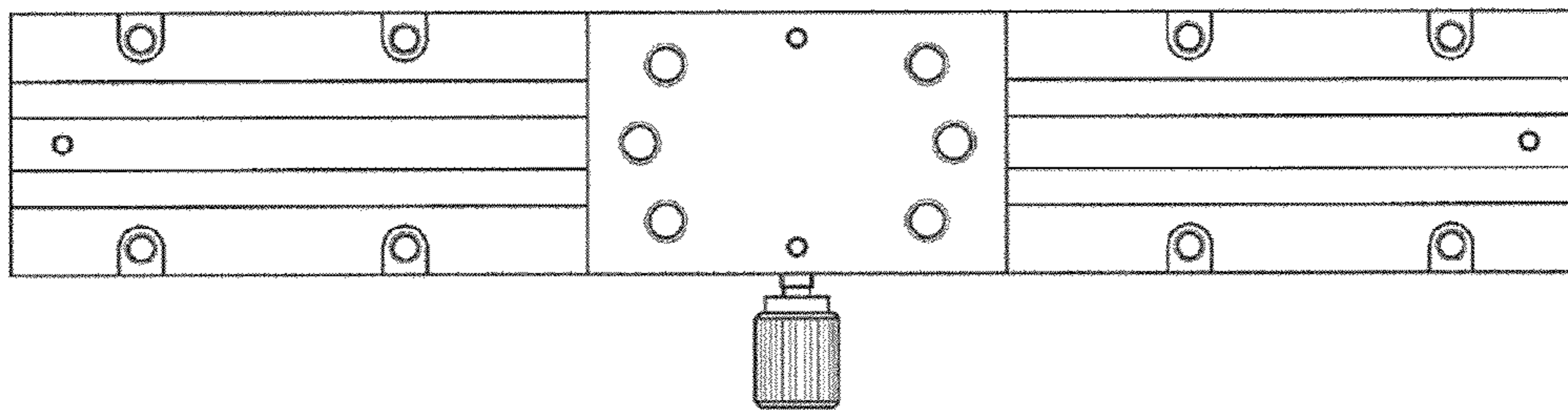


FIG. 1

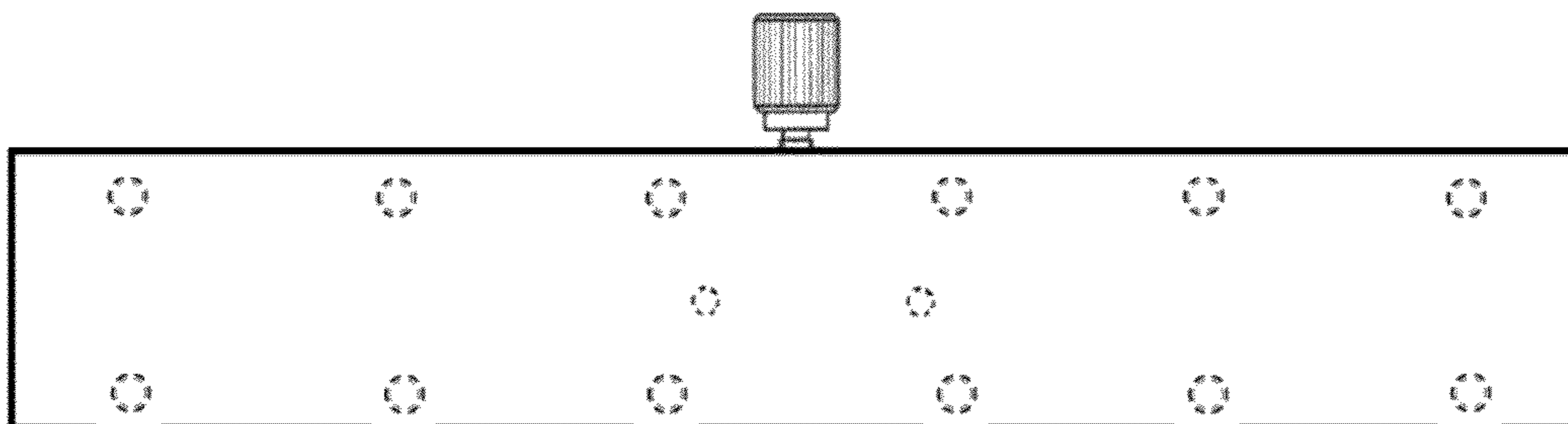


FIG. 2

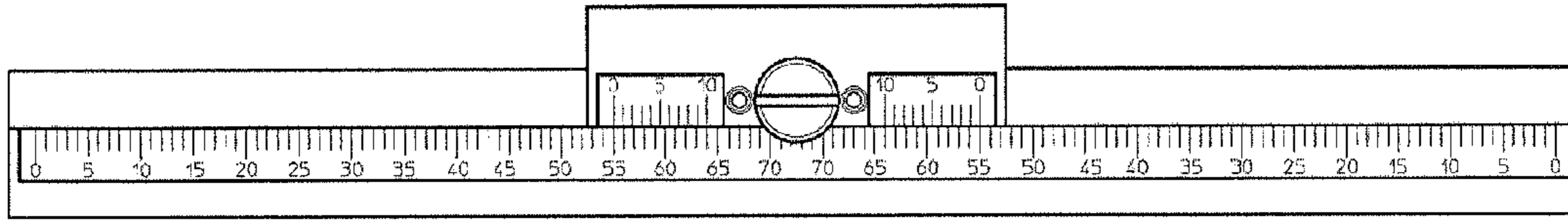


FIG. 3

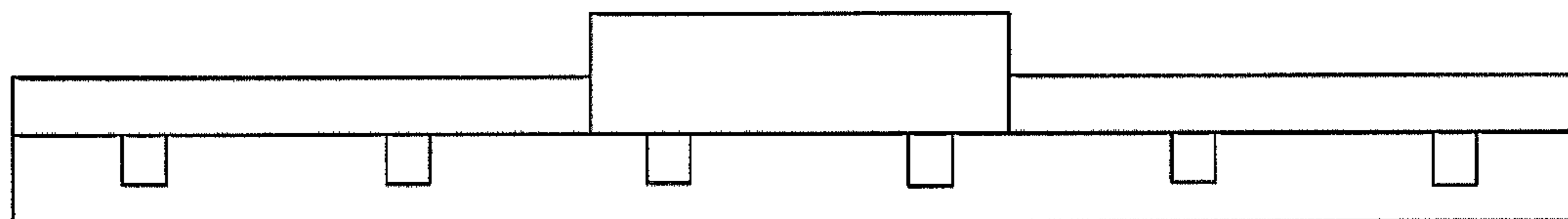


FIG. 4

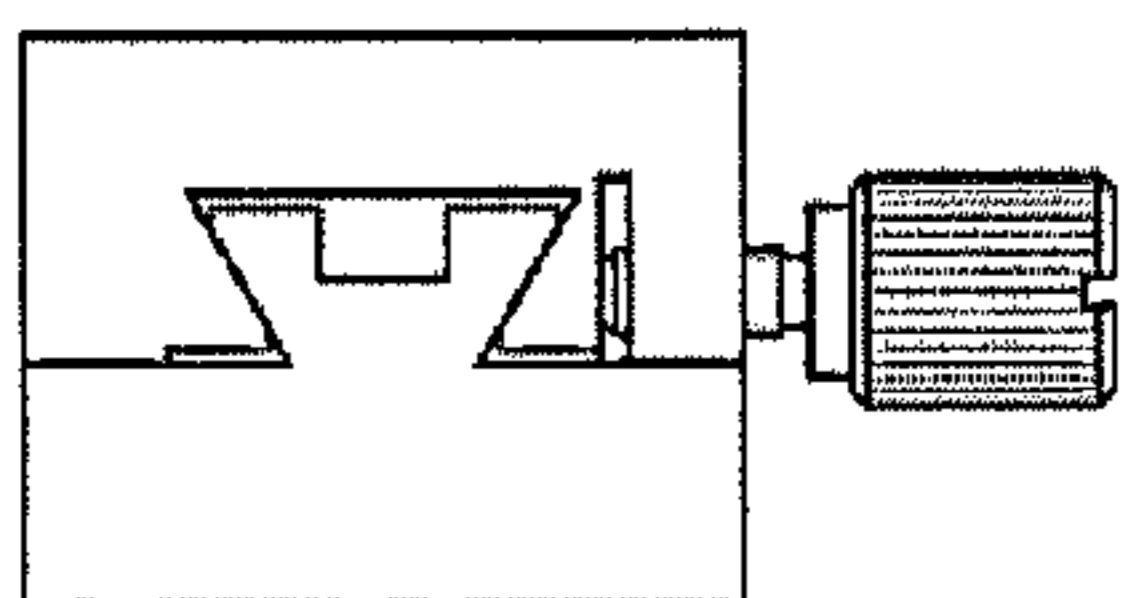


FIG. 5

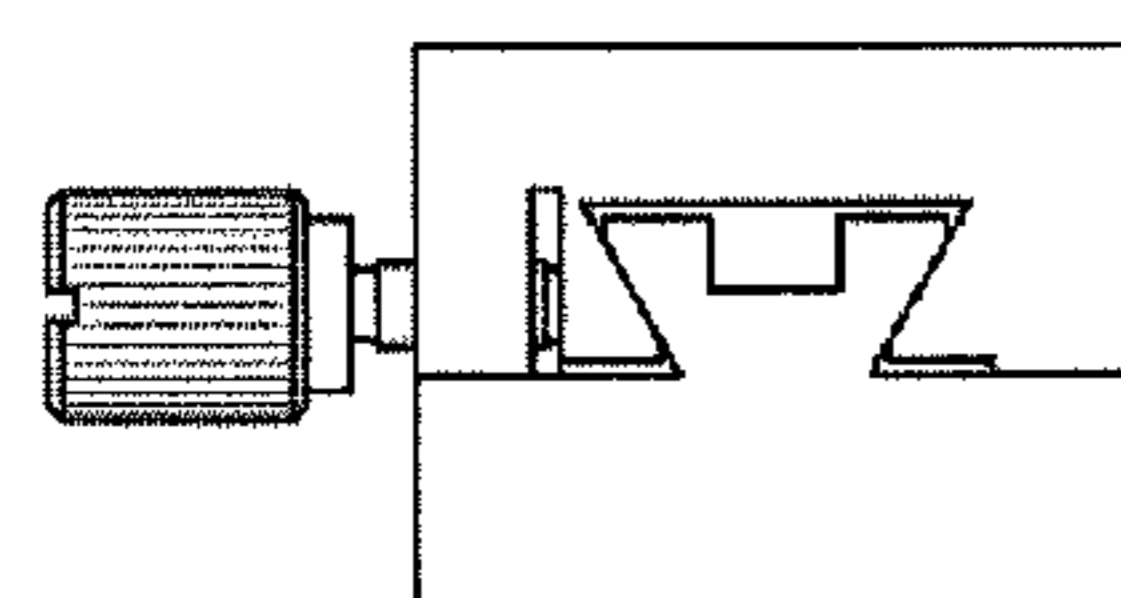


FIG. 6

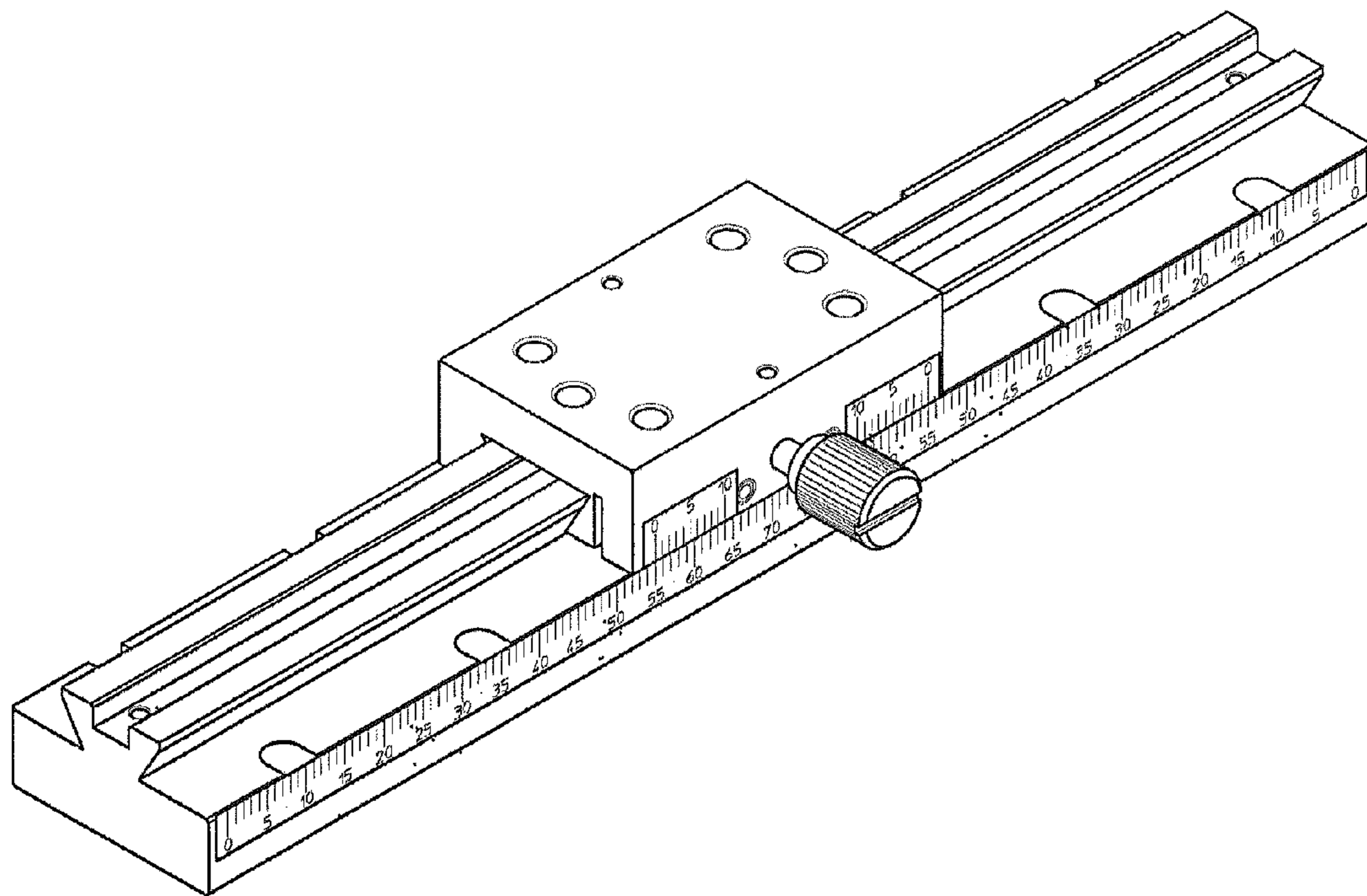


FIG.7

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : D718,355 S
APPLICATION NO. : 29/432284
DATED : November 25, 2014
INVENTOR(S) : Hiroaki Muramatsu

Page 1 of 1

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

On the Title Page Item (30) should read,

The priority claimed for Japanese Design Application No. 2012-010042 filed on April 27, 2012 should be listed.

Signed and Sealed this
Twenty-fourth Day of March, 2015



Michelle K. Lee
Director of the United States Patent and Trademark Office